UNIVERGE SV9500

FP95-115 V5

Circuit Card Description

NWD-165795-001
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QUICK REFERENCE

Cards in Server/TSW-BOX

CPU	SCF-CP02-B (CPU)
EMA MAIN	SCG-PC00-C (EMA MAIN)
EMA SUB-A	SCG-M03-B (EMA SUB-A)
EMA SUB-B	SCG-M02-B (EMA SUB-B)
EXB TSWR	SCG-GT01-B (EXB-TSWR)
IOC	SCG-IO00-B (IOC Card)
TSW	SPZ-SW25-A (TSW)
TSW PWR	SCA-M01-A (TSW-BOX Power Supply)

Cards in 7U-PIR

AC PWR	SN1769 PWRMAD (AC PWR)
ATI	CH-CS00 (ATI)
CCT	CH-PRTA (1.5M CCT) CH-PRTA (2M CCT)
CFT	CH-CFTA (CFT)
COT	CH-12COTA (COT) CH-12COTB (COT)
DAT	CH-DATA (DAT)
DC PWR	SN1770 PWRMAE (DC PWR)
DTI	CH-PRTA (1.5M DTI) CH-PRTA (2M DTI)
ELC	CH-16ELCA (ELC)
GROUND START	CH-M03
IPPAD	CH-IPDA (IPPAD)
LC	CH-16LCA (LC)
MUX	CJ-PC00 (MUX)
NCU	CH-M01 (NCU)
PRT	CH-PRTA (1.5M PRT) CH-PRTA (2M PRT)
RST	CH-8RSTA (RST)
TLT(ODT)	CH-8ODTA (ODT)

Cards in 8U-PIR

ATI	PA-CS33-C PA-CS33
CCH	PA-2CCHA
CCT	PA-2CCHA PA-PRTC (2M CCT)
CFT	PA-CFTV PA-CFTW
COT	PA-8COTBF PA-8COTBJ PA-16COTBD-B PA-16COTBE-B PA-16COTBE PA-16COTBH
CSINT	PA-8CSIE-A PA-8CSIE
DAT	PA-4DATB-A
DCH	PA-2DCHA
DLI	PA-2DCHA PA-PRTC (2M DLI)
DTI	PA-PRTC (1.5M DTI) PA-PRTC (2M DTI)
ELC	PA-16ELCJ-B PA-16ELCN-A PA-16ELCN
FCH	PA-FCHA
ILC	PA-8ILCG PA-8ILCE-A
IPPAD	PA-32IPDA (IPPAD) PA-32IPDB (IPPAD)
IPTRK	PA-16IPTC (IPTRK)
LC	PA-16LCBJ-B PA-16LCBK-B PA-16LCBL-B PA-16LCBV PA-16LCBW PA-16LCBX PA-16LCBY PA-16LCCD PA-16LCCF PA-24LCBV-B PA-24LCBV
LLC	PA-8LLCQ
MFCT	PA-4MFCA-B PA-4MFCA

Cards in 8U-PIR

MUX	PH-PC36 PH-SW10-A
OSC	PA-CK14-A
PA ADAPTER	PZ-M736
PFT	PA-M69-A
PRT	PA-PRTC (1.5M PRT) PA-PRTC (2M PRT)
PWR	PA-PW54-C PA-PW55-C
RST	PA-8RSTAD PA-8RSTAE PA-8RSTY-A
SUB BOARD	PZ-16VCTB
TLT	PA-8TLTR-A PA-8TLTR-B

Cards in TSWR

DLKC	PH-PC20-B PH-PC20
GT	PH-GT09
PLO	PH-CK16 PH-CK16-A PH-CK16-C PH-CK16-D PH-CK17 PH-CK17-A PH-CK20
PSW SW	PH-PW14
TSW	PH-SW12

CARD MARKET LIST

Market List of Cards in Server/TSW-BOX

SYMBOL	CIRCUIT CARD			COUNTRIES							DESCRIPTION
	PRODUCT NAMES	HARDWARE NAMES	FIRMWARE NAMES	AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU	
CPU	SCF-CP02-B	SCF-CP02-B	-	×	×	×	×	×	×	×	
EMA MAIN	SCG-PC00-C	SCG-PC00-C	-	×	×	×	×	×	×	×	
EMA SUB-A	SCG-M03-B	SCG-M03-B	-	×	×	×	×	×	×	×	
EMA SUB-B	SCG-M02-B	SCG-M02-B	-	×	×	×	×	×	×	×	for 4-IMG only
EXB-TSWR	SCG-GT01-B	SCG-GT01-B	-	×	×	×	×	×	×	×	
IOC	SCG-IO00-B	SCG-IO00-B	-	×	×	×	×	×	×	×	
TSW	SPZ-SW25-A	SPZ-SW25-A	-	×	×	×	×	×	×	×	for 1-IMG only
TSW PWR	SCA-M01-A	SCA-M01-A	-	×	×	×	×	×	×	×	for 1-IMG only

Market List of Cards in 7U-PIR

SYMBOL	CIRCUIT CARD			COUNTRIES							DESCRIPTION
	PRODUCT NAMES	HARDWARE NAMES	FIRMWARE NAMES	AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU	
ATI	SCH-CS00-A ATI-A	CH-CS00	SP-4037	×	×	×	×	×	×	–	
CCT	SCH-CCTA-A (1.5M CCT)	CH-PRTA (1.5M CCT)	SP-4042	–	×	–	–	×	–	–	
	SCH-CCTA-A (2M CCT)	CH-PRTA (2M CCT)	SP-4042	×	×	×	×	–	×	–	
CFT	SCH-CFTA-A	CH-CFTA	SP-4064	×	×	×	×	×	×	×	
COT	SCH-12COTA-A	CH-12COTA	SP-4040	×	×	×	×	×	×	×	
	SCH-12COTB-A	CH-12COTB	SP-4065	–	×	×	×	×	×	×	
DAT	SCH-DATA-A	CH-DATA	SP-4066	×	×	×	×	×	×	×	
GROUND START	CH-M03	SCH-M03-A GS	-	–	–	–	–	×	–	–	
DTI	SCH-PRTA-A (1.5M DTI)	CH-PRTA (1.5M DTI)	SP-4041	–	×	–	–	×	–	–	
	SCH-PRTA-A (2M DTI)	CH-PRTA (2M DTI)	SP-4041	×	×	×	×	–	×	–	
ELC	SCH-16ELCA-A	CH-16ELCA	SP-4035	×	×	×	×	×	×	×	
IPPAD	SCH-IPDA-A	CH-IPDA	SP-4045	×	×	×	×	×	×	×	
LC	SCH-16LCA-A	CH-16LCA	SP-4036	×	×	×	×	×	×	×	
MUX	CJ-PC00	CJ-PC00	-	×	×	×	×	×	×	×	
NCU	SCH-M01-A 12NCU	CH-M01	-	×	×	×	×	×	×	×	
PRT	SCH-PRTA-A (1.5M PRT)	CH-PRTA (1.5M PRT)	SP-4041	–	×	–	–	×	–	–	
	SCH-PRTA-A (2M PRT)	CH-PRTA (2M PRT)	SP-4041	×	×	×	×	–	×	×	
AC PWR	SN1769 PWR-MAD	SN1769 PWR-MAD	-	×	×	×	×	×	×	×	
DC PWR	SN1770 PWR-MAE	SN1770 PWR-MAE	-	×	×	×	×	×	×	×	
RST	SCH-8RSTA-A	CH-8RSTA	SP-4039	×	×	×	×	×	×	×	
TLT (ODT)	SCH-8ODTEL-A	CH-8ODTA	SP-4082	×	×	×	×	×	×	×	

Market List of Cards in 8U-PIR (Sheet 1 of 4)

SYMBOL	CIRCUIT CARD			COUNTRIES							DESCRIPTION
	PRODUCT NAMES	HARDWARE NAMES	FIRMWARE NAMES	AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU	
ATI	SPA-CS33C ATI-A	PA-CS33-C	SP-3945	×	×	×	×	×	×	–	
	SPA-CS33 ATI-A	PA-CS33	SW-352	×	×	×	–	×	×	–	
CCH	SPA-2CCHA	PA-2CCHA	SP-3015	×	×	×	×	×	×	–	
CCT	SPA-CCTC-A	PA-PRTC (1.5M CCT)	SP-3925	–	×	–	–	×	–	–	
	SPA-CCTC-A	PA-PRTC (2M CCT)	SP-3925	×	×	×	×	–	×	–	
CFT	SPA-CFTV	PA-CFTV	SP-3654	×	×	×	×	×	×	×	
	SPA-CFTW-A	PA-CFTW	SP-3654	×	×	×	–	×	×	–	
COT	SPA-8COTBF	PA-8COTBF	SP-3025	×	×	–	–	–	–	–	
	SPA-8COT-BJ-A	PA-8COTBJ	SW-317	–	×	×	–	×	×	–	
	SPA-16COTBDB	PA-16COTBD-B	SP-3702	–	×	×	×	–	×	–	
	SPA-16COT-BEB-A	PA-16COTBE-B	SP-3944	–	–	–	–	×	–	–	
	SPA-16COT-BE-B	PA-16COTBE	SP-3713	–	–	–	–	×	–	–	
	SPA-16COT-BH-A	PA-16COTBH	SP-4007	–	×	×	×	–	×	–	
CSINT	SPA-8CSIE-A	PA-8CSIE-A	SW-454	×	×	×	–	×	×	–	
	SPA-8CSIE	PA-8CSIE	SW-415	–	×	×	–	×	×	–	
DAT	SPA-4DAT-BA-B	PA-4DATB-A	SP-882	×	×	×	×	×	×	×	
	SPA-4DAT-BA-C	PA-4DATB-A	SP-702	×	–	–	–	–	–	–	
DCH	SPA-2DCHA	PA-2DCHA	SP-3014	×	–	–	–	×	–	–	
DLI	SPA-DLIC-A	PA-PRTC (1.5M DLI)	SP-3900	–	×	–	–	×	–	–	
	SPA-DLIC-A	PA-PRTC (2M DLI)	SP-3900	×	×	×	×	–	×	–	

Market List of Cards in 8U-PIR (Continued) (Sheet 2 of 4)

SYMBOL	CIRCUIT CARD			COUNTRIES							DESCRIPTION
	PRODUCT NAMES	HARDWARE NAMES	FIRMWARE NAMES	AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU	
DTI	SPA-DTIC-A	PA-PRTC (1.5M DTI)	SP-3910	–	×	–	–	×	–	–	
	SPA-DTIC-A	PA-PRTC (2M DTI)	SP-3910	×	×	×	×	–	×	–	
ELC	SPA-16ELC-JB-K	PA-16ELCJ-B	SP-3935	×	×	×	×	×	×	×	
	SPA-16ELCN-C	PA-16ELCN	SP-3981	×	×	×	×	×	×	×	
	SPA-16ELC-NA-B	PA-16ELCN-A	SP-4034	×	×	×	×	×	×	×	
	SPA-16ELC-NA-A	PA-16ELCN-A	SP-4013	×	×	×	×	×	×	×	
FCH	SPA-FCHA-A	PA-FCHA	SW-374	×	×	×	×	×	×	–	
ILC	SPA-8ILCG-A	PA-8ILCG	SP-3915	×	×	×	×	×	×	–	
	SPA-8IL-CEA-B	PA-8ILCE-A	SW-246	×	**Note**	×	×	×	×	–	**Note:** Except for China.
IPPAD	SPA-32IPPA-DA	PA-32IPDA	SP-3835	×	×	×	×	×	×	×	- Voice compression and encryption are supported.
	SPA-32IP-PADB	PA-32IPDB	SP-3835	×	×	×	–	×	×	–	
IPTRK	SPA-16IPTC	PA-16IPTC	SW-407	×	×	×	–	×	×	–	

Market List of Cards in 8U-PIR (Continued) (Sheet 3 of 4)

SYMBOL	CIRCUIT CARD			COUNTRIES							DESCRIPTION
	PRODUCT NAMES	HARDWARE NAMES	FIRMWARE NAMES	AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU	
LC	SPA-16LC-BJ-B	PA-16LCBJ-B	SP-3251	–	×	–	–	×	–	–	
	SPA-16LCBK-B	PA-16LCBK-B	SP-3251	–	×	×	×	–	×	×	
	SPA-16LC-BL-B	PA-16LCBL-B	SP-3251	×	–	–	–	–	–	–	
	SPA-16LC-BV	PA-16LCBV	SP-3391	×	Note	×	×	–	×	–	Note: Except for China.
	SPA-16LC-BW	PA-16LCBW	SP-3390	–	Note	×	×	×	×	–	Note: Except for China.
	SPA-16LC-BX	PA-16LCBX	SP-3396	×	Note	×	×	–	×	–	Note: Except for China.
	SPA-16LC-BY	PA-16LCBY	SP-3396	–	–	–	–	×	–	–	
	SPA-16LC-CD-A	PA-16LCCD	SP-3876	×	×	×	×	×	×	×	
	SPA-16LC-CD-B	PA-16LCCD	SP-3877	×	×	×	×	×	×	–	
	SPA-16LC-CF-A	PA-16LCCF	SP-3972	×	×	×	×	×	×	×	
	SPA-24LCB-VB-A	PA-24LCBV-B	SP-3972	–	×	×	×	×	×	–	
	SPA-24LC-BV	PA-24LCBV	SP-3336	–	×	×	×	×	×	–	
LLC	SPA-8LLCQ	PA-8LLCQ	SP-3186	–	–	×	–	–	×	–	*for Brazil only.
MFCT	SPA-4MF-CB-A	PA-4MFCA-B	SP-3896	–	×	×	×	–	–	–	
	SPA-4MF-CA-BB	PA-4MFCA	SP-1075	×	Note	×	×	–	–	×	Note: Except for China.
MUX	PH-PC36 PKG	PH-PC36	-	×	×	×	×	×	×	×	
	PH-SW10-A PKG	PH-SW10-A	-	×	×	×	×	×	×	×	for 1-IMG only
OSC	PA-CK14-A	PA-CK14-A	-	×	×	×	×	×	×	–	for 1-IMG only
PA ADAPT-ER	PZ-M736	PZ-M736	-	×	×	×	×	×	×	×	
PFT	SPA-M69-A 12NCU-UA	PA-M69-A	SX-69	–	–	–	–	×	–	–	
	SPA-M69-A 12NCU	PA-M69-A	SX-69	×	×	×	×	–	×	–	

Market List of Cards in 8U-PIR (Continued) (Sheet 4 of 4)

SYMBOL	CIRCUIT CARD			COUNTRIES							DESCRIPTION
	PRODUCT NAMES	HARDWARE NAMES	FIRMWARE NAMES	AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU	
PRT	SPA-PRTC-B	PA-PRTC (1.5M PRT)	SP-3874	–	×	–	–	×	–	–	
	SPA-PRTC-B	PA-PRTC (2M PRT)	SP-3874	×	×	×	×	–	×	×	
PWR	PA-PW54-C	PA-PW54-C	-	×	×	×	×	×	×	×	
	PA-PW55-C	PA-PW55-C	-	×	×	×	×	×	×	×	
RST	SPA-8RS-TAD-A	PA-8RSTAD	SP-3898	×	×	×	×	×	×	×	
	SPA-8RS-TAE-B	PA-8RSTAE	SP-3899	×	×	×	×	×	×	×	
	SPA-8RSTYA	PA-8RSTY-A	SW-375	×	–	–	–	–	–	–	
SUB BOARD	SPZ-16VCTB-C	PZ-16VCTB	SP-3765	×	×	×	–	×	×	–	
TLT	SPA-8TL-TRA	PA-8TLTR-A	SP-3002	–	×	×	×	×	×	–	
	SPA-8TL-TRA-B	PA-8TLTR-A	SP-3026	×	–	–	–	–	–	–	
	SPA-8TL-TRB-A	PA-8TLTR-B	SP-3930	×	×	×	×	×	×	–	

Market List of Cards in TSWR (Sheet 1 of 2)

SYMBOL	CIRCUIT CARD			COUNTRIES							DESCRIPTION
	PRODUCT NAMES	HARDWARE NAMES	FIRMWARE NAMES	AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU	
DLKC	SPH-PH20B-A	PH-PC20-B	SP-3964	×	×	×	×	×	×	—	for 4-IMG only
	SPH-PC20 DLKC	PH-PC20	SP-3022	×	×	×	×	×	×	—	for 4-IMG only
GT	SPH-GT09	PH-GT09	SX-0007	×	×	×	×	×	×	×	for 4-IMG only
PLO	PH-CK16 PKG	PH-CK16	-	×	×	×	×	×	×	—	
	PH-CK16-A PKG	PH-CK16-A	-	×	×	×	×	×	×	—	for 4-IMG only
	PH-CK16-C	PH-CK16-C	-	×	×	×	×	×	×	—	
	PH-CK16-D	PH-CK16-D	-	×	×	×	×	×	×	×	for 4-IMG only
	SPH-CK17 PLOA	PH-CK17	-	×	×	×	×	×	×	—	for 4-IMG only
	PH-CK17-A PKG	PH-CK17-A	-	×	×	×	×	×	×	—	
	PH-CK20	PH-CK20	-	×	×	×	×	×	×	×	for 4-IMG only
PWR SW	PH-PW14 PKG	PH-PW14	-	×	×	×	×	×	×	×	for 4-IMG only

Market List of Cards in TSWR (Continued) (Sheet 2 of 2)

SYMBOL	CIRCUIT CARD			COUNTRIES							DESCRIPTION
	PRODUCT NAMES	HARDWARE NAMES	FIRMWARE NAMES	AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU	
TSW	SPH-SW12 TSW-UA	PH-SW12	SM-025	–	–	–	–	×	–	–	for 4-IMG only
	SPH-SW12 TSW-AA	PH-SW12	SM-243	×	–	–	–	–	–	–	for 4-IMG only
	SPH-SW12 TSW-BR	PH-SW12	SM-283	–	–	×	–	–	–	–	for 4-IMG only
	SPH-SW12 TSW-CI	PH-SW12	SP-590	–	×	–	–	–	–	–	for 4-IMG only
	SPH-SW12 TSW-CIA	PH-SW12	SM-349	–	×	–	–	–	–	–	for 4-IMG only
	SPH-SW12 TSW-MH	PH-SW12	SP-591	–	×	–	–	–	–	–	for 4-IMG only
	SPH-SW12 TSW-HK	PH-SW12	SP-593	–	×	–	–	–	–	–	for 4-IMG only
	SPH-SW12 TSW-SQ	PH-SW12	SP-594	–	×	–	–	–	–	–	for 4-IMG only
	SPH-SW12 TSW-GA	PH-SW12	SP-598	–	×	–	×	–	×	×	for 4-IMG only
	SPH-SW12 TSW-MX	PH-SW12	SP-599	–	–	×	–	–	–	–	for 4-IMG only
	SPH-SW12 TSW-TAIA	PH-SW12	SM-201	–	×	–	–	–	–	–	for 4-IMG only
	SPH-SW12 TSW-TAIB	PH-SW12	SP-592	–	×	–	–	–	–	–	for 4-IMG only
	SPH-SW12 TSW-CH	PH-SW12	SM-303	–	×	–	–	–	–	–	for 4-IMG only
	SPH-SW12 TSW-EUR	PH-SW12	SM-560	–	–	–	–	–	–	×	for 4-IMG only
	SPH-SW12 TSW-RU	PH-SW12	SM-601	–	–	–	–	–	×	–	for 4-IMG only
	SPH-SW12 TSW-KOA	PH-SW12	SM-309	–	×	–	–	–	–	–	for 4-IMG only
	SPH-SW12 TSW-NL	PH-SW12	SM-610	–	–	–	–	–	–	×	for 4-IMG only

CHAPTER 1
INTRODUCTION

1. General

This manual provides the description of the circuit cards mounted on the SV9500 Appliance Model, TSW-BOX, PIR (7U-PIR/8U-PIR), or TSWR.

This manual consists of the following chapters. Chapter 2 to Chapter 5 are divided according to the type of module for mounting circuit cards:

- CHAPTER 1 INTRODUCTION
- CHAPTER 2 CARDS IN SERVER/TSW-BOX
- CHAPTER 3 CARDS IN 7U-PIR
- CHAPTER 4 CARDS IN 8U-PIR
- CHAPTER 5 CARDS IN TSWR
- CHAPTER 6 MAINTENANCE

This manual is for those persons who are involved in the system setup and administration activities for the system. For each circuit card the following items are explained:

- General Function

  Explains the general function and purpose for each circuit card.

- Mounting Location/Condition

  Explains the mounting location (mounting module name and slot number, etc.) of each circuit card. If there are any conditions pertaining to mounting the circuit cards, they are also explained.

- Face Layout of Lamps, Switches, and Connectors

  The locations of the lamps, switches, and connectors provided on each circuit card are illustrated by a face layout.

- Lamp Indications

  Names, colors, and indication states of lamps mounted on each circuit card are listed.

- Switch Settings

  Each circuit card's switches are listed with their names, switch numbers, setting and its meaning, standard setting, etc.

- External Interface

  If the lead outputs of the circuit card are provided by an LT connector, the relation between the mounting slots and the LT connectors is illustrated by an LT Connector Lead Face Layout. If the lead outputs are provided by other than an LT connector, or are provided by the circuit card front connector, the connector lead locations and the connecting routes are shown.

2. Mounting Location of Circuit Card

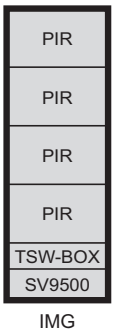
The following figures show module configuration examples and Card Mounting Slots.

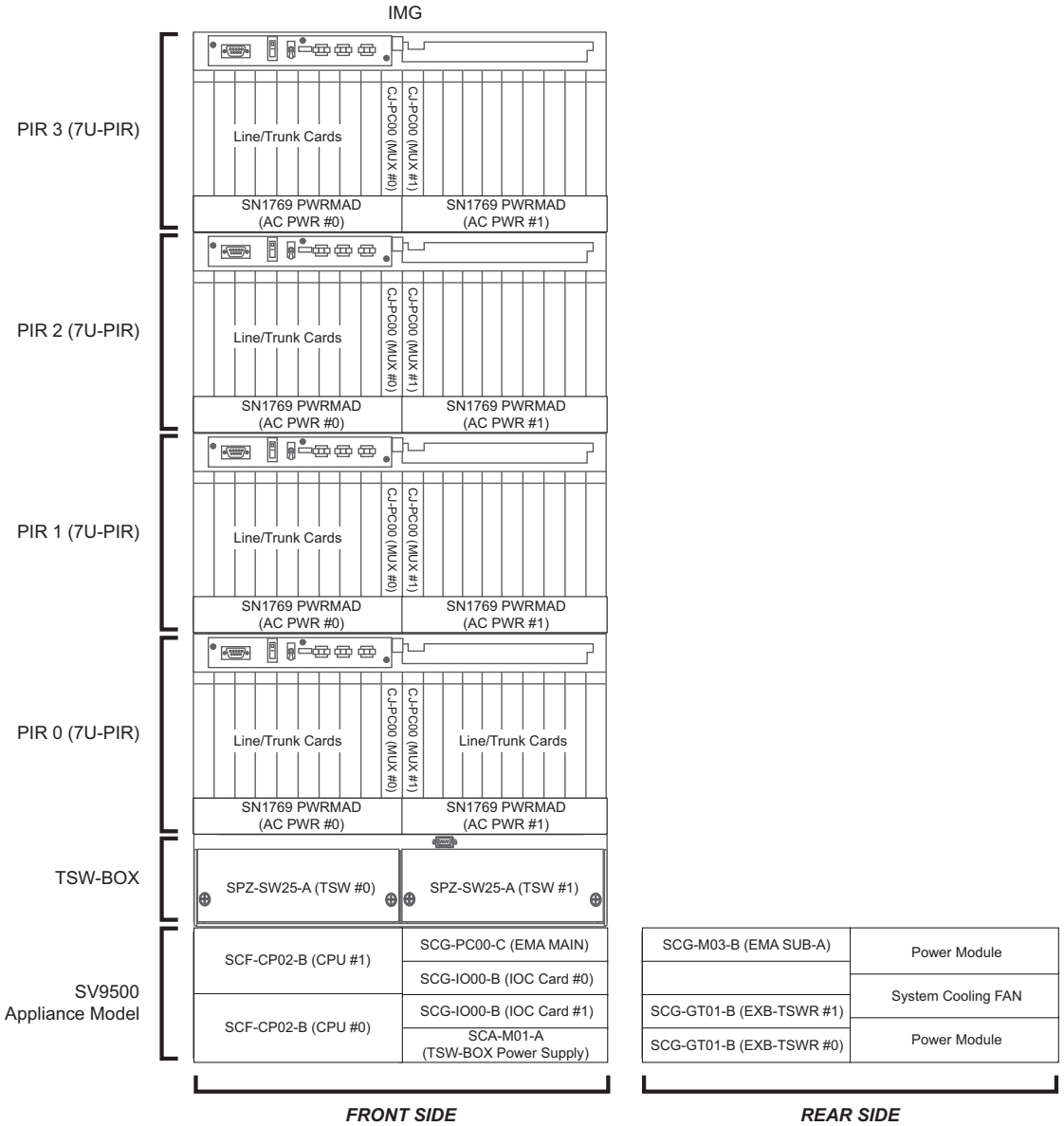
Note: CJ-PC00 is used as a MUX card for 7U-PIR, but PH-PC36 or PH-SW10-A are used as a MUX card for 8U-PIR.

Note: The line/trunk circuit cards are mounted in universal slots that are located in slot numbers 04 - 12 and 15 - 23 of the 7U-PIR/04 - 12 and 15 - 22 of the 8U-PIR.

Card Mounting Slot for the IMG System (4 PIRs) (AC-Powered Model)

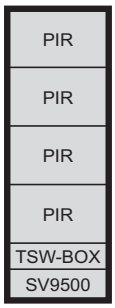
SV9500	Appliance Model
Configuration	IMG (1-IMG)
Powered Model	AC-Powered Model
Number of PIRs	4 PIRs (7U-PIR)

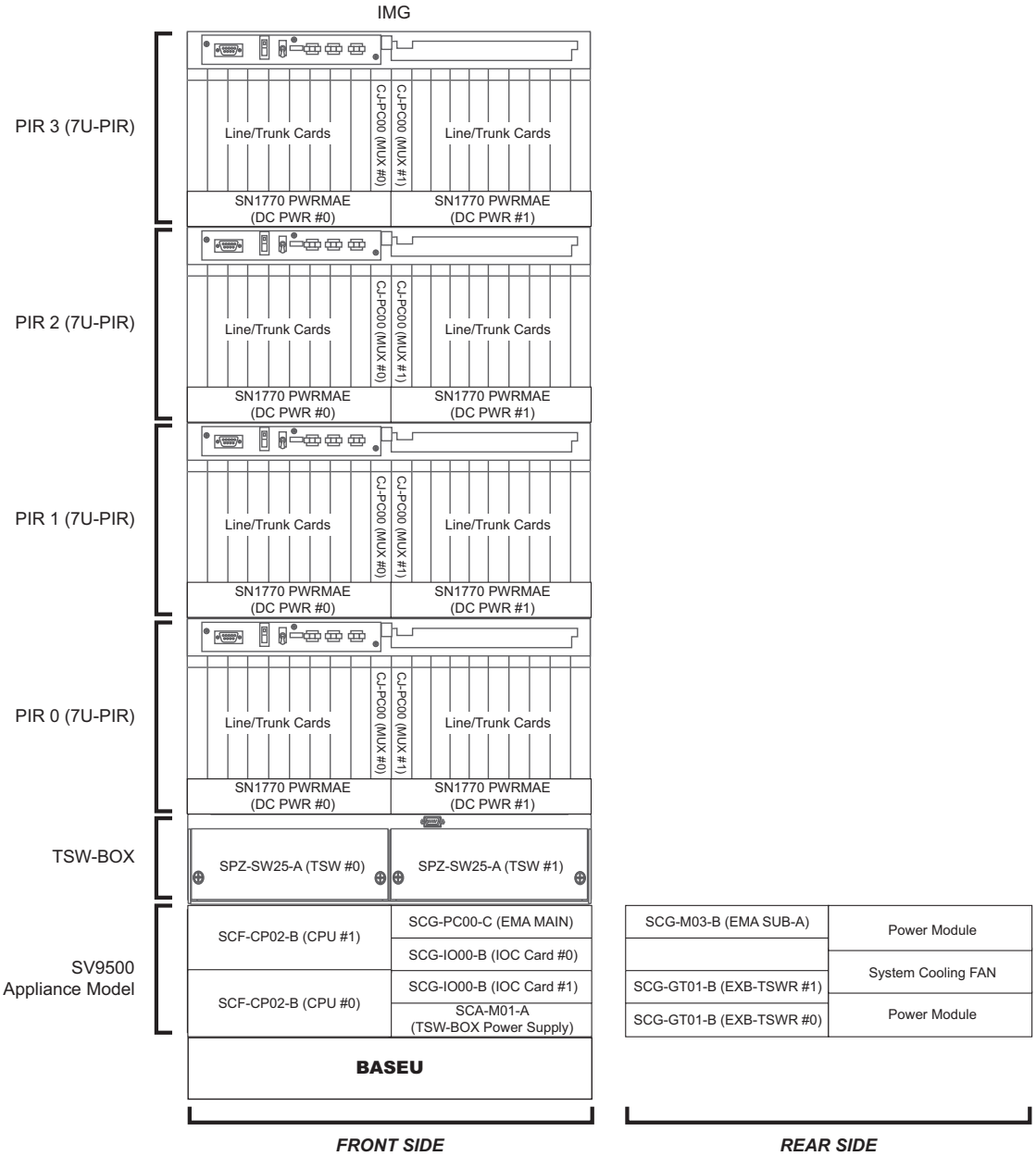




Card Mounting Slot for the IMG System (4 PIRs) (DC-Powered Model)

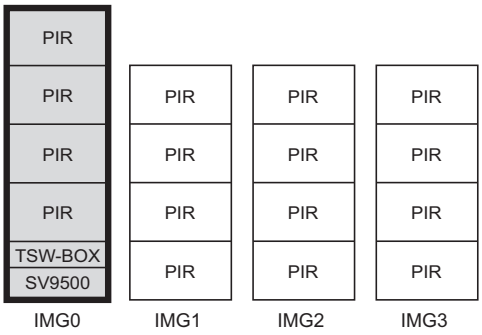
SV9500	Appliance Model
Configuration	IMG (1-IMG)
Powered Model	DC-Powered Model
Number of PIRs	4 PIRs (7U-PIR)

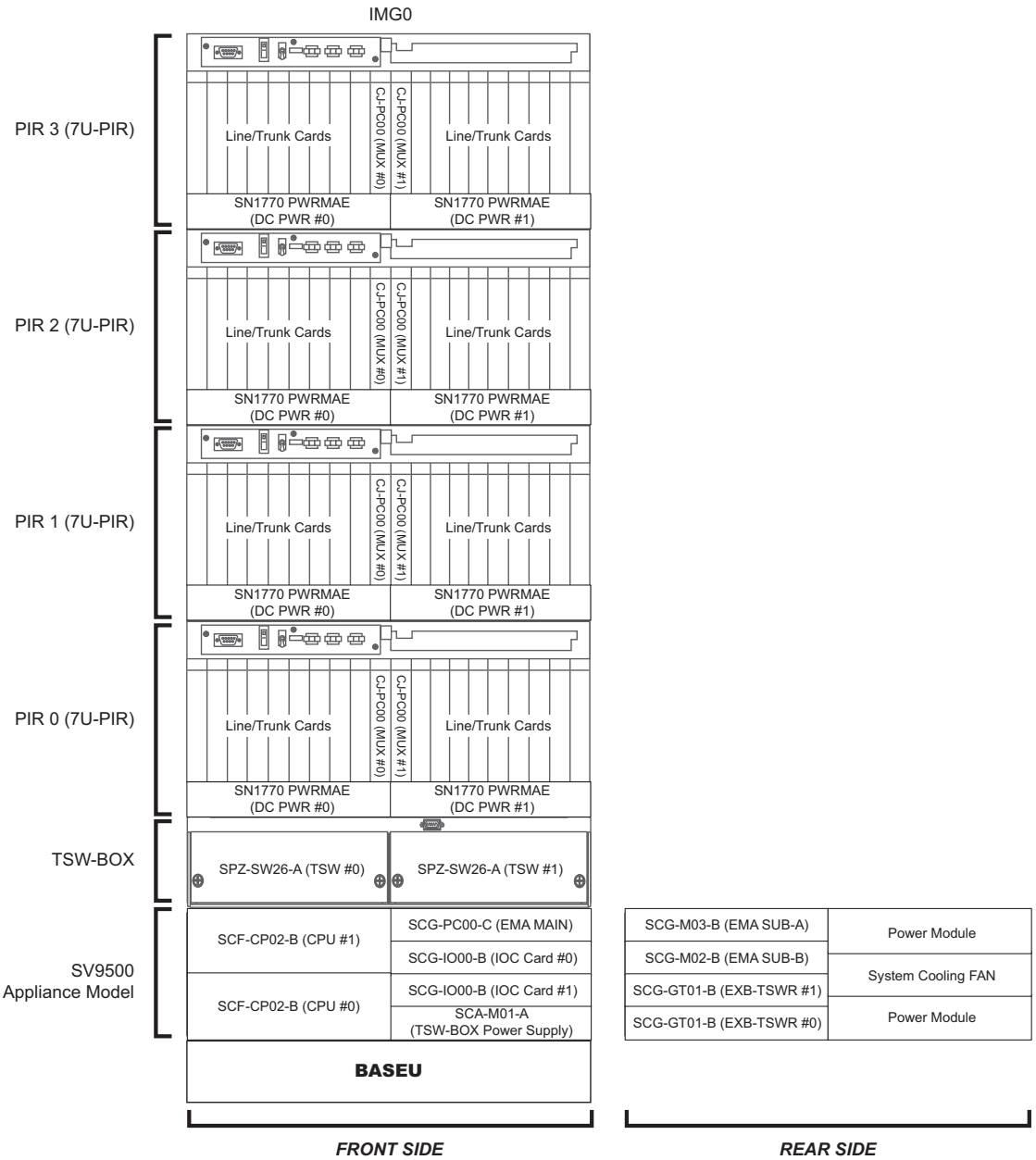




Card Mounting Slot for the MMG System (16 PIRs) (TSW-BOX) - 1/2

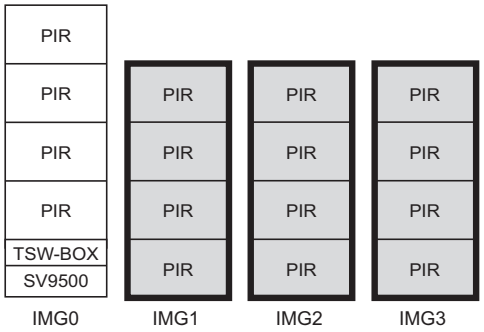
SV9500	Appliance Model
Configuration	MMG (4-IMG)
Powered Model	DC-Powered Model
Number of PIRs	16 PIRs (7U-PIR)

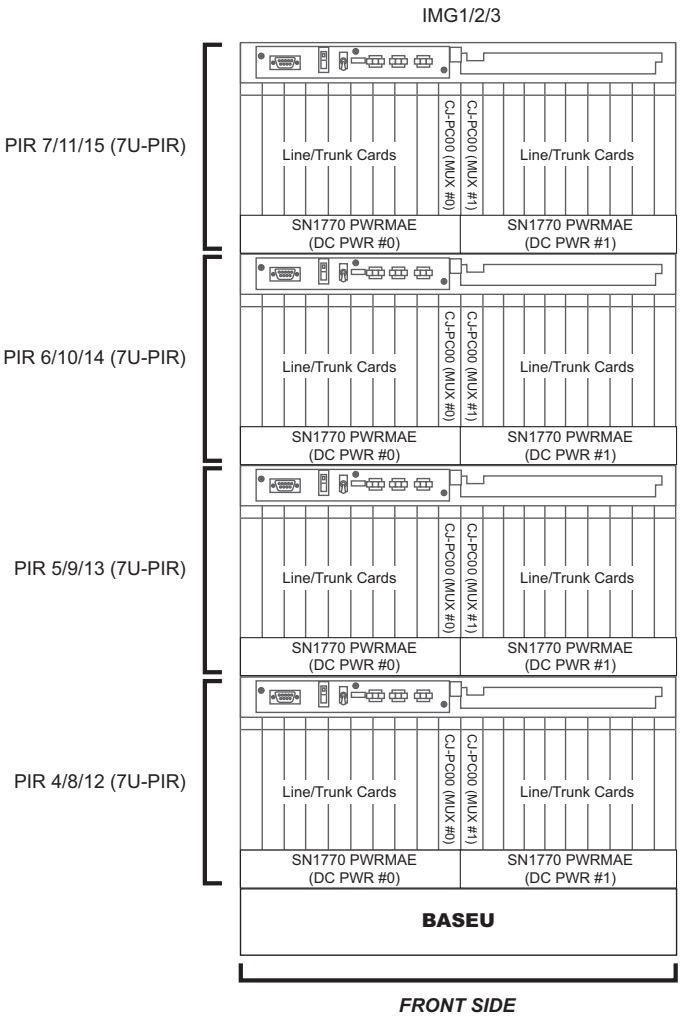




Card Mounting Slot for the MMG System (16 PIRs) (TSW-BOX) - 2/2

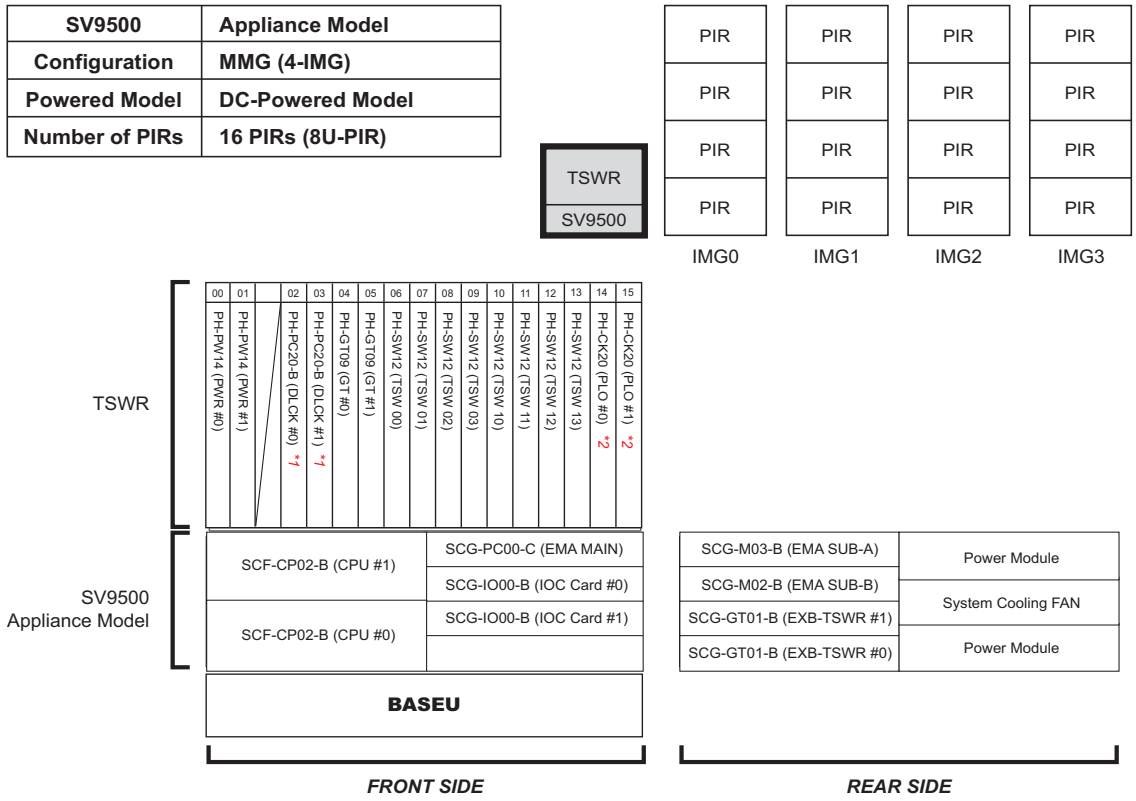
SV9500	Appliance Model
Configuration	MMG (4-IMG)
Powered Model	DC-Powered Model
Number of PIRs	16 PIRs (7U-PIR)





Card Mounting Slot for the MMG System (16 PIRs) (TSWR) - 1/2

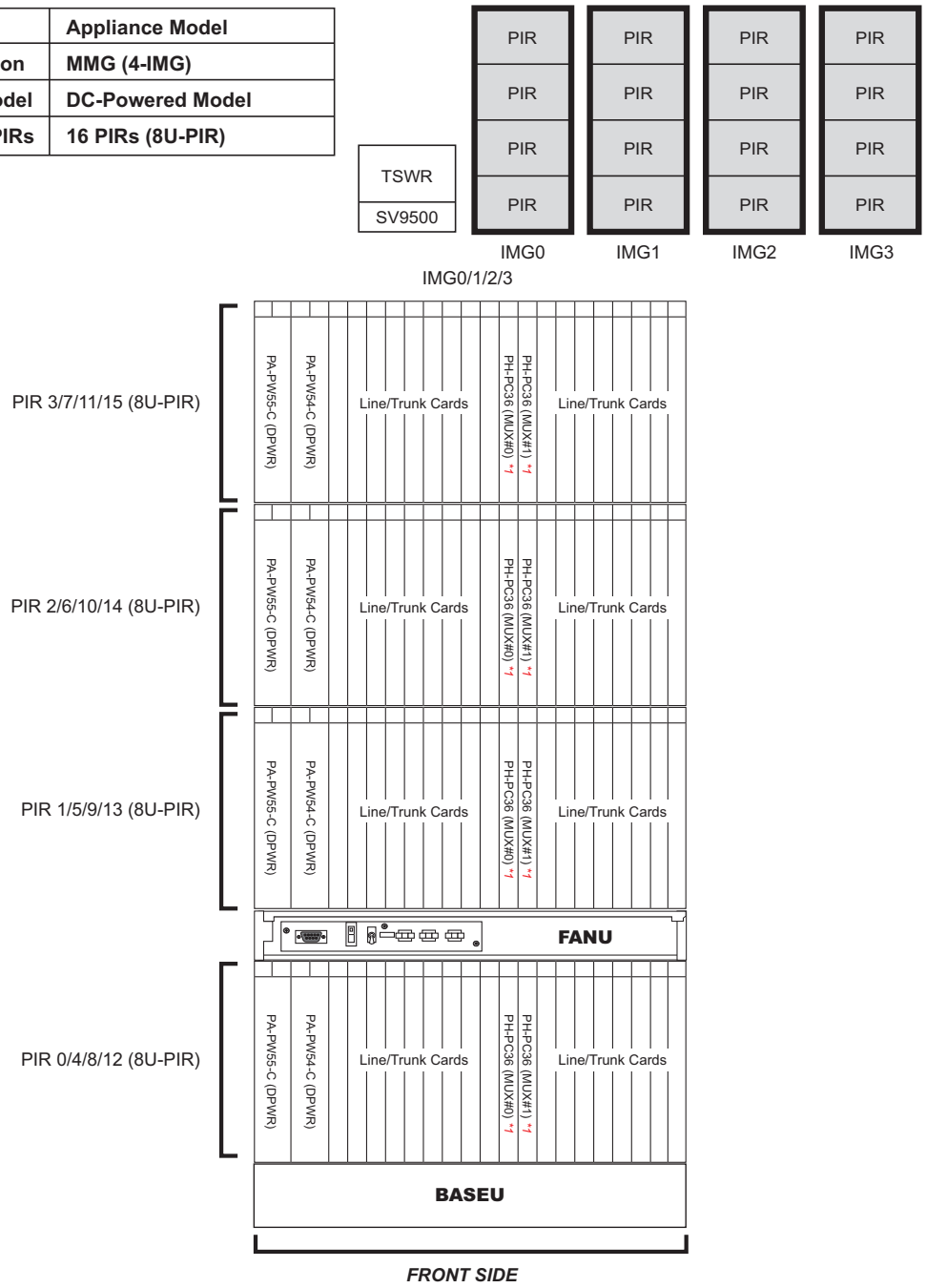
SV9500	Appliance Model
Configuration	MMG (4-IMG)
Powered Model	DC-Powered Model
Number of PIRs	16 PIRs (8U-PIR)



*1: PH-PC20 can be accommodated in this slot.
*2: PH-CK16, PH-CK16-A, PH-CK16-D, PH-CK17 and PH-CK17-A can be accommodated in this slot.

Card Mounting Slot for the MMG System (16 PIRs) (TSWR) - 2/2

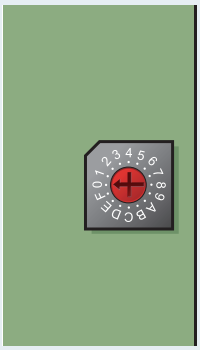
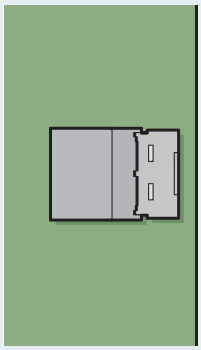
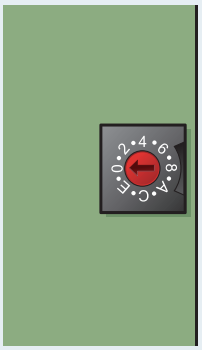
SV9500	Appliance Model
Configuration	MMG (4-IMG)
Powered Model	DC-Powered Model
Number of PIRs	16 PIRs (8U-PIR)



*1: PH-SW10-A can be accommodated in this slot.

3. Three Different Types of Rotary Switches

There are three different types of rotary switches equipped onto circuit cards. Note that rotary switches equipped on circuit cards are sequentially shifted to Type 1 or Type 2 from Type 3.

Switch Type	Shape		Characteristics	Switch Setting Procedure
	Front	Top Face		
Type 1 (New type)			You need to remove the circuit card from the system when checking and changing the switch settings on this type of rotary switch.	Adjust the arrow until the arrow points the setting value.
Type 2 (New type)			You can check and change the switch settings on this type of rotary switch without removing the circuit card from the system.	Adjust the central triangle until the triangle points the setting value.
Type 3 (Old type)			You can check and change the switch settings on this type of rotary switch without removing the circuit card from the system.	To set the value using the front window, bring the setting value into sight through the window. To set the value using the arrow in the top face, adjust the arrow until the arrow points to the setting value.

The rotary switch equipped on the following circuit cards is shifted to Type 1 or Type 2 from Type 3:

- PLO (New Type 1) PH-CK16, PH-CK16-A, PH-CK16-C, PH-CK16-D, PH-CK17, PH-CK17-A
- MUX (New Type 1) PH-SW10-A
- CCH (New Type 1) PA-2CCHA
- CSINT (New Type 1) PA-8CSIE
- DAT (New Type 2) PA-4DATB-A
- DCH (New Type 1) PA-2DCHA
- FCH (New Type 1) PA-FCHA
- ILC (New Type 1) PA-8ILCE-A
- IPPAD (New Type 1) PA-32IPDA, PA-32IPDB
- IPTRK (New Type 1) PA-16IPTC

CHAPTER 2
CARDS IN SERVER/TSW-BOX

1. Cards Mounted in Telephony Server

SYMBOL	HARDWARE NAME	FUNCTIONS OF CARD & MOUNTING CONDITIONS
CPU	SCF-CP02-B	• Equipped with one CF card slot and four LAN ports • Controls Telephony Server and IP components via LAN ports
EMA MAIN	SCG-PC00-C	• Performs system switchings of CPU cards in dual configuration • Equipped with INIT switch, NCU switch and more • Displays system alarm, supplies power to EMA SUB card and performs system initialization
EMA SUB-A	SCG-M03-B	• Connected with alarm indicating panel and alarm display supply (DSPP) • Collects alarm information of PIR
EMA SUB-B	SCG-M02-B	• Collects alarm information of PIRs accommodated in IMG1 to IMG3 and of TSWR (for 4-IMG system)
EXB-TSWR	SCG-GT01-B	• Connected to TSW-BOX (for 1-IMG/4-IMG system)/Connected to TSWR (for 4-IMG system) • Intermediates communication between CPU and PIR through local I/O bus
IOC	SCG-IO00-B	• Provides serial interface; one IOC Card provides four ports of serial interfaces • Up to two IOC cards can be mounted • PCPro, SMDR (Station Message Detail Record), Message Center Interface (MCI), system printer and other devices can be connected
TSW PWR	SCA-M01-A	• Supplies power to TSW-BOX via a cable (for 1-IMG/4-IMG system)

SCF-CP02-B (CPU)

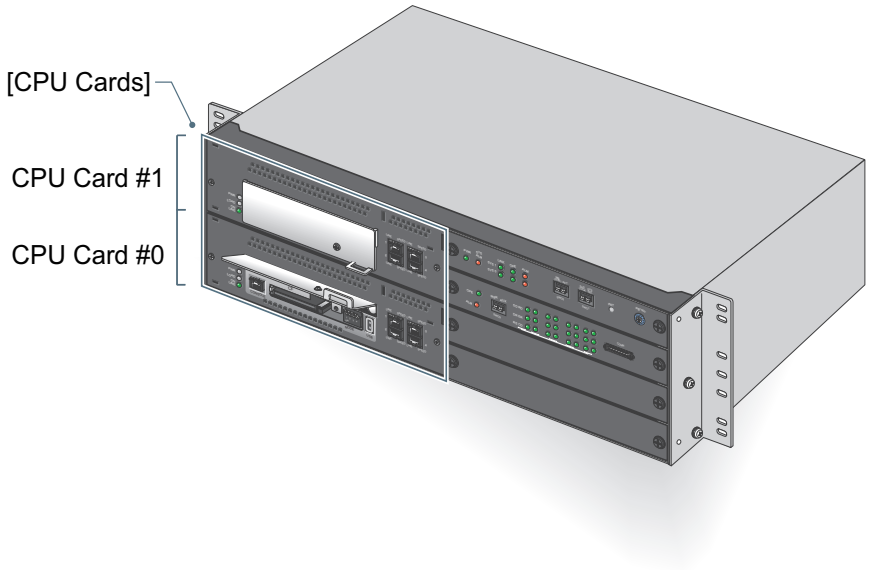
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

This SCF-CP02-B card consists of CPU, CF slot and DSP, and has four LAN ports. This card controls PIRs through EXB-TSWR card and IP components via LAN ports.

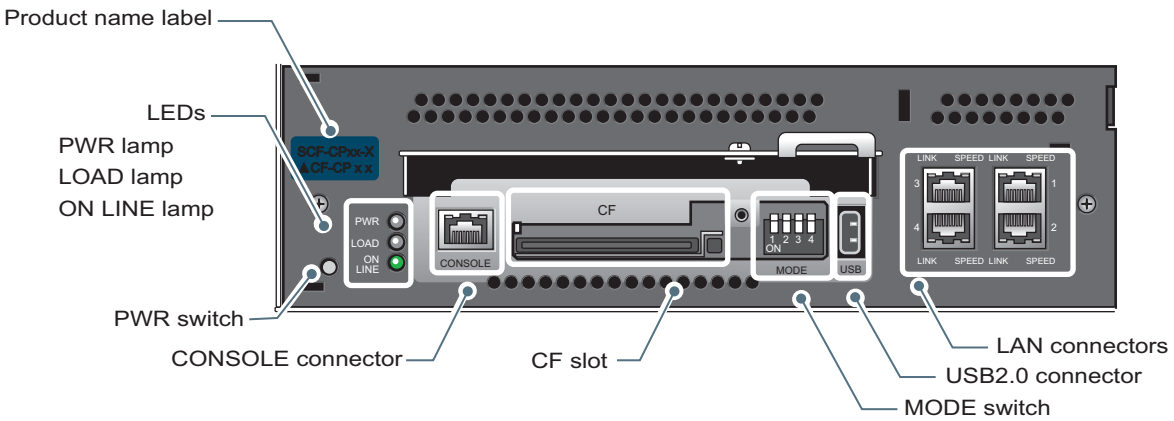
2. Mounting Locations/Conditions

The mounting locations of this card are shown below.



3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches and connectors on this card is shown below.



NAME		COLOR	DESCRIPTION		REMARKS
PWR switch		-	Press to turn on the CPU card when powered off.		Works when the PWR switch on the rear panel is turned on.
			Press to execute auto-shutdown of the CPU card when powered on. **Note 1**		
			Press and hold for four seconds to turn off the CPU card forcibly when powered on.		
CONSOLE connector		-	Not used.		
CF slot		-	For accommodating a CF card. Operating program and office data is written on the CF card.		
LAN1	LAN1 LINK	Green	Lights when port link is established.	External LAN interface for TCP/IP (max 1 Gbps).	Used for the communication with call controlling devices, such as IP terminals and MG equipment.
			Flashes when accessing IP network.		
		OFF	Port link is not established.		
	LAN1 SPEED	Green	100 Mbps		
		Orange	1 Gbps		
		OFF	10 Mbps		
LAN2	LAN2 LINK	Green	Lights when port link is established.		Used for the communication with operation/ administration devices, such as PCPro and SNMP, and some of call controlling devices.
			Flashes when accessing IP network.		
		OFF	Port link is not established.		
	LAN2 SPEED	Green	100 Mbps		
		Orange	1 Gbps		
		OFF	10 Mbps		

NAME		COLOR	DESCRIPTION		REMARKS
LAN3	LAN3 LINK	Green	Lights when port link is established.	Internal LAN interface for FCCS (max 100 Mbps).	Used for FCCS (side A) controlling.
			Flashes when accessing IP network.		
		OFF	Port link is not established.		
	LAN3 SPEED	Green	100 Mbps		
		Orange	1 Gbps		
		OFF	10 Mbps		
LAN4	LAN4 LINK	Green	Lights when port link is established.		Used for FCCS (side B) controlling.
			Flashes when accessing IP network.		
		OFF	Port link is not established.		
	LAN4 SPEED	Green	100 Mbps		
		Orange	1 Gbps		
		OFF	10 Mbps		
USB2.0 connector		-	Not used.		

Note 1: To confirm that shutdown is complete, check the PWR lamp. When the auto-shutdown does not work, press and hold the PWR switch for four seconds to turn off the power forcibly.

4. Lamp Indications

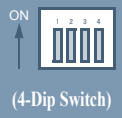
The contents of lamp indications on this card are shown in the table below.

NAME	COLOR	STATE	DESCRIPTION
PWR	Green	Light	CPU card is powered ON.
		OFF	CPU card is powered OFF.
LOAD	Red	Light	Accessing CF card.
		OFF	No access to CF card.
ON LINE	Green	Light	CPU card is operating normally.
		Light (FAST)	CPU card has no data.
		Light (SLOW)	SP has not started up.
		OFF	Telephony Server has not started up yet.

5. Switch Settings

Standard settings of a switch on this card is shown in the table below.

Hardware Switch

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (4-Dip Switch)	1	ON		Offline Mode **Note 1**
		OFF	×	Online Mode
	2-3	OFF	×	Fixed to OFF
	4	ON		CPU Make Busy ON
		OFF	×	CPU Make Busy OFF

Note 1: When the Telephony Server is powered on while SW1 is ON, it will load into offline mode. In offline mode, the system will behave in the following way:

- The Telephony Server will not load the TP/SP programs.
- The IP address of LAN1 will be automatically set to 192.168.0.2/24.

Maintenance can be carried out by connecting to LAN1 with the Telephony Server Maintenance Menu.

6. External Interface

For cable connections, refer to “Appliance Model Installation Manual” -”Chapter 3 Installation - Telephony Server” - “Cable Connection to the Telephony Server”.

SCG-PC00-C (EMA MAIN)

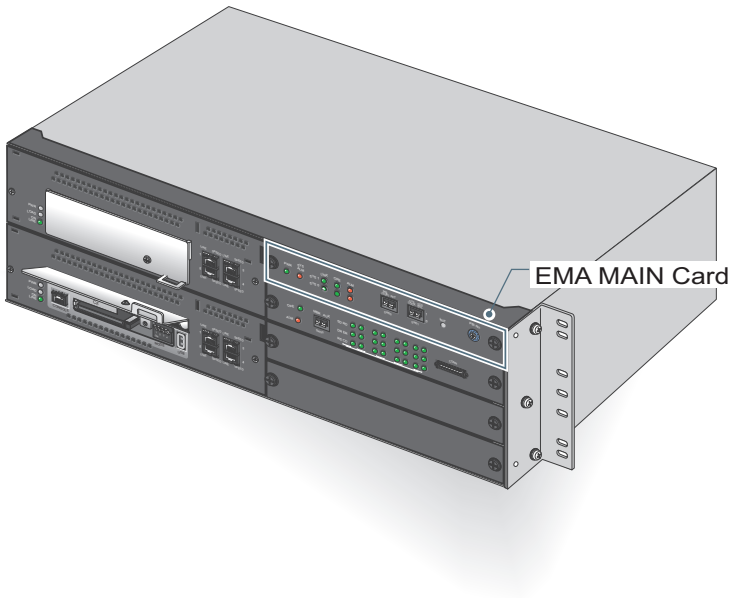
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

This SCG-PC00-C card controls CPU changeover in a dual configuration system. This card has an INIT switch and NCU switch to display system alarms, to supply power to EMA SUB cards and to execute system initialization.

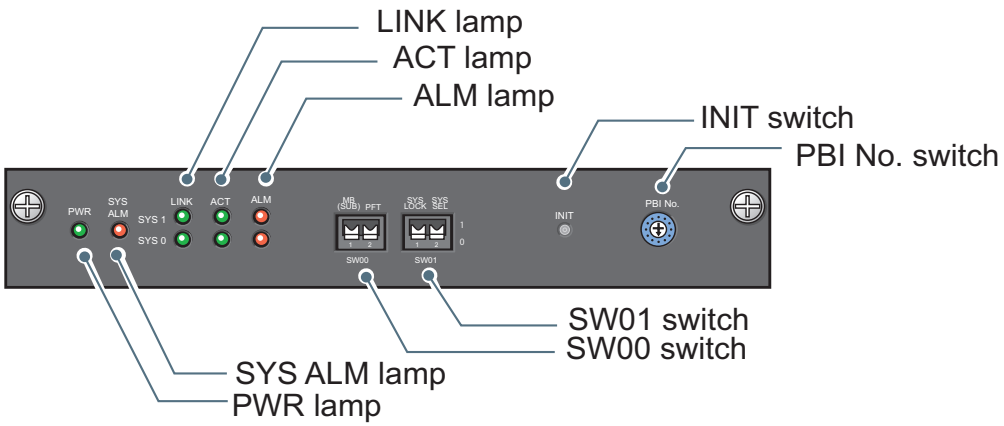
2. Mounting Locations/Conditions

The mounting location of this card is shown below.



3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches and connectors on this card is shown below.



4. Lamp Indications

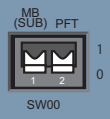
The contents of lamp indications on this card are shown in the table below.

NAME		COLOR	STATE	DESCRIPTION
PWR		Green	Light	EMA MAIN card is powered ON.
			OFF	EMA MAIN card is powered OFF.
SYS ALM		Red	Flash/Light	Failure occurs.
			OFF	No failure is detected.
LINK	SYS0	Green	Light	Link is established between CPU #0 and EMA MAIN card.
			OFF	Link is not established between CPU #0 and EMA MAIN card.
	SYS1	Green	Light	Link is established between CPU #1 and EMA MAIN card.
			OFF	Link is not established between CPU #1 and EMA MAIN card.
ACT	SYS0	Green	Light	CPU #0 is in ACT state.
			OFF	CPU #0 is not in ACT state.
	SYS1	Green	Light	CPU #1 is in ACT state.
			OFF	CPU #1 is not in ACT state.
ALM	SYS0	Red	Light	Failure occurs on software operation in CPU #0 (software operation failure when the system is operating).
			Flash	Failure occurs on software operation in CPU #0 (software operation failure when the system is starting up).
			OFF	No alarm is detected.
	SYS1	Red	Light	Failure occurs on software operation in CPU #1 (software operation failure when the system is operating).
			Flash	Failure occurs on software operation in CPU #1 (software operation failure when the system is starting up).
			OFF	No alarm is detected.

5. Switch Settings

Standard settings of a switch on this card is shown in the table below.

SW00

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
	MB (SUB)	ON		Set to OFF (Make-Busy cancel) to supply power to EMA SUB-A and EMA SUB-B cards.
		OFF		
	PFT	ON		Set to ON to start NCU manually.
		OFF		

SW01

SWITCH FORM	SWITCH NAME	SETTING	STANDARD SETTING	MEANING
	MB (SUB)	ON (1)		Fixed to OFF
		OFF (0)	×	
	PFT	ON (1)		Fixed to OFF
		OFF (0)	×	

INIT

SWITCH FORM	SWITCH NAME	SETTING	STANDARD SETTING	MEANING
	INIT	-	-	To execute system initialization on the Telephony Server (non-load initialization).

PBI No.

SWITCH FORM	SWITCH NAME	SETTING	STANDARD SETTING			MEANING	
			IMG/MMG	UMGi		PBI No.	Processor
				CCN	RN		
PBI No. 	PBI No.	0	×	Not used	Not used	None	None
		1	Not used	×		0x30	LP00
		2		Not used		0x38	LP04
		3				0x40	LP08
		4				0x48	LP12
		5				0x50	LP16
		6				0x58	LP20
		7				0x60	LP24
		8				0x68	LP28
		9-F			Not used	None	None

6. External Interface

No cable connection is necessary.

SCG-M03-B (EMA SUB-A)

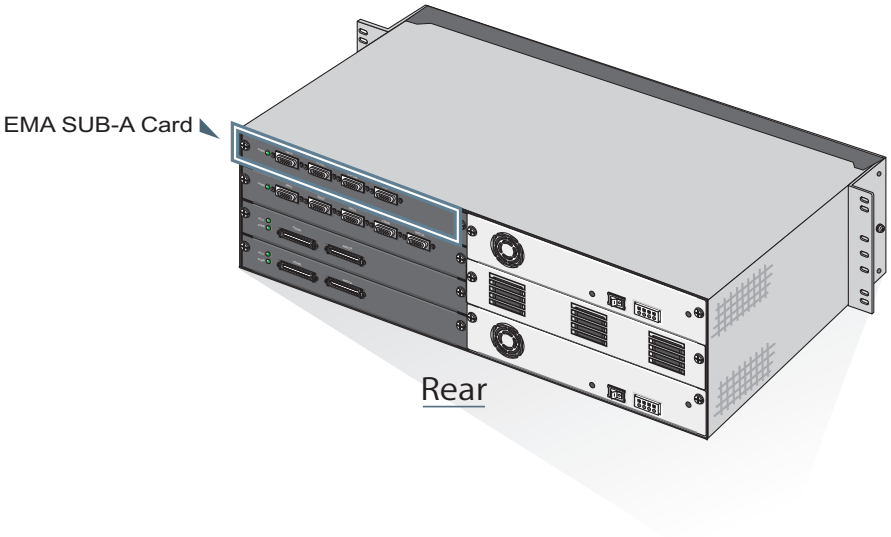
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

This SCG-M03-B card is used to connect the External Alarm Indication Panel, external music source and alarm display supply (DSPP). This card collects alarm information for PIRs.

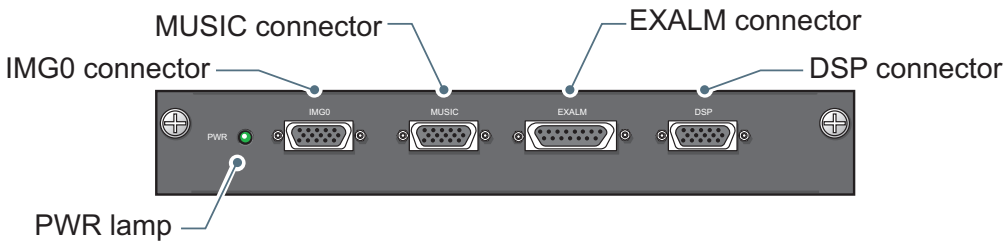
2. Mounting Locations/Conditions

The mounting location of this card is shown below.



3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches and connectors on this card is shown below.



NAME	DESCRIPTION	REMARKS
IMG0 connector	For collecting the alarm on IMG0.	
MUSIC connector	-	
EXALM connector	For connecting the External Alarm Indication Panel.	

NAME	DESCRIPTION	REMARKS
DSP connector	For connecting an alarm display.	Used for alarm display only

4. Lamp Indications

The contents of lamp indications on this card are shown in the table below.

NAME	COLOR	STATE	DESCRIPTION
PWR	Green	Light	EMA SUB-A card is powered ON.
	Red	Light	EMA SUB-A card is powered ON. Lights also when cable connection is wrong, or the card is in a wrong slot.
	-	OFF	EMA SUB-A card is powered OFF.

5. Switch Settings

SCG-M03-B does not need a switch setting.

6. External Interface

For cable connections, refer to “Appliance Model Installation Manual” - “CHAPTER 4 Modules Mounting and Connection (7U-PIR Configuration)” - “Internal and Inter-Frame Cable Connection”.

SCG-M02-B (EMA SUB-B)

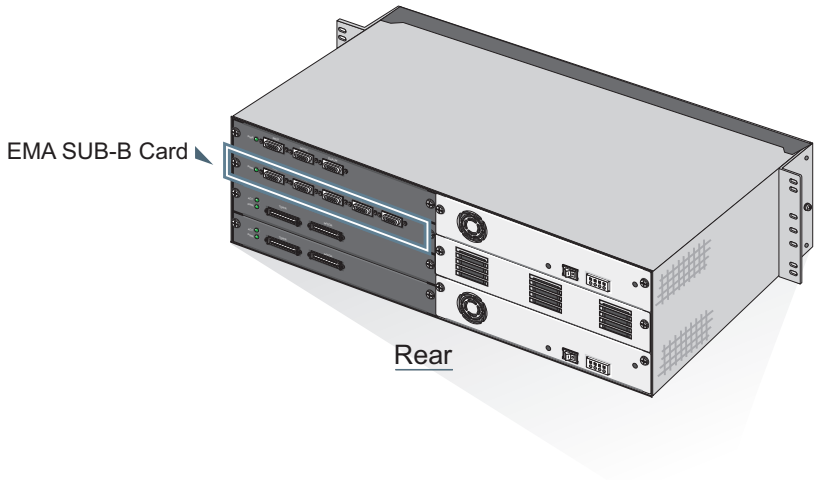
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

This SCG-M02-B card is required for 4-IMG system. This card collects alarm information for PIRs of IMGs 1 - 3 and TSWR.

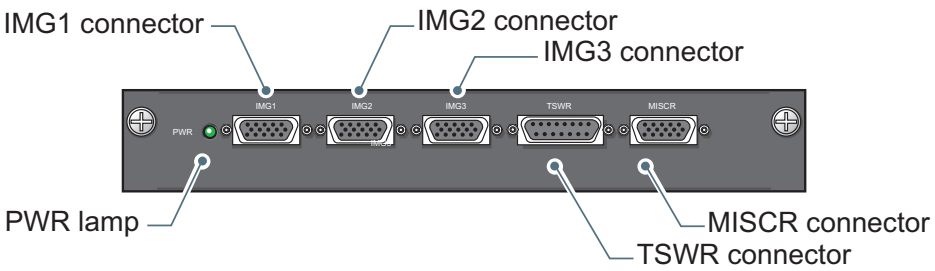
2. Mounting Locations/Conditions

The mounting location of this card is shown below.



3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches and connectors on this card is shown below.



NAME	DESCRIPTION	REMARKS
IMG1 connector	For detecting the alarm on IMG1.	
IMG2 connector	For detecting the alarm on IMG2.	
IMG3 connector	For detecting the alarm on IMG3.	
TSWR connector	For detecting the alarm on TSW.	

NAME	DESCRIPTION	REMARKS
MISCR	Not used.	

4. Lamp Indications

The contents of lamp indications on this card are shown in the table below.

NAME	COLOR	STATE	DESCRIPTION
PWR	Green	Light	EMA SUB-B card is powered ON.
	Red	Light	PIR and MISCR connector are connected incorrectly.
	-	OFF	EMA SUB-B card is powered OFF.

5. Switch Settings

SCG-M02-B does not need a switch setting.

6. External Interface

For cable connections, refer to “Appliance Model Installation Manual” - “CHAPTER 4 Modules Mounting and Connection (7U-PIR Configuration)” - “Internal and Inter-Frame Cable Connection”.

SCG-GT01-B (EXB-TSWR)

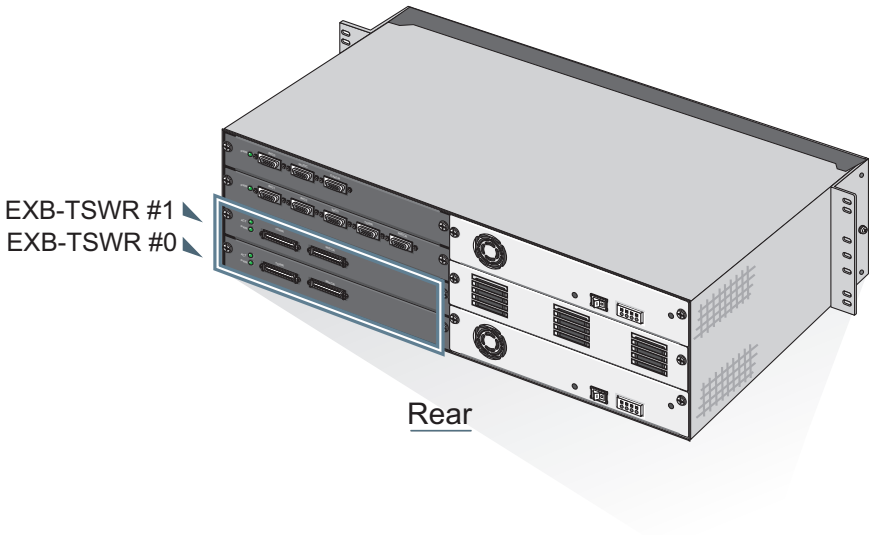
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

This SCG-GT01-B card provides an interface between CPU and TSW-BOX/TSWR through local I/O bus.

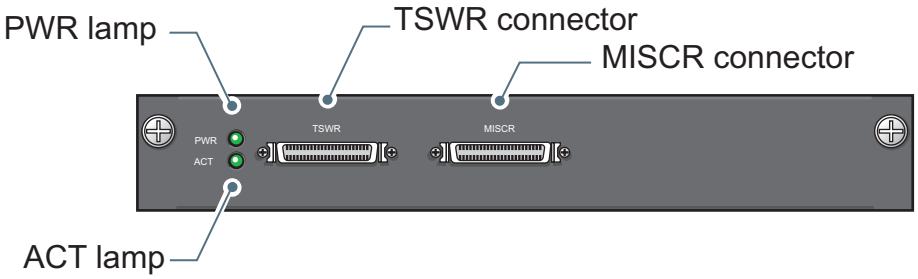
2. Mounting Locations/Conditions

The mounting locations of this card are shown below.



3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches and connectors on this card is shown below.



NAME	DESCRIPTION	REMARKS
TSWR connector	For communicating with TSW-BOX/TSWR.	
MISCR connector	Not used.	

4. Lamp Indications

The contents of lamp indications on this card are shown in the table below.

NAME	COLOR	STATE	DESCRIPTION
PWR	Green	Light	EXB card's initialization is completed.
		Flash	Link error occurs.
		OFF	EXB card is initializing.
LOAD	Green	Light	CPU is in ACT state.
		Flash	CPU is in standby state.
		OFF	EXB card is in make-busy state.

5. Switch Settings

SCG-GT01-B does not need a switch setting.

6. External Interface

For cable connections, refer to "Appliance Model Installation Manual" - "CHAPTER 4 Modules Mounting and Connection (7U-PIR Configuration)" - "Internal and Inter-Frame Cable Connection".

SCG-IO00-B (IOC Card)

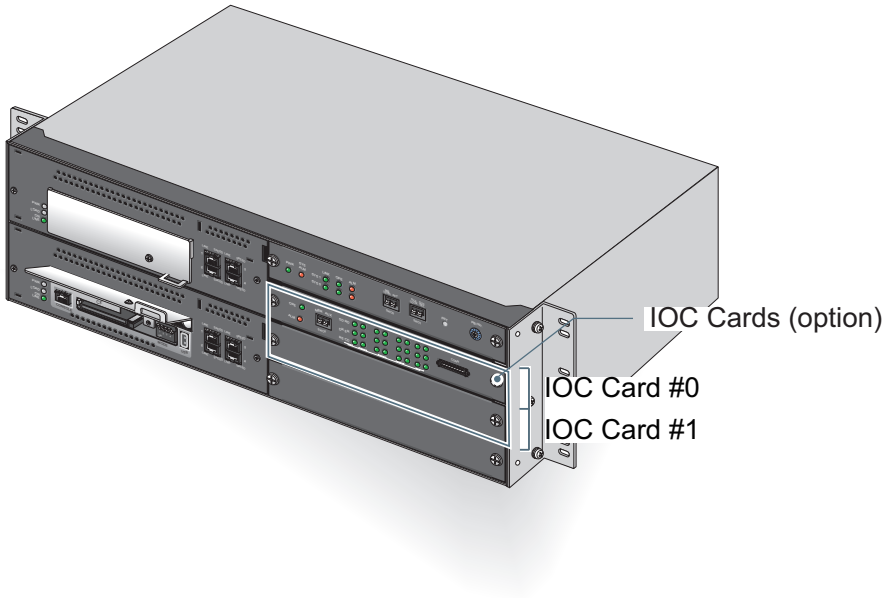
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

This SCG-IO00-B provides four ports of serial interface for connecting PCPro, SMDR and MCI, etc. A maximum of two IOC cards can be used in the system.

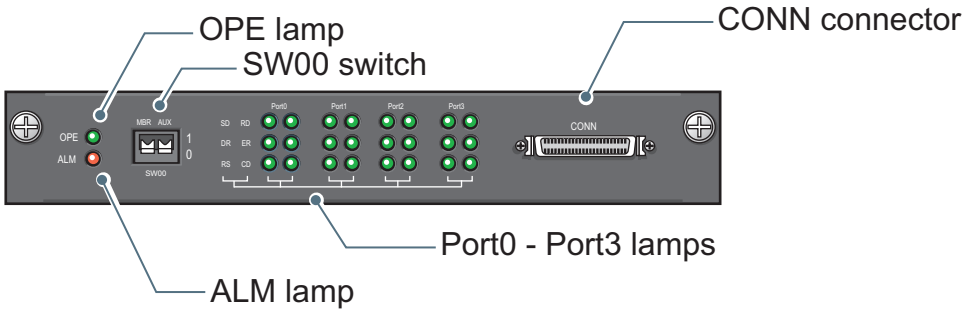
2. Mounting Locations/Conditions

The mounting location of this card is shown below.



3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches and connectors on this card is shown below.



NAME	DESCRIPTION	REMARKS
CONN connector	Accommodates four RS-232C ports.	SV 4PORT CA-A cable is connected to.

NAME	DESCRIPTION	REMARKS
S2 switch	Identifies card inserted slot (IOC #0 or #1) and SMDR settings. For more details, refer to Section 5. Switch Settings.	This switch is placed inside the card.

4. Lamp Indications

The contents of lamp indications on this card are shown in the table below.

NAME	COLOR	STATE	DESCRIPTION
OPE lamp	Green	Light	IOC card is operating normally.
		OFF	IOC card is in make-busy state or operation error occurs.
ALM lamp	Red	Light	Operation error occurs.
		OFF	No failure is detected.
Port0-3 SD lamp	Green	Light	Sending RS-232C signal.
		OFF	Not sending RS-232C signal.
Port0-3 RD lamp	Green	Light	Receiving RS-232C signal.
		OFF	Not receiving RS-232C signal.
Port0-3 DR lamp	Green	Light	Receiving RS-232C DSR signal.
		OFF	Not receiving RS-232C DSR signal.
Port0-3 ER lamp	Green	Light	Sending RS-232C DTR signal.
		OFF	Not sending RS-232C DTR signal.
Port0-3 RS lamp	Green	Light	Sending RS-232C RTS signal.
		OFF	Not sending RS-232C RTS signal.
Port0-3 CD lamp	Green	Light	Receiving RS-232C CD signal.
		OFF	Not receiving RS-232C CD signal.

5. Switch Settings

Standard settings of a switch on this card is shown in the table below.

Hardware Switch

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (4-Dip Switch)	1	ON		This card is inserted into IOC #1.
		OFF	×	This card is inserted into IOC #0.
	2	ON	×	SMDR BSC **Note 1**
		OFF		SMDR free wheeling **Note 2**
	3-4	OFF	×	Fixed to OFF

Note 1: This setting is available when TERMINAL=5 (Terminal Kind = SMDR (BSC)) is assigned by the AIOC command.

Note 2: If connecting SMDR via a modem, set the modem to asynchronous synchronization.

SWITCH FORM	SWITCH NAME	SETTING	STANDARD SETTING	MEANING
	MBR	ON (1)		To set make-busy request on IOC card.
		OFF (0)		To cancel make-busy request on IOC card.
	AUX	ON (1)		To display PCI-E link status on Port3's RS lamp for #0 and CD lamp for #1. OFF: PCI-E link is not established. Flash: PCI-E link is established and in STBY state. Light: PCI-E link is established and in ACT state.
		OFF (0)		PCI-E link state is not to be displayed.

6. External Interface

For cable connections, refer to "Appliance Model Installation Manual" - "Chapter 3 Installation - Telephony Server" - "Installing the Telephony Server" - "Assembling the Server Module" - "Inserting EMA MAIN, EMA SUB, EXB, and IOC Cards".

SCA-M01-A (TSW-BOX Power Supply)

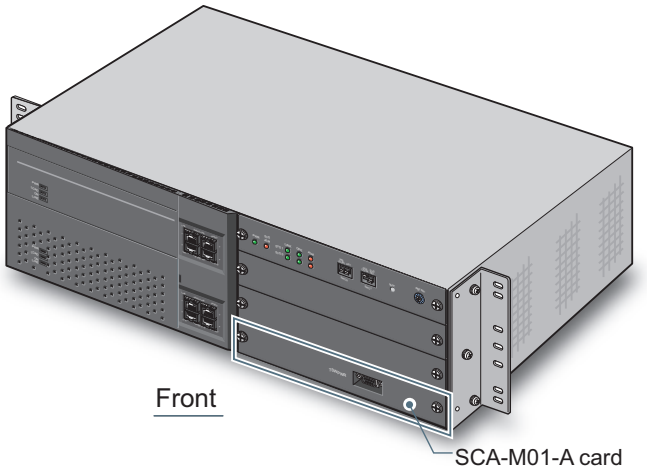
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

This card supplies power at 12V to a TSW-BOX via a cable connected to a Telephony Server.

2. Mounting Locations/Conditions

The mounting location of this card is shown below.



3. Face Layout of Lamps, Switches and Connectors

The face layout of a connector on this card is shown below.



NAME	DESCRIPTION	REMARKS
TSWPWR connector	For supplying power to TSW-BOX	

4. Lamp Indications

This card does not have lamps.

5. Switch Settings

This card does not have switches.

6. External Interface

For detailed information on cable connections of this card, refer to the following sections in Appliance Model Installation Manual:

- "Chapter 4 Modules Mounting and Connection (7U-PIR Configuration)" - "Internal and Inter-Frame Cable Connection" - "Cable Connection for AC-Powered Model"
- "Chapter 4 Modules Mounting and Connection (7U-PIR Configuration)" - "Internal and Inter-Frame Cable Connection" - "Cable Connection for DC-Powered Model (1-IMG Configuration)"

2. Cards Mounted in TSW-BOX

SYMBOL	HARDWARE NAME	FUNCTIONS OF CARD & MOUNTING CONDITIONS
TSW	SPZ-SW25-A	Time Division Switch (for 1-IMG system) • Provides Time Division Switch (TSW), PLO function, Digital Tone Generator (DTG), and External Music-On-Hold
	SPZ-SW26-A	Time Division Switch (for 4-IMG system) • Provides Time Division Switch (TSW), PLO function, Digital Tone Generator (DTG), Data Link Controller (DLKC), and External Music-On-Hold

SPZ-SW25-A (TSW)

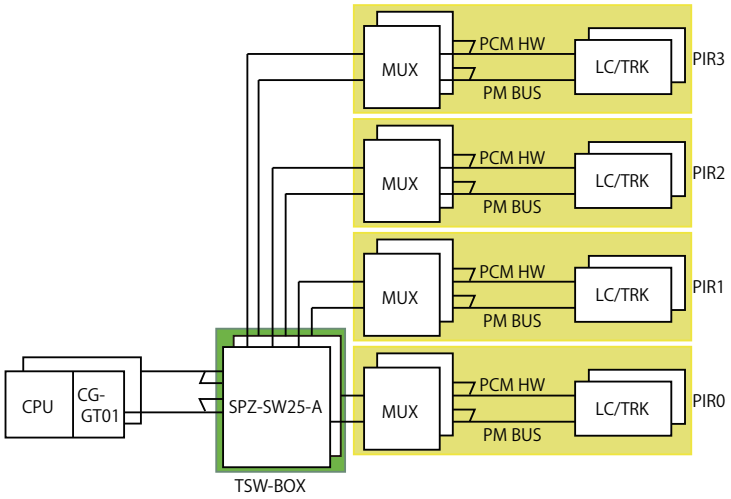
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

<Time Division Switch>

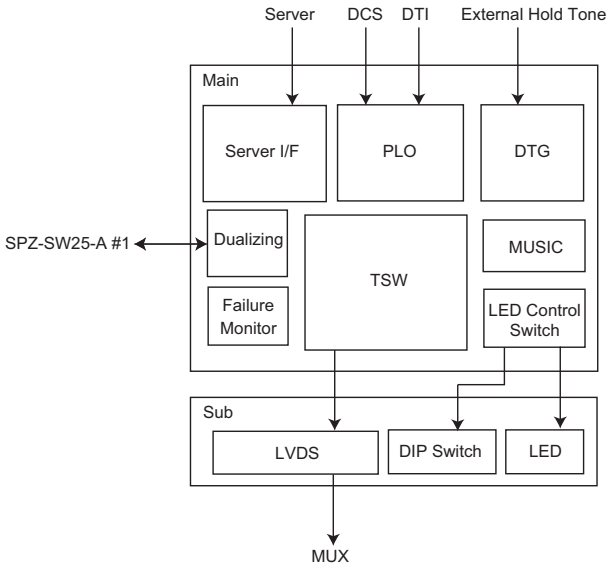
1. General Functions

This card is used for the 1-IMG system and provides Time Division Switch (TSW) and PLO base clock. This card is capable of 2048x2048 Time Slot (TS) switching.

Location of SPZ-SW25-A (TSW) in the System



<SPZ-SW25-A>



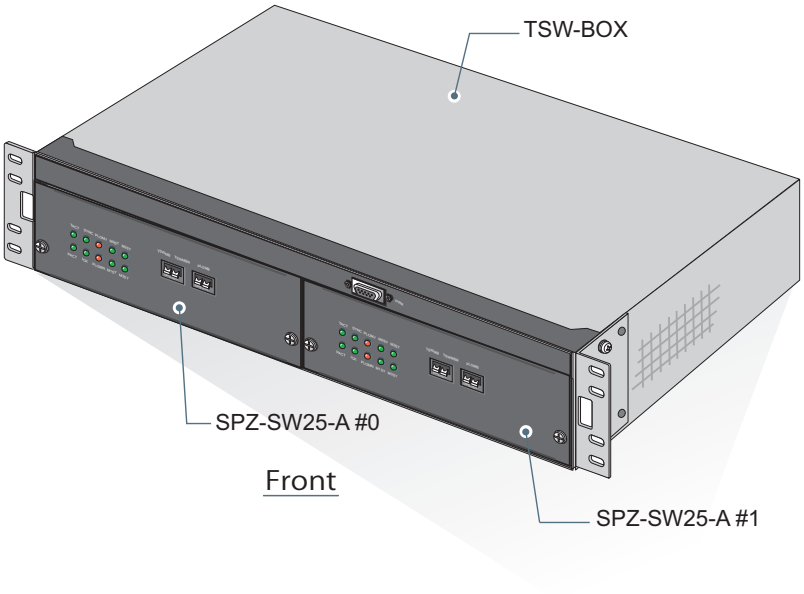
The PLO function is used when the system is connected with the digital network. The system operates in the clock source office mode or the clock subordinate office mode. The former uses a base clock generated by the TSW internal oscillator (frequency accuracy: ± 5 ppm), while the latter uses an external input clock of 1.544 MHz or 2.048 MHz (pull-in range: ± 100 ppm).

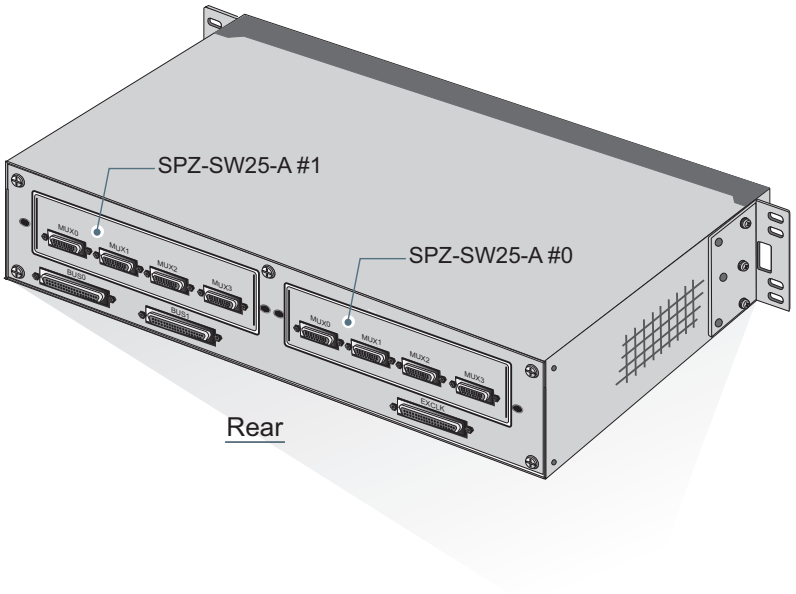
This card includes Digital Tone Generator (DTG) and Music-On-Hold (MUSIC) so that it can send tones such as Ringback Tone (RBT), Busy Tone (BT), Service Set Tone (SST) and hold tone.

A dual TSW configuration can be made by mounting the two SPZ-SW25-A (TSW) cards into a TSW-BOX.

2. Mounting Locations/Conditions

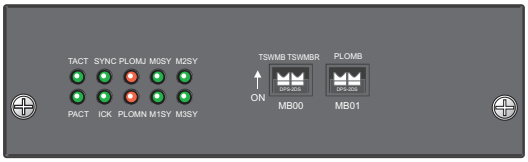
The mounting locations of this card are shown below.



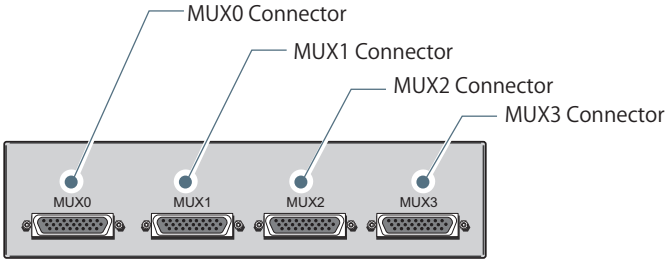


3. Face Layout of Lamps, Switches and Connectors

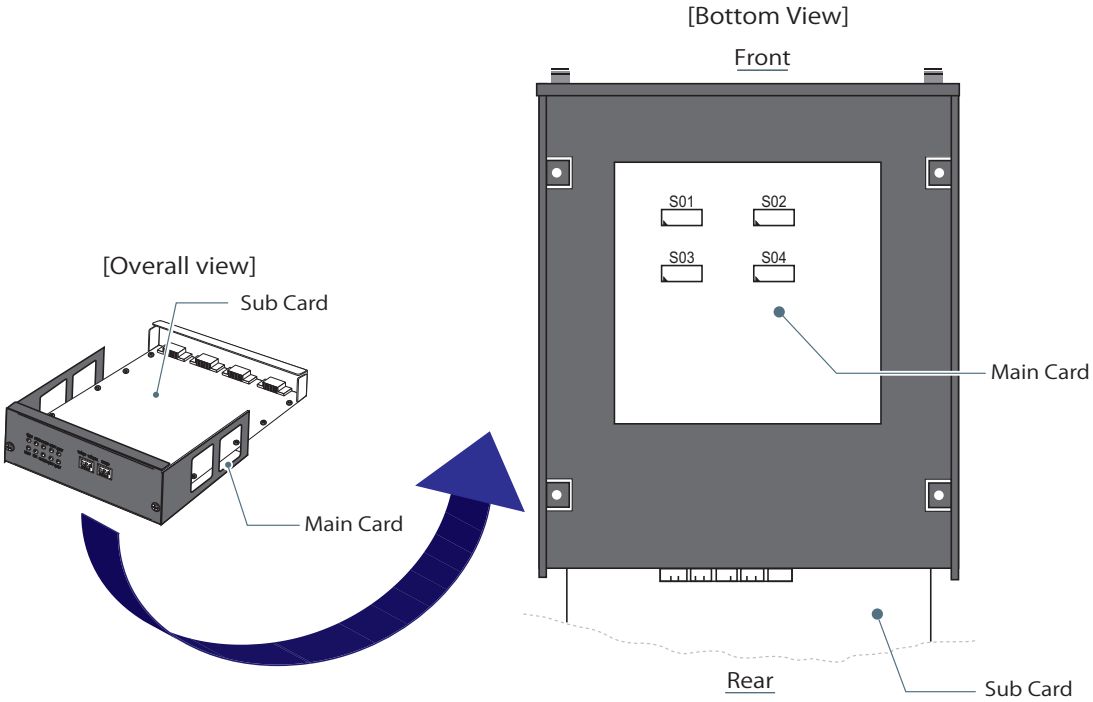
The face layout of lamps and switches on this card is shown below.



Front



Rear



NAME	DESCRIPTION	REMARKS
MUX0 Connector	For communicating with MUX0	
MUX1 Connector	For communicating with MUX1	
MUX2 Connector	For communicating with MUX2	
MUX3 Connector	For communicating with MUX3	

4. Lamp Indications

The content of the lamp indications of this card is shown in the table below.

LAMP NAME	COLOR	STATE	DESCRIPTION
TACT	Green	Light	TSW block is in active state.
		Flash (60 IPM)	TSW block is in standby state.
		OFF	TSW block is in Make-Busy state.
PACT	Green	Light	PLO block is in active state.
		OFF	PLO block is in standby state.
SYNC	Green	Light	System is synchronized with digital network.
		OFF	System is not synchronized with digital network.
ICK	Green	Light	TSW internal oscillator is operating normally.
		OFF	TSW internal oscillator is not operating normally.
PLOMJ	Red	Light	MJ (major) alarm is generated.
		OFF	MJ (major) alarm is not generated.
PLOMN	Red	Light	MN (minor) alarm is generated.
		OFF	MN (minor) alarm is not generated.
M0SY	Green	Light	MUX 0 synchronization has been established.
		OFF	MUX 0 synchronization is not established.
M1SY	Green	Light	MUX 1 synchronization has been established.
		OFF	MUX 1 synchronization is not established.
M2SY	Green	Light	MUX 2 synchronization has been established.
		OFF	MUX 2 synchronization is not established.
M3SY	Green	Light	MUX 3 synchronization has been established.
		OFF	MUX 3 synchronization is not established.

5. Switch Settings

The switches on the SPZ-SW25-A (TSW) card have the following meanings.

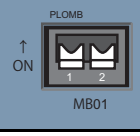
Hardware Switch

Note: When changing a switch setting, be careful not to change the settings of the adjacent switches.

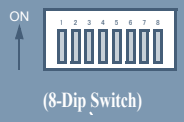
MB00

SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
	1	ON		TSW make-busy
		OFF	×	TSW make-busy cancel
	2	ON		TSW make-busy request
		OFF	×	TSW make-busy request cancel

MB01

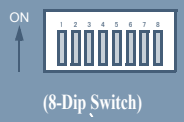
SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
	1	ON		PLO make-busy
		OFF	×	PLO make-busy cancel
	2	OFF	×	Fixed to OFF

S01

SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (8-Dip Switch)	1	ON		Clock subordinate office mode **Note 1**
		OFF		Clock source office mode
	2	ON		Digital Clock Supply route zero (DCS 0) is used.
		OFF	×	Digital Clock Supply route zero (DCS 0) is not used.
	3	ON		Digital Clock Supply route one (DCS 1) is used.
		OFF	×	Digital Clock Supply route one (DCS 1) is not used.
	4	ON		8 kHz of Frame Head signals are extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
		OFF	×	8 kHz of Frame Head signals are not extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
	5	ON		When clock source failure has occurred in all supply routes, the PLO outputs the original clock of the internal oscillator.
		OFF	×	When clock source failure has occurred in all supply routes, the PLO continues outputting the current phase clock.
	6-8	OFF	×	Fixed to OFF

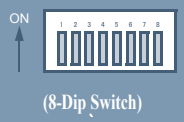
Note 1: The system becomes unstable when S01 is set to OFF while the system is connected to a digital network.

S02

SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (8-Dip Switch)	1	ON		DIU 0 is used as the DTI Clock Supply Route 0.
		OFF		DIU 0 is not used.
	2	ON		DIU 1 is used as the DTI Clock Supply Route 1.
		OFF		DIU 1 is not used.
	3	ON		DIU 2 is used as the DTI Clock Supply Route 2.
		OFF		DIU 2 is not used.
	4	ON		DIU 3 is used as the DTI Clock Supply Route 3.
		OFF		DIU 3 is not used.
	5 **Note 2**	ON		1.5 M clock for DIU 0
		OFF		2 M clock for DIU 0
	6 **Note 2**	ON		1.5 M clock for DIU 1
		OFF		2 M clock for DIU 1
	7 **Note 2**	ON		1.5 M clock for DIU 2
		OFF		2 M clock for DIU 2
	8 **Note 2**	ON		1.5 M clock for DIU 3
		OFF		2 M clock for DIU 3

Note 2: The following shows the clock frequency of each card to be supplied to PLO.
- Clock frequency of 2M: CH-PRTA (2M DTI)/CH-PRTA (2M PRT)/CH-PRTA (2M CCT)
- Clock frequency of 1.5M: CH-PRTA (1.5M DTI)/CH-PRTA (1.5MPRT)/CH-PRTA (1.5M CCT)

S03

SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (8-Dip Switch)	1	ON		External Music-On-Hold
		OFF	×	Internal Music-On-Hold
	2	ON		Music-On-Hold: Setting of A-law
		OFF	×	Music-On-Hold: Setting of μ-law
	3	ON		Gain level setting for external Music-On-Hold **Note 3** (Available when S03-1 is ON) See Gain Level Setting for External Music-On-Hold.
		OFF	×	
	4	ON		
		OFF	×	
	5	ON		Internal Music-On-Hold setting (Available when S03-1 is OFF) See Internal Music-On-Hold Setting.
		OFF	×	
	6	ON		
		OFF	×	
	7	ON		
		OFF	×	
	8	OFF	×	Fixed to OFF

Note 3: To avoid over-current signal, output level of external hold tone source needs to be set from lower to higher. Adjust the sending volume level on external hold tone source equipment by monitoring the telephone terminal connected via PSTN. When the equipment has no volume control, adjust the gain level by S03-3 and S03-4. Input impedance from the external hold tone source needs to be within the ranges of 8 ohm - 50 ohm. Make sure not to exceed this range. Depending on the external tone source, when grounding cable is not connected between the Telephony Server's FG terminal and the external tone source equipment, there may be the case to hear inductive noise.

Gain Level Setting for External Music-On-Hold

S03-3	S03-4	Gain Level [dB]
OFF	OFF	0 dB
ON	OFF	10 dB
OFF	ON	15 dB
ON	ON	20 dB

Internal Music-On-Hold Setting

S03-5	S03-6	S03-7	Music-On-Hold Type
ON	ON	ON	Not used
ON	ON	OFF	When the Saint Go Marching' In
ON	OFF	ON	Minuet
ON	OFF	OFF	Nocturne
OFF	ON	ON	Buzzer
OFF	ON	OFF	Chime
OFF	OFF	ON	Maiden's Prayer
OFF	OFF	OFF	For Elise

S04

SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (8-Dip Switch)	1	ON		Settings for DTG Data See Setting for DTG Data.
		OFF		
	2	ON		
		OFF		
	3	ON		
		OFF		
	4	ON		
		OFF		
	5	ON		
		OFF		
	6	ON		
		OFF		
	7	ON		
		OFF		
	8	OFF	×	Fixed to OFF

Setting for DTG Data

S04-1	S04-2	S04-3	S04-4	S04-5	S04-6	S04-7	Product Name	Market
ON	ON	OFF	OFF	OFF	OFF	OFF	SM-243 N24 DTG DATA-AUS	Australia (Standard) **Note 4**
OFF	OFF	OFF	OFF	ON	OFF	OFF	SM-027 N24 DTG DATA-AUS	Australia
ON	ON	ON	OFF	OFF	OFF	ON	SM-618 DTG AT DATA-A	Austria
OFF	OFF	ON	OFF	OFF	OFF	ON	SM-611 DTG BE DATA-A	Belgium
OFF	ON	OFF	OFF	ON	OFF	OFF	SM-283 N74 DTG DATA	Brazil
ON	ON	OFF	OFF	ON	OFF	OFF	SM-303 N74 DTG DATA-B	China
OFF	OFF	OFF	ON	OFF	OFF	ON	SM-619 DTG DK DATA-A	Denmark
OFF	ON	ON	OFF	OFF	OFF	ON	SM-613 DTG DE DATA-A	Germany
ON	ON	OFF	ON	OFF	OFF	ON	SM-622 DTG GR DATA-A	Greece
ON	OFF	OFF	ON	ON	OFF	OFF	SP-593 SW05-B PROG-A	Hong Kong
OFF	OFF	ON	ON	OFF	OFF	ON	SM-623 DTG IT DATA-A	Italy
ON	ON	ON	OFF	ON	OFF	OFF	SP-591 SW05-B PROG-A	Malaysia
ON	OFF	ON	ON	ON	OFF	OFF	SP-599 SW05-B PROG-A	Mexico
ON	ON	OFF	OFF	OFF	OFF	ON	SM-610 DTG NL DATA-A	Netherlands
ON	OFF	OFF	OFF	OFF	OFF	OFF	SM-025 N24 DTG DATA	North America
ON	OFF	OFF	OFF	OFF	OFF	ON	SM-601 N24 DTG DATA-C	Russia
ON	ON	OFF	ON	ON	OFF	OFF	SP-595 SW05-B PROG-A	Saudi Arabia
OFF	ON	OFF	ON	ON	OFF	OFF	SP-594 SW05-B PROG-A	Singapore
OFF	OFF	ON	OFF	ON	OFF	OFF	SM-309 N24 DTG DATA-A	South Korea (A-Law)
ON	OFF	ON	OFF	ON	OFF	OFF	SP-588 SW05-B PROG-A	South Korea (μ-Law)
OFF	ON	OFF	ON	OFF	OFF	ON	SM-621 DTG ES DATA-A	Spain
OFF	OFF	ON	ON	ON	OFF	OFF	SP-598 SW05-B PROG-A	NEC Standard A-Law
ON	OFF	ON	OFF	OFF	OFF	ON	SM-612 DTG SE DATA-A	Sweden
ON	OFF	OFF	ON	OFF	OFF	ON	SM-620 DTG CH DATA-A	Swiss
OFF	ON	ON	OFF	ON	OFF	OFF	SP-590 SW05-B PROG-A	Taiwan (Standard) **Note 4**
OFF	ON	ON	ON	ON	OFF	OFF	SM-349 N24 DTG DATA-A	Taiwan
ON	OFF	OFF	OFF	ON	OFF	OFF	SM-201 N24 DTG DATA	Thailand (Standard) **Note 4**
OFF	OFF	OFF	ON	ON	OFF	OFF	SP-592 SW05-B PROG-A	Thailand
OFF	OFF	OFF	OFF	OFF	OFF	ON	SM-560 DTG UK DATA-A	UK (Standard) **Note 4**
OFF	ON	OFF	OFF	OFF	OFF	ON	SM-603 DTG UK DATA-B	UK
ON	OFF	ON	ON	OFF	OFF	ON	SM-649 DTG SA DATA-A	South Africa
ON	ON	ON	ON	ON	OFF	OFF	SM-328 N74 DTG DATA	New Zealand

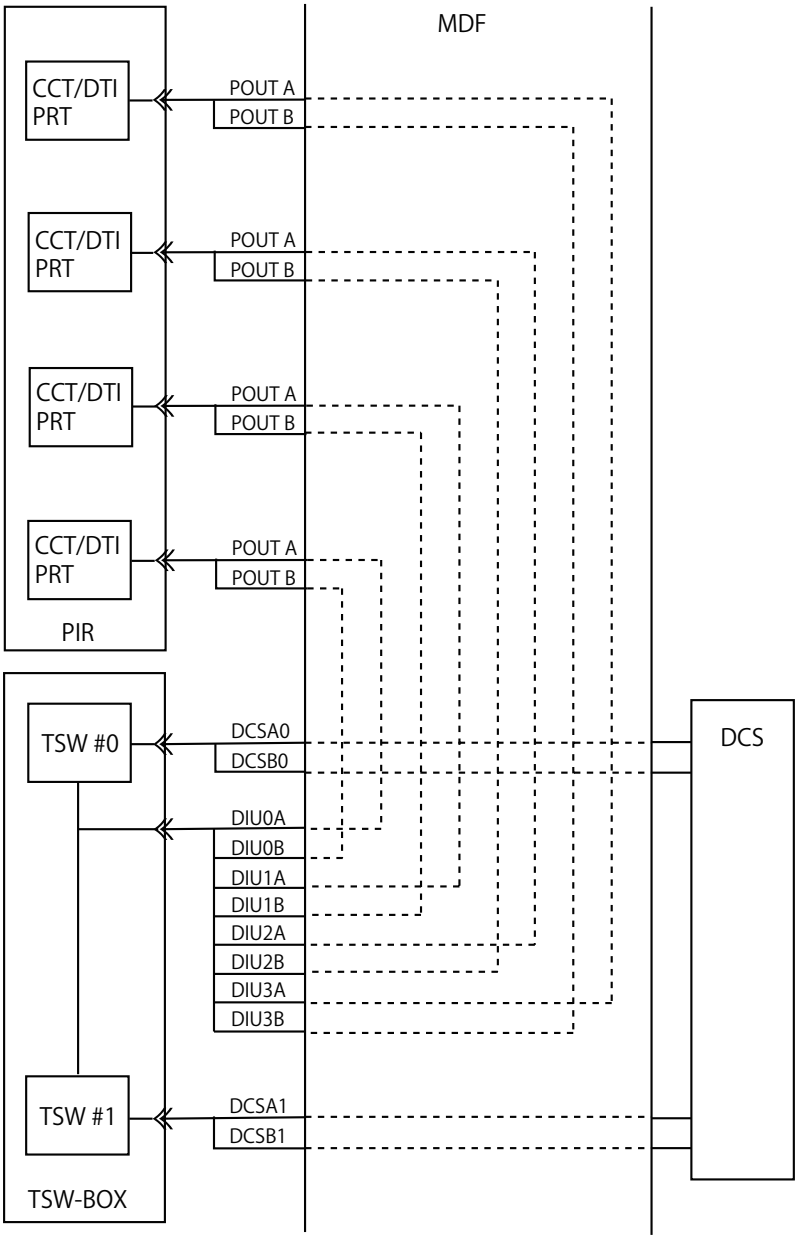
Note 4: The standard setting for each country.

6. External Interface

For detailed information on cable connections of this card, refer to the following sections in Appliance Model Installation Manual:

- "Chapter 4 Modules Mounting and Connection (7U-PIR Configuration)" - "Internal and Inter-Frame Cable Connection" - "Cable Connection for AC-Powered Model"
- "Chapter 4 Modules Mounting and Connection (7U-PIR Configuration)" - "Internal and Inter-Frame Cable Connection" - "Cable Connection for DC-Powered Model (1-IMG Configuration)"

Connection Route Diagram



SPZ-SW26-A (TSW)

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

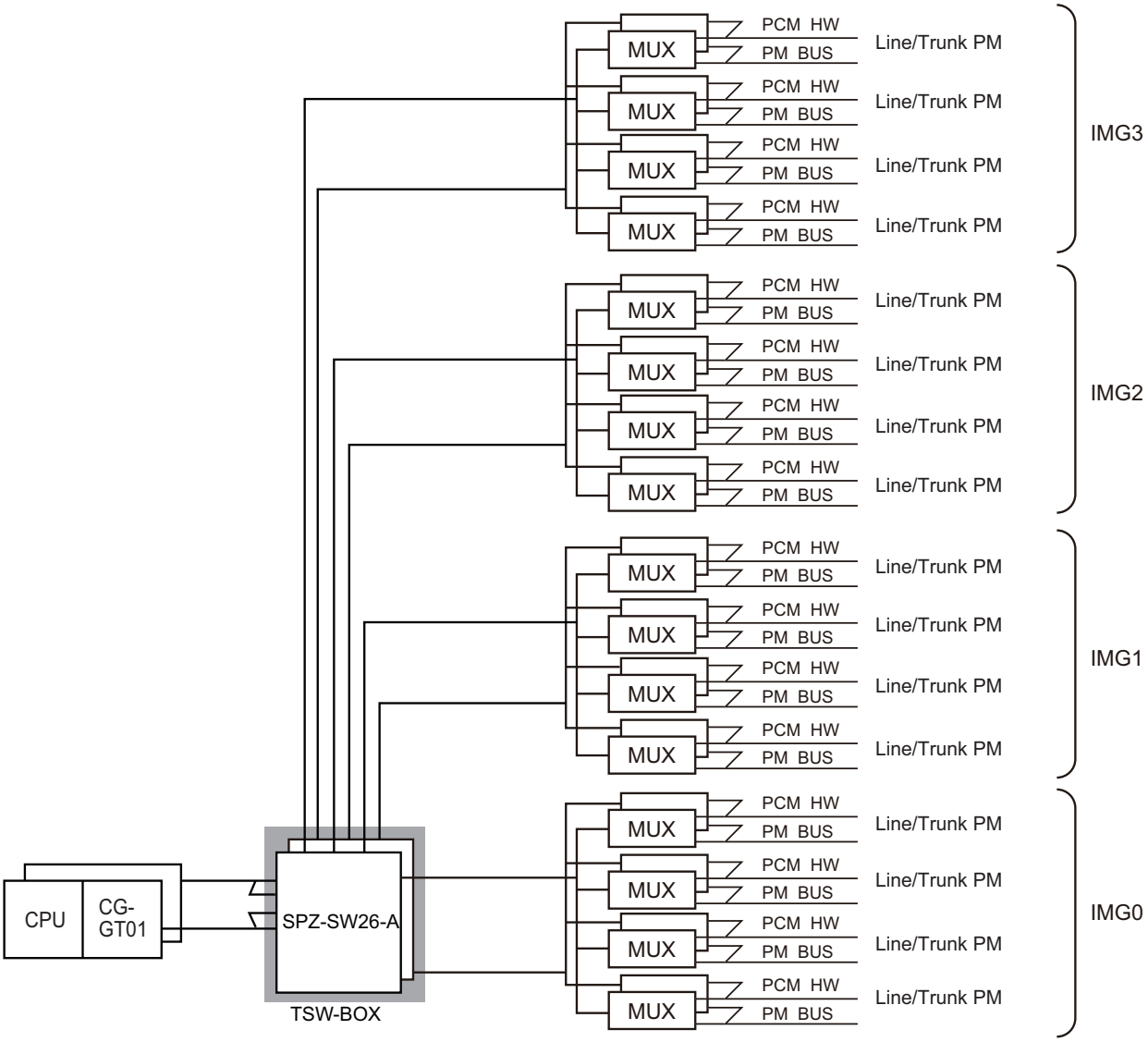
<Time Division Switch>

1. General Functions

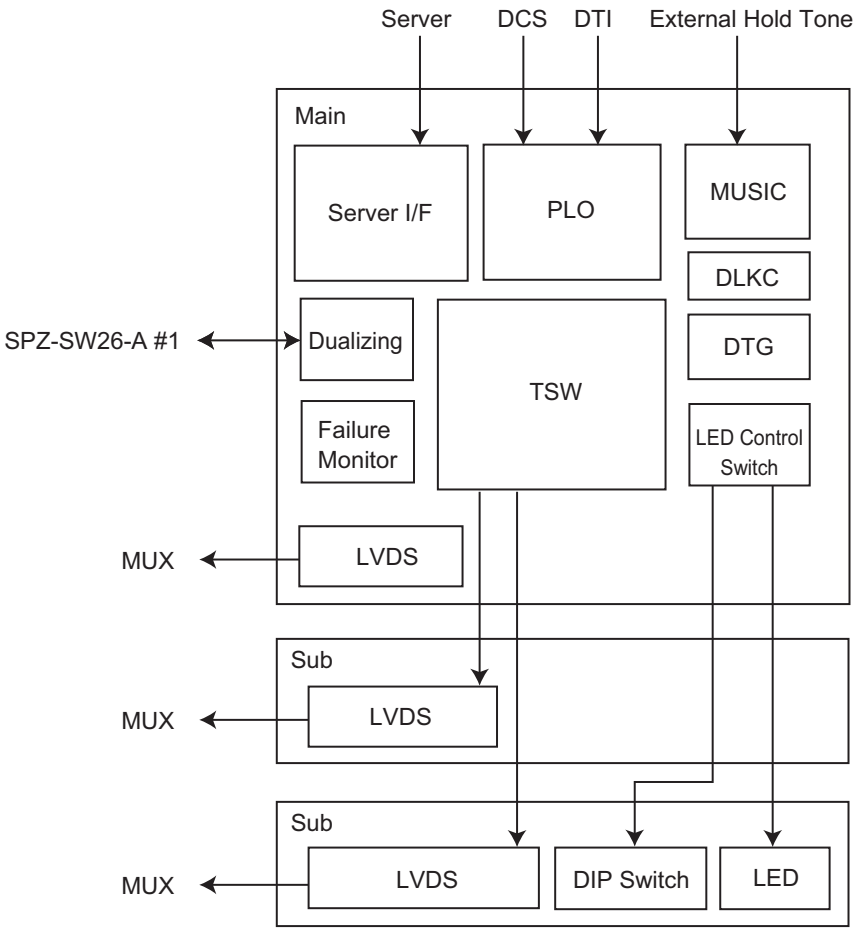
This card is used for the 4-IMG system and provides Time Division Switch (TSW), PLO base clock and Data Link Controller (DLKC). This card is capable of 8192 x 8192 Time Slot (TS) switching.

Note: This card is available since FP95-112 V2.

Location of SPZ-SW26-A (TSW) in the System



<SPZ-SW26-A>



The PLO function is used when the system is connected with the digital network. The system operates in the clock source office mode or the clock subordinate office mode. The former uses a base clock generated by the TSW internal oscillator (frequency accuracy: ± 5 ppm), while the latter uses an external input clock of 1.544 MHz or 2.048 MHz (pull-in range: ± 100 ppm).

DLCK supports the functions shown below and broadcasts information such as arrival/answer/release of ATT calls or the status (idle/busy) of all stations to all the Attendant Consoles (ATTs) in the system through the TSW system link.

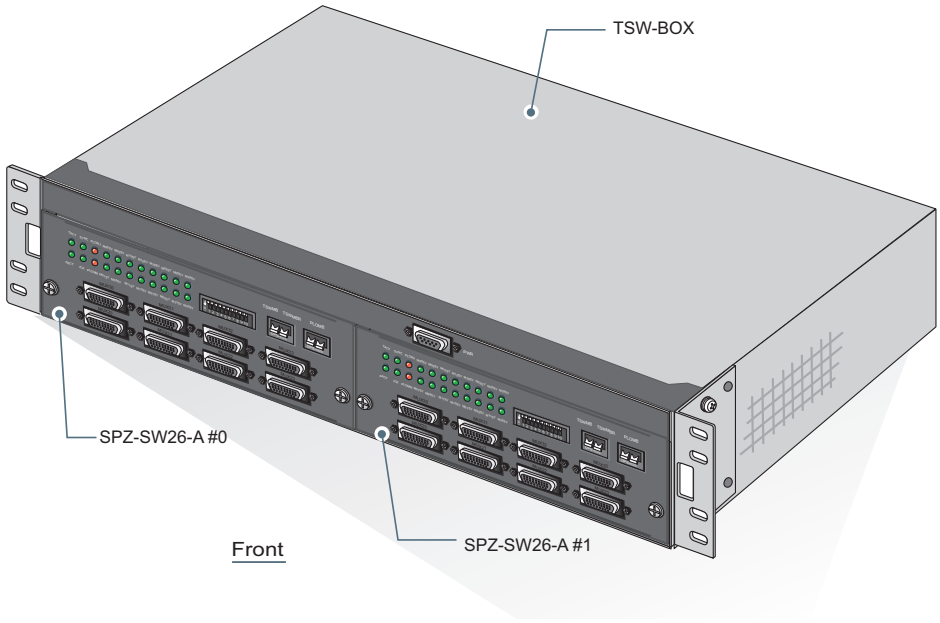
- ATT Forwarding Data Receive Buffer,
- ATT Forwarding Data Format Conversion
- ATT Forwarding Data Serial Transmission

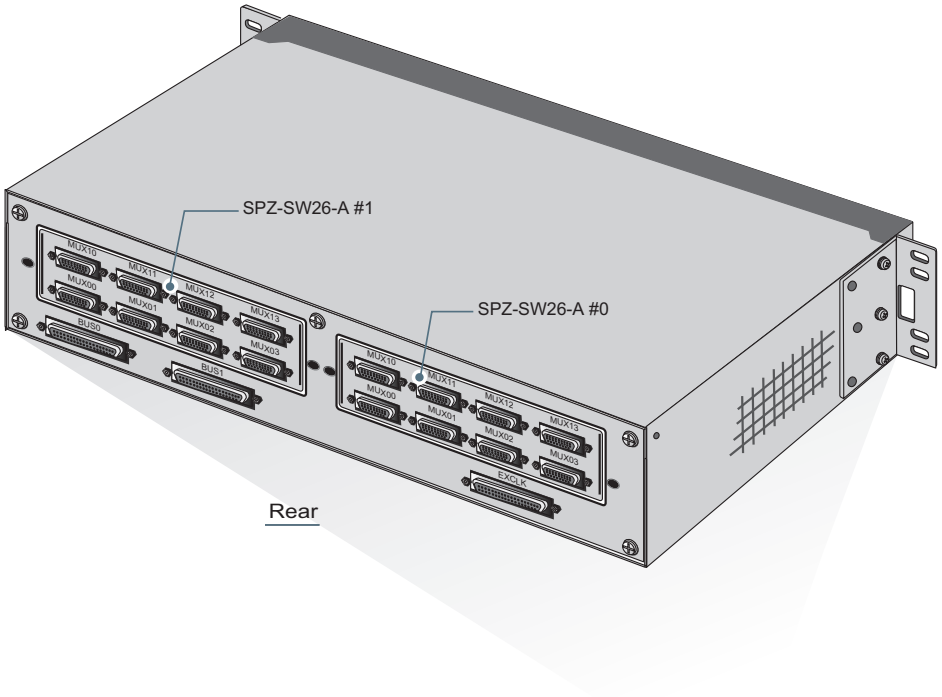
Also, this card includes Digital Tone Generator (DTG) and Music-On-Hold (MUSIC) so that it can send tones such as Ringback Tone (RBT), Busy Tone (BT), Service Set Tone (SST) and hold tone.

A dual TSW configuration can be made by mounting two SPZ-SW26-A (TSW) cards into a TSW-BOX.

2. Mounting Locations/Conditions

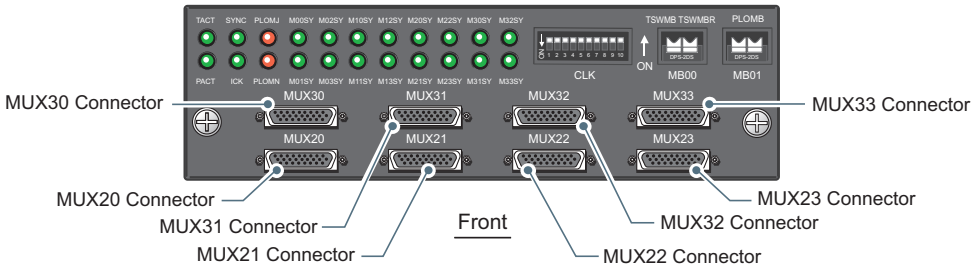
The mounting locations of this card are shown below.

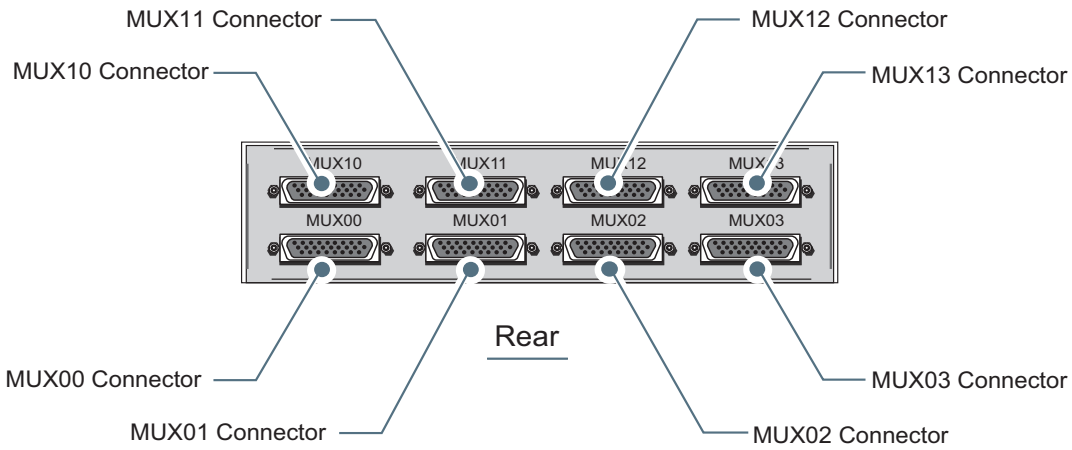


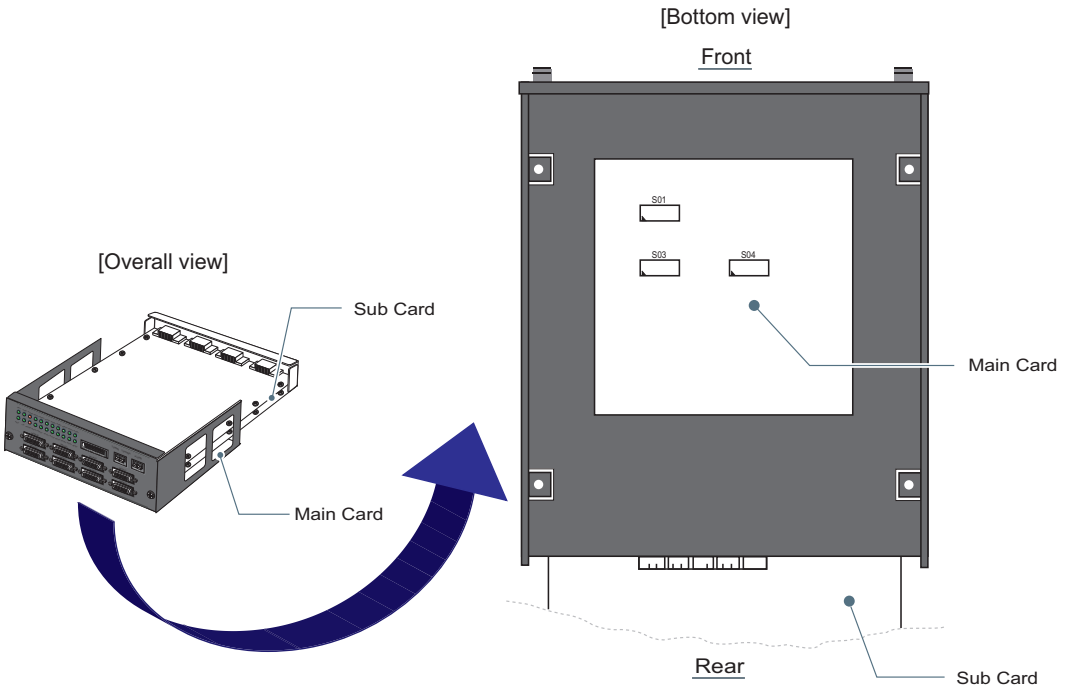


3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps and switches on this card is shown below.







NAME	DESCRIPTION	REMARKS
MUX00 Connector	For communicating with MUX00	Connected to MUX mounted in PIR 0
MUX01 Connector	For communicating with MUX01	Connected to MUX mounted in PIR 1
MUX02 Connector	For communicating with MUX02	Connected to MUX mounted in PIR 2
MUX03 Connector	For communicating with MUX03	Connected to MUX mounted in PIR 3
MUX10 Connector	For communicating with MUX10	Connected to MUX mounted in PIR 4
MUX11 Connector	For communicating with MUX11	Connected to MUX mounted in PIR 5
MUX12 Connector	For communicating with MUX12	Connected to MUX mounted in PIR 6
MUX13 Connector	For communicating with MUX13	Connected to MUX mounted in PIR 7
MUX20 Connector	For communicating with MUX20	Connected to MUX mounted in PIR 8
MUX21 Connector	For communicating with MUX21	Connected to MUX mounted in PIR 9
MUX22 Connector	For communicating with MUX22	Connected to MUX mounted in PIR 10
MUX23 Connector	For communicating with MUX23	Connected to MUX mounted in PIR 11
MUX30 Connector	For communicating with MUX30	Connected to MUX mounted in PIR 12
MUX31 Connector	For communicating with MUX31	Connected to MUX mounted in PIR 13
MUX32 Connector	For communicating with MUX32	Connected to MUX mounted in PIR 14
MUX33 Connector	For communicating with MUX33	Connected to MUX mounted in PIR 15

4. Lamp Indications

The content of the lamp indications of this card is shown in the table below.

LAMP NAME	COLOR	STATE	DESCRIPTION
TACT	Green	Light	TSW block is in active state.
		Flash (60 IPM)	TSW block is in standby state.
		OFF	TSW block is in Make-Busy state.
PACT	Green	Light	PLO block is in active state.
		OFF	PLO block is in standby state.
SYNC	Green	Light	System is synchronized with digital network.
		OFF	System is not synchronized with digital network.
ICK	Green	Light	TSW internal oscillator is operating normally.
		OFF	TSW internal oscillator is not operating normally.
PLOMJ	Red	Light	MJ (major) alarm is generated.
		OFF	MJ (major) alarm is not generated.
PLOMN	Red	Light	MN (minor) alarm is generated.
		OFF	MN (minor) alarm is not generated.
M00SY	Green	Light	MUX 00 synchronization has been established.
		OFF	MUX 00 synchronization is not established.
M01SY	Green	Light	MUX 01 synchronization has been established.
		OFF	MUX 01 synchronization is not established.
M02SY	Green	Light	MUX 02 synchronization has been established.
		OFF	MUX 02 synchronization is not established.
M03SY	Green	Light	MUX 03 synchronization has been established.
		OFF	MUX 03 synchronization is not established.
M10SY	Green	Light	MUX 10 synchronization has been established.
		OFF	MUX 10 synchronization is not established.
M11SY	Green	Light	MUX 11 synchronization has been established.
		OFF	MUX 11 synchronization is not established.
M12SY	Green	Light	MUX 12 synchronization has been established.
		OFF	MUX 12 synchronization is not established.
M13SY	Green	Light	MUX 13 synchronization has been established.
		OFF	MUX 13 synchronization is not established.
M20SY	Green	Light	MUX 20 synchronization has been established.
		OFF	MUX 20 synchronization is not established.
M21SY	Green	Light	MUX 21 synchronization has been established.
		OFF	MUX 21 synchronization is not established.

LAMP NAME	COLOR	STATE	DESCRIPTION
M22SY	Green	Light	MUX 22 synchronization has been established.
		OFF	MUX 22 synchronization is not established.
M23SY	Green	Light	MUX 23 synchronization has been established.
		OFF	MUX 23 synchronization is not established.
M30SY	Green	Light	MUX 30 synchronization has been established.
		OFF	MUX 30 synchronization is not established.
M31SY	Green	Light	MUX 31 synchronization has been established.
		OFF	MUX 31 synchronization is not established.
M32SY	Green	Light	MUX 32 synchronization has been established.
		OFF	MUX 32 synchronization is not established.
M33SY	Green	Light	MUX 33 synchronization has been established.
		OFF	MUX 33 synchronization is not established.

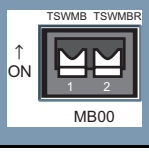
5. Switch Settings

The switches on the SPZ-SW26-A (TSW) card have the following meanings.

Hardware Switch

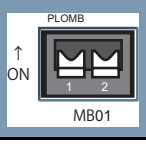
Note: When changing a switch setting, be careful not to change the settings of the adjacent switches.

MB00

SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
	1	ON		TSW make-busy **Note 1**
		OFF	×	TSW make-busy cancel
	2	ON		TSW make-busy request
		OFF	×	TSW make-busy request cancel

Note 1: When this switch is set to ON, TSW and DLKC functions are placed into a make-busy status.

MB01

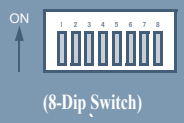
SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
	1	ON		PLO make-busy
		OFF	×	PLO make-busy cancel
	2	OFF	×	Fixed to OFF

CLK

SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (10-Dip Switch)	1	ON		Digital Clock Supply Route 0 (DCS 0) is used.
		OFF	×	Digital Clock Supply Route 0 (DCS 0) is not used.
	2	ON		Digital Clock Supply Route 1 (DCS 1) is used.
		OFF	×	Digital Clock Supply Route 1 (DCS 1) is not used.
	3	ON		DTI Route 0 is used.
		OFF	×	DTI Route 0 is not used.
	4	ON		DTI Route 1 is used.
		OFF	×	DTI Route 1 is not used.
	5	ON		DTI Route 2 is used.
		OFF	×	DTI Route 2 is not used.
	6	ON		DTI Route 3 is used.
		OFF	×	DTI Route 3 is not used.
	7	ON		1.5M clock for DTI Route 0 **Note 2**
		OFF	×	2M clock for DTI Route 0 **Note 2**
	8	ON		1.5M clock for DTI Route 1 **Note 2**
		OFF	×	2M clock for DTI Route 1 **Note 2**
	9	ON		1.5M clock for DTI Route 2 **Note 2**
		OFF	×	2M clock for DTI Route 2 **Note 2**
	10	ON		1.5M clock for DTI Route 3 **Note 2**
		OFF	×	2M clock for DTI Route 3 **Note 2**

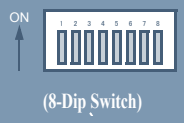
Note 2: The following shows the clock frequency of each card to be supplied to PLO.
- Clock frequency of 2M: CH-PRTA (2M DTI)/CH-PRTA (2M PRT)/CH-PRTA (2M CCT)
- Clock frequency of 1.5M: CH-PRTA (1.5M DTI)/CH-PRTA (1.5M PRT)/CH-PRTA (1.5M CCT)

S01

SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (8-Dip Switch)	1	ON		Clock subordinate office mode
		OFF		Clock source office mode **Note 3**
	2-3	OFF	×	Fixed to OFF.
	4	ON		8 kHz of Frame Head signals are extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
		OFF	×	8 kHz of Frame Head signals are not extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
	5	ON		When clock source failure has occurred in all supply routes, the PLO outputs the original clock of the internal oscillator.
		OFF	×	When clock source failure has occurred in all supply routes, the PLO continues outputting the current phase clock.
	6-8	OFF	×	Fixed to OFF.

Note 3: The system becomes unstable when S01-1 is set to OFF while the system is connected to a digital network.

S03

SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (8-Dip Switch)	1	ON		External Music-On-Hold
		OFF	×	Internal Music-On-Hold
	2	ON		Music-On-Hold: Setting of A-law
		OFF	×	Music-On-Hold: Setting of μ-law
	3	ON		Gain level setting for external Music-On-Hold **Note 4** (Available when S03-1 is ON) See Gain Level Setting for External Music-On-Hold.
		OFF	×	
	4	ON		
		OFF	×	
	5	ON		Internal Music-On-Hold setting (Available when S03-1 is OFF) See Internal Music-On-Hold Setting.
		OFF	×	
	6	ON		
		OFF	×	
	7	ON		
		OFF	×	
	8	OFF	×	Fixed to OFF

Note 4: To avoid over-current signal, output level of external hold tone source needs to be set from lower to higher. Adjust the sending volume level on external hold tone source equipment by monitoring the telephone terminal connected via PSTN. When the equipment has no volume control, adjust the gain level by S03-3 and S03-4. Output impedance from the external hold tone source needs to be within the ranges of 8 ohm - 50 ohm. Make sure not to exceed this range. Depending on the external hold tone source equipment, when grounding cable is not connected between the Telephony Server's FG terminal and the external hold tone source equipment, there may be the case to hear inductive noise.

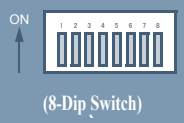
Gain Level Setting for External Music-On-Hold

S03-3	S03-4	Gain Level [dB]
OFF	OFF	0 dB
ON	OFF	10 dB
OFF	ON	15 dB
ON	ON	20 dB

Internal Music-On-Hold Setting

S03-5	S03-6	S03-7	Music-On-Hold Type
ON	ON	ON	Not used
ON	ON	OFF	When the Saint Go Marching' In
ON	OFF	ON	Minuet
ON	OFF	OFF	Nocturne
OFF	ON	ON	Buzzer
OFF	ON	OFF	Chime
OFF	OFF	ON	Maiden's Prayer
OFF	OFF	OFF	For Elise

S04

SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (8-Dip Switch)	1	ON		Settings for DTG Data See Setting for DTG Data.
		OFF		
	2	ON		
		OFF		
	3	ON		
		OFF		
	4	ON		
		OFF		
	5	ON		
		OFF		
	6	ON		
		OFF		
	7	OFF	×	Fixed to OFF.
	8	OFF	×	Fixed to OFF.

Setting for DTG Data

S04-1	S04-2	S04-3	S04-4	S04-5	S04-6	S04-7	Product Name	Market
ON	OFF	OFF	OFF	OFF	OFF	OFF	SM-025 N24 DTG DATA	North America
ON	ON	OFF	OFF	OFF	OFF	OFF	SM-243 N24 DTG DATA-AUS	Australia (Standard)
OFF	OFF	OFF	OFF	ON	OFF	OFF	SM-027 N24 DTG DATA-AUS	Australia
ON	OFF	OFF	OFF	ON	OFF	OFF	SM-201 N24 DTG DATA	Royal King Palace
OFF	ON	OFF	OFF	ON	OFF	OFF	SM-283 N74 DTG DATA	Brazil
ON	ON	OFF	OFF	ON	OFF	OFF	SM-303 N74 DTG DATA-B	China
OFF	OFF	ON	OFF	ON	OFF	OFF	SM-309 N24 DTG DATA-A	South Korea (A-Law)
ON	OFF	ON	OFF	ON	OFF	OFF	SP-588 SW05-B PROG-A	South Korea (μ-Law)
OFF	ON	ON	OFF	ON	OFF	OFF	SP-590 SW05-B PROG-A	Taiwan
ON	ON	ON	OFF	ON	OFF	OFF	SP-591 SW05-B PROG-A	Malaysia
OFF	OFF	OFF	ON	ON	OFF	OFF	SP-592 SW05-B PROG-A	Thailand
ON	OFF	OFF	ON	ON	OFF	OFF	SP-593 SW05-B PROG-A	Hong Kong
OFF	ON	OFF	ON	ON	OFF	OFF	SP-594 SW05-B PROG-A	Singapore
ON	ON	OFF	ON	ON	OFF	OFF	SP-595 SW05-B PROG-A	Saudi Arabia
OFF	OFF	ON	ON	ON	OFF	OFF	SP-598 SW05-B PROG-A	NEC Standard A-Law
ON	OFF	ON	ON	ON	OFF	OFF	SP-599 SW05-B PROG-A	Mexico
OFF	ON	ON	ON	ON	OFF	OFF	SM-349 N24 DTG DATA-A	Taiwan (Standard) **Note 5**
ON	ON	ON	ON	ON	OFF	OFF	SM-328 N74 DTG DATA	New Zealand
ON	ON	ON	OFF	ON	ON	OFF	SM-346 N24 DTG DATA-A	Thailand (Standard) **Note 5**
OFF	OFF	OFF	OFF	OFF	OFF	ON	SM-560 DTG UK DATA-A	UK (Standard) **Note 5**
ON	OFF	OFF	OFF	OFF	OFF	ON	SM-601 N24 DTG DATA-C	Russia
OFF	ON	OFF	OFF	OFF	OFF	ON	SM-603 DTG UK DATA-B	UK
ON	ON	OFF	OFF	OFF	OFF	ON	SM-610 DTG NL DATA-A	Netherlands
OFF	OFF	ON	OFF	OFF	OFF	ON	SM-611 DTG BE DATA-A	Belgium
ON	OFF	ON	OFF	OFF	OFF	ON	SM-612 DTG SE DATA-A	Sweden
OFF	ON	ON	OFF	OFF	OFF	ON	SM-613 DTG DE DATA-A	Germany
ON	ON	ON	OFF	OFF	OFF	ON	SM-618 DTG AT DATA-A	Austria
OFF	OFF	OFF	ON	OFF	OFF	ON	SM-619 DTG DK DATA-A	Denmark
ON	OFF	OFF	ON	OFF	OFF	ON	SM-620 DTG CH DATA-A	Swiss
OFF	ON	OFF	ON	OFF	OFF	ON	SM-621 DTG ES DATA-A	Spain
ON	ON	OFF	ON	OFF	OFF	ON	SM-622 DTG GR DATA-A	Greece
OFF	OFF	ON	ON	OFF	OFF	ON	SM-623 DTG IT DATA-A	Italy
ON	OFF	ON	ON	OFF	OFF	ON	SM-649 DTG SA DATA-A	South Africa

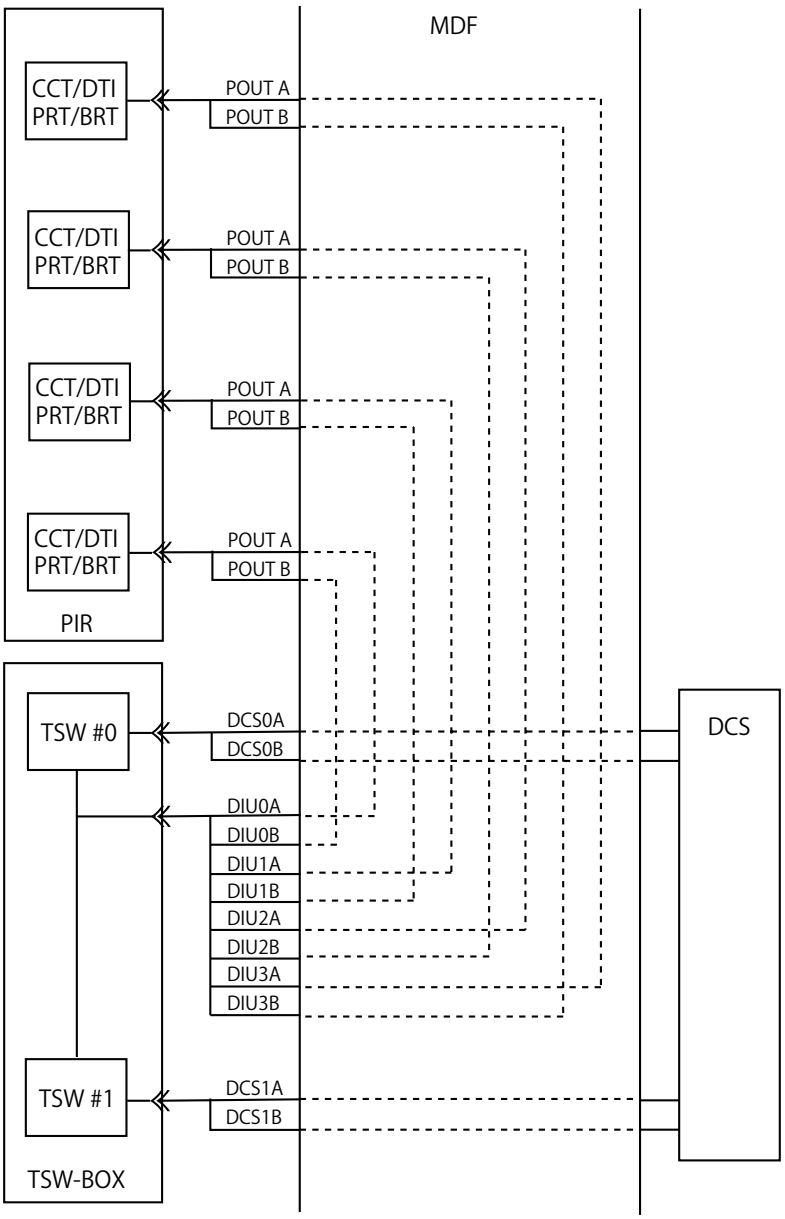
Note 5: The standard setting for each country.

6. External Interface

For detailed information on cable connections of this card, refer to the following sections in Appliance Model Installation Manual:

- "Chapter 4 Modules Mounting and Connection (7U-PIR Configuration)" - "Internal and Inter-Frame Cable Connection" - "Cable Connection for AC-Powered Model"
- "Chapter 4 Modules Mounting and Connection (7U-PIR Configuration)" - "Internal and Inter-Frame Cable Connection" - "Cable Connection for DC-Powered Model (4-IMG Configuration)"

Connection Route Diagram



CHAPTER 3
CARDS IN 7U-PIR

Cards Mounted in 7U-PIR

SYMBOL	HARDWARE NAME	FUNCTIONS OF CARD & MOUNTING CONDITIONS
Standard Cards mounted in both 1-IMG and 4-IMG system		
MUX	CJ-PC00	TSW-Line/Trunk Interface Card • Controls lines and trunks • Equipped with eight trunk lines that supports Conference Trunk (CFT) function • Controls and monitors power supply unit
Power Supply Card		
AC PWR	SN1769 PWRMAD	Power Supply Circuit for Modules (with AC-DC converter function) • AC input voltage • Provides AC-DC converter function that generates output power DC +5V and -48V • Outputs ringing signal (output voltage and frequency: AC 90 V/75 V at 20 Hz/25 Hz)
DC PWR	SN1770 PWRMAE	Power Supply Circuit for Modules (with DC-DC converter function) • DC-48V input voltage • Provides DC-DC converter function that generates output power DC +5V and -48V • Outputs ringing signal (output voltage and frequency: AC 90 V/75 V at 20 Hz/25 Hz)
Digital Conference Trunk Card		
CFT	CH-CFTA	Digital Conference Trunk Card • Interface for establishing conference calls made up of a maximum of 8 parties, 16 parties or 32 parties
Digital Announcement Trunk Card		
DAT	CH-DATA	Digital Announcement Trunk Card • Digital Announcement Trunk supporting service features related to announcement functions
IP (Peer-to-Peer) Line Card		

SYMBOL	HARDWARE NAME	FUNCTIONS OF CARD & MOUNTING CONDITIONS
IPPAD	CH-IPDA	IP Line Card • Used for communication between the terminals/devices in PIRs and IP terminals • Voice Encoding/Decoding: G.711: 64 kbps, G.729a: 8 kbps • Fax Transmission: Fax Passthrough (G.711, G.726 (ADPCM)), Fax Relay (T.30, T.38 (UDP)) • Encryption: AES • Echo Canceler: G.168 (128 ms) • IP Network Interface: 10/100/1000 Mbps LAN interface • Payload: 20-40 ms (10 ms step) • Jitter Buffer: 10-300 ms (10 ms step) • PAD: 0-20 dB • DTMF sending: Inband/Outband
Station Line Card		
ELC	CH-16ELCA	Electronic Line Card for Desktop Terminals • Provides interface for 16 or 8 Digital terminals that use TCM (Time Compression Multiplex) transmission method • 8DLC mode: voice and data communication is available • 16ELC mode: only voice communication is available • Required when enabling Inter-Module/Inter-IMG Multiple Line Operation
LC	CH-16LCA	16-Line Card for Analog Lines • One or two types of balancing network are available • Message Waiting Lamp (MWL) control: Lit or Flashing can be selected • Pre-ringer: available or not available can be selected • PAD control: available on receiving side during station-to-station call • Polarity reverse: available for all lines • Caller ID service: available for all lines • Line resistance: up to 1200 Ω (including terminal resistance) • Maximum concurrent calls: up to eight lines • Howler tone: PCM Howler tone (2000 Hz, intermittent tone)
Central Office Trunk Card		
COT	CH-12COTB	12-Line Central Office Trunk Card • Interface between twelve C.O. lines and the system • Interface between ten C.O. lines and system, and one paging equipment trunk (PGT) interface circuit • Caller ID service is available
	CH-12COTA	12-Line Central Office Trunk Card • Interface between twelve C.O. lines and the system • Interface between ten C.O. lines and system, and two paging equipment lines

SYMBOL	HARDWARE NAME	FUNCTIONS OF CARD & MOUNTING CONDITIONS
PRT	CH-PRTA (1.5M PRT)	24-channel 1.5 M Primary Rate Interface Trunk • Built-in Digital Channel Handler (DCH) • Standard PAD and Flexible PAD can be switched • Flexible PAD value can be set with switch settings
	CH-PRTA (2M PRT)	• Built-in Digital Channel Handler (DCH) • Standard PAD and Flexible PAD can be switched • Flexible PAD value can be set with switch settings
Tie Line Trunk Card		
CCT	CH-PRTA (1.5M CCT)	24-channel 1.5 M Digital Interfacing Trunk Card • Built-in Common Channel Handler (CCH) for CCIS No. 7 • Flexible PAD value can be set with switch settings
	CH-PRTA (2M CCT)	32-channel 2 M Digital Interfacing Trunk Card • Built-in Common Channel Handler (CCH) for CCIS No. 7 • Flexible PAD value can be set with switch settings
DTI	CH-PRTA (1.5M DTI)	24-channel 1.5 M Digital Interfacing Trunk Card • Standard PAD and Flexible PAD can be switched • Flexible PAD value can be set with switch settings
	CH-PRTA (2M DTI)	32-channel 2 M Digital Interfacing Trunk Card • Standard PAD and Flexible PAD can be switched • Flexible PAD value can be set with switch settings
TLT(ODT)	CH-8ODTA	8-Line Analogue Trunk Card • 2-wire E&M and 4-wire E&M are selected in a four channel basis • A cable (OD TRK CA-A) is necessary when circuits 4 through 7 are used
Others		
ATI	CH-CS00	Attendant Interface Card • Two sets of Desk Consoles and two sets of Add-on Consoles can be connected • Function of receiving the information from data link controller (DLKC) via PCM HW • Maximum Distance to Desk Console: 350 m (power supply from Telephony Server via 0.5 ϕ cable)/1200 m (local power supply via 0.5 ϕ cable)
NCU	CH-M01	12-Line Night Change Unit Card • Equipped with 8 circuits of an external key • Equipped with six lines used for Digital Terminal with PFT adapter (in case of IP terminal with PFT adapter, 12 lines)
RST	CH-8RSTA	8-Line Register Sender Trunk Card • Contains PB receiver for Automated Attendant • Caller ID service is available
SUBCARD	CH-M03	Sub card for the CH-12COTB card. • Provides ground start signaling detection

CH-CS00 (ATI)
Attendant interface

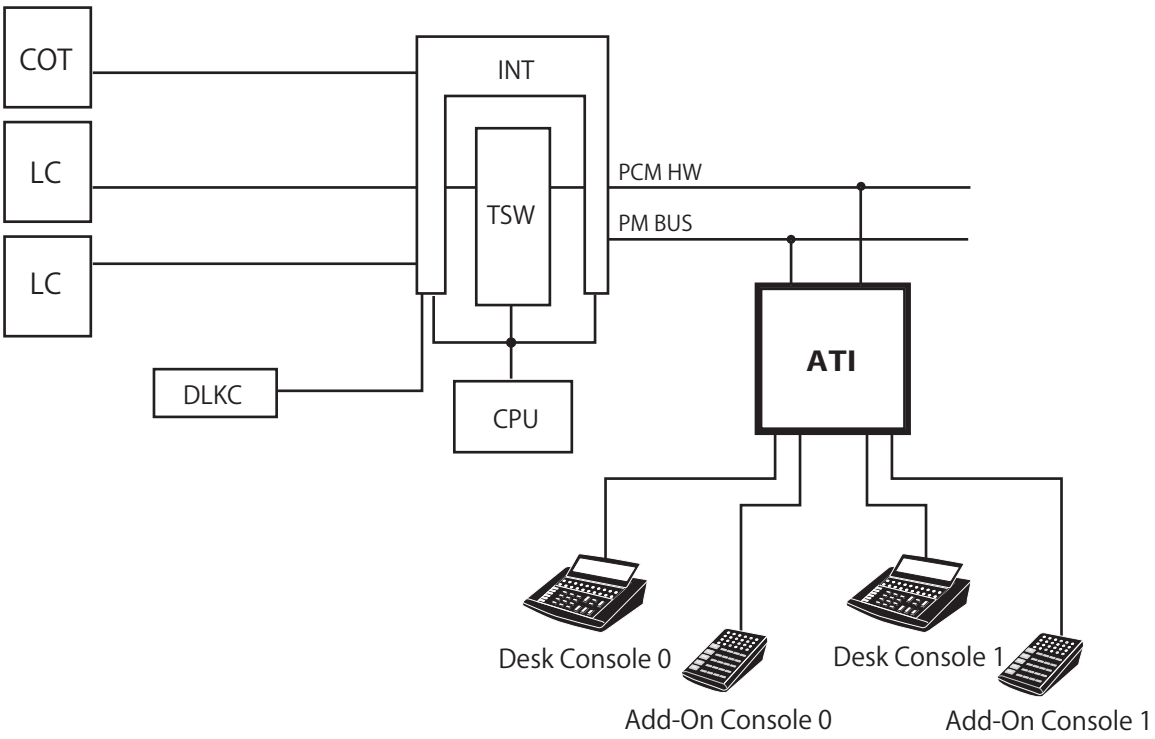
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	—

1. General Functions

This card is a Desk Console interface that can connect two sets of Desk Consoles and two sets of Add-on Consoles.

This card has the function of receiving the information from the data link controller (DLKC) via PCM HW.

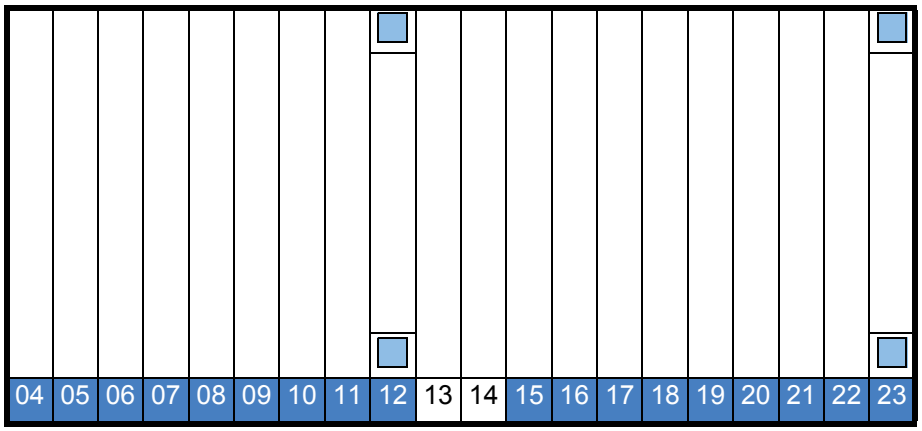
Location of CH-CS00 (ATI) Card in the System



2. Mounting Locations/Conditions

Mounting Module <7U-PIR>

The CH-CS00 (ATI) can be mounted in the Slot 12 and the Slot 23 of the PIR.



Firmware Conditions:

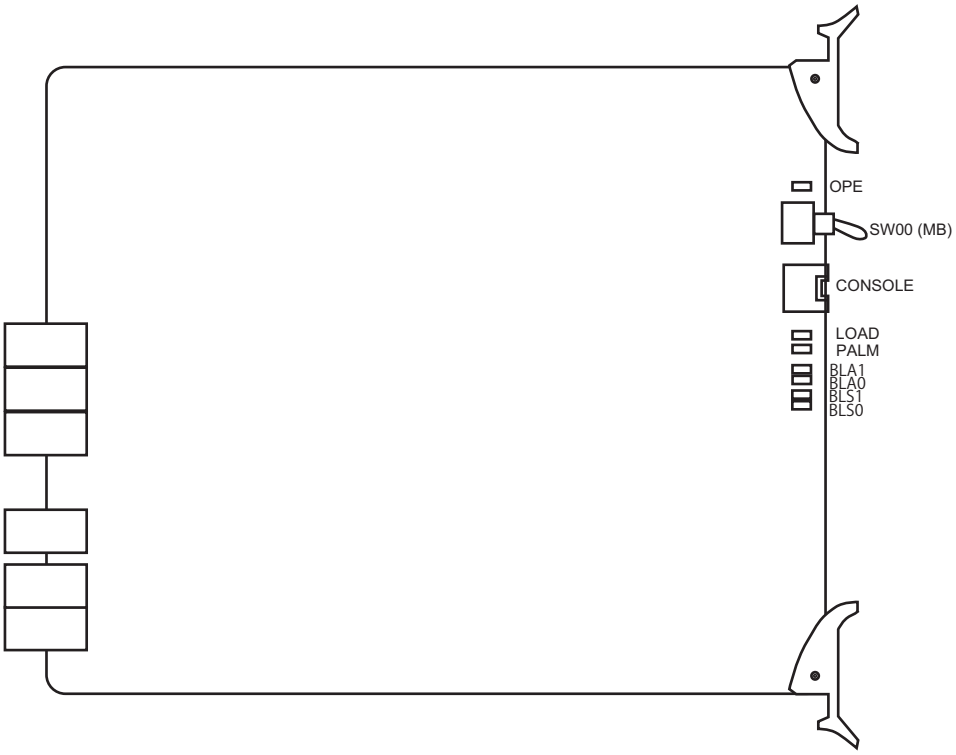
The following shows the conditions of the firmware installed in the Desk Console/Add-On Console.

Type	Product Name	Firmware	Firmware Version
Desk Console	SN716 DESKCON-C SN753 DESK CON-A SN716 DESKCON(CH)	SC-3077 D-CON(SH1) PROG-A	Issue 7A or later **Note 1**
		SC-2913 DESK-CON PROG	Available since the first version
Add-On Console	SN718 H/M ADD-ON CON-A SN718 H/M ADD-ON CON(CH)	SC-3289 A-CON(SH1) PROG-A	Issue 2A or later **Note 1**
		SC-2620 ADD-CON PROG-A	Available since the first version

Note 1: If the firmware installed in the Desk Console is not a version in the above table, you must update the firmware.

3. Face Layout of Lamps and Switches

The face layout of lamps and switches on this card is shown below.



4. Lamp Indications

The content of the lamp indications of this card is shown in the table below.

LAMP NAME	COLOR	STATE	DESCRIPTION
OPE	Green	Light	The card is operating normally
LOAD	Green	Light	Program downloading The card initialization starts
		Flash (60 IPM)	Waiting for the program download
		Flash (120 IPM)	The program download is failed
		OFF	The program download is completed The card is operating normally
PALM **Note 1**	Red	Light	A power supply line failure has occurred
		OFF	The power supply line operates normally
BLA1 BLA0	Green	Light	The corresponding line is busy (at the same time, the PA Lamp on the Desk Console is turned off)
		Flash (60 IPM)	The corresponding line is in a make-busy state
		Flash (120 IPM)	The power supply to the corresponding line is stopped
		OFF	The corresponding line is in a idle state (at the same time, the PA Lamp on the Desk console is turned on)
BLS1 BLS0	Green	Light	The corresponding sender line is in use
		Flash	The corresponding sender line is in a make-busy state or when select signals are being transmitted.
		OFF	The corresponding sender line is in a idle state

Note 1: When connected consoles do not start up while they are powered on and PALM lamp is OFF, disconnect the console and wait one minute before reconnecting the power.

5. Switch Settings

The switches on the CH-CS00 card have the following meanings.

Hardware Switch

SW00 (MB)

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy (the card is hot-pluggable)
	DOWN	×	Card: make-busy cancel (the card is operating)

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection

SW10

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		A-law PCM coding
	OFF	×	μ-law PCM coding
2	ON		SW10-2/3 designate the Loudness Rating as shown in Table 1
	OFF	×	
3	ON		
	OFF	×	
4- 8	OFF	×	Fixed to OFF

Table 1

SW10-2	SW10-3	Receive Loudness Rating	Send Loudness Rating	COUNTRY
OFF	OFF	-6.5dB	+7.5dB	A-law countries (0dB Switching System)
ON	OFF	-4.5dB	+13.5dB	μ-law countries
OFF	ON	+3.5dB	+7.5dB	A-law countries (Non 0dB Switching System)
ON	ON			Not used

SW11

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		PCM receives irrespective of PB signals transmission
	OFF	×	Denial of PCM receiving while transmitting PB signals
2- 8	OFF	×	Fixed to OFF

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Operation Mode Setting (for Hotel system)
	OFF	×	Operation Mode Setting (for Business system)
2	ON		Desk Console Key Pattern. Set SW12-2 and SW12-3 according to ASYD, SYS 1, Index 6. See Table 2
	OFF	×	
3	ON		
	OFF	×	
4	ON		Desk Console Expanded LCD Display not available
	OFF	×	Desk Console Expanded LCD Display available
5- 7	OFF		Fixed to OFF
8 **Note 1**	ON		Start-up in Night mode after circuit card initialization
	OFF	×	Start-up in Day mode after circuit card initialization

Note 1: Regardless of the mode before the initialization, Desk Console starts up in Day or Night mode according to this setting after the circuit card initialization.

Table 2

SW12-2	SW12-3	ASYD SYS 1 INDEX 6		
		Bit 6	Bit 5	Bit 4
OFF	OFF	0	0	0
ON	OFF	0	0	1
OFF	ON	0	1	0
ON	ON	1	0	0

SW13

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1 **Note 2**	ON		DLKC exists (Sys 1, Index 257: b0=1)
	OFF	×	DLKC does not exist (Sys 1, Index 257: b0=0)
2 - 8	OFF	×	Fixed to OFF

Note 2: In case it does not match with the settings of ASYD Sys1, Index 257, b0, Busy Lamp Field (BLF) will not function properly.

SW14

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Other countries than Japan
	OFF	×	Japan
2 - 8	OFF	×	Fixed to OFF

SW15

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Receive Loudness Rating (RLR). Default settings are for common use. For customized settings, see Table 3
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		Send Loudness Rating (SLR). Default settings are for common use. For customized settings, see Table 4
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Table 3

SW15-1	SW15-2	SW15-3	SW15-4	Receive Loudness Rating Note 3
OFF	OFF	OFF	OFF	Same as Receive Loudness Rating in SW10-2,3. See Table 1
ON	OFF	OFF	OFF	-22.5dB
OFF	ON	OFF	OFF	-20.5dB
ON	ON	OFF	OFF	-18.5dB
OFF	OFF	ON	OFF	-16.5dB
ON	OFF	ON	OFF	-14.5dB
OFF	ON	ON	OFF	-12.5dB
ON	ON	ON	OFF	-10.5dB
OFF	OFF	OFF	ON	-8.5dB
ON	OFF	OFF	ON	-6.5dB
OFF	ON	OFF	ON	-4.5dB
ON	ON	OFF	ON	-2.5dB
OFF	OFF	ON	ON	-0.5dB
ON	OFF	ON	ON	+1.5dB
OFF	ON	ON	ON	+3.5dB
ON	ON	ON	ON	+5.5dB

Note 3: A change to a smaller RLR value actually increases the heard sound volume.

Table 4

SW15-5	SW15-6	SW15-7	SW15-8	Send Loudness Rating Note 4
OFF	OFF	OFF	OFF	Same as Send Loudness Rating in SW10-2,3. See Table 1
ON	OFF	OFF	OFF	-0.5dB
OFF	ON	OFF	OFF	+1.5dB
ON	ON	OFF	OFF	+3.5dB
OFF	OFF	ON	OFF	+5.5dB
ON	OFF	ON	OFF	+7.5dB
OFF	ON	ON	OFF	+9.5dB
ON	ON	ON	OFF	+11.5dB
OFF	OFF	OFF	ON	+13.5dB
ON	OFF	OFF	ON	+15.5dB
OFF	ON	OFF	ON	+17.5dB
ON	ON	OFF	ON	+19.5dB
OFF	OFF	ON	ON	+21.5dB
ON	OFF	ON	ON	+23.5dB
OFF	ON	ON	ON	+25.5dB
ON	ON	ON	ON	+27.5dB

Note 4: A change to a bigger SLR value actually decreases the heard sound volume.

6. External Interface

Location of the LT connector leads for the Desk Console interface is as shown below.

LT Connector Lead Location (PIR)

Mounting Module **PIR**

LT5/LT11 Connectors Accommodated in *1

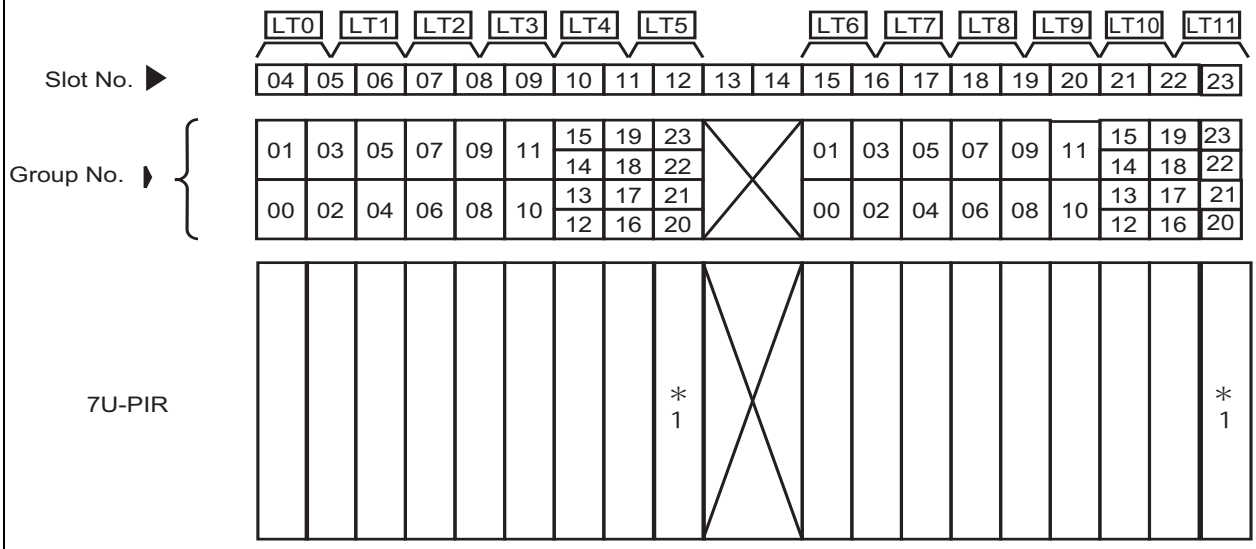
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	BN4800	9	BN4801
35	GND00	10	GND01
36	BN4820	11	BN4821
37	GND20	12	GND21
38		13	
39	BN4810	14	BN4811
40		15	
41	BN4830	16	BN4831
42	B0	17	A0
43	GND10	18	GND11
44	B2	19	A2
45	GND30	20	GND31
46	B1	21	A1
47		22	
48	B3	23	A3
49		24	
50		25	

Note: The lead for each Add-On Console is shown below.

ADD ON CONSOLE 0	ADD ON CONSOLE 1
A0 B0 BN4800 - 48v BN4801 - 48v GND00 GND GND01 GND	A1 B1 BN4810 - 48v BN4811 - 48v GND10 GND GND11 GND

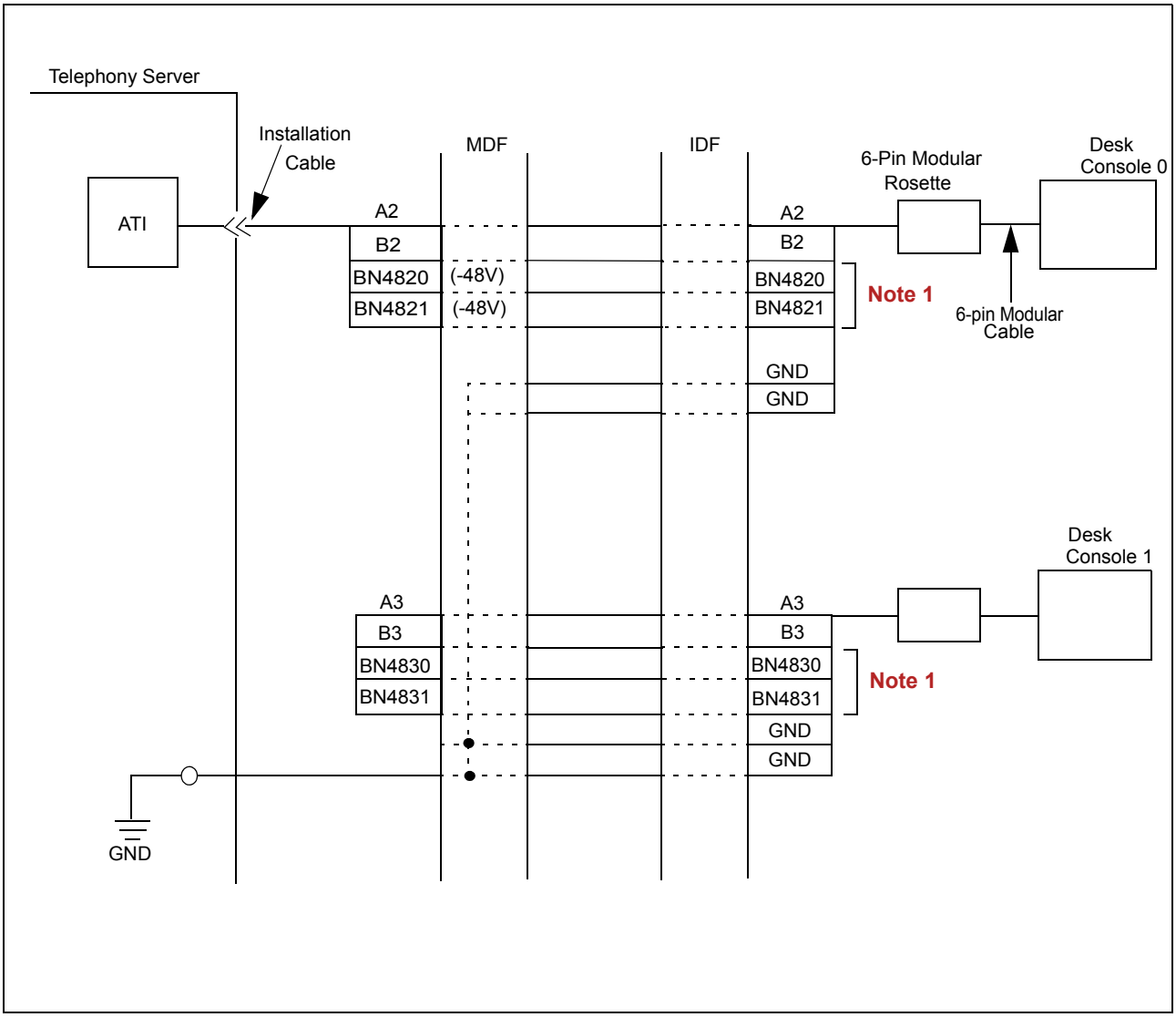
Note: The lead for each Desk Console is shown below.

DESK CONSOLE 0	DESK CONSOLE 1
A2 B2 BN4820 - 48v BN4821 - 48v GND20 GND GND21 GND	A3 B3 BN4830 - 48v BN4831 - 48v GND30 GND GND31 GND



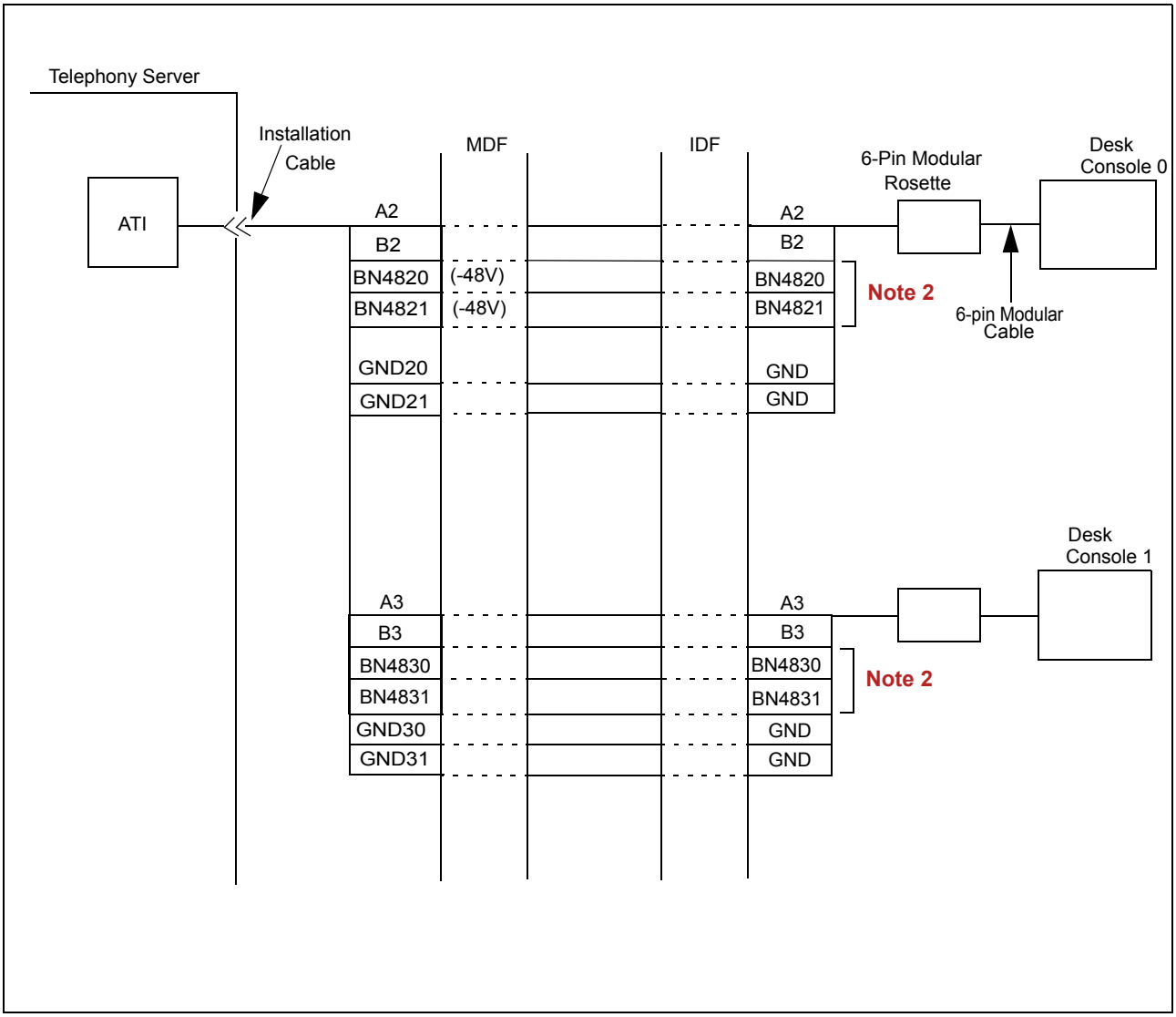
Note: Be sure to turn on SW00 (MB) when connecting the LT cables that are accommodated in the CH-CS00 (ATI) card to the PIR. If the LT cables are connected to the PIR while SW00 (MB) is off, an inrush current to Desk consoles may occur and it may cause a corruption of the CH-CS00 (ATI) card or the PIR may be down due to the voltage reduction (-48V) of the system power supply. BN48 lines power the system with the -48V current. In case of a short-circuit, the system can be damaged by an overcurrent, therefore be careful to avoid short-circuits when installing or running the system. If there is a short-circuit in two or more lines, to protect the card from an overcurrent, the internal fuse will blow and the powering to the Desk Consoles may became impossible.

Connecting Route Diagram for DC-Powered Model of PIR



Note 1: The power feeding wires (BN4820/BN4821/BN4830/BN4831) are not required when the power is supplied to the Desk Console locally.

Connecting Route Diagram for AC-Powered Model of PIR

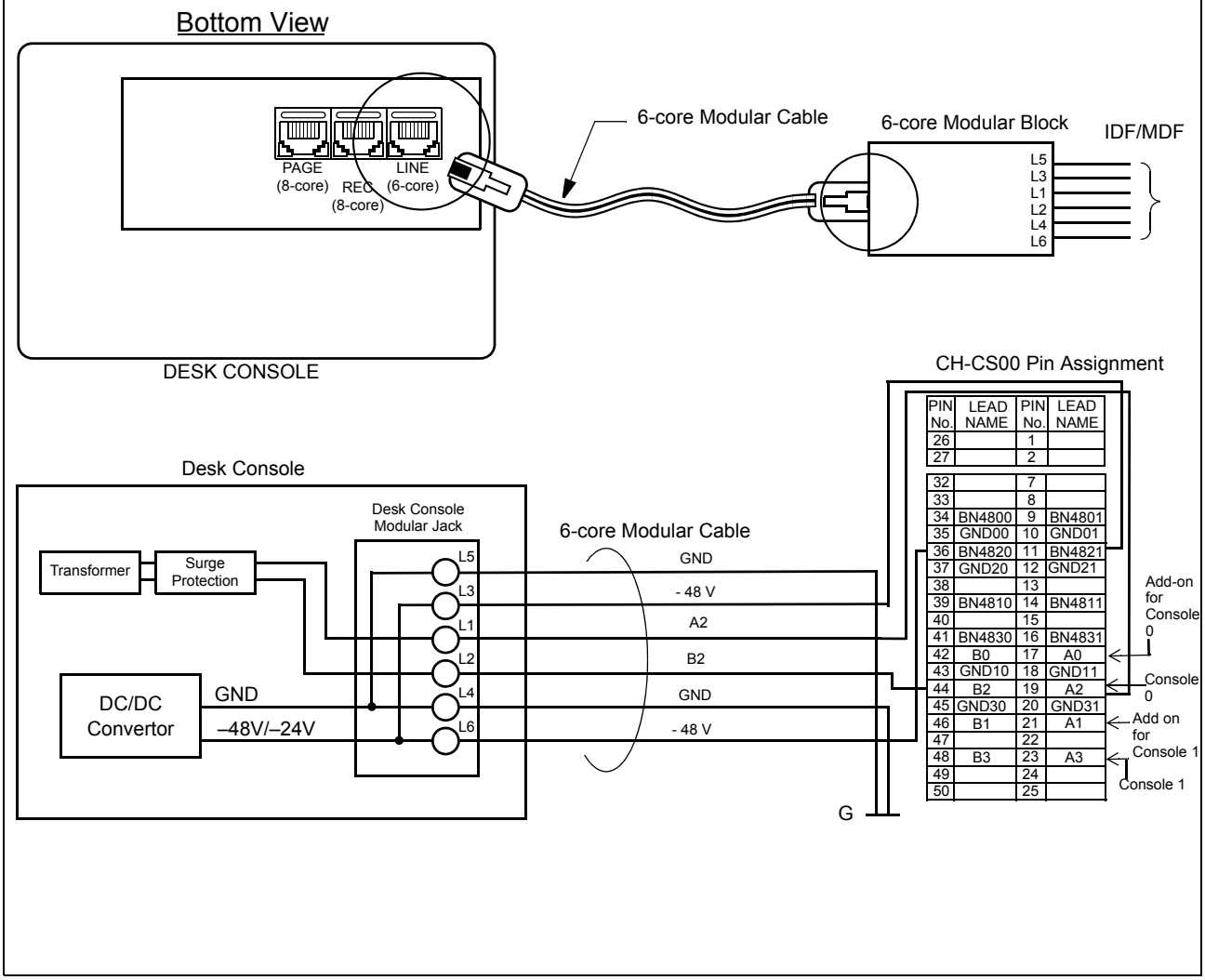


Note 2: The power feeding wires (BN4820/BN4821/BN4830/BN4831) are not required when the power is supplied to the Desk Console locally.

This figure shows how to connect Desk Console.

Desk Console Connection for DC-Powered Model for PIR

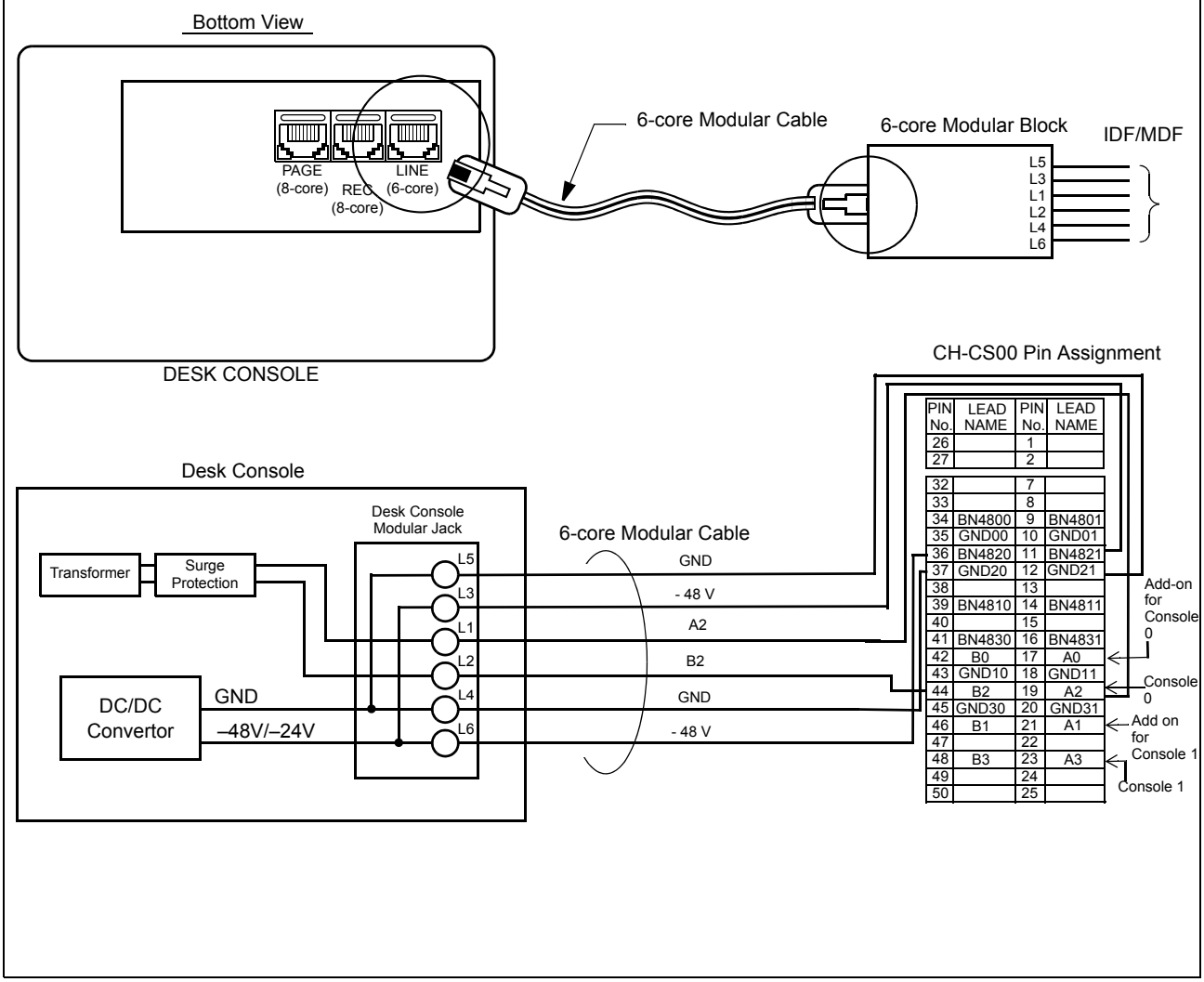
Wire the cables to the Modular Block as shown below



PIN No.	LEAD NAME	PIN No.	LEAD NAME
26		1	
27		2	
32		7	
33		8	
34	BN4800	9	BN4801
35	GND00	10	GND01
36	BN4820	11	BN4821
37	GND20	12	GND21
38		13	
39	BN4810	14	BN4811
40		15	
41	BN4830	16	BN4831
42	B0	17	A0
43	GND10	18	GND11
44	B2	19	A2
45	GND30	20	GND31
46	B1	21	A1
47		22	
48	B3	23	A3
49		24	
50		25	

Desk Console Connection for AC-Powered Model for PIR

Wire the cables to the Modular Block as shown below



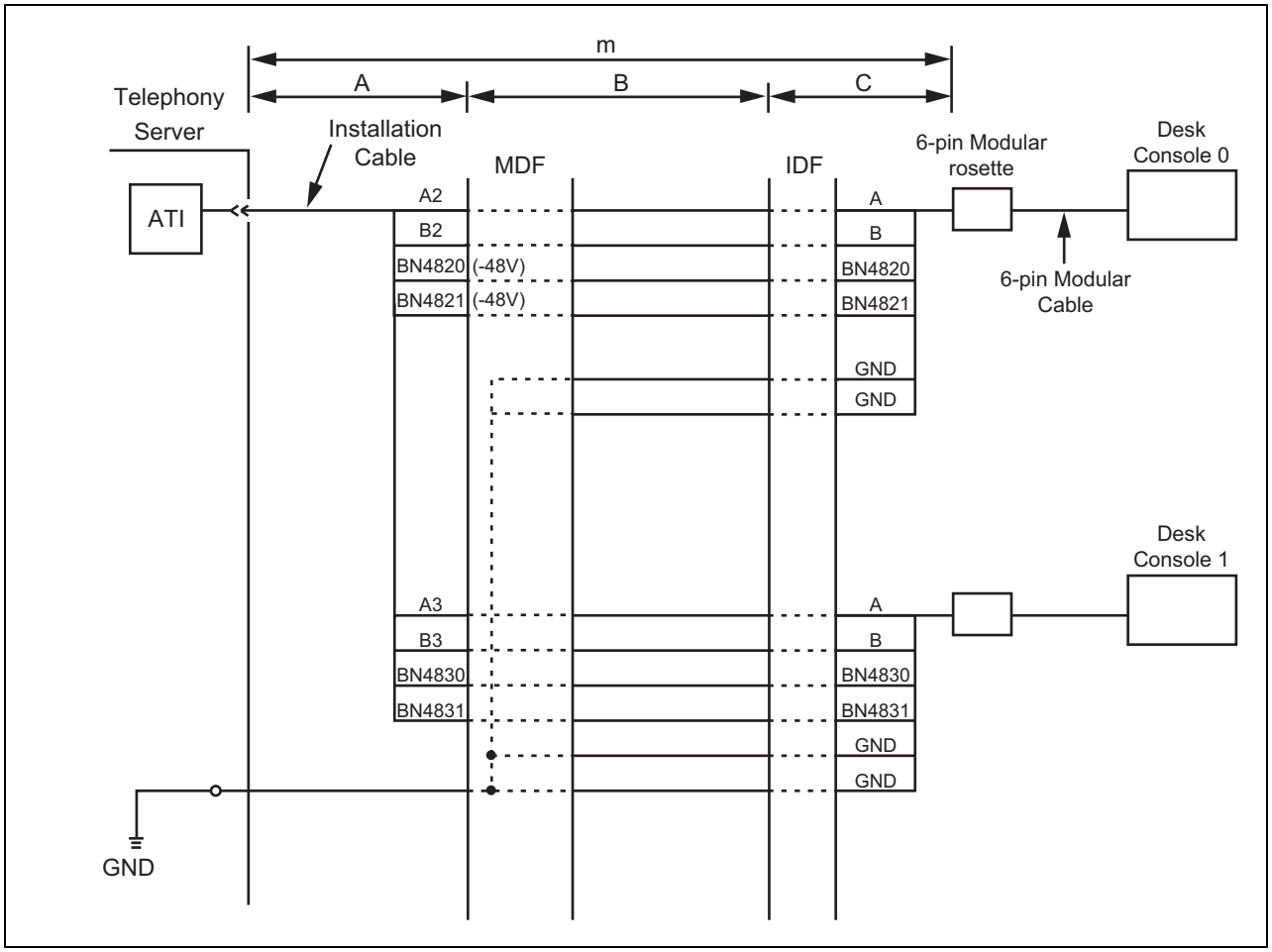
PIN No.	LEAD NAME	PIN No.	LEAD NAME
26		1	
27		2	
32		7	
33		8	
34	BN4800	9	BN4801
35	GND00	10	GND01
36	BN4820	11	BN4821
37	GND20	12	GND21
38		13	
39	BN4810	14	BN4811
40		15	
41	BN4830	16	BN4831
42	B0	17	A0
43	GND10	18	GND11
44	B2	19	A2
45	GND30	20	GND31
46	B1	21	A1
47		22	
48	B3	23	A3
49		24	
50		25	

The maximum distance between the CH-CS00 (ATI) card and Desk Console is as shown below.

Power	0.5 ϕ Cable	0.65 ϕ Cable
Telephony Server	1,148 ft. (350 m)	1,640 ft. (500 m)
Local Power Supply	3,937 ft. (1,200 m)	4,921 ft. (1,500 m)

If the distance exceeds the above, estimate it according to the calculation after the figure on the next page.

Distance between the Telephony Server and the Modular Rosette of the Desk Console



Note: Calculation of the distance between the ATI circuit card and Modular Rosette
The distance M in the figure above is determined according to the Direct-Current resistance of power supply cables (-48 V and GND). Note that the maximum resistance is 26 Ω as shown in the following formula:

$m = a + b + c \leqq 26\ \Omega$

m: Maximum Direct-Current resistance between the ATI circuit card and Modular Rosette
a: Direct-Current resistance of power supply cables (-48V and GND) in the range of A
b: Direct-Current resistance of power supply cables (-48V and GND) in the range of B
c: Direct-Current resistance of power supply cables (-48V and GND) in the range of C

Example of Calculation

a, b, and c are calculated by the following formulae:

$$a = \frac{u\ (\Omega/m) \times x\ (m)}{2} + \frac{u\ (\Omega/m) \times x\ (m)}{1}$$

Cable resistance of DC -48 V cables; Number of DC -48 V cables; Cable resistance on GND cables; Number of GND cables

$$b = \frac{v\ (\Omega/m) \times y\ (m)}{2} + \frac{v\ (\Omega/m) \times y\ (m)}{2}$$

Cable resistance of DC -48 V cables; Number of DC -48 V cables; Cable resistance on GND cables; Number of GND cables

$$c = \frac{w\ (\Omega/m) \times z\ (m)}{2} + \frac{w\ (\Omega/m) \times z\ (m)}{2}$$

Cable resistance of DC -48 V cables; Number of DC -48 V cables; Cable resistance on GND cables; Number of GND cables

u: DC resistance per meter in the range of A (Ω/m)

v: DC resistance per meter in the range of B (Ω/m)

w: DC resistance per meter in the range of C (Ω/m)

x: Cable length (m) in the range of A

y: Cable length (m) in the range of B

z: Cable length (m) in the range of C

Note: It is not required to use cable lengths in meters in the following formula. Cable lengths may be used in feet, yards, or whatever units you prefer. However, the units of resistance used must match the units of length used. For example, if distance in feet is used, then DC resistance per foot must be used.

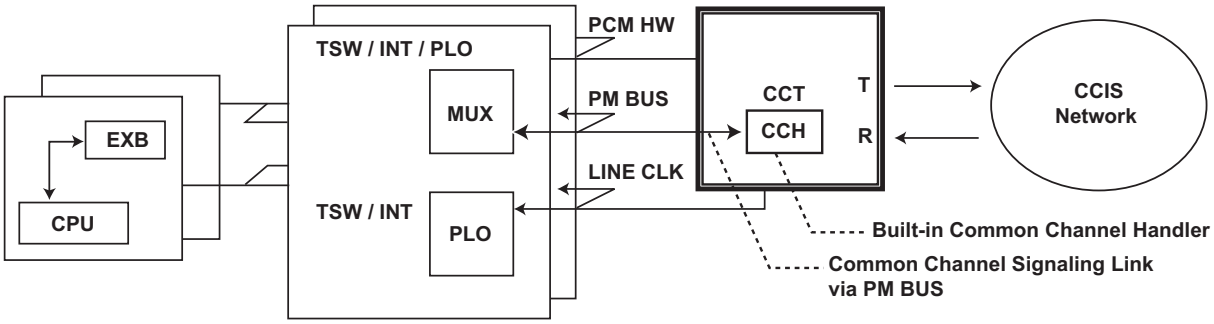
CH-PRTA (1.5M CCT)

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	-	-	X	-	-

1. General Functions

This card is a digital interface (24 channels) supporting voice and data communications at 1.5 M bit/second. This card is equipped with the Common Channel Handler (CCH) compliant with ITU-T Q series. A built-in resonance circuit extracts clock signals that are supplied from the network, so that the system may be in exact synchronization with the network. To obtain an appropriate speech level, this card has a standard PAD and a flexible PAD. A flexible PAD can set a more detailed PAD value than a standard PAD. A flexible PAD value can set the loss from 0 to 17 dB and the gain can be set from -1 to -8 dB respectively in 1dB step. The loss and the gain values can also be set through the APAD or ARTD commands.

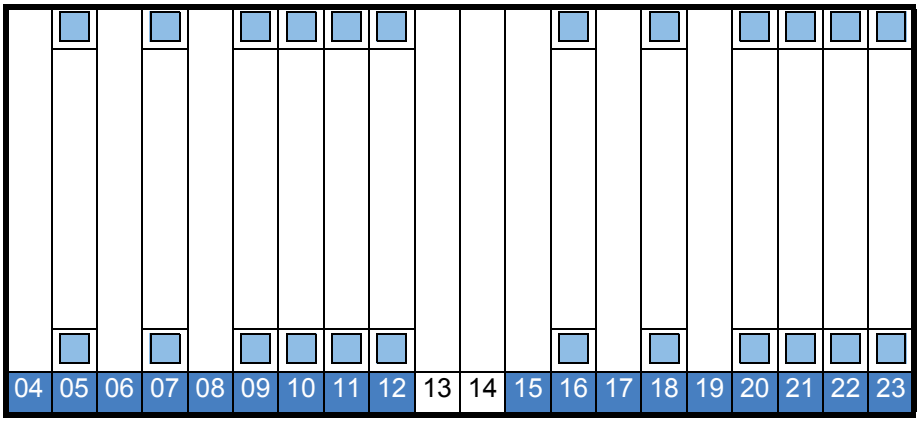
Location of CH-PRTA (1.5M CCT) in the System



2. Mounting Locations/Conditions

Mounting Location <7U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-23



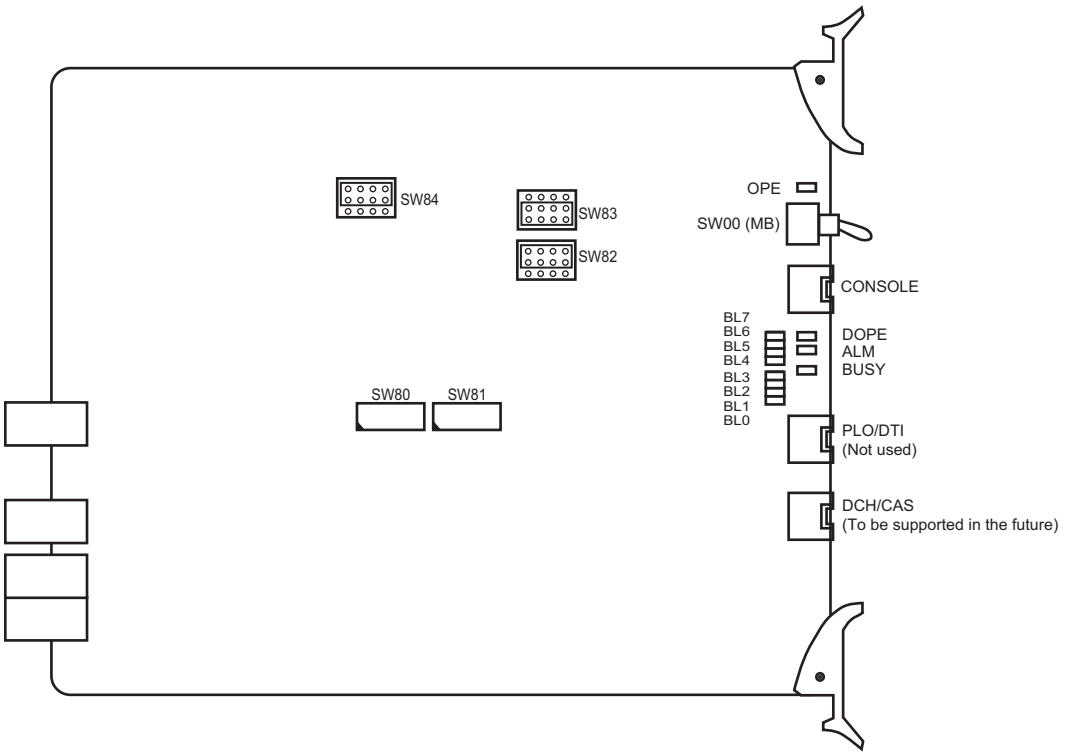
Mounting Conditions:

- When mounted in PIR of Unit 0 (U=0) of Module Group 0 (MG=00), this card cannot be mounted in the Slot 5 (except when this card is used only for Tie Line connection).
- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot.
- Mount this circuit card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.

3. Face Layout of Lamps, Switches and Connectors

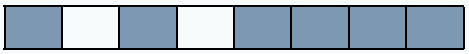
The face layout of lamps, switches and connectors on this card is shown below.

Face Layout of CH-PRTA (1.5M CCT)



4. Lamp Indications

The contents of lamp indications on this card are shown in the table below.

LAMP NAME	COLOR	DESCRIPTION		
OPE	Green	Light	This card is operating normally.	
DOPE	Green	Flash	Refer to DOPE - BL Lamp Control (Card Status Display).	
BUSY	Green	Light	BL0 - BL7: Indicates the status of CH0 to CH7.	Refer to BUSY - BL Lamp Control (CH Status Display).
		Flash (flashes once)	256 milliseconds OFF/256 milliseconds ON: once/1536 milliseconds OFF BL0 - BL7: Indicates the status of CH8 to CH15. 	
		Flash (flashes twice)	256 milliseconds OFF/256 milliseconds ON: twice/1024 milliseconds OFF BL0 - BL7: Indicates the status of CH16 to CH23. 	
		OFF	Other than those above	
ALM	Red	Light	Refer to ALM - BL Lamp Control (While Detecting a Line Alarm).	
		OFF	No line alarm	
BL0 - BL7	Green	DOPE, BUSY and ALM lamps are used in combination with each other.		

LAMP NAME				STATUS	CONTROL PROGRAM
OPE	ALM	DOPE	BUSY		
OFF	OFF	Light	Light	BOOT program starting up.	BOOT
OFF	OFF	Flash (60 IPM)	OFF	Waiting for downloading the program.	
OFF	OFF	Light	OFF	Downloading the program.	
OFF	OFF	OFF	OFF	Program Download is completed.	
OFF	OFF	Flash (120 IPM)	OFF	Program Download has failed.	
OFF	OFF	Light	Light	Main program initialization is starting up.	

LAMP NAME				STATUS	CONTROL PROGRAM
OPE	ALM	DOPE	BUSY		
OFF	OFF	OFF	OFF	Initialization starting.	MAIN
OFF	OFF	Flash (60 IPM)	Flash (60 IPM)	Built-in RAM test starting.	
OFF	Flash (120 IPM)	Flash (120 IPM)	OFF	Built-in RAM test error.	
Light	Light	OFF	OFF	Detecting a line alarm.	
Light	OFF	Light	OFF	Indicates the status of the card (except ALM and BUSY).	
Light	OFF	OFF	Light	Indicates the BL status of CH0-7.	
Light	OFF	OFF	Flash (special)	Indicates the BL status of CH8-15 (BUSY: Flashes once every approximately two seconds).	
Light	OFF	OFF	Flash (special)	Indicates the BL status of CH16-23 (BUSY: Flashes twice every approximately two seconds).	

<Priorities for ALM, BUSY and DOPE lamps>

After the initialization is completed, the status of ALM (line alarm) is indicated. When no line alarm is detected, the status of DOPE is indicated.

The status of DOPE is indicated while configuring a link in CCIS mode.

After the link is established in CCIS mode or when ACIS mode is in use, DOPE is indicated (Busy: Off) while all the lines are not used. BUSY is indicated (DOPE: Off) when making/receiving a call.

DOPE is indicated again when all the channels are in idle state.

(a) DOPE - BL Lamp Control (Card Status Display)

The table below shows descriptions of BL0 to BL7 lamps while DOPE lamp lights.

LAMP NAME	COLOR	DESCRIPTION	
BL7	Green	Light	Operates with 1.5M.
BL5 - 6	Green	OFF	Not used
BL4	Green	Light	Loopback is being activated.
		OFF	In operation.
BL3	Green	OFF	Not used
BL2 **Note 1:**	Green	Light	Level 2 is established.
		Flash (120 IPM)	Configuring Level 2 link.
		OFF	Level 2 is not established.
BL1	Green	OFF	Not used

LAMP NAME	COLOR	DESCRIPTION	
BL0 **Note 1**	Green	Light	Common Channel Handler is on.
		OFF	Common Channel Handler is not activated.

Note 1: Regarding BL0 and BL2 lamps, the above lamp indications are performed only in CCIS mode or CCIS+ACIS mode. In ACIS mode, BL0 and BL2 lamps are OFF.

(b) BUSY - BL Lamp Control (CH Status Display)

A status of channel is indicated by a combination of BUSY lamp and BL lamp indications.

BUSY lamp indicates a target group of channels (i.e., CH0-7, CH8-15 or CH16-23) by its lighting pattern. A status of each channel belonging to the target group is indicated by the lighting pattern of BL lamp.

To display statuses of multiple channels belonging to different groups, the lighting pattern of BUSY lamp changes with a period of approximately two seconds.

- Example 1 - When CH0 and CH7 (belonging to the same group) are busy.

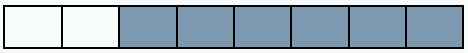
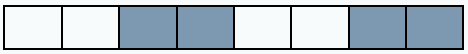
BUSY lamp:	Light			
BL0 lamp:	Light			
BL7 lamp:	Light			

- Example 2 - When CH0 and CH15 (belonging to different groups) are busy.

BUSY lamp:	Light	Flash once	Light	...
BL0 lamp:	Light	OFF	Light	...
BL7 lamp:	OFF	Light	OFF	...

See the following tables for more details:

LAMP NAME	COLOR	CHANNEL INDICATED BY BUSY AND BL LAMP		
BUSY	Green	Light	Flash once/approx. 2 seconds	Flash twice/approx. 2 seconds
BL7	Green	CH7	CH15	CH23
BL6	Green	CH6	CH14	CH22
BL5	Green	CH5	CH13	CH21
BL4	Green	CH4	CH12	CH20
BL3	Green	CH3	CH11	CH19
BL2	Green	CH2	CH10	CH18
BL1	Green	CH1	CH9	CH17
BL0	Green	CH0	CH8	CH16

STATUS OF BL LAMP	DESCRIPTION	REMARKS
Light	Corresponding channel is in use.	
Flash (Flash according to DP signal)	DP relaying	
Flash (30 IPM)	Corresponding channel is in make-busy state (outgoing/incoming). 512 milliseconds ON/1536 milliseconds OFF 	BUSY lamp is not controlled only when the channel is placed in make-busy state. Flashes when other channels in the same group are used.
Flash (60 IPM)	Corresponding channel is in make-busy state (outgoing). 512 milliseconds ON/512 milliseconds OFF 	
OFF	Corresponding channel is in idle state.	OFF also when CCIS signal channels are registered.

(c) ALM - BL Lamp Control (While Detecting a Line Alarm)

The table below shows descriptions of BL0 to BL7 lamps while ALM lamp lights.

LAMP NAME	COLOR	DESCRIPTION	
BL7	Green	Light	Input signal down (PCM LOSS) is detected.
		OFF	Input signal down (PCM LOSS) is not detected.
BL6	Green	Light	Frame alignment loss is detected.
		OFF	Frame alignment loss is not detected.
BL5	Green	OFF	Not used
BL4	Green	Light	Remote Alarm is received.
		OFF	Remote Alarm is not received.
BL3	Green	Light	Main Signal ALL1 is received.
		OFF	Main Signal ALL1 is not received.
BL2	Green	Light	Alarm Information Signal (AIS) is received.
		OFF	Alarm Information Signal (AIS) is not received.
BL1	Green	Light	Frequent CRC error (24 multiframe)/Bit error is detected (12 multiframe).
		OFF	Frequent CRC error (24 multiframe)/Bit error is not detected (12 multiframe).
BL0	Green	OFF	Not used

<Reference>

Check the following when ALM lamp lights on during the startup of the card.

- BL7

  Check the cable connection between the card and the connected device (especially the direction from the connected device to the card)

- BL6

  Different types of multiframe (12 multiframe/24 multiframe) are set between the card and the connected device. Check the switch setting of SW12-2 again.

- BL4

  Check the cable connection between the card and the connected device (especially the direction from the card to the connected device)

  or

  Different types of multiframe (12 multiframe/24 multiframe) are set between the card and the connected device. Check the switch setting of SW12-2 again.

- BL2

  There is a problem with the connected device (network side).

5. Switch Settings

Standard settings of switches on this card are shown in the tables below.

Hardware Switch

Note: For switch settings of SW80 and SW81, refer to Starting up the Card.

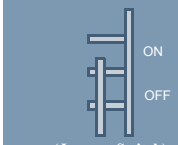
SW00 (MB)

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy
	DOWN	×	Card: make-busy cancel

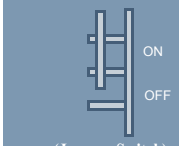
SW82

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	UP (ON)	×	Fixed to ON

SW83

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
	DOWN (OFF)	×	Fixed to OFF

SW84

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
	UP (ON)	×	Middle point of reception transformer: Open
	DOWN (OFF)		Middle point of reception transformer: Ground

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection

Note: When initializing software switch settings, they are initialized to a predefined template value selected by settings of hardware switches SW80 and SW81. For further details, refer to Switch Settings of Template.

SW01

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Local Loopback: Set (Internal)
	OFF	×	Local Loopback: Cancel (Internal)
2	ON		Line Loopback: Set (External)
	OFF	×	Line Loopback: Cancel (External)
3	ON		Payload Loopback: Set
	OFF	×	Payload Loopback: Cancel
4	ON		All channel make-busy: Set
	OFF	×	All channel make-busy: Cancel

SW01

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
5	ON		CCH make-busy: Set
	OFF	×	CCH make-busy: Cancel
6	ON		CCH Loopback: Set
	OFF	×	CCH Loopback: Cancel
7	OFF	×	Fixed to OFF
8	OFF	×	Fixed to OFF (for maintenance)

<Reference>

(a) Local Loopback (Internal Loopback)

All the 24 Channels sent from TSW are sent back to TSW by the Line Interface. AIS will be sent to the opposite node while 24 Channels are sent back. The opposite node will detect AIS.

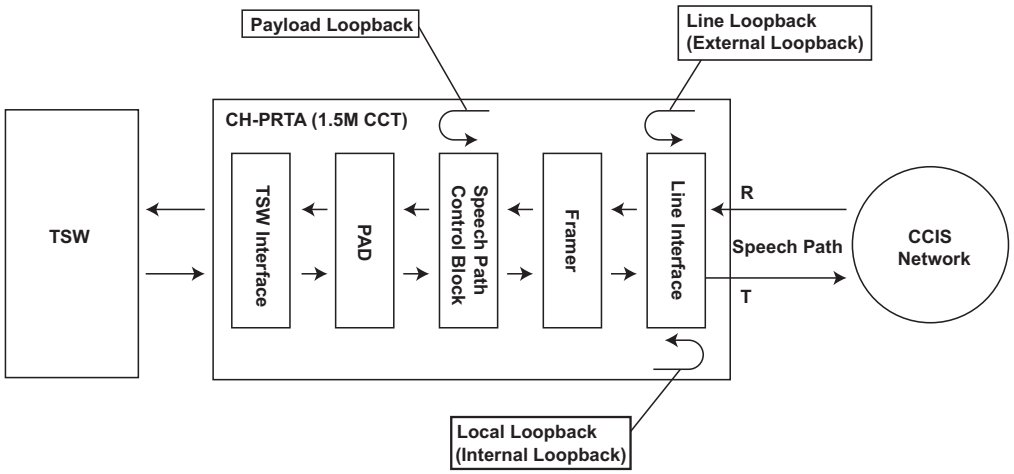
(b) Line Loopback (External Loopback)

All the 24 Channels sent from the Line are sent back to the Line by the Line Interface.

(c) Payload Loopback

All the 24 Channels sent from the Line are sent back to the Line by the Speech Path Control Block.

Available Locations for Loopback Testing



Note: A difference between Line Loopback and Payload Loopback:

Line Loopback operates by the timing of line side, and Payload Loopback operates partially by the timing of the system. Therefore, the Payload Loopback will have a bit error if the system is not synchronized with the Line. The Line Loopback will not have this error.

SW10

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Remote Alarm Send Out Restricted
	OFF	×	Remote Alarm Send Out Unrestricted
2	ON		Remote Alarm In Channel **Note 1**
	OFF	×	Remote Alarm Data Link **Note 1**
3	ON	×	Remote Alarm is not sent when AIS was detected. (US)
	OFF		Remote Alarm is sent when AIS was detected. (JP)
4	ON	×	Alarm Release Time: (Long)
	OFF		Alarm Release Time: (Short)
5	ON	×	Alarm Detect/Release Type (AT&T)
	OFF		Alarm Detect/Release Type (Normal)
6	ON		PLO is controlled when main signal ALL1.
	OFF	×	PLO is not controlled when main signal ALL1.
7	ON		PLO Clock Supply Control: No
	OFF	×	PLO Clock Supply Control: Yes
8	ON		CCH Level 1 Alarm Release: Yes
	OFF	×	CCH Level 1 Alarm Release: No

Note 1: ON when using 12 multiframe, OFF when using 24 multiframe.

SW11

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission Equalizer Settings See Transmission Equalizer Settings.
2			
3			
4-7	OFF	×	Fixed to OFF
8	ON		TTC JT-G704 Mode (only 1st edition and 2nd edition)
	OFF	×	ITU-T G.704 Mode

Transmission Equalizer Settings

SW11-1	SW11-2	SW11-3	TRANSMISSION DISTANCE **Note 2**
OFF	OFF	OFF	0-40 m

Transmission Equalizer Settings

SW11-1	SW11-2	SW11-3	TRANSMISSION DISTANCE Note 2
ON	OFF	OFF	40-80 m
OFF	ON	OFF	80-120 m
ON	ON	OFF	120-160 m
OFF	OFF	ON	160-200 m
ON	OFF	ON	0-40 m
OFF	ON	ON	0-40 m
ON	ON	ON	0-40 m

Note 2: The transmission distance indicates the half point between the card and DSU/Opposite Device. If the distance is 100m, the half point is 50m. In this case, the transmission distance is "40-80 m".

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Line Signal: AMI/ZCS **Note 3**
	OFF	×	Line Signal: B8ZS
2	ON		Multiframe: 12 multiframe
	OFF	×	Multiframe: 24 multiframe
3	ON	**Note 4**	4k Data Link: MOS
	OFF	**Note 4**	4k Data Link: BOM
4		**Note 4**	MOS/BOM Operation Mode See MOS/BOM Operation Mode.
5		**Note 4**	
6	OFF	×	Fixed to OFF
7	ON		ACIS and CCIS coexist.
	OFF	×	ACIS and CCIS do not coexist.
8	ON		ACIS mode (when SW12-7=OFF)
	OFF	×	CCIS mode (when SW12-7=OFF)

Note 3: AMI is used when “Bit Steal Inhibited” is selected with the switch setting of SW24-1/2.

Note 4: Available only when 24 multiframe is selected (SW12-2=OFF).

MOS/BOM Operation Mode

MOS/BOM	SW12-4	SW12-5	STANDARD SETTING	MOS/BOM OPERATION MODE
When BOM is used (SW11-8: OFF)	OFF	OFF	×	7E7EH data are sent/BOM message is received (Standard Setting) (MODE 0)
	ON	OFF		7E7EH data are sent/BOM message is not received (MODE 1)
	OFF	ON		7FFFFH data are sent/BOM message is received (MODE 2)
	ON	ON		FFFFH data are sent/BOM message is not received (MODE 3)
When BOM is used (SW11-8: ON)	OFF	OFF	×	7E7EH data are sent/BOM message is received (Standard Setting) (MODE 0)
	ON	OFF		7E7EH data are sent/BOM message is not received (MODE 1)
	OFF	ON		0000H data are sent/BOM message is received (MODE 2)
	ON	ON		0000H data are sent/BOM message is not received (MODE 3)
When MOS is used	OFF	OFF	×	PPR data are sent/MOS message is received (Standard Setting) (MODE 0)
	ON	OFF		PPR data are sent/MOS message is not received (MODE 1)
	OFF	ON		Flag (7EH) data are sent/MOS message is received (MODE 2)
	ON	ON		Flag (7EH) data are sent/MOS message is not received (MODE 3)

SW13

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Main Signal ALL1 is detected (when using HSD Line).
	OFF	×	Main Signal ALL1 is not detected.
2	ON		Idle Code is sent.
	OFF	×	Idle Code is not sent.
3	ON		DP relay function is used for FCCS.
	OFF	×	DP relay function is not used for FCCS.
4	ON		Simultaneous Seizure Detection (SSD): Disabled
	OFF	×	Simultaneous Seizure Detection (SSD): Enabled

SW13

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
5	ON		Not activate counter node when detecting Simultaneous Seizure.
	OFF	×	Activate counter node when detecting Simultaneous Seizure.
6	ON		Level 1 Alarm is not notified to CPU.
	OFF	×	Level 1 Alarm is notified to CPU.
7	ON		CAS is not effective when CCH is used.
	OFF	×	CAS is effective when CCH is used.
8	ON		Incoming/Outgoing call collision processing is used. **Note 5**
	OFF	×	Incoming/Outgoing call collision processing is not used.

Note 5: When incoming/outgoing call collision processing is used (SW13-8=ON), assign ASYD, SYS1, Index7, Bit3=1.

SW14

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set with the ARTD/APAD command.) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF (For production test)
7	ON		PAD Control Method (Using Both Flexible/Standard PAD) See PAD Control Method.
	OFF	×	
8	ON		
	OFF	×	

Flexible PAD Level Setting of SW14-SW21

SWITCH NUMBER OF SW14-SW21					PAD LEVEL (dB)
1	2	3	4	5	
OFF	OFF	OFF	OFF	OFF	0
ON	OFF	OFF	OFF	OFF	1 (Loss)
OFF	ON	OFF	OFF	OFF	2 (Loss)
ON	ON	OFF	OFF	OFF	3 (Loss)
OFF	OFF	ON	OFF	OFF	4 (Loss)
ON	OFF	ON	OFF	OFF	5 (Loss)
OFF	ON	ON	OFF	OFF	6 (Loss)
ON	ON	ON	OFF	OFF	7 (Loss)
OFF	OFF	OFF	ON	OFF	8 (Loss)
ON	OFF	OFF	ON	OFF	9 (Loss)
OFF	ON	OFF	ON	OFF	10 (Loss)
ON	ON	OFF	ON	OFF	11 (Loss)
OFF	OFF	ON	ON	OFF	12 (Loss)
ON	OFF	ON	ON	OFF	13 (Loss)
OFF	ON	ON	ON	OFF	14 (Loss)
ON	ON	ON	ON	OFF	15 (Loss)
OFF	OFF	OFF	OFF	ON	16 (Loss)
ON	OFF	OFF	OFF	ON	17 (Loss)
OFF	ON	OFF	OFF	ON	-1 (Gain)
ON	ON	OFF	OFF	ON	-2 (Gain)
OFF	OFF	ON	OFF	ON	-3 (Gain)
ON	OFF	ON	OFF	ON	-4 (Gain)
OFF	ON	ON	OFF	ON	-5 (Gain)
ON	ON	ON	OFF	ON	-6 (Gain)
OFF	OFF	OFF	ON	ON	-7 (Gain)
ON	OFF	OFF	ON	ON	-8 (Gain)
Other settings					Not available

PAD Control Method

SW14-7	SW14-8	PAD CONTROL
OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB) (Standard Setting)

PAD Control Method

SW14-7	SW14-8	PAD CONTROL
ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
OFF	ON	Fixed to ARTD (Transmission/Reception PAD Control)
ON	ON	Transmission/Reception PAD Control

SW15

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 2 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7			PAD Selection (Using Both Flexible/Standard PAD) See PAD Selection.
8			

PAD Selection

SW15-7	SW15-8	PAD SELECTION
OFF	OFF	μ-Law (Standard Setting)
ON	OFF	A-Law
OFF	ON	A-Law (TDSW) → μ-Law (line)
ON	ON	μ-Law (TDSW) → A-Law (line)

SW16

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7			PAD Pattern Selection See PAD Pattern Selection.
8			

PAD Pattern Selection

SW16-7	SW16-8	PAD SELECTION
OFF	OFF	PAD Pattern 1 (Standard Setting)
ON	OFF	PAD Pattern 2
OFF	ON	PAD Pattern 3
ON	ON	PAD Pattern 4

Note: PAD Patterns 1 - 4 correspond to Patterns 1 - 4 in <Standard Setting PAD Level>.

SW17

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 4 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7			Data PAD Pattern Selection See Data PAD Pattern Selection.
8			

Data PAD Pattern Selection

SW17-7	SW17-8	Data PAD Selection
OFF	OFF	64k (Standard Setting)
ON	OFF	64k INV
OFF	ON	56k
ON	ON	48k

SW18

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7	ON		Flexible PAD (See <Flexible PAD Level>.)
	OFF	×	Standard PAD (See <Standard Setting PAD Level>.)
8	OFF	×	Fixed to OFF

SW19

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

SW20

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

SW21

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

<Switch Setting for PAD Selection>

PAD Kind	SW18-7	SW15-8	SW15-7	SW16-8	SW16-7	PCM-Law: PAD Pattern
Standard PAD	OFF	OFF	OFF	OFF	OFF	μ-Law: Pattern 1
					ON	μ-Law: Pattern 2
				ON	OFF	μ-Law: Pattern 3
					ON	μ-Law: Pattern 4
			ON	OFF	OFF	A-Law: Pattern 1
					ON	A-Law: Pattern 2
				ON	OFF	A-Law: Pattern 3
					ON	A-Law: Pattern 4
		ON	OFF	OFF	OFF	A-Law → μ-Law: Pattern 1
					ON	A-Law → μ-Law: Pattern 2
				ON	OFF	A-Law → μ-Law: Pattern 3
					ON	A-Law → μ-Law: Pattern 4
			ON	OFF	OFF	μ-Law → A-Law: Pattern 1
					ON	μ-Law → A-Law: Pattern 2
				ON	OFF	μ-Law → A-Law: Pattern 3
					ON	μ-Law → A-Law: Pattern 4
Flexible PAD	ON	OFF	OFF	Not used		μ-Law
			ON	Not used		A-Law
		ON	OFF	OFF	Not used	A-Law → μ-Law: Pattern 5 **Note 6**
				ON	Not used	A-Law → μ-Law: Pattern 6 **Note 6**
			ON	OFF	Not used	μ-Law → A-Law: Pattern 5 **Note 6**
				ON	Not used	μ-Law → A-Law: Pattern 6 **Note 6**

Note 6: Refer to Flexible PAD Level of ARTD: 7 or APAD:15.

<Standard Setting PAD Level>

μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	2dB	2dB	8dB	16dB	2dB	2dB	-3dB	3dB
2	4dB	4dB	8dB	4dB	4dB	4dB	3dB	3dB
3	12dB	12dB	4dB	12dB	6dB	6dB	0dB	6dB
4	8dB	8dB	0dB	8dB	8dB	8dB	3dB	9dB

A-law pattern Setting (Switch 15-7, 8 ON, OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	2dB	2dB	2dB	2dB	1dB	1dB	-3dB	3dB
2	4dB	4dB	4dB	4dB	3dB	3dB	3dB	3dB
3	6dB	6dB	12dB	12dB	5dB	5dB	0dB	6dB
4	8dB	8dB	8dB	8dB	7dB	7dB	3dB	9dB

From A-law to μ-law Conversion Setting (Switch 15-7, 8 OFF, ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	0dB	4dB	4dB	4dB	4dB	4dB
3	6dB	6dB	0dB	12dB	6dB	6dB	12dB	12dB
4	8dB	8dB	0dB	8dB	8dB	8dB	8dB	8dB

From μ-law to A-law Conversion Setting (Switch 15-7,8 ON, ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	0dB	4dB	4dB	4dB	4dB	4dB
3	6dB	6dB	0dB	12dB	6dB	6dB	12dB	12dB
4	8dB	8dB	0dB	8dB	8dB	8dB	8dB	8dB

<Flexible PAD Level>

Flexible PAD Level (SW18-7: OFF)

ARTD/APAD Setting Data	Transmission	Reception
ARTD: 7 APAD: 15	See Flexible PAD Level of ARTD: 7 or APAD: 15	
1	Set value of SW18-1, 2, 3, 4, 5	Set value of SW14-1, 2, 3, 4, 5
2	Set value of SW19-1, 2, 3, 4, 5	Set value of SW15-1, 2, 3, 4, 5
3	Set value of SW20-1, 2, 3, 4, 5	Set value of SW16-1, 2, 3, 4, 5
4	Set value of SW21-1, 2, 3, 4, 5	Set value of SW17-1, 2, 3, 4, 5

Flexible PAD Level of ARTD: 7 or APAD:15

PCM-Law:Pattern No.	Transmission	Reception
μ-Law	0dB	0dB
A-law	0dB	0dB
A-Law → μ-Law: Pattern 5	through	through
A-Law → μ-Law: Pattern 6	0dB	0dB
μ-Law → A-Law: Pattern 5	through	through
μ-Law → A-Law: Pattern 6	0dB	0dB

SW22

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Seizure Acknowledgement Guard Time See Seizure Acknowledgement Guard Time.
2			
3			
4			
5			Seizure Acknowledgement Detection Time See Seizure Acknowledgement Detection Time.
6			
7			
8			

Seizure Acknowledgement Guard Time

SW22-1	SW22-2	SW22-3	SW22-4	Seizure Acknowledgement Guard Time
OFF	OFF	OFF	OFF	48 milliseconds (Standard Setting)
ON	OFF	OFF	OFF	56 milliseconds
OFF	ON	OFF	OFF	64 milliseconds
ON	ON	OFF	OFF	72 milliseconds
OFF	OFF	ON	OFF	80 milliseconds
ON	OFF	ON	OFF	88 milliseconds
OFF	ON	ON	OFF	96 milliseconds
ON	ON	ON	OFF	104 milliseconds
OFF	OFF	OFF	ON	112 milliseconds
ON	OFF	OFF	ON	120 milliseconds
OFF	ON	OFF	ON	128 milliseconds
ON	ON	OFF	ON	136 milliseconds
OFF	OFF	ON	ON	144 milliseconds
ON	OFF	ON	ON	152 milliseconds
OFF	ON	ON	ON	160 milliseconds
ON	ON	ON	ON	168 milliseconds

Seizure Acknowledgement Detection Time

SW22-5	SW22-6	SW22-7	SW22-8	Seizure Acknowledgement Detection Time
OFF	OFF	OFF	OFF	56 milliseconds (Standard Setting)
ON	OFF	OFF	OFF	76 milliseconds
OFF	ON	OFF	OFF	96 milliseconds
ON	ON	OFF	OFF	116 milliseconds
OFF	OFF	ON	OFF	136 milliseconds
ON	OFF	ON	OFF	156 milliseconds
OFF	ON	ON	OFF	176 milliseconds
ON	ON	ON	OFF	196 milliseconds
OFF	OFF	OFF	ON	216 milliseconds
ON	OFF	OFF	ON	236 milliseconds
OFF	ON	OFF	ON	256 milliseconds
ON	ON	OFF	ON	276 milliseconds
OFF	OFF	ON	ON	296 milliseconds
ON	OFF	ON	ON	316 milliseconds
OFF	ON	ON	ON	336 milliseconds
ON	ON	ON	ON	356 milliseconds

SW23

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Seizure Acknowledgement Monitoring Time See Seizure Acknowledgement Monitoring Time.
2			
3			
4			Answer Detection Time See Answer Detection Time.
5			
6			
7			
8			

Seizure Acknowledgement Monitoring Time

SW23-1	SW23-2	SW23-3	Seizure Acknowledgement Monitoring Time
OFF	OFF	OFF	200 milliseconds
ON	OFF	OFF	360 milliseconds
OFF	ON	OFF	520 milliseconds
ON	ON	OFF	680 milliseconds
OFF	OFF	ON	840 milliseconds
ON	OFF	ON	1000 milliseconds
OFF	ON	ON	1160 milliseconds
ON	ON	ON	1320 milliseconds (Standard Setting)

Answer Detection Time

SW23-4	SW23-5	SW23-6	SW23-7	SW23-8	Answer Detection Time
OFF	OFF	OFF	OFF	OFF	100 milliseconds
ON	OFF	OFF	OFF	OFF	148 milliseconds
OFF	ON	OFF	OFF	OFF	200 milliseconds (Standard Setting)
ON	ON	OFF	OFF	OFF	248 milliseconds
OFF	OFF	ON	OFF	OFF	300 milliseconds
ON	OFF	ON	OFF	OFF	348 milliseconds
OFF	ON	ON	OFF	OFF	400 milliseconds
ON	ON	ON	OFF	OFF	448 milliseconds
OFF	OFF	OFF	ON	OFF	500 milliseconds
ON	OFF	OFF	ON	OFF	548 milliseconds
OFF	ON	OFF	ON	OFF	600 milliseconds
ON	ON	OFF	ON	OFF	648 milliseconds
OFF	OFF	ON	ON	OFF	700 milliseconds
ON	OFF	ON	ON	OFF	748 milliseconds
OFF	ON	ON	ON	OFF	800 milliseconds
ON	ON	ON	ON	OFF	848 milliseconds
OFF	OFF	OFF	OFF	ON	900 milliseconds
ON	OFF	OFF	OFF	ON	948 milliseconds
OFF	ON	OFF	OFF	ON	1000 milliseconds
ON	ON	OFF	OFF	ON	1048 milliseconds
OFF	OFF	ON	OFF	ON	1100 milliseconds
ON	OFF	ON	OFF	ON	1148 milliseconds
OFF	ON	ON	OFF	ON	1200 milliseconds
ON	ON	ON	OFF	ON	1248 milliseconds
OFF	OFF	OFF	ON	ON	1300 milliseconds
ON	OFF	OFF	ON	ON	1348 milliseconds
OFF	ON	OFF	ON	ON	1400 milliseconds
ON	ON	OFF	ON	ON	1448 milliseconds
OFF	OFF	ON	ON	ON	1500 milliseconds
ON	OFF	ON	ON	ON	1548 milliseconds
OFF	ON	ON	ON	ON	1600 milliseconds
ON	ON	ON	ON	ON	1648 milliseconds

SW24

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1		Note 7	Send Signaling Pattern Selection See Send Signaling Pattern Selection.
2		Note 7	
3		Note 7	Receive Signaling Pattern Selection See Receive Signaling Pattern Selection.
4		Note 7	
5	ON	Note 7	Send Signaling A Logic: Negative
	OFF	Note 7	Send Signaling A Logic: Positive
6	ON	Note 7	Receive Signaling A Logic: Negative
	OFF	Note 7	Receive Signaling A Logic: Positive
7	ON		Long haul mode
	OFF	×	Short haul mode
8	ON		4k data link activation mode: Network side mode Note 8
	OFF		4k data link activation mode: User side mode Note 8

Note 7: The settings of SW24-1 to 24-4 is used for the ACIS mode. It needs to be set according to the specification of the opposite device. The following table shows an example of the setting of SW24-1 to 24-4:

CCT STANDARD (CCIS/ACIS COEXISTENCE)	
SWITCH NUMBER	SETTING
SW24-1	OFF
SW24-2	OFF
SW24-3	OFF
SW24-4	OFF
SW24-5	OFF
SW24-6	OFF
SW24-7	OFF
SW24-8	OFF

Note 8: Check connectivity for network in advance if you are going to use Network mode.

Send Signaling Pattern Selection

SW24-1	SW24-2	Signaling Pattern
OFF	OFF	AAAA
ON	OFF	ABAB
OFF	ON	Bit Steal Inhibited
ON	ON	ABCD

Receive Signaling Pattern Selection

SW24-3	SW24-4	Signaling Pattern
OFF	OFF	AAAA
ON	OFF	ABAB
OFF	ON	Bit Steal Inhibited
ON	ON	ABCD

SW25

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			CCH Operation Mode **Note 9** See CCH Operation Mode.
2			
3			
4	ON		When CCH MBR (SW01-6=ON) is set, SIOS signal will stop after being output for three seconds.
	OFF	×	When CCH MBR (SW01-6=ON) is set, SIOS will be output consecutively.
5			CCH Transfer Rate See CCH Transfer Rate.
6			
7			
8			

CCH Operation Mode

SW25-1	SW25-2	SW25-3	CCH Operation Mode
OFF	OFF	OFF	ITU-T mode (Emergency) **Note 10**
ON	OFF	OFF	ITU-T mode (Normal) **Note 10**
OFF	ON	OFF	NTT mode **Note 11**
ON	ON	OFF	TTC mode **Note 12**
OFF	OFF	ON	Corresponding to PA-24CCTA + TTC error detection **Note 12** (For when the connected system is SV8300/NEAX3600i)
ON	OFF	ON	Corresponding to PA-2CCHA **Note 11**
OFF	ON	ON	Corresponding to PA-24CCTA **Note 13**
ON	ON	ON	ITU-T mode (Emergency) **Note 14**

Note 9: Adjust the switch settings to specifications of the connected system.

Note 10: LSSU/FISU consecutive transmission and the threshold of SU error detection is ITU-T Q.703.

Note 11: LSSU/FISU periodical transmission and the threshold of SU error detection is NTT-Q.703a.

Note 12: LSSU/FISU periodical transmission and the threshold of SU error detection is TTCJT-Q 703.

Note 13: LSSU/FISU periodical transmission and the threshold of SU error detection correspond to PA-24CCTA.

Note 14: LSSU/FISU periodical transmission and the threshold of SU error detection is ITU-T Q.703.

CCH Transfer Rate

SW25-5	SW25-6	SW25-7	SW25-8	CCH Transfer Rate
OFF	OFF	OFF	OFF	64kbps (Standard Setting)
ON	OFF	OFF	OFF	56kbps
OFF	ON	OFF	OFF	48kbps (Standard)
ON	ON	OFF	OFF	32kbps (Forward)
OFF	OFF	ON	OFF	32kbps (Backward)
ON	OFF	ON	OFF	16kbps (Forward)
OFF	ON	ON	OFF	16kbps (Backward)
ON	ON	ON	OFF	8kbps (Forward)
OFF	OFF	OFF	ON	8kbps (Backward)
ON	OFF	OFF	ON	48kbps (Option)
OFF	ON	OFF	ON	64kbps
ON	ON	OFF	ON	
OFF	OFF	ON	ON	
ON	OFF	ON	ON	
OFF	ON	ON	ON	
ON	ON	ON	ON	

SW26

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			CCH Time Slot Setting See CCH Time Slot Setting.
2			
3			
4			
5			
6	ON	×	Fixed to ON
7	OFF	×	Fixed to OFF
8	ON		CCH Signaling Logic: Negative
	OFF	×	CCH Signaling Logic: Positive

CCH Time Slot Setting

SW26-1	SW26-2	SW26-3	SW26-4	SW26-5	Time Slot
OFF	OFF	OFF	OFF	OFF	TS 0
ON	OFF	OFF	OFF	OFF	TS 1
OFF	ON	OFF	OFF	OFF	TS 2
ON	ON	OFF	OFF	OFF	TS 3
OFF	OFF	ON	OFF	OFF	TS 4
ON	OFF	ON	OFF	OFF	TS 5
OFF	ON	ON	OFF	OFF	TS 6
ON	ON	ON	OFF	OFF	TS 7
OFF	OFF	OFF	ON	OFF	TS 8
ON	OFF	OFF	ON	OFF	TS 9
OFF	ON	OFF	ON	OFF	TS 10
ON	ON	OFF	ON	OFF	TS 11
OFF	OFF	ON	ON	OFF	TS 12
ON	OFF	ON	ON	OFF	TS 13
OFF	ON	ON	ON	OFF	TS 14
ON	ON	ON	ON	OFF	TS 15
OFF	OFF	OFF	OFF	ON	TS 16
ON	OFF	OFF	OFF	ON	TS 17
OFF	ON	OFF	OFF	ON	TS 18
ON	ON	OFF	OFF	ON	TS 19
OFF	OFF	ON	OFF	ON	TS 20
ON	OFF	ON	OFF	ON	TS 21
OFF	ON	ON	OFF	ON	TS 22
ON	ON	ON	OFF	ON	TS 23 (Standard Setting)
OFF	OFF	OFF	ON	ON	TS 23
ON	OFF	OFF	ON	ON	
OFF	ON	OFF	ON	ON	
ON	ON	OFF	ON	ON	
OFF	OFF	ON	ON	ON	
ON	OFF	ON	ON	ON	
OFF	ON	ON	ON	ON	
ON	ON	ON	ON	ON	

SW27

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Congestion Detection Threshold (QUE remainder ratio) See Congestion Detection Threshold (QUE remainder ratio).
2			
3			
4			
5-7	OFF	×	Fixed to OFF
8	ON		When NTT mode/ITU-T mode is selected, CCH Octet Counting Mode is used.
	OFF	×	When NTT mode/ITU-T mode is selected, CCH Octet Counting Mode is not used.

Congestion Detection Threshold (QUE remainder ratio)

SW27-1	SW27-2	SW27-3	SW27-4	Detection (%)	Release (%)
OFF	OFF	OFF	OFF	75	90 (Standard Setting)
ON	OFF	OFF	OFF	15	35
OFF	ON	OFF	OFF	20	40
ON	ON	OFF	OFF	25	45
OFF	OFF	ON	OFF	30	50
ON	OFF	ON	OFF	40	60
OFF	ON	ON	OFF	50	65
ON	ON	ON	OFF	55	70
OFF	OFF	OFF	ON	60	75
ON	OFF	OFF	ON	65	80
OFF	ON	OFF	ON	70	85
ON	ON	OFF	ON	80	90
OFF	OFF	ON	ON	85	90
ON	OFF	ON	ON	90	95
OFF	ON	ON	ON	Always Congestion (for Maintenance)	
ON	ON	ON	ON	No detection	

6. Starting up the Card

CH-PRTA can be started up with the predefined template data. You can choose either one of the following modes (starting methods) through the switch settings of SW80 and SW81 when starting up the card.

- Normal Starting-up mode (SW80-7=OFF, SW80-8=OFF)

  In this mode, the card starts up with the settings of the software switches. When the software switches are not set or settings of the hardware switches are changed after the software switch settings, the card starts up with the predefined template data (a setting pattern of the template is specified by the settings of SW80 and SW81).

- Switch setting initialization mode (SW80-7=OFF, SW80-8=ON)

  In this mode, the card starts up with the settings of the hardware switches. The card is forcibly initialized and restarted with the predefined template data (a setting pattern of the template is specified by the settings of SW80 and SW81).

Note: For contents (switch settings) of the template, refer to Switch Settings of Template.

SW80

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (8-Dip Switch)	1			CCH Operation Mode See CCH Operation Mode. This setting is reflected to SW25-1 to 3.
	2			
	3			
	4-6	OFF	×	Fixed to OFF
	7			Switch Setting Mode See Switch Setting Mode.
	8			

CCH Operation Mode

SW80-1	SW80-2	SW80-3	CCH Operation Mode
OFF	OFF	OFF	ITU-T mode (Emergency) **Note 1**
ON	OFF	OFF	ITU-T mode (Normal) **Note 1**
OFF	ON	OFF	NTT mode **Note 2**
ON	ON	OFF	TTC mode **Note 3**
OFF	OFF	ON	Corresponding to PA-24CCTA + TTC error detection **Note 3** (For when the connected system is SV8300/NEAX3600i)
ON	OFF	ON	Corresponding to PA-2CCHA **Note 2**
OFF	ON	ON	Corresponding to PA-24CCTA **Note 4**
ON	ON	ON	ITU-T mode (Emergency) **Note 5**

Note 1: LSSU/FISU consecutive transmission and the threshold of SU error detection is ITU-T Q.703.

Note 2: LSSU/FISU periodical transmission and the threshold of SU error detection is NTT-Q.703a.

Note 3: LSSU/FISU periodical transmission and the threshold of SU error detection is TTCJT-Q 703.

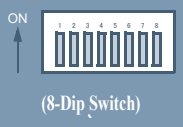
Note 4: LSSU/FISU periodical transmission and the threshold of SU error detection correspond to PA-24CCTA.

Note 5: LSSU/FISU periodical transmission and the threshold of SU error detection is ITU-T Q.703.

Switch Setting Mode

SW80-7	SW80-8	Switch Setting Mode
OFF	OFF	Normal starting-up mode (Standard Setting)
ON	OFF	Not used
OFF	ON	Switch setting initialization mode
ON	OFF	Not used

SW81

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING	
 (8-Dip Switch)	1			Transmission Equalizer Settings See Transmission Equalizer Settings. This setting is reflected to SW11-1 to 3.	
	2				
	3				
	4			ACIS operation mode See ACIS Operation Mode.	
	5				
	6	ON	×	North America	
		OFF		Japan	
	7	ON	×	Fixed to ON	
	8	ON		ACIS mode	This setting is reflected to SW12-8.
		OFF	×	CCIS mode	

Transmission Equalizer Settings

SW80-1	SW80-2	SW80-3	TRANSMISSION DISTANCE
OFF	OFF	OFF	0-40 m
ON	OFF	OFF	40-80 m
OFF	ON	OFF	80-120 m
ON	ON	OFF	120-160 m
OFF	OFF	ON	160-200 m
Other settings			0-40 m

ACIS Operation Mode

SW81-4	SW81-5	MEANING
OFF	OFF	24 multiframe (Tie Line)
ON	OFF	24 multiframe (C.O. line)
OFF	ON	12 multiframe (Tie Line)
ON	ON	12 multiframe (C.O. line)

Switch Settings of Template

The table below shows each switch setting when using the predefined template. To use an appropriate template, ensure that SW81-6 is set to ON.

CCIS mode (SW81-8=OFF)

Switch Name	Switch Number	ON/OFF		Meaning
		24 multiframe (SW81-5=OFF)	12 multiframe (SW81-5=ON)	
SW01	1	OFF	OFF	Local Loopback: Cancel (Internal)
	2	OFF	OFF	Line Loopback: Cancel (External)
	3	OFF	OFF	Payload Loopback: Cancel
	4	OFF	OFF	All channel make-busy: Cancel
	5	OFF	OFF	CCH make-busy: Cancel
	6	OFF	OFF	CCH Loopback: Cancel
	7-8	OFF	OFF	Fixed to OFF
SW10	1	OFF	OFF	Remote Alarm Send Out Unrestricted
	2	OFF	ON	<24 multiframe> Remote Alarm Data Link <12 multiframe> Remote Alarm In Channel
	3	ON	ON	Remote Alarm is not sent when AIS was detected.
	4	ON	ON	Alarm Release Time: (Long)
	5	ON	ON	Alarm Detect/Release Type (AT&T)
	6	OFF	OFF	PLO is not controlled when main signal ALL1.
	7	OFF	OFF	PLO Clock Supply Control: Yes
	8	OFF	OFF	CCH Level1 Alarm Release: No
SW11	1-3	Sets by SW81-1 to SW81-3		Transmission Equalizer Settings
	4-7	OFF	OFF	Fixed to OFF
	8	OFF	OFF	ITU-T G.704 Mode

CCIS mode (SW81-8=OFF)

Switch Name	Switch Number	ON/OFF		Meaning
		24 multiframe (SW81-5=OFF)	12 multiframe (SW81-5=ON)	
SW12	1	OFF	ON	<24 multiframe> Line Signal: B8ZS <12 multiframe> Line Signal: AMI/ZCS
	2	OFF	ON	OFF: 24 multiframe ON: 12 multiframe
	3	ON	OFF	<24 multiframe> 4k Data Link: MOS
	4-6	OFF	OFF	Fixed to OFF
	7	OFF	OFF	ACIS and CCIS do not coexist.
	8	OFF (Sets by SW81-8)		CCIS mode
SW13	1	OFF	OFF	Main Signal ALL1 is not detected.
	2	OFF	OFF	Idle Code is not sent.
	3	OFF	OFF	DP relay function is not used for FCCS.
	4	OFF	OFF	Simultaneous Seizure Detection (SSD): Enabled
	5	OFF	OFF	Activate counter node when detecting Simultaneous Seizure.
	6	OFF	OFF	Level 1 Alarm is notified to CPU.
	7	OFF	OFF	CAS is effective when CCH is used.
	8	OFF	OFF	Incoming/Outgoing call collision processing is not used.
SW14	1	OFF	OFF	Reception PAD 1: 2 (Loss)
	2	ON	ON	
	3	OFF	OFF	
	4	OFF	OFF	
	5	OFF	OFF	
	6	OFF	OFF	Fixed to OFF
	7	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
	8	OFF	OFF	
SW15	1	OFF	OFF	Reception PAD 2: 4 (Loss)
	2	OFF	OFF	
	3	ON	ON	
	4	OFF	OFF	
	5	OFF	OFF	
	6	OFF	OFF	Fixed to OFF
	7	OFF	OFF	PAD Selection: μ-Law
	8	OFF	OFF	

CCIS mode (SW81-8=OFF)

Switch Name	Switch Number	ON/OFF		Meaning
		24 multiframe (SW81-5=OFF)	12 multiframe (SW81-5=ON)	
SW16	1	OFF	OFF	Reception PAD 3: 12 (Loss)
	2	OFF	OFF	
	3	ON	ON	
	4	ON	ON	
	5	OFF	OFF	
	6	OFF	OFF	Fixed to OFF
	7	OFF	OFF	PAD Pattern 1
	8	OFF	OFF	
SW17	1	OFF	OFF	Reception PAD 4: 8 (Loss)
	2	OFF	OFF	
	3	OFF	OFF	
	4	ON	ON	
	5	OFF	OFF	
	6	OFF	OFF	Fixed to OFF
	7	OFF	OFF	Data PAD Pattern Selection: 64k
	8	OFF	OFF	
SW18	1	OFF	OFF	Transmission PAD 1: 2 (Loss)
	2	ON	ON	
	3	OFF	OFF	
	4	OFF	OFF	
	5	OFF	OFF	
	6	OFF	OFF	Fixed to OFF
	7	OFF	OFF	Standard PAD
	8	OFF	OFF	Fixed to OFF
SW19	1	OFF	OFF	Transmission PAD 2: 4 (Loss)
	2	OFF	OFF	
	3	ON	ON	
	4	OFF	OFF	
	5	OFF	OFF	
	6-8	OFF	OFF	Fixed to OFF

CCIS mode (SW81-8=OFF)

Switch Name	Switch Number	ON/OFF		Meaning
		24 multiframe (SW81-5=OFF)	12 multiframe (SW81-5=ON)	
SW20	1	OFF	OFF	Transmission PAD 3: 12 (Loss)
	2	OFF	OFF	
	3	ON	ON	
	4	ON	ON	
	5	OFF	OFF	
	6-8	OFF	OFF	Fixed to OFF
SW21	1	OFF	OFF	Transmission PAD 4: 8 (Loss)
	2	OFF	OFF	
	3	OFF	OFF	
	4	ON	ON	
	5	OFF	OFF	
	6-8	OFF	OFF	Fixed to OFF
SW22	1	OFF	OFF	Seizure Acknowledgement Guard Time: 48 milli-seconds
	2	OFF	OFF	
	3	OFF	OFF	
	4	OFF	OFF	
	5	OFF	OFF	Seizure Acknowledgement Detection Time: 56 mil-liseconds
	6	OFF	OFF	
	7	OFF	OFF	
	8	OFF	OFF	
SW23	1	ON	ON	Seizure Acknowledgement Monitoring Time: 360 milliseconds
	2	OFF	OFF	
	3	OFF	OFF	
	4	OFF	OFF	Answer Detection Time: 200 milliseconds
	5	ON	ON	
	6	OFF	OFF	
	7	OFF	OFF	
	8	OFF	OFF	

CCIS mode (SW81-8=OFF)

Switch Name	Switch Number	ON/OFF		Meaning
		24 multiframe (SW81-5=OFF)	12 multiframe (SW81-5=ON)	
SW24	1	OFF	OFF	Send Signaling Pattern Selection: Bit Steal Inhibited
	2	ON	ON	
	3	OFF	OFF	Receive Signaling Pattern Selection: Bit Steal Inhibited
	4	ON	ON	
	5	OFF	OFF	Send Signaling A Logic: Positive
	6	OFF	OFF	Receive Signaling A Logic: Positive
	7	OFF	OFF	Short haul mode
	8	OFF	OFF	4k data link activation mode: User side mode
SW25	1-3	Sets by SW80-1 to SW80-3		CCH Operation Mode
	4	OFF	OFF	When CCH MBR (SW01-6=ON) is set, SIOS will be output consecutively.
	5	OFF	OFF	CCH Transfer Rate 24 multiframe: 64kbps 12 multiframe: 48kbps
	6	OFF	ON	
	7	OFF	OFF	
	8	OFF	OFF	
SW26	1	ON	ON	CCH Time Slot Setting: TS 23
	2	ON	ON	
	3	ON	ON	
	4	OFF	OFF	
	5	ON	ON	
	6	ON	ON	Fixed to ON
	7	OFF	OFF	Fixed to OFF
	8	OFF	OFF	CCH Signaling Logic: Positive
SW27	1	OFF	OFF	Congestion Detection Threshold (QUE remainder ratio): 75/90
	2	OFF	OFF	
	3	OFF	OFF	
	4	OFF	OFF	
	5-7	OFF	OFF	Fixed to OFF
	8	OFF	OFF	When NTT mode/ITU-T mode is selected, CCH Octet Counting Mode is not used.

ACIS mode (SW81-8=ON)

Switch Name	Switch Number	24 multiframe (SW81-5=OFF)		12 multiframe (SW81-5=ON)		Meaning
		Tie Line (SW81-4=OFF)	C.O. Line (SW81-4=ON)	Tie Line (SW81-4=OFF)	C.O. Line (SW81-4=ON)	
SW01	1	OFF	OFF	OFF	OFF	Local Loopback: Cancel (Internal)
	2	OFF	OFF	OFF	OFF	Line Loopback: Cancel (External)
	3	OFF	OFF	OFF	OFF	Payload Loopback: Cancel
	4	OFF	OFF	OFF	OFF	All channel make-busy: Cancel
	5	OFF	OFF	OFF	OFF	CCH make-busy: Cancel
	6	OFF	OFF	OFF	OFF	CCH Loopback: Cancel
	7-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW10	1	OFF	OFF	OFF	OFF	Remote Alarm Send Out Unrestricted
	2	OFF	OFF	ON	ON	<24 multiframe> Remote Alarm Data Link <12 multiframe> Remote Alarm In Channel
	3	ON	ON	ON	ON	Remote Alarm is not sent when AIS was detected.
	4	ON	ON	ON	ON	Alarm Release Time: (Long)
	5	OFF	OFF	OFF	OFF	Alarm Detect/Release Type (Normal)
	6	OFF	OFF	OFF	OFF	PLO is not controlled when main signal ALL1.
	7	OFF	OFF	OFF	OFF	PLO Clock Supply Control: Yes
	8	OFF	OFF	OFF	OFF	CCH Level1 Alarm Release: No
SW11	1-3	Sets by SW81-1 to SW81-3				Transmission Equalizer Settings
	4-7	OFF	OFF	OFF	OFF	Fixed to OFF
	8	OFF	OFF	OFF	OFF	ITU-T G.704 Mode

ACIS mode (SW81-8=ON)

Switch Name	Switch Number	24 multiframe (SW81-5=OFF)		12 multiframe (SW81-5=ON)		Meaning
		Tie Line (SW81-4=OFF)	C.O. Line (SW81-4=ON)	Tie Line (SW81-4=OFF)	C.O. Line (SW81-4=ON)	
SW12	1	OFF	OFF	ON	ON	<24 multiframe> Line Signal: B8ZS <12 multiframe> Line Signal: AMI/ZCS
	2	OFF	OFF	ON	ON	OFF: 24 multiframe ON: 12 multiframe
	3	ON	ON	OFF	OFF	<24 multiframe> 4k Data Link: MOS
	4-6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	ACIS and CCIS do not co-exist.
	8	ON (Sets by SW81-8)				ACIS mode
SW13	1	OFF	OFF	OFF	OFF	Main Signal ALL1 is not detected.
	2	OFF	OFF	OFF	OFF	Idle Code is not sent.
	3	OFF	OFF	OFF	OFF	DP relay function is not used for FCCS.
	4	OFF	OFF	OFF	OFF	Simultaneous Seizure Detection (SSD): Enabled
	5	OFF	OFF	OFF	OFF	Activate counter node when detecting Simultaneous Seizure.
	6	OFF	OFF	OFF	OFF	Level 1 Alarm is notified to CPU.
	7	OFF	OFF	OFF	OFF	CAS is effective when CCH is used.
	8	OFF	OFF	OFF	OFF	Incoming/Outgoing call collision processing is not used.

ACIS mode (SW81-8=ON)

Switch Name	Switch Number	24 multiframe (SW81-5=OFF)		12 multiframe (SW81-5=ON)		Meaning
		Tie Line (SW81-4=OFF)	C.O. Line (SW81-4=ON)	Tie Line (SW81-4=OFF)	C.O. Line (SW81-4=ON)	
SW14	1	OFF	OFF	OFF	OFF	Reception PAD 1: 2 (Loss)
	2	ON	ON	ON	ON	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
	8	OFF	OFF	OFF	OFF	
SW15	1	OFF	OFF	OFF	OFF	Reception PAD 2: 4 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	ON	ON	ON	ON	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	PAD Selection: μ-Law
	8	OFF	OFF	OFF	OFF	
SW16	1	OFF	OFF	OFF	OFF	Reception PAD 3: 12 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	ON	ON	ON	ON	
	4	ON	ON	ON	ON	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	PAD Pattern 1
	8	OFF	OFF	OFF	OFF	
SW17	1	OFF	OFF	OFF	OFF	Reception PAD 4: 8 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	ON	ON	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Data PAD Pattern Selection: 64k
	8	OFF	OFF	OFF	OFF	

ACIS mode (SW81-8=ON)

Switch Name	Switch Number	24 multiframe (SW81-5=OFF)		12 multiframe (SW81-5=ON)		Meaning
		Tie Line (SW81-4=OFF)	C.O. Line (SW81-4=ON)	Tie Line (SW81-4=OFF)	C.O. Line (SW81-4=ON)	
SW18	1	OFF	OFF	OFF	OFF	Transmission PAD 1: 2 (Loss)
	2	ON	ON	ON	ON	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Standard PAD
	8	OFF	OFF	OFF	OFF	Fixed to OFF
SW19	1	OFF	OFF	OFF	OFF	Transmission PAD 2: 4 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	ON	ON	ON	ON	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW20	1	OFF	OFF	OFF	OFF	Transmission PAD 3: 12 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	ON	ON	ON	ON	
	4	ON	ON	ON	ON	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW21	1	OFF	OFF	OFF	OFF	Transmission PAD 4: 8 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	ON	ON	ON	ON	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF

ACIS mode (SW81-8=ON)

Switch Name	Switch Number	24 multiframe (SW81-5=OFF)		12 multiframe (SW81-5=ON)		Meaning
		Tie Line (SW81-4=OFF)	C.O. Line (SW81-4=ON)	Tie Line (SW81-4=OFF)	C.O. Line (SW81-4=ON)	
SW22	1	OFF	OFF	OFF	OFF	Seizure Acknowledgement Guard Time: 48 milliseconds
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	Seizure Acknowledgement Detection Time: 56 milliseconds
	6	OFF	OFF	OFF	OFF	
	7	OFF	OFF	OFF	OFF	
	8	OFF	OFF	OFF	OFF	
SW23	1	ON	ON	ON	ON	Seizure Acknowledgement Monitoring Time: 360 milliseconds
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	Answer Detection Time: 200 milliseconds
	5	ON	ON	ON	ON	
	6	OFF	OFF	OFF	OFF	
	7	OFF	OFF	OFF	OFF	
	8	OFF	OFF	OFF	OFF	
SW24	1	OFF	ON	OFF	ON	Send Signaling Pattern Selection <Tie Line> AAAA <C.O. line> ABAB
	2	OFF	OFF	OFF	OFF	
	3	OFF	ON	OFF	ON	Receive Signaling Pattern Selection <Tie Line> AAAA <C.O. line> ABAB
	4	OFF	OFF	OFF	OFF	
	5	ON	ON	ON	ON	Send Signaling A Logic: Positive
	6	ON	ON	ON	ON	Receive Signaling A Logic: Positive
	7	OFF	OFF	OFF	OFF	Short haul mode
	8	OFF	OFF	OFF	OFF	4k data link activation mode: User side mode

ACIS mode (SW81-8=ON)

Switch Name	Switch Number	24 multiframe (SW81-5=OFF)		12 multiframe (SW81-5=ON)		Meaning
		Tie Line (SW81-4=OFF)	C.O. Line (SW81-4=ON)	Tie Line (SW81-4=OFF)	C.O. Line (SW81-4=ON)	
SW25	1-3	Sets by SW80-1 to SW80-3				CCH Operation Mode
	4	OFF	OFF	OFF	OFF	When CCH MBR (SW01-6=ON) is set, SIOS will be output consecutively.
	5	OFF	OFF	OFF	OFF	CCH Transfer Rate 24 multiframe: 64kbps 12 multiframe: 48kbps
	6	OFF	OFF	ON	ON	
	7	OFF	OFF	OFF	OFF	
	8	OFF	OFF	OFF	OFF	
SW26	1	ON	ON	ON	ON	CCH Time Slot Setting: TS 23
	2	ON	ON	ON	ON	
	3	ON	ON	ON	ON	
	4	OFF	OFF	OFF	OFF	
	5	ON	ON	ON	ON	
	6	ON	ON	ON	ON	Fixed to ON
	7	OFF	OFF	OFF	OFF	Fixed to OFF
	8	OFF	OFF	OFF	OFF	CCH Signaling Logic: Positive
SW27	1	OFF	OFF	OFF	OFF	Congestion Detection Threshold (QUE remainder ratio): 75/90
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5-7	OFF	OFF	OFF	OFF	Fixed to OFF
	8	OFF	OFF	OFF	OFF	When NTT mode/ITU-T mode is selected, CCH Octet Counting Mode is not used.

7. External Interface

LT connector lead accommodation of this card is described below.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	PoutB	5	PoutA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

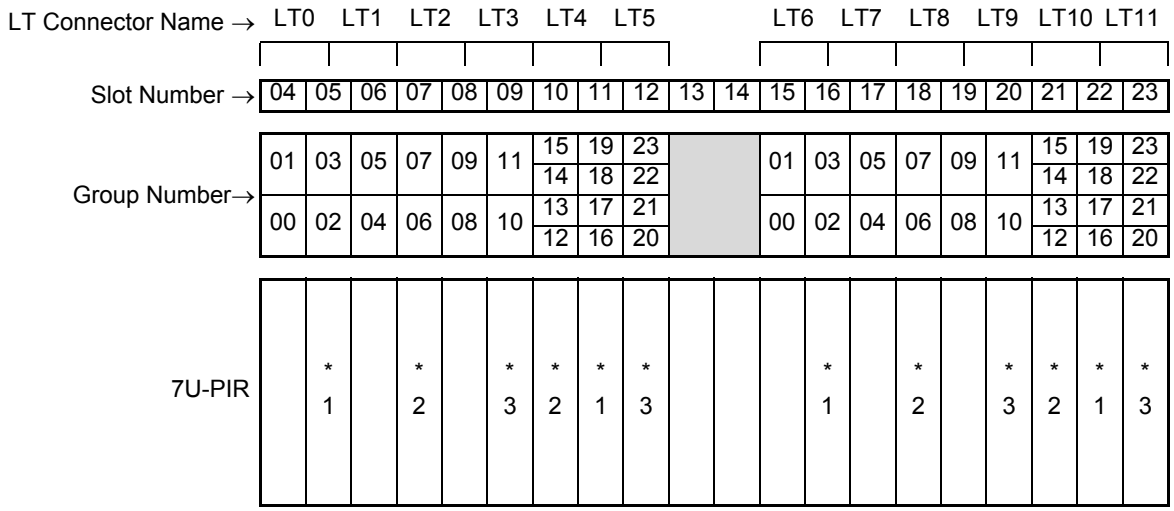
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	PoutB	13	PoutA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

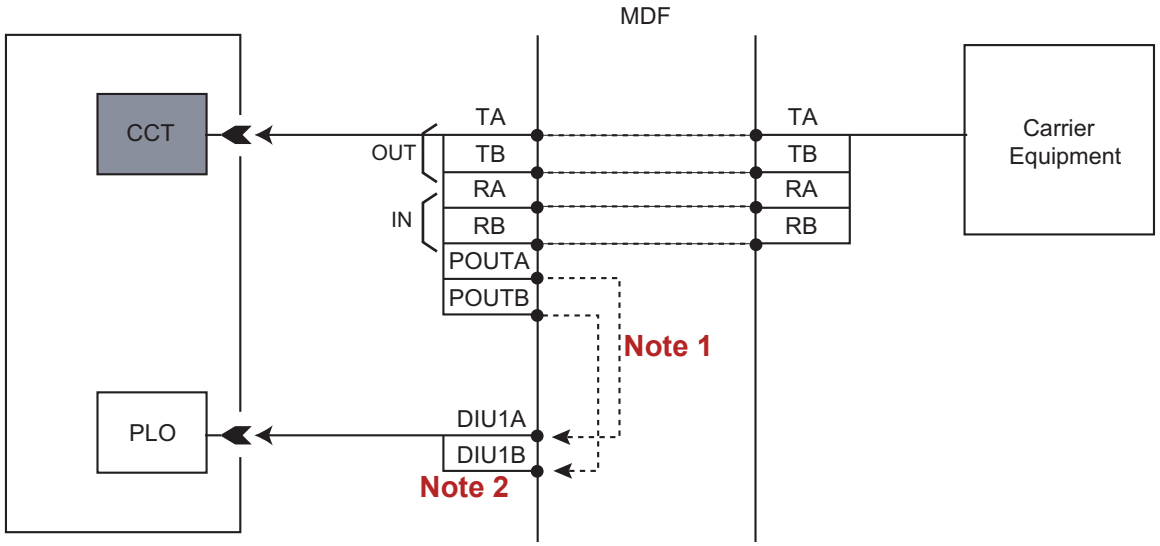
Accommodated in 3

LT3, 5, 9, 11 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	PoutB	21	PoutA
47		22	
48		23	
49	TB	24	TA
50		25	



Connecting Route Diagram



Note 1: This cable connection is required when clock signals must be extracted from the network side.

Note 2: As an example, DIU1A and DIU1B leads are used in this diagram.

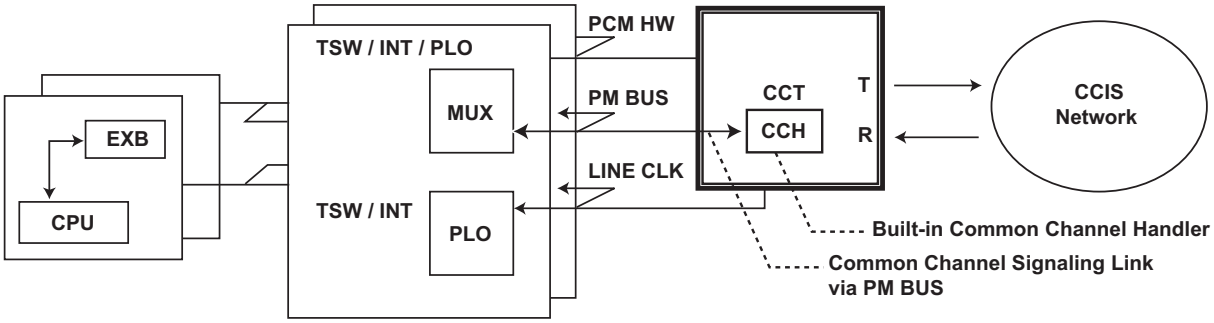
CH-PRTA (2M CCT)

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	-	X	-

1. General Functions

This card is a digital interface (32 channels) supporting voice and data communications at 2 M bit/second. This card is equipped with the Common Channel Handler (CCH) compliant with ITU-T Q series. A built-in resonance circuit extracts clock signals that are supplied from the network, so that the system may be in exact synchronization with the network. To obtain an appropriate speech level, this card has a standard PAD and a flexible PAD. A flexible PAD can set a more detailed PAD value than a standard PAD. A flexible PAD value can set the loss from 0 to 17 dB and the gain can be set from -1 to -8 dB respectively in 1dB step. The loss and the gain values can also be set through the APAD or ARTD commands.

Location of CH-PRTA (2M CCT) in the System

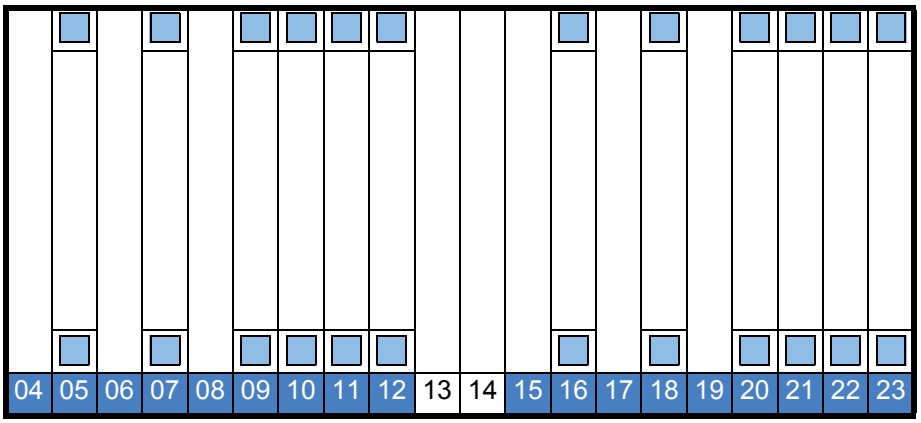


2. Mounting Locations/Conditions

Mounting Location <7U-PIR>

Twisted Pair Cable

Slots 05, 07, 09-12, 16, 18, 20-23



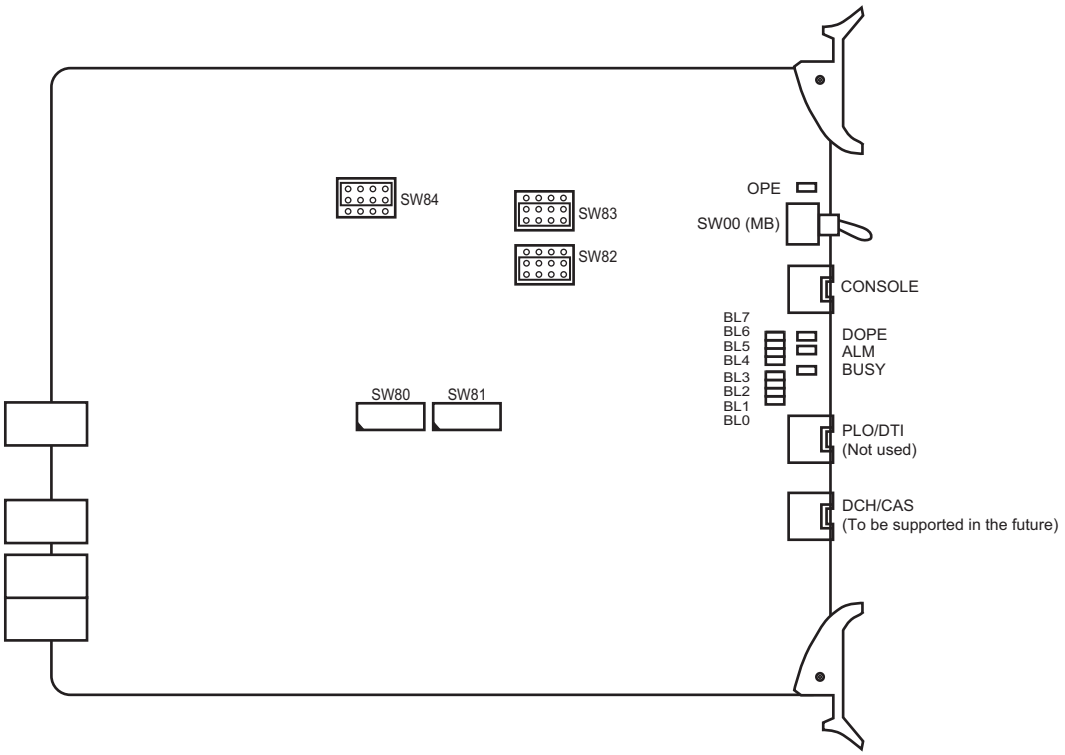
Mounting Conditions:

- When mounted in PIR of Unit 0 (U=0) of Module Group 0 (MG=00), this card cannot be mounted in the Slot 5 (except when this card is used only for Tie Line connection).
- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot.
- Mount this circuit card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.

3. Face Layout of Lamps, Switches and Connectors

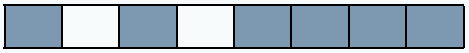
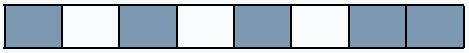
The face layout of lamps, switches and connectors on this card is shown below.

Face Layout of CH-PRTA (2M CCT)



4. Lamp Indications

The contents of lamp indications on this card are shown in the table below.

<table>
<tr><th>LAMP NAME</th><th>COLOR</th><th colspan="3">DESCRIPTION</th></tr>
<tr><td>OPE</td><td>Green</td><td>Light</td><td colspan="2">This card is operating normally.</td></tr>
<tr><td>DOPE</td><td>Green</td><td>Flash</td><td colspan="2">Refer to DOPE - BL Lamp Control (Card Status Display).</td></tr>
<tr><td rowspan="5">BUSY</td><td rowspan="5">Green</td><td>Light</td><td>BL0 - BL7: Indicates the status of CH0 to CH7.</td><td rowspan="5">Refer to BUSY - BL Lamp Control (CH Status Display).</td></tr>
<tr><td>Flash (flashes once)</td><td>256 milliseconds OFF/256 milliseconds ON: once/1536 milliseconds OFF
BL0 - BL7: Indicates the status of CH8 to CH15.
  </td></tr>
<tr><td>Flash (flashes twice)</td><td>256 milliseconds OFF/256 milliseconds ON: twice/1024 milliseconds OFF
BL0 - BL7: Indicates the status of CH16 to CH23.
  </td></tr>
<tr><td>Flash (flashes three times)</td><td>256 milliseconds OFF/256 milliseconds ON: three times/512 milliseconds OFF
BL0 - BL7: Indicates the status of CH24 to CH31.
  </td></tr>
<tr><td>OFF</td><td>Other than those above</td></tr>
<tr><td rowspan="2">ALM</td><td rowspan="2">Red</td><td>Light</td><td colspan="2">Refer to ALM - BL Lamp Control (While Detecting a Line Alarm).</td></tr>
<tr><td>OFF</td><td colspan="2">No line alarm</td></tr>
<tr><td>BL0 - BL7</td><td>Green</td><td colspan="3">DOPE, BUSY and ALM lamps are used in combination with each other.</td></tr>
</table>

LAMP NAME				STATUS	CONTROL PROGRAM
OPE	ALM	DOPE	BUSY		
OFF	OFF	Light	Light	BOOT program starting up.	BOOT
OFF	OFF	Flash (60 IPM)	OFF	Waiting for downloading the program.	
OFF	OFF	Light	OFF	Downloading the program.	
OFF	OFF	OFF	OFF	Program Download is completed.	
OFF	OFF	Flash (120 IPM)	OFF	Program Download has failed.	
OFF	OFF	Light	Light	Main program initialization is starting up.	
OFF	OFF	OFF	OFF	Initialization starting.	MAIN
OFF	OFF	Flash (60 IPM)	Flash (60 IPM)	Built-in RAM test starting.	
OFF	Flash (120 IPM)	Flash (120 IPM)	OFF	Built-in RAM test error.	
Light	Light	OFF	OFF	Detecting a line alarm.	
Light	OFF	Light	OFF	Indicates the status of the card (except ALM and BUSY).	
Light	OFF	OFF	Light	Indicates the BL status of CH0-7.	
Light	OFF	OFF	Flash (special)	Indicates the BL status of CH8-15 (BUSY: Flashes once every approximately two seconds).	
Light	OFF	OFF	Flash (special)	Indicates the BL status of CH16-23 (BUSY: Flashes twice every approximately two seconds).	
Light	OFF	OFF	Flash (special)	Indicates the BL status of CH24-31 (BUSY: Flashes three times every approximately two seconds).	

<Priorities for ALM, BUSY and DOPE lamps>

After the initialization is completed, the status of ALM (line alarm) is indicated. When no line alarm is detected, the status of DOPE is indicated.

The status of DOPE is indicated while configuring a link in CCIS mode.

After the link is established in CCIS mode or when ACIS mode is in use, DOPE is indicated (Busy: Off) while all the lines are not used. BUSY is indicated (DOPE: Off) when making/receiving a call.

DOPE is indicated again when all the channels are in idle state.

(a) DOPE - BL Lamp Control (Card Status Display)

The table below shows descriptions of BL0 to BL7 lamps while DOPE lamp lights.

LAMP NAME	COLOR	DESCRIPTION	
BL7	Green	OFF	Operates with 2M.
BL5 - 6	Green	OFF	Not used
BL4	Green	Light	Loopback is being activated.
		OFF	In operation.
BL3	Green	OFF	Not used
BL2 **Note 1**	Green	Light	Level 2 is established. (Available when using CCIS mode)
		Flash (120 IPM)	Configuring Level 2 link. (Available when using CCIS mode)
		OFF	Level 2 is not established. (Available when using CCIS mode)
BL1	Green	OFF	Not used
BL0 **Note 1**	Green	Light	Common Channel Handler is on. (Available when using CCIS mode)
		OFF	Common Channel Handler is not activated. (Available when using CCIS mode)

Note 1: Regarding BL0 and BL2 lamps, the above lamp indications are performed only in CCIS mode or CCIS+ACIS mode. In ACIS mode, BL0 and BL2 lamps are OFF.

(b) BUSY - BL Lamp Control (CH Status Display)

A status of channel is indicated by a combination of BUSY lamp and BL lamp indications.

BUSY lamp indicates a target group of channels (i.e., CH0-7, CH8-15, CH16-23 or CH24-31) by its lighting pattern. A status of each channel belonging to the target group is indicated by the lighting pattern of BL lamp.

To display statuses of multiple channels belonging to different groups, the lighting pattern of BUSY lamp changes with a period of approximately two seconds.

- Example 1 - When CH0 and CH7 (belonging to the same group) are busy.

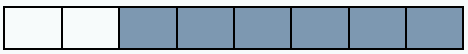
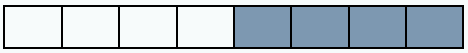
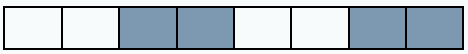
  BUSY lamp: Light
  BL0 lamp: Light
  BL7 lamp: Light

- Example 2 - When CH0 and CH15 (belonging to different groups) are busy.

  BUSY lamp: Light Flash once Light ...
  BL0 lamp: Light OFF Light ...
  BL7 lamp: OFF Light OFF ...

See the following tables for more details:

LAMP NAME	COLOR	CHANNEL INDICATED BY BUSY AND BL LAMP			
BUSY	Green	Light	Flash once/ approx. 2 seconds	Flash twice/ approx. 2 seconds	Flash three times/ approx. 2 seconds
BL7	Green	CH7	CH15	CH23	CH31
BL6	Green	CH6	CH14	CH22	CH30
BL5	Green	CH5	CH13	CH21	CH29
BL4	Green	CH4	CH12	CH20	CH28
BL3	Green	CH3	CH11	CH19	CH27
BL2	Green	CH2	CH10	CH18	CH26
BL1	Green	CH1	CH9	CH17	CH25
BL0	Green	CH0	CH8	CH16	CH24

STATUS OF BL LAMP	DESCRIPTION	REMARKS
Light	Corresponding channel is in use.	
Flash (Flash according to DP signal)	DP relaying	
Flash (30 IPM)	Corresponding channel is in make-busy state (outgoing/incoming). 512 milliseconds ON/1536 milliseconds OFF 	BUSY lamp is not controlled only when the channel is placed in make-busy state. Flashes when other channels in the same group are used.
Flash (30 IPM)	Corresponding channel is in make-busy state (blocking). 1024 milliseconds ON/1024 milliseconds OFF 	
Flash (60 IPM)	Corresponding channel is in make-busy state (outgoing). 512 milliseconds ON/512 milliseconds OFF 	
OFF	Corresponding channel is in idle state.	OFF also when CCIS signal channels are registered.

(c) ALM - BL Lamp Control (While Detecting a Line Alarm)

The table below shows descriptions of BL0 to BL7 lamps while ALM lamp lights.

LAMP NAME	COLOR	DESCRIPTION	
BL7	Green	Light	Input signal down (PCM LOSS) is detected.
		OFF	Input signal down (PCM LOSS) is not detected.
BL6	Green	Light	Frame alignment loss is detected.
		OFF	Frame alignment loss is not detected.
BL5	Green	Light	Multiframe alignment loss is detected.
		OFF	Multiframe alignment loss is not detected.
BL4	Green	Light	Remote Alarm is received.
		OFF	Remote Alarm is not received.
BL3	Green	Light	Main Signal ALL1 is received.
		OFF	Main Signal ALL1 is not received.
BL2	Green	Light	Alarm Information Signal (AIS) is received.
		OFF	Alarm Information Signal (AIS) is not received.
BL1	Green	Light	Frequent CRC error/Bit error is detected.
		OFF	Frequent CRC error/Bit error is not detected.
BL0	Green	Light	Multiframe Remote Alarm is received.
		OFF	Multiframe Remote Alarm is not received.

<Reference>

Check the following when ALM lamp lights on during the startup of the card.

- BL7

  Check the cable connection between the card and the connected device (especially the direction from the connected device to the card).

- BL6, BL5

  Different types of multiframe (Basic Frame/CRC-4 Multiframe) are set between the card and the connected device. Check the switch setting of SW12-2/SW12-5 again.

- BL4

  Check the cable connection between the card and the connected device (especially the direction from the card to the connected device).

  or

  Different types of multiframe (Basic Frame/CRC-4 Multiframe) are set between the card and the connected device. Check the switch setting of SW12-2 again.

- BL2

  There is a problem with the connected device (network side).

5. Switch Settings

Standard settings of switches on this card are shown in the tables below.

Hardware Switch

Note: For switch settings of SW80 and SW81, refer to Starting up the Card.

SW00 (MB)

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy
	DOWN	×	Card: make-busy cancel

SW82

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	DOWN (OFF)	×	Fixed to OFF

SW83

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	UP (ON)		Receive Impedance 75 Ω
	DOWN (OFF)	×	Receive Impedance 120 Ω

SW84

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	UP (ON)	×	Middle point of reception transformer: Open
	DOWN (OFF)		Middle point of reception transformer: Ground

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection

Note: When initializing software switch settings, they are initialized to a predefined template value selected by settings of hardware switches SW80 and SW81. For further details, refer to Switch Settings of Template.

SW01

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Local Loopback: Set (Internal)
	OFF	×	Local Loopback: Cancel (Internal)
2	ON		Line Loopback: Set (External)
	OFF	×	Line Loopback: Cancel (External)
3	ON		Payload Loopback: Set
	OFF	×	Payload Loopback: Cancel
4	ON		All channel make-busy: Set
	OFF	×	All channel make-busy: Cancel
5	ON		CCH make-busy: Set
	OFF	×	CCH make-busy: Cancel
6	ON		CCH Loopback: Set
	OFF	×	CCH Loopback: Cancel
7	OFF	×	Fixed to OFF
8	OFF	×	Fixed to OFF (for maintenance)

<Reference>

(a) Local Loopback (Internal Loopback)

All the 32 Channels sent from TSW are sent back to TSW by the Line Interface. AIS will be sent to the opposite node while 32 Channels are sent back. The opposite node will detect AIS.

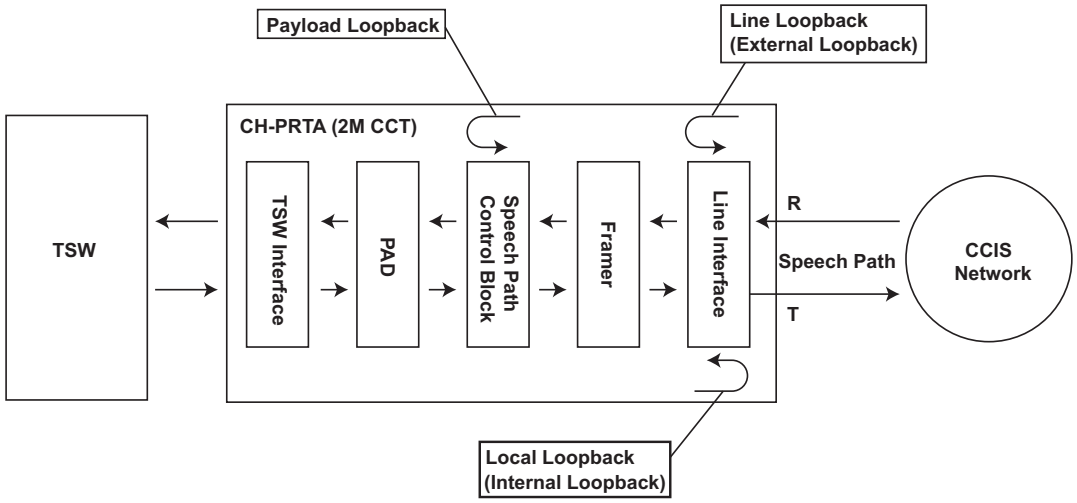
(b) Line Loopback (External Loopback)

All the 32 Channels sent from the Line are sent back to the Line by the Line Interface.

(c) Payload Loopback

All the 32 Channels sent from the Line are sent back to the Line by the Speech Path Control Block.

Available Locations for Loopback Testing



Note: A difference between Line Loopback and Payload Loopback:

Line Loopback operates by the timing of line side, and Payload Loopback operates partially by the timing of the system. Therefore, the Payload Loopback will have a bit error if the system is not synchronized with the Line. The Line Loopback will not have this error.

SW10

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	**SETTING**	**STANDARD SETTING**	**MEANING**
1	ON		Remote Alarm Send Out: Restricted
	OFF	×	Remote Alarm Send Out: Unrestricted
2	OFF	×	Fixed to OFF
3	ON		Multiframe Remote Alarm is not sent when TS16 LFA/TS16 AIS was detected. **Note 1**
	OFF	×	Multiframe Remote Alarm is sent when TS16 LFA/TS16 AIS was detected. **Note 1**
4	ON		Alarm Release Time: (Long)
	OFF	×	Alarm Release Time: (Short)
5	ON		Alarm Detect/Release Type: (ETSI)
	OFF		Alarm Detect/Release Type: (Normal)

SW10

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
6	ON		PLO is controlled when main signal ALL1.
	OFF	×	PLO is not controlled when main signal ALL1.
7	ON		PLO Clock Supply Control: No
	OFF	×	PLO Clock Supply Control: Yes
8	ON		CCH Level 1 Alarm Release: Yes
	OFF	×	CCH Level 1 Alarm Release: No

Note 1: Effective when the TS16 signaling (SW12-5=OFF) is selected.

SW11

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1-3	OFF	×	Fixed to OFF
4			ACIS Operation Mode See ACIS Operation Mode.
5			
6			
7			
8	OFF	×	Fixed to OFF

ACIS Operation Mode

SW11-4	SW11-5	SW11-6	SW11-7	ACIS Operation Mode
OFF	OFF	OFF	OFF	ITU-T Q. 421/Q. 422 (No Meter Pulse) (ITU-T STD)
ON	OFF	OFF	OFF	ITU-T Q. 421/Q. 422 (Pulse Clear Back) (ITU-T PLS CLB)
OFF	ON	OFF	OFF	ITU-T Q. 421/Q. 422 (Pulse Answer) (ITU-T PLS ANS)
ON	ON	OFF	OFF	Australia P2 Protocol
OFF	OFF	ON	OFF	China
ON	OFF	ON	OFF	Thailand
OFF	ON	ON	OFF	Brazil LME Interface
ON	ON	ON	OFF	Brazil Collect Call Blocking
OFF	OFF	OFF	ON	Brazil Continuous E&M Signal A Positive
ON	OFF	OFF	ON	Brazil Continuous E&M Signal A Negative
OFF	ON	OFF	ON	Brazil Continuous E&M Signal B Positive
ON	ON	OFF	ON	Iran TCI Interface

ACIS Operation Mode

SW11-4	SW11-5	SW11-6	SW11-7	ACIS Operation Mode
OFF	OFF	ON	ON	Peru Continuous E&M Signal A Positive
ON	OFF	ON	ON	Peru Continuous E&M Signal A Negative
OFF	ON	ON	ON	ITU-T Q. 421/Q. 422 (UK: No Meter Pulse)
ON	ON	ON	ON	ITU-T Q. 421/Q. 422 (ETSI: No Meter Pulse)

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Line Signal: AMI
	OFF	×	Line Signal: HDB3
2	ON		CRC-4 Control: Basic Frame (Double Frame)
	OFF	×	CRC-4 Control: CRC-4 Multiframe
3	ON		E-Bit Sending: Controlled by CPU
	OFF	×	E-Bit Sending: Automatic
4	ON		Signaling Format Setting: CEPT
	OFF	×	Signaling Format Setting: ITU-T
5	ON	×	TS16 Control: Data Through **Note 2**
	OFF		TS16 Control: Used for Signaling
6	ON		CRC-4 Multiframe Format: ITU-T G. 706 Annex-B type
	OFF	×	CRC-4 Multiframe Format: Normal
7	ON		ACIS and CCIS coexist.
	OFF	×	ACIS and CCIS do not coexist.
8	ON		ACIS mode (when SW12-7=OFF)
	OFF	×	CCIS mode (when SW12-7=OFF)

Note 2: Fixed to ON if registered as CCIS signal by TS16.

SW13

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Main Signal ALL1 is detected (when using HSD Line).
	OFF	×	Main Signal ALL1 is not detected.
2	ON		Idle Code is sent.
	OFF	×	Idle Code is not sent.

SW13

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
3	ON		DP relay function is used for FCCS.
	OFF	×	DP relay function is not used for FCCS.
4	ON		Simultaneous Seizure Detection (SSD): Disabled
	OFF	×	Simultaneous Seizure Detection (SSD): Enabled
5	ON		Not activate counter node when detecting Simultaneous Seizure.
	OFF	×	Activate counter node when detecting Simultaneous Seizure.
6	ON		Level 1 Alarm is not notified to CPU.
	OFF	×	Level 1 Alarm is notified to CPU.
7	ON		CAS is not effective when CCH is used.
	OFF	×	CAS is effective when CCH is used.
8	ON	×	Incoming/Outgoing call collision processing is used. **Note 3**
	OFF		Incoming/Outgoing call collision processing is not used.

Note 3: When incoming/outgoing call collision processing is used (SW13-8=ON), assign ASYD, SYS1, Index7, Bit3=1.

SW14

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF (For production test)
7	ON		PAD Control Method (Using Both Flexible/Standard PAD) See PAD Control Method.
	OFF	×	
8	ON		
	OFF	×	

Flexible PAD Level Setting of SW14-SW21

SWITCH NUMBER OF SW14-SW21					PAD LEVEL (dB)
1	2	3	4	5	
OFF	OFF	OFF	OFF	OFF	0
ON	OFF	OFF	OFF	OFF	1 (Loss)
OFF	ON	OFF	OFF	OFF	2 (Loss)
ON	ON	OFF	OFF	OFF	3 (Loss)
OFF	OFF	ON	OFF	OFF	4 (Loss)
ON	OFF	ON	OFF	OFF	5 (Loss)
OFF	ON	ON	OFF	OFF	6 (Loss)
ON	ON	ON	OFF	OFF	7 (Loss)
OFF	OFF	OFF	ON	OFF	8 (Loss)
ON	OFF	OFF	ON	OFF	9 (Loss)
OFF	ON	OFF	ON	OFF	10 (Loss)
ON	ON	OFF	ON	OFF	11 (Loss)
OFF	OFF	ON	ON	OFF	12 (Loss)
ON	OFF	ON	ON	OFF	13 (Loss)
OFF	ON	ON	ON	OFF	14 (Loss)
ON	ON	ON	ON	OFF	15 (Loss)
OFF	OFF	OFF	OFF	ON	16 (Loss)
ON	OFF	OFF	OFF	ON	17 (Loss)
OFF	ON	OFF	OFF	ON	-1 (Gain)
ON	ON	OFF	OFF	ON	-2 (Gain)
OFF	OFF	ON	OFF	ON	-3 (Gain)
ON	OFF	ON	OFF	ON	-4 (Gain)
OFF	ON	ON	OFF	ON	-5 (Gain)
ON	ON	ON	OFF	ON	-6 (Gain)
OFF	OFF	OFF	ON	ON	-7 (Gain)
ON	OFF	OFF	ON	ON	-8 (Gain)
Other settings					Not available

PAD Control Method

SW14-7	SW14-8	PAD CONTROL
OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB) (Standard Setting)
ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
OFF	ON	Fixed to ARTD (Transmission/Reception PAD Control)
ON	ON	Transmission/Reception PAD Control

SW15

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 2 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7			PAD Selection (Using Both Flexible/Standard PAD) See PAD Selection.
8			

PAD Selection

SW15-7	SW15-8	PAD SELECTION
OFF	OFF	μ-Law
ON	OFF	A-Law (Standard Setting)
OFF	ON	A-Law (TDSW) → μ-Law (line)
ON	ON	μ-Law (TDSW) → A-Law (line)

SW16

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 3 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7			PAD Pattern Selection See PAD Pattern Selection.
8			

PAD Pattern Selection

SW16-7	SW16-8	PAD SELECTION
OFF	OFF	PAD Pattern 1 (Standard Setting)
ON	OFF	PAD Pattern 2
OFF	ON	PAD Pattern 3
ON	ON	PAD Pattern 4

Note: PAD Patterns 1 - 4 correspond to Patterns 1 - 4 in <Standard PAD Level>.

SW17

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 4 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7			Data PAD Pattern Selection See Data PAD Pattern Selection.
8			

Data PAD Pattern Selection

SW17-7	SW17-8	Data PAD Selection
OFF	OFF	64k (Standard Setting)
ON	OFF	64k INV
OFF	ON	56k
ON	ON	48k

SW18

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7	ON		Flexible PAD (See <Flexible PAD Level>.)
	OFF	×	Standard PAD (See <Standard PAD Level>.)
8	ON		PAD Selection: UK PAD (See <UK PAD Level>.) **Note 4**
	OFF	×	PAD Selection: Standard PAD (See <Standard PAD Level>.)

Note 4: When UK PAD is used (SW18-8=ON), SW18-7 must be set to OFF.

SW19

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

SW20

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

SW21

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

<Switch Setting for PAD Selection>

PAD Kind	SW18-7	SW15-8	SW15-7	SW16-8	SW16-7	PCM-Law: PAD Pattern
Standard/UK PAD	OFF	OFF	OFF	OFF	OFF	μ-Law: Pattern 1
					ON	μ-Law: Pattern 2
				ON	OFF	μ-Law: Pattern 3
					ON	μ-Law: Pattern 4
			ON	OFF	OFF	A-Law: Pattern 1
					ON	A-Law: Pattern 2
				ON	OFF	A-Law: Pattern 3
					ON	A-Law: Pattern 4
		ON	OFF	OFF	OFF	A-Law → μ-Law: Pattern 1
					ON	A-Law → μ-Law: Pattern 2
				ON	OFF	A-Law → μ-Law: Pattern 3
					ON	A-Law → μ-Law: Pattern 4
			ON	OFF	OFF	μ-Law → A-Law: Pattern 1
					ON	μ-Law → A-Law: Pattern 2
				ON	OFF	μ-Law → A-Law: Pattern 3
					ON	μ-Law → A-Law: Pattern 4
Flexible PAD	ON	OFF	OFF	Not used		μ-Law
			ON	Not used		A-Law
		ON	OFF	OFF	Not used	A-Law → μ-Law: Pattern 5 **Note 5**
				ON	Not used	A-Law → μ-Law: Pattern 6 **Note 5**
			ON	OFF	Not used	μ-Law → A-Law: Pattern 5 **Note 5**
				ON	Not used	μ-Law → A-Law: Pattern 6 **Note 5**

Note 5: Refer to Flexible PAD Level of ARTD: 7 or APAD:15.

<Standard PAD Level>

μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	2dB	2dB	8dB	16dB	2dB	2dB	-3dB	3dB
2	4dB	4dB	8dB	4dB	4dB	4dB	3dB	3dB
3	12dB	12dB	4dB	12dB	6dB	6dB	0dB	6dB
4	8dB	8dB	0dB	8dB	8dB	8dB	3dB	9dB

A-law pattern Setting (Switch 15-7, 8 ON, OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	2dB	2dB	2dB	2dB	1dB	1dB	-3dB	3dB
2	4dB	4dB	4dB	4dB	3dB	3dB	3dB	3dB
3	6dB	6dB	12dB	12dB	5dB	5dB	0dB	6dB
4	8dB	8dB	8dB	8dB	7dB	7dB	3dB	9dB

From A-law to μ-law Conversion Setting (Switch 15-7, 8 OFF, ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	0dB	4dB	4dB	4dB	4dB	4dB
3	6dB	6dB	0dB	12dB	6dB	6dB	12dB	12dB
4	8dB	8dB	0dB	8dB	8dB	8dB	8dB	8dB

From μ-law to A-law Conversion Setting (Switch 15-7,8 ON, ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB

From μ-law to A-law Conversion Setting (Switch 15-7,8 ON, ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	0dB	4dB	4dB	4dB	4dB	4dB
3	6dB	6dB	0dB	12dB	6dB	6dB	12dB	12dB
4	8dB	8dB	0dB	8dB	8dB	8dB	8dB	8dB

<UK PAD Level>

μ-law Pattern Setting (SW15-7: OFF, SW15-8: OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	-3dB	3dB	-3dB	3dB	4dB	4dB	2dB	2dB
2	3dB	3dB	3dB	3dB	8dB	0dB	8dB	0dB
3	0dB	6dB	0dB	6dB	6dB	6dB	6dB	6dB
4	3dB	8dB	3dB	8dB	8dB	8dB	8dB	8dB

A-law pattern Setting (SW15-7: ON, SW15-8: OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	-3dB	3dB	-3dB	3dB	4dB	4dB	2dB	2dB
2	3dB	3dB	3dB	3dB	8dB	0dB	4dB	0dB
3	0dB	6dB	0dB	6dB	6dB	6dB	6dB	6dB
4	3dB	8dB	3dB	8dB	8dB	8dB	8dB	8dB

A-μ Conversion Setting (SW15-7: OFF, SW15-8: ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	-3dB	3dB	4dB	4dB	3dB	3dB

A-μ Conversion Setting (SW15-7: OFF, SW15-8: ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A
3	8dB	0dB	0dB	0dB	6dB	6dB	12dB	12dB
4	3dB	8dB	3dB	3dB	8dB	8dB	8dB	8dB

μ-A Conversion Setting (SW15-7: ON, SW15-8: ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	-3dB	3dB	4dB	4dB	3dB	3dB
3	8dB	0dB	0dB	6dB	6dB	6dB	12dB	12dB
4	3dB	8dB	3dB	8dB	8dB	8dB	8dB	8dB

<Flexible PAD Level>

Flexible PAD Level (SW18-7: OFF)

ARTD/APAD Setting Data	Transmission	Reception
ARTD: 7 APAD: 15	See Flexible PAD Level of ARTD: 7 or APAD: 15	
1	Set value of SW18-1, 2, 3, 4, 5	Set value of SW14-1, 2, 3, 4, 5
2	Set value of SW19-1, 2, 3, 4, 5	Set value of SW15-1, 2, 3, 4, 5
3	Set value of SW20-1, 2, 3, 4, 5	Set value of SW16-1, 2, 3, 4, 5
4	Set value of SW21-1, 2, 3, 4, 5	Set value of SW17-1, 2, 3, 4, 5

Flexible PAD Level of ARTD: 7 or APAD:15

PCM-Law:Pattern No.	Transmission	Reception
μ-Law	0dB	0dB
A-law	0dB	0dB
A-Law → μ-Law: Pattern 5	through	through
A-Law → μ-Law: Pattern 6	0dB	0dB
μ-Law → A-Law: Pattern 5	through	through
μ-Law → A-Law: Pattern 6	0dB	0dB

SW22

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Seizure Acknowledgement Guard Time See Seizure Acknowledgement Guard Time.
2			
3			
4			
5			Seizure Acknowledgement Detection Time See Seizure Acknowledgement Detection Time.
6			
7			
8			

Seizure Acknowledgement Guard Time

SW22-1	SW22-2	SW22-3	SW22-4	Seizure Acknowledgement Guard Time
OFF	OFF	OFF	OFF	48 milliseconds (Standard Setting)
ON	OFF	OFF	OFF	56 milliseconds
OFF	ON	OFF	OFF	64 milliseconds
ON	ON	OFF	OFF	72 milliseconds
OFF	OFF	ON	OFF	80 milliseconds
ON	OFF	ON	OFF	88 milliseconds
OFF	ON	ON	OFF	96 milliseconds
ON	ON	ON	OFF	104 milliseconds
OFF	OFF	OFF	ON	112 milliseconds
ON	OFF	OFF	ON	120 milliseconds
OFF	ON	OFF	ON	128 milliseconds
ON	ON	OFF	ON	136 milliseconds
OFF	OFF	ON	ON	144 milliseconds
ON	OFF	ON	ON	152 milliseconds
OFF	ON	ON	ON	160 milliseconds
ON	ON	ON	ON	168 milliseconds

Seizure Acknowledgement Detection Time

SW22-5	SW22-6	SW22-7	SW22-8	Seizure Acknowledgement Detection Time
OFF	OFF	OFF	OFF	56 milliseconds (Standard Setting)
ON	OFF	OFF	OFF	76 milliseconds
OFF	ON	OFF	OFF	96 milliseconds
ON	ON	OFF	OFF	116 milliseconds
OFF	OFF	ON	OFF	136 milliseconds
ON	OFF	ON	OFF	156 milliseconds
OFF	ON	ON	OFF	176 milliseconds
ON	ON	ON	OFF	196 milliseconds
OFF	OFF	OFF	ON	216 milliseconds
ON	OFF	OFF	ON	236 milliseconds
OFF	ON	OFF	ON	256 milliseconds
ON	ON	OFF	ON	276 milliseconds
OFF	OFF	ON	ON	296 milliseconds
ON	OFF	ON	ON	316 milliseconds
OFF	ON	ON	ON	336 milliseconds
ON	ON	ON	ON	356 milliseconds

SW23

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Seizure Acknowledgement Monitoring Time See Seizure Acknowledgement Monitoring Time.
2			
3			
4			Answer Detection Time See Answer Detection Time.
5			
6			
7			
8			

Seizure Acknowledgement Monitoring Time

SW23-1	SW23-2	SW23-3	Seizure Acknowledgement Monitoring Time
OFF	OFF	OFF	200 milliseconds

Seizure Acknowledgement Monitoring Time

SW23-1	SW23-2	SW23-3	Seizure Acknowledgement Monitoring Time
ON	OFF	OFF	360 milliseconds
OFF	ON	OFF	520 milliseconds
ON	ON	OFF	680 milliseconds
OFF	OFF	ON	840 milliseconds
ON	OFF	ON	1000 milliseconds
OFF	ON	ON	1160 milliseconds
ON	ON	ON	1320 milliseconds (Standard Setting)

Answer Detection Time

SW23-4	SW23-5	SW23-6	SW23-7	SW23-8	Answer Detection Time
OFF	OFF	OFF	OFF	OFF	100 milliseconds
ON	OFF	OFF	OFF	OFF	148 milliseconds
OFF	ON	OFF	OFF	OFF	200 milliseconds (Standard Setting)
ON	ON	OFF	OFF	OFF	248 milliseconds
OFF	OFF	ON	OFF	OFF	300 milliseconds
ON	OFF	ON	OFF	OFF	348 milliseconds
OFF	ON	ON	OFF	OFF	400 milliseconds
ON	ON	ON	OFF	OFF	448 milliseconds
OFF	OFF	OFF	ON	OFF	500 milliseconds
ON	OFF	OFF	ON	OFF	548 milliseconds
OFF	ON	OFF	ON	OFF	600 milliseconds
ON	ON	OFF	ON	OFF	648 milliseconds
OFF	OFF	ON	ON	OFF	700 milliseconds
ON	OFF	ON	ON	OFF	748 milliseconds
OFF	ON	ON	ON	OFF	800 milliseconds
ON	ON	ON	ON	OFF	848 milliseconds
OFF	OFF	OFF	OFF	ON	900 milliseconds
ON	OFF	OFF	OFF	ON	948 milliseconds
OFF	ON	OFF	OFF	ON	1000 milliseconds
ON	ON	OFF	OFF	ON	1048 milliseconds
OFF	OFF	ON	OFF	ON	1100 milliseconds
ON	OFF	ON	OFF	ON	1148 milliseconds
OFF	ON	ON	OFF	ON	1200 milliseconds
ON	ON	ON	OFF	ON	1248 milliseconds
OFF	OFF	OFF	ON	ON	1300 milliseconds
ON	OFF	OFF	ON	ON	1348 milliseconds
OFF	ON	OFF	ON	ON	1400 milliseconds
ON	ON	OFF	ON	ON	1448 milliseconds
OFF	OFF	ON	ON	ON	1500 milliseconds
ON	OFF	ON	ON	ON	1548 milliseconds
OFF	ON	ON	ON	ON	1600 milliseconds
ON	ON	ON	ON	ON	1648 milliseconds

SW24

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1-6		×	Fixed to OFF
7	ON		Long haul mode
	OFF	×	Short haul mode
8	OFF	×	Fixed to OFF

SW25

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			CCH Operation Mode **Note 6** See CCH Operation Mode.
2			
3			
4	ON		When CCH MBR (SW01-6=ON) is set, SIOS signal will stop after being output for three seconds.
	OFF	×	When CCH MBR (SW01-6=ON) is set, SIOS will be output consecutively.
5			CCH Transfer Rate See CCH Transfer Rate.
6			
7			
8			

CCH Operation Mode

SW25-1	SW25-2	SW25-3	CCH Operation Mode
OFF	OFF	OFF	ITU-T mode (Emergency) **Note 7**
ON	OFF	OFF	ITU-T mode (Normal) **Note 7**
OFF	ON	OFF	NTT mode **Note 8**
ON	ON	OFF	TTC mode **Note 9**
OFF	OFF	ON	Corresponding to PA-30CCTB + TTC error detection **Note 9** (For when the connected system is SV8300/NEAX3600i)
ON	OFF	ON	Corresponding to PA-2CCHA **Note 8**
OFF	ON	ON	Corresponding to PA-30CCTB **Note 10**
ON	ON	ON	ITU-T mode (Emergency) **Note 11**

Note 6: Adjust the switch settings to specifications of the connected system.

Note 7: LSSU/FISU consecutive transmission and the threshold of SU error detection is ITU-T Q.703.

Note 8: LSSU/FISU periodical transmission and the threshold of SU error detection is NTT-Q.703a.

Note 9: LSSU/FISU periodical transmission and the threshold of SU error detection is TTCJT-Q 703.

Note 10: LSSU/FISU periodical transmission and the threshold of SU error detection correspond to PA-30CCTB.

Note 11: LSSU/FISU periodical transmission and the threshold of SU error detection is ITU-T Q.703.

CCH Transfer Rate

SW25-5	SW25-6	SW25-7	SW25-8	CCH Transfer Rate
OFF	OFF	OFF	OFF	64kbps (Standard Setting)
ON	OFF	OFF	OFF	56kbps
OFF	ON	OFF	OFF	48kbps (Standard)
ON	ON	OFF	OFF	32kbps (Forward)
OFF	OFF	ON	OFF	32kbps (Backward)
ON	OFF	ON	OFF	16kbps (Forward)
OFF	ON	ON	OFF	16kbps (Backward)
ON	ON	ON	OFF	8kbps (Forward)
OFF	OFF	OFF	ON	8kbps (Backward)
ON	OFF	OFF	ON	48kbps (Option)
OFF	ON	OFF	ON	64kbps
ON	ON	OFF	ON	
OFF	OFF	ON	ON	
ON	OFF	ON	ON	
OFF	ON	ON	ON	
ON	ON	ON	ON	

SW26

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			CCH Time Slot Setting See CCH Time Slot Setting.
2			
3			
4			
5			
6	ON	×	Fixed to ON
7	OFF	×	Fixed to OFF
8	ON		CCH Signaling Logic: Negative
	OFF	×	CCH Signaling Logic: Positive

CCH Time Slot Setting

SW26-1	SW26-2	SW26-3	SW26-4	SW26-5	Time Slot
OFF	OFF	OFF	OFF	OFF	TS 0
ON	OFF	OFF	OFF	OFF	TS 1
OFF	ON	OFF	OFF	OFF	TS 2
ON	ON	OFF	OFF	OFF	TS 3
OFF	OFF	ON	OFF	OFF	TS 4
ON	OFF	ON	OFF	OFF	TS 5
OFF	ON	ON	OFF	OFF	TS 6
ON	ON	ON	OFF	OFF	TS 7
OFF	OFF	OFF	ON	OFF	TS 8
ON	OFF	OFF	ON	OFF	TS 9
OFF	ON	OFF	ON	OFF	TS 10
ON	ON	OFF	ON	OFF	TS 11
OFF	OFF	ON	ON	OFF	TS 12
ON	OFF	ON	ON	OFF	TS 13
OFF	ON	ON	ON	OFF	TS 14
ON	ON	ON	ON	OFF	TS 15
OFF	OFF	OFF	OFF	ON	TS 16 (Standard Setting)
ON	OFF	OFF	OFF	ON	TS 17
OFF	ON	OFF	OFF	ON	TS 18
ON	ON	OFF	OFF	ON	TS 19
OFF	OFF	ON	OFF	ON	TS 20
ON	OFF	ON	OFF	ON	TS 21
OFF	ON	ON	OFF	ON	TS 22
ON	ON	ON	OFF	ON	TS 23
OFF	OFF	OFF	ON	ON	TS 24
ON	OFF	OFF	ON	ON	TS 25
OFF	ON	OFF	ON	ON	TS 26
ON	ON	OFF	ON	ON	TS 27
OFF	OFF	ON	ON	ON	TS 28
ON	OFF	ON	ON	ON	TS 29
OFF	ON	ON	ON	ON	TS 30
ON	ON	ON	ON	ON	TS 31

SW27

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Congestion Detection Threshold (QUE remainder ratio) See Congestion Detection Threshold (QUE remainder ratio).
2			
3			
4			
5-7	OFF	×	Fixed to OFF
8	ON		When NTT mode/ITU-T mode is selected, CCH Octet Counting Mode is used.
	OFF	×	When NTT mode/ITU-T mode is selected, CCH Octet Counting Mode is not used.

Congestion Detection Threshold (QUE remainder ratio)

SW27-1	SW27-2	SW27-3	SW27-4	Detection (%)	Release (%)
OFF	OFF	OFF	OFF	75	90 (Standard Setting)
ON	OFF	OFF	OFF	15	35
OFF	ON	OFF	OFF	20	40
ON	ON	OFF	OFF	25	45
OFF	OFF	ON	OFF	30	50
ON	OFF	ON	OFF	40	60
OFF	ON	ON	OFF	50	65
ON	ON	ON	OFF	55	70
OFF	OFF	OFF	ON	60	75
ON	OFF	OFF	ON	65	80
OFF	ON	OFF	ON	70	85
ON	ON	OFF	ON	80	90
OFF	OFF	ON	ON	85	90
ON	OFF	ON	ON	90	95
OFF	ON	ON	ON	Always Congestion (for Maintenance)	
ON	ON	ON	ON	No detection	

6. Starting up the Card

CH-PRTA can be started up with the predefined template data. You can choose either one of the following modes (starting methods) through the switch settings of SW80 and SW81 when starting up the card.

- Normal Starting-up mode (SW80-7=OFF, SW80-8=OFF)

  In this mode, the card starts up with the settings of the software switches. When the software switches are not set or settings of the hardware switches are changed after the software switch settings, the card starts up with the predefined template data (a setting pattern of the template is specified by the settings of SW80 and SW81).

- Switch setting initialization mode (SW80-7=OFF, SW80-8=ON)

  In this mode, the card starts up with the settings of the hardware switches. The card is forcibly initialized and restarted with the predefined template data (a setting pattern of the template is specified by the settings of SW80 and SW81).

Note: For contents (switch settings) of the template, refer to Switch Settings of Template.

SW80

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (8-Dip Switch)	1			CCH Operation Mode See CCH Operation Mode. This setting is reflected to SW25-1 to 3.
	2			
	3			
	4-6	OFF	×	Fixed to OFF
	7			Switch Setting Mode See Switch Setting Mode.
	8			

CCH Operation Mode

SW80-1	SW80-2	SW80-3	CCH Operation Mode
OFF	OFF	OFF	ITU-T mode (Emergency) **Note 1**
ON	OFF	OFF	ITU-T mode (Normal) **Note 1**
OFF	ON	OFF	NTT mode **Note 2**
ON	ON	OFF	TTC mode **Note 3**
OFF	OFF	ON	Corresponding to PA-30CCTB + TTC error detection **Note 3** (For when the connected system is SV8300/NEAX3600i)
ON	OFF	ON	Corresponding to PA-2CCHA **Note 2**
OFF	ON	ON	Corresponding to PA-30CCTB **Note 4**
ON	ON	ON	ITU-T mode (Emergency) **Note 5**

Note 1: LSSU/FISU consecutive transmission and the threshold of SU error detection is ITU-T Q.703.

Note 2: LSSU/FISU periodical transmission and the threshold of SU error detection is NTT-Q.703a.

Note 3: LSSU/FISU periodical transmission and the threshold of SU error detection is TTCJT-Q 703.

Note 4: LSSU/FISU periodical transmission and the threshold of SU error detection correspond to PA-30CCTB.

Note 5: LSSU/FISU periodical transmission and the threshold of SU error detection is ITU-T Q.703.

Switch Setting Mode

SW80-7	SW80-8	Switch Setting Mode
OFF	OFF	Normal starting-up mode (Standard Setting)
ON	OFF	Not used
OFF	ON	Switch setting initialization mode
ON	OFF	Not used

SW81

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING	
 (8-Dip Switch)	1	ON		Alarm Detect/Release Type (ETSI: Level 1 & Level 2)	This setting is reflected to SW10-5.
		OFF		Alarm Detect/Release Type (ITU-T: Level 1 & Level 2)	
	2	ON		CRC-4 Control: Disabled (Basic Frame)	This setting is reflected to SW12-2.
		OFF	×	CRC-4 Control: Enabled (CRC-4 Multiframe)	
	3			ACIS Operation Mode See ACIS Operation Mode. This setting is reflected to SW11-4 to 7.	
	4				
	5				
	6				
	7	ON	×	Fixed to ON	
	8	ON		ACIS mode	This setting is reflected to SW12-8.
		OFF	×	CCIS mode	

ACIS Operation Mode

SW81-3	SW81-4	SW81-5	SW81-6	ACIS Operation Mode
OFF	OFF	OFF	OFF	ITU-T Q. 421/Q. 422 (No Meter Pulse) (ITU-T STD)
ON	OFF	OFF	OFF	ITU-T Q. 421/Q. 422 (Pulse Clear Back) (ITU-T PLS CLB)
OFF	ON	OFF	OFF	ITU-T Q. 421/Q. 422 (Pulse Answer) (ITU-T PLS ANS)
ON	ON	OFF	OFF	Australia P2 Protocol
OFF	OFF	ON	OFF	China
ON	OFF	ON	OFF	Thailand
OFF	ON	ON	OFF	Brazil LME Interface
ON	ON	ON	OFF	Brazil Collect Call Blocking
OFF	OFF	OFF	ON	Brazil Continuous E&M Signal A Positive
ON	OFF	OFF	ON	Brazil Continuous E&M Signal A Negative
OFF	ON	OFF	ON	Brazil Continuous E&M Signal B Positive
ON	ON	OFF	ON	Iran TCI Interface
OFF	OFF	ON	ON	Peru Continuous E&M Signal A Positive
ON	OFF	ON	ON	Peru Continuous E&M Signal A Negative
OFF	ON	ON	ON	ITU-T Q. 421/Q. 422 (UK: No Meter Pulse)
ON	ON	ON	ON	ITU-T Q. 421/Q. 422 (ETSI: No Meter Pulse)

Switch Settings of Template

The table below shows each switch setting when using the predefined template.

Note: Mode 1 to Mode 4 refer to the following country/recommendation specifications respectively.

ACIS Operation Mode (Sets by SW81-3 to SW81-6)

Mode 1	Mode 2	Mode 3	Mode 4
ITU-T STD ITU-T PLS CLB AUST CHINA THAI BRAZIL CCB BRAZIL(A/P) BRAZIL(A/N) PERU(A/P) PERU(A/N) ETSI	ITU-T PLS ANS BRAZIL LME BRAZIL(B/P)	IRAN TCI	UK

CCIS mode (SW81-8=OFF)

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW01	1	OFF	OFF	OFF	OFF	Local Loopback: Cancel (Internal)
	2	OFF	OFF	OFF	OFF	Line Loopback: Cancel (External)
	3	OFF	OFF	OFF	OFF	Payload Loopback: Cancel
	4	OFF	OFF	OFF	OFF	All channel make-busy: Cancel
	5	OFF	OFF	OFF	OFF	CCH make-busy: Cancel
	6	OFF	OFF	OFF	OFF	CCH Loopback: Cancel
	7-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW10	1	OFF	OFF	OFF	OFF	Remote Alarm Send Out: Unrestricted
	2	OFF	OFF	OFF	OFF	Fixed to OFF
	3	OFF	OFF	OFF	OFF	Multiframe Remote Alarm Sending: Allowed
	4	OFF	OFF	OFF	OFF	Alarm Release Time: (Short)
	5	Sets by SW81-1				Alarm Detect/Release Type
	6	OFF	OFF	OFF	OFF	PLO is not controlled when main signal ALL1.
	7	OFF	OFF	OFF	OFF	PLO Clock Supply Control: Yes
	8	OFF	OFF	OFF	OFF	CCH Level1 Alarm Release: No
SW11	1-3	OFF	OFF	OFF	OFF	Fixed to OFF
	4-7	Sets by SW81-3 to SW81-6				ACIS Operation Mode
	8	OFF	OFF	OFF	OFF	Fixed to OFF
SW12	1	OFF	OFF	OFF	OFF	Line Signal: HDB3
	2	Sets by SW81-2				CRC-4 Control
	3	OFF	OFF	OFF	OFF	E-Bit Sending: Automatic
	4	OFF	OFF	OFF	OFF	Signaling Format Setting: ITU-T
	5	ON	ON	ON	ON	TS16 Control: Data Through
	6	OFF	OFF	OFF	OFF	CRC Multiframe Format: Normal
	7	OFF	OFF	OFF	OFF	ACIS and CCIS do not coexist.
	8	OFF (Sets by SW81-8)				CCIS mode

CCIS mode (SW81-8=OFF)

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW13	1	OFF	OFF	OFF	OFF	Main Signal ALL1 is not detected.
	2	OFF	OFF	OFF	OFF	Idle Code is not sent.
	3	OFF	OFF	OFF	OFF	DP relay function is not used for FCCS.
	4	OFF	OFF	OFF	OFF	Simultaneous Seizure Detection (SSD): Enabled
	5	OFF	OFF	OFF	OFF	Activate counter node when detecting Simultaneous Seizure.
	6	OFF	OFF	OFF	OFF	Level 1 Alarm is notified to CPU.
	7	OFF	OFF	OFF	OFF	CAS is effective when CCH is used.
	8	ON	ON	ON	ON	Incoming/Outgoing call collision processing is used.
SW14	1	OFF	OFF	OFF	ON	Reception PAD 1: Mode 1, 2, 3: 2 (Loss) Mode 4: 3 (Loss)
	2	ON	ON	ON	ON	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
	8	OFF	OFF	OFF	OFF	
SW15	1	OFF	OFF	OFF	ON	Reception PAD 2: Mode 1, 2, 3: 4 (Loss) Mode 4: 3 (Loss)
	2	OFF	OFF	OFF	ON	
	3	ON	ON	ON	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	ON	ON	ON	ON	PAD Selection: A-Law
	8	OFF	OFF	OFF	OFF	
SW16	1	OFF	OFF	OFF	OFF	Reception PAD 3: 6 (Loss)
	2	ON	ON	ON	ON	
	3	ON	ON	ON	ON	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	PAD Pattern 1
	8	OFF	OFF	OFF	OFF	

CCIS mode (SW81-8=OFF)

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW17	1	OFF	OFF	OFF	OFF	Reception PAD 4: 8 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	ON	ON	ON	ON	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Data PAD Pattern Selection: 64k
	8	OFF	OFF	OFF	OFF	
SW18	1	OFF	OFF	OFF	OFF	Transmission PAD 1: Mode 1, 2, 3: 2 (Loss) Mode 4: -3 (Gain)
	2	ON	ON	ON	OFF	
	3	OFF	OFF	OFF	ON	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	ON	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Standard PAD
	8	OFF	OFF	OFF	ON	PAD Selection: Mode 1, 2, 3: Standard PAD Mode 4: UK PAD
SW19	1	OFF	OFF	OFF	ON	Transmission PAD 2: Mode 1, 2, 3: 4 (Loss) Mode 4: 3 (Loss)
	2	OFF	OFF	OFF	ON	
	3	ON	ON	ON	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW20	1	OFF	OFF	OFF	OFF	Transmission PAD 3: Mode 1, 2, 3: 6 (Loss) Mode 4: 0
	2	ON	ON	ON	OFF	
	3	ON	ON	ON	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF

CCIS mode (SW81-8=OFF)

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW21	1	OFF	OFF	OFF	ON	Transmission PAD 4: Mode 1, 2, 3: 8 (Loss) Mode 4: 3 (Loss)
	2	OFF	OFF	OFF	ON	
	3	OFF	OFF	OFF	OFF	
	4	ON	ON	ON	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW22	1	OFF	OFF	OFF	OFF	Seizure Acknowledgement Guard Time: 48 milliseconds
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	Seizure Acknowledgement Detection Time: 56 milliseconds
	6	OFF	OFF	OFF	OFF	
	7	OFF	OFF	OFF	OFF	
	8	OFF	OFF	OFF	OFF	
SW23	1	ON	ON	ON	ON	Seizure Acknowledgement Monitoring Time: 1320 milliseconds
	2	ON	ON	ON	ON	
	3	ON	ON	ON	ON	
	4	OFF	OFF	OFF	OFF	Answer Detection Time: Mode 1, 4: 200 milliseconds Mode 2: 100 milliseconds Mode 3: 800 milliseconds
	5	ON	OFF	ON	ON	
	6	OFF	OFF	ON	OFF	
	7	OFF	OFF	ON	OFF	
	8	OFF	OFF	OFF	OFF	
SW24	1-6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Short haul mode
	8	OFF	OFF	OFF	OFF	Fixed to OFF
SW25	1-3	Sets by SW80-1 to SW80-3				CCH Operation Mode
	4	OFF	OFF	OFF	OFF	When CCH MBR (SW01-6=ON) is set, SIOS will be output consecutively.
	5	OFF	OFF	OFF	OFF	CCH Transfer Rate: 64kbps
	6	OFF	OFF	OFF	OFF	
	7	OFF	OFF	OFF	OFF	
	8	OFF	OFF	OFF	OFF	

CCIS mode (SW81-8=OFF)

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW26	1	OFF	OFF	OFF	OFF	CCH Time Slot Setting: TS 16
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	ON	ON	ON	ON	
	6-7	OFF	OFF	OFF	OFF	Fixed to OFF
	8	OFF	OFF	OFF	OFF	CCH Signaling Logic: Positive
SW27	1	OFF	OFF	OFF	OFF	Congestion Detection Threshold (QUE remainder ratio): 75/90
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5-7	OFF	OFF	OFF	OFF	Fixed to OFF
	8	OFF	OFF	OFF	OFF	When NTT mode/ITU-T mode is selected, CCH Octet Counting Mode is not used.

ACIS mode (SW81-8=ON)

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW01	1	OFF	OFF	OFF	OFF	Local Loopback: Cancel (Internal)
	2	OFF	OFF	OFF	OFF	Line Loopback: Cancel (External)
	3	OFF	OFF	OFF	OFF	Payload Loopback: Cancel
	4	OFF	OFF	OFF	OFF	All channel make-busy: Cancel
	5	OFF	OFF	OFF	OFF	CCH make-busy: Cancel
	6	OFF	OFF	OFF	OFF	CCH Loopback: Cancel
	7-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW10	1	OFF	OFF	OFF	OFF	Remote Alarm Send Out: Unrestricted
	2	OFF	OFF	OFF	OFF	Fixed to OFF
	3	OFF	OFF	OFF	OFF	Multiframe Remote Alarm Sending: Allowed
	4	OFF	OFF	OFF	OFF	Alarm Release Time: (Short)
	5	Sets by SW81-1				Alarm Detect/Release Type
	6	OFF	OFF	OFF	OFF	PLO is not controlled when main signal ALL1.
	7	OFF	OFF	OFF	OFF	PLO Clock Supply Control: Yes
	8	OFF	OFF	OFF	OFF	CCH Level1 Alarm Release: No

ACIS mode (SW81-8=ON)

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW11	1-3	OFF	OFF	OFF	OFF	Fixed to OFF
	4-7	Sets by SW81-3 to SW81-6				ACIS Operation Mode
	8	OFF	OFF	OFF	OFF	Fixed to OFF
SW12	1	OFF	OFF	OFF	OFF	Line Signal: HDB3
	2	Sets by SW81-2				CRC-4 Control
	3	OFF	OFF	OFF	OFF	E-Bit Sending: Automatic
	4	OFF	OFF	OFF	OFF	Signaling Format Setting: ITU-T
	5	OFF	OFF	OFF	OFF	TS16 Control: Used for Signaling
	6	OFF	OFF	OFF	OFF	CRC Multiframe Format: Normal
	7	OFF	OFF	OFF	OFF	ACIS and CCIS do not coexist.
	8	ON (Sets by SW81-8)				ACIS mode
SW13	1	OFF	OFF	OFF	OFF	Main Signal ALL1 is not detected.
	2	OFF	OFF	OFF	OFF	Idle Code is not sent.
	3	OFF	OFF	OFF	OFF	DP relay function is not used for FCCS.
	4	OFF	OFF	OFF	OFF	Simultaneous Seizure Detection (SSD): Enabled
	5	OFF	OFF	OFF	OFF	Activate counter node when detecting Simultaneous Seizure.
	6	OFF	OFF	OFF	OFF	Level 1 Alarm is notified to CPU.
	7	OFF	OFF	OFF	OFF	CAS is effective when CCH is used.
	8	ON	ON	ON	ON	Incoming/Outgoing call collision processing is used.
SW14	1	OFF	OFF	OFF	ON	Reception PAD 1: Mode 1, 2, 3: 2 (Loss) Mode 4: 3 (Loss)
	2	ON	ON	ON	ON	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
	8	OFF	OFF	OFF	OFF	

ACIS mode (SW81-8=ON)

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW15	1	OFF	OFF	OFF	ON	Reception PAD 2: Mode 1, 2, 3: 4 (Loss) Mode 4: 3 (Loss)
	2	OFF	OFF	OFF	ON	
	3	ON	ON	ON	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	ON	ON	ON	ON	PAD Selection: A-Law
	8	OFF	OFF	OFF	OFF	
SW16	1	OFF	OFF	OFF	OFF	Reception PAD 3: 6 (Loss)
	2	ON	ON	ON	ON	
	3	ON	ON	ON	ON	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	PAD Pattern 1
	8	OFF	OFF	OFF	OFF	
SW17	1	OFF	OFF	OFF	OFF	Reception PAD 4: 8 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	ON	ON	ON	ON	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Data PAD Pattern Selection: 64k
	8	OFF	OFF	OFF	OFF	
SW18	1	OFF	OFF	OFF	OFF	Transmission PAD 1: Mode 1, 2, 3: 2 (Loss) Mode 4: -3 (Gain)
	2	ON	ON	ON	OFF	
	3	OFF	OFF	OFF	ON	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	ON	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Standard PAD
	8	OFF	OFF	OFF	ON	PAD Selection: Mode 1, 2, 3: Standard PAD Mode 4: UK PAD

ACIS mode (SW81-8=ON)

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW19	1	OFF	OFF	OFF	ON	Transmission PAD 2: Mode 1, 2, 3: 4 (Loss) Mode 4: 3 (Loss)
	2	OFF	OFF	OFF	ON	
	3	ON	ON	ON	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW20	1	OFF	OFF	OFF	OFF	Transmission PAD 3: Mode 1, 2, 3: 6 (Loss) Mode 4: 0
	2	ON	ON	ON	OFF	
	3	ON	ON	ON	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW21	1	OFF	OFF	OFF	ON	Transmission PAD 4: Mode 1, 2, 3: 8 (Loss) Mode 4: 3 (Loss)
	2	OFF	OFF	OFF	ON	
	3	OFF	OFF	OFF	OFF	
	4	ON	ON	ON	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW22	1	OFF	OFF	OFF	OFF	Seizure Acknowledgement Guard Time: 48 milliseconds
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	Seizure Acknowledgement Detection Time: 56 milliseconds
	6	OFF	OFF	OFF	OFF	
	7	OFF	OFF	OFF	OFF	
	8	OFF	OFF	OFF	OFF	
SW23	1	ON	ON	ON	ON	Seizure Acknowledgement Monitoring Time: 1320 milliseconds
	2	ON	ON	ON	ON	
	3	ON	ON	ON	ON	
	4	OFF	OFF	OFF	OFF	Answer Detection Time: Mode 1, 4: 200 milliseconds Mode 2: 100 milliseconds Mode 3: 800 milliseconds
	5	ON	OFF	ON	ON	
	6	OFF	OFF	ON	OFF	
	7	OFF	OFF	ON	OFF	
	8	OFF	OFF	OFF	OFF	

ACIS mode (SW81-8=ON)

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW24	1-6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Short haul mode
	8	OFF	OFF	OFF	OFF	Fixed to OFF
SW25	1-3	Sets by SW80-1 to SW80-3				CCH Operation Mode
	4	OFF	OFF	OFF	OFF	When CCH MBR (SW01-6=ON) is set, SIOS will be output consecutively.
	5	OFF	OFF	OFF	OFF	CCH Transfer Rate: 64kbps
	6	OFF	OFF	OFF	OFF	
	7	OFF	OFF	OFF	OFF	
	8	OFF	OFF	OFF	OFF	
SW26	1	OFF	OFF	OFF	OFF	CCH Time Slot Setting: TS 16
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	ON	ON	ON	ON	
	6-7	OFF	OFF	OFF	OFF	Fixed to OFF
	8	OFF	OFF	OFF	OFF	CCH Signaling Logic: Positive
SW27	1	OFF	OFF	OFF	OFF	Congestion Detection Threshold (QUE remainder ratio): 75/90
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5-7	OFF	OFF	OFF	OFF	Fixed to OFF
	8	OFF	OFF	OFF	OFF	When NTT mode/ITU-T mode is selected, CCH Octet Counting Mode is not used.

7. External Interface

LT connector lead accommodation of this card is described below.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	PoutB	5	PoutA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	PoutB	13	PoutA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 3

LT3, 5, 9, 11 Connector

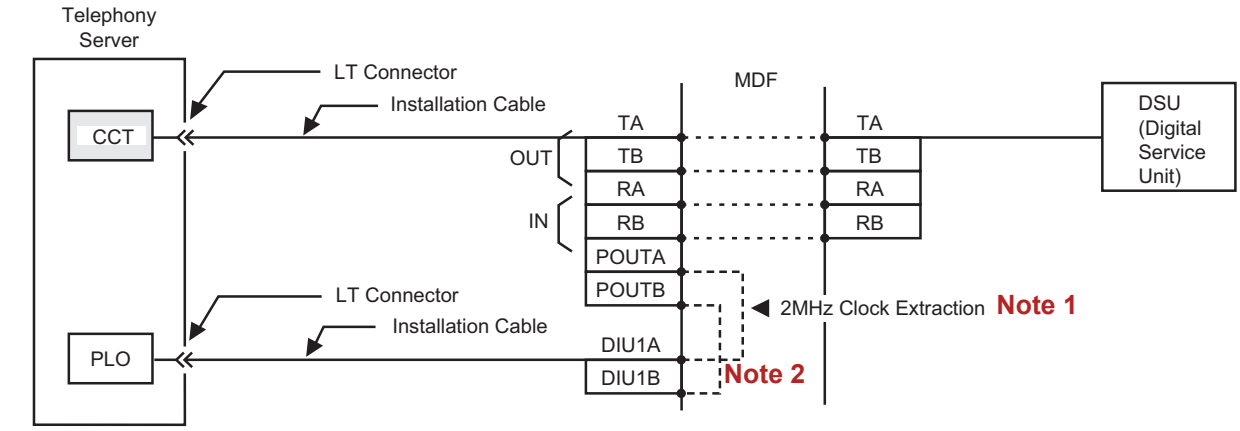
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	PoutB	21	PoutA
47		22	
48		23	
49	TB	24	TA
50		25	

LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5		LT6	LT7	LT8	LT9	LT10	LT11
Slot Number →	04 05 06	07 08 09	10 11 12	13 14	15 16 17	18 19 20	21 22 23						
Group Number→	01 03 05	07 09 11	15 19 23 14 18 22		01 03 05	07 09 11	15 19 23 14 18 22						
	00 02 04	06 08 10	13 17 21 12 16 20		00 02 04	06 08 10	13 17 21 12 16 20						
7U-PIR	* 1	* 2	* 3	* 2	* 1	* 3		* 1	* 2	* 3	* 2	* 1	* 3

Connecting Route Diagram

Connecting Route Diagram is as follows depending on the cable type.

• Twisted Pair Cable



Note 1: This cable connection is required when clock signals must be extracted from the network side.

Note 2: As an example, DIU1A and DIU1B leads are used in this diagram.

CH-CFTA (CFT)
8-party, 16-party, 32-party Digital Conference Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

The CH-CFTA circuit card provides an interface for establishing conference calls made up of a maximum of 8 parties, 16 parties or 32 parties.

The number of conferences is determined by the switch settings. 1 group/2 groups/4 groups of 8-party conference, 1 group/2 groups of 16-party conference, or 1 group of 32-party conference can be managed per card. Set to 1 group/2 groups/4 groups of 8-party conference when [G-23] GROUP CALL - AUTOMATIC CONFERENCE (20-PARTY) or [A-121] ADD ON CONFERENCE - 8 PARTY features are used.

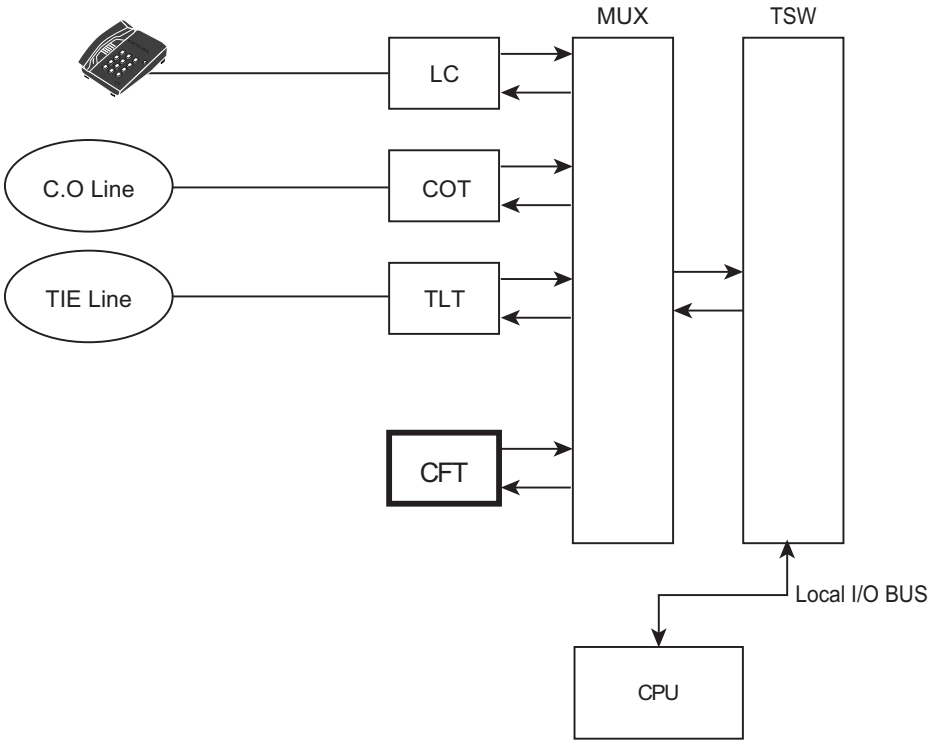
In addition to the conference call, this card supports, depending on the type of conference, other features as two-party call, hooking, and DTMF tone detecting functions.

Note: Access to a conference call through tie lines or C.O. lines requires that the associated trunks can receive answer signal and release signal from the opposite switching system.

Note: This circuit card is used in the following service features:
- Attendant-Controlled Conference (Refer to the Data Programming Manual - Business [A-2])
- Add On Conference-8 Party (Refer to the Data Programming Manual - Business [A-121])
- Preset Conference (Refer to the Data Programming Manual - Business [P-24])
- Station-Controlled Conference (Refer to the Data Programming Manual - Business [S-6])
- Group Call-Automatic Conference (20-party) (Refer to the Data Programming Manual - PHS/PCS [G-23])

Note: Regarding the Add On Conference-8 Party mentioned above, any one of the following lines can be a conference member:
- Station
- C.O. (COT and ISDN)
- TIE
- CCIS
- SIP Network (Network Carrier and TIE)

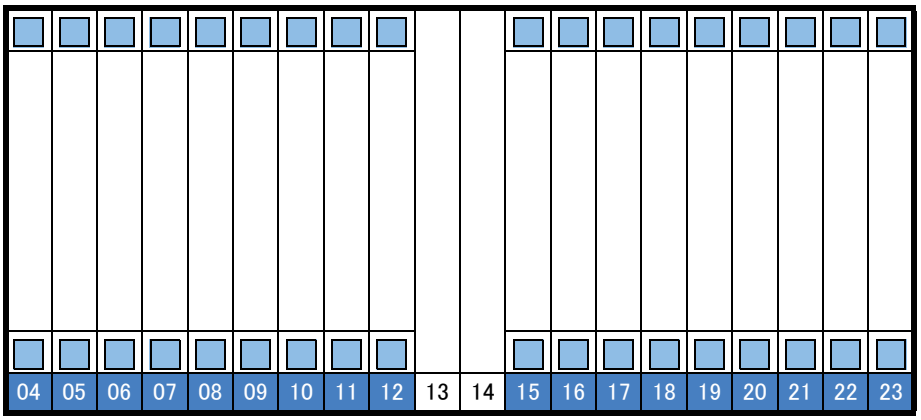
Location of the Card in the System



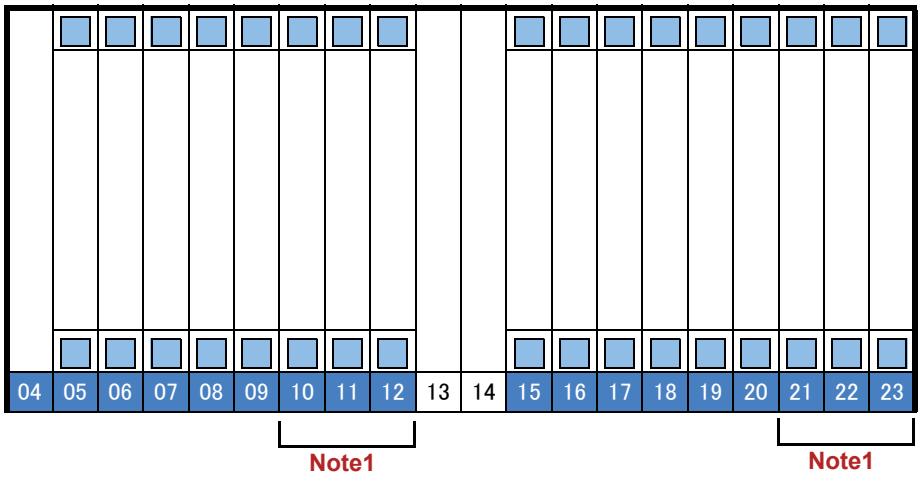
2. Mounting Locations/Conditions

Mounting Module <7U-PIR>

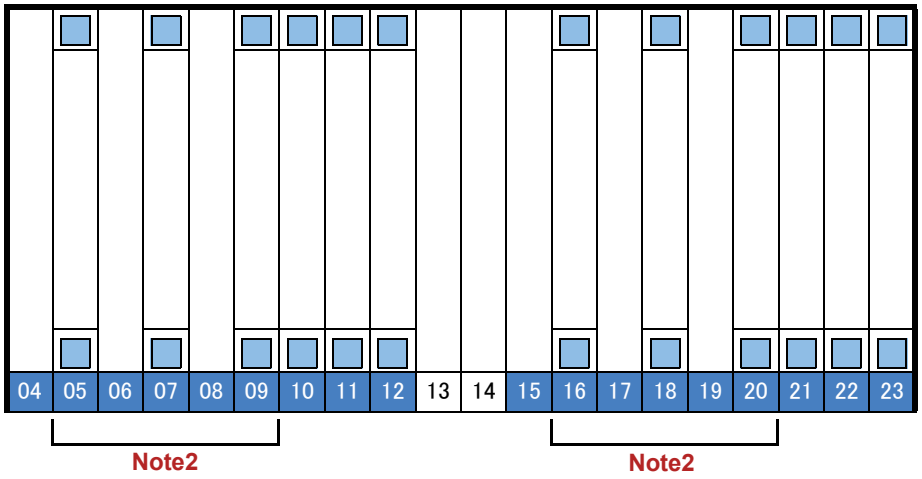
- 8 Parties x 1 group



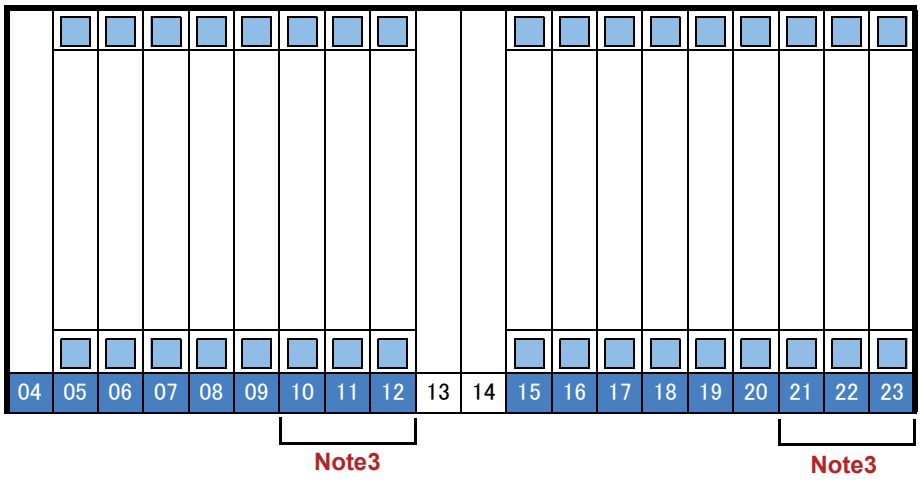
- 8 Parties x 2 groups



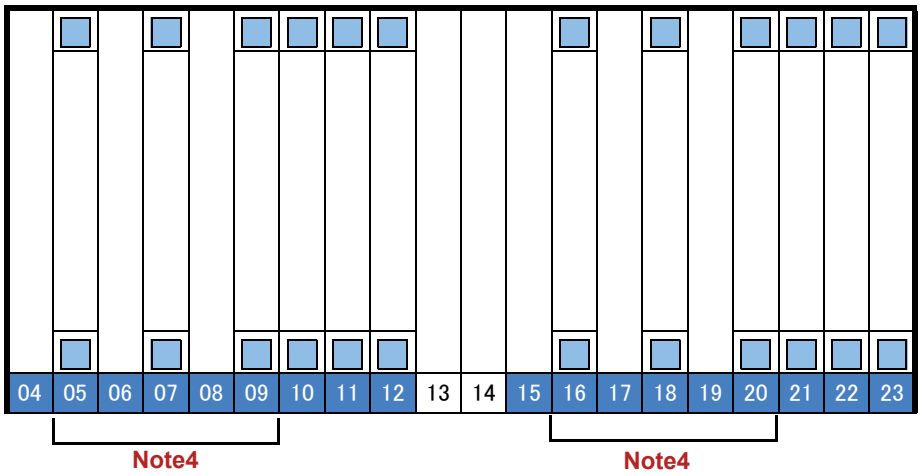
- 8 Parties x 4 groups



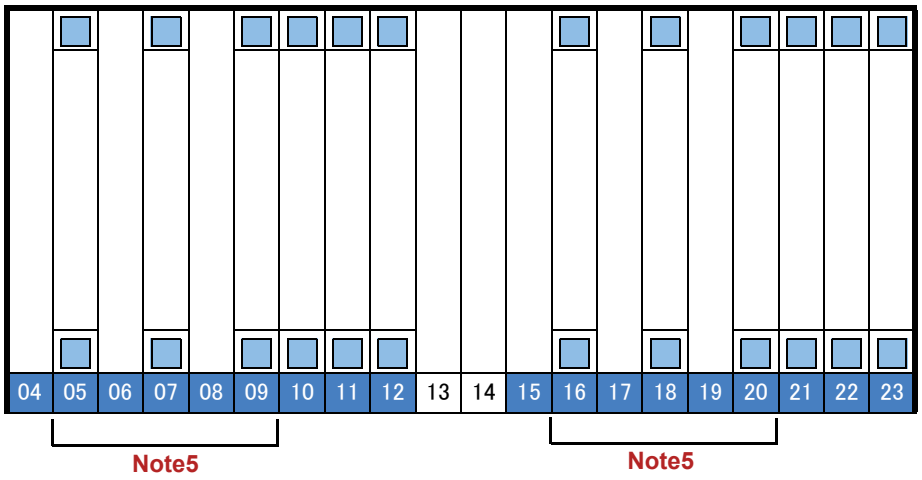
- 16 Parties x 1 group



- 16 Parties x 2 groups



- 32 Parties x 1 group



Mounting Conditions:

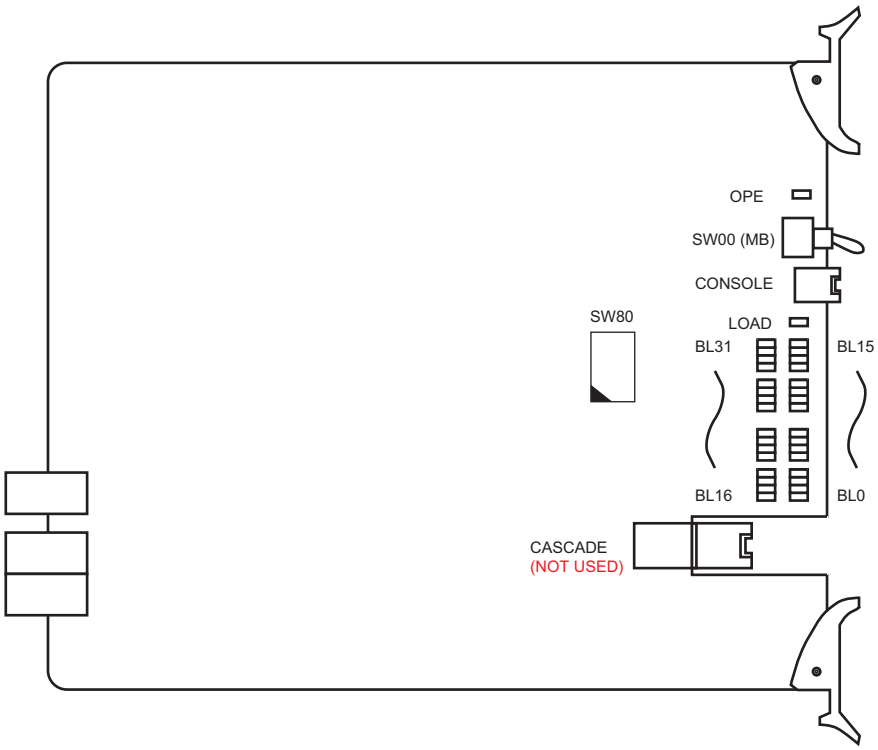
- Depending on the type of conference configuration (SW80-1 to 80-3) the card has the following mounting conditions:

Conference Configuration	Switch Settings			Mounting Conditions
	SW80-1	SW80-2	SW80-3	
8 Parties x 1 group	OFF	OFF	OFF	The card can be mounted in any slot (Slot 4 to 12 and 15 to 23)
8 Parties x 2 groups	ON	OFF	OFF	Do not mount the card in Slot 4 in PIR of Unit 0 (U=0) of Module Group 0 (MG=00) **Note1:** If mounted in Slot 10 to 12 and 21 to 23, it occupies the second half of 16 ports.
8 Parties x 4 groups	OFF	ON	OFF	The card can be mounted in Slot 5 in PIR of Unit 0 (U=0) of Module Group 0 (MG=00), but Group 0 (G=0) cannot be used **Note2:** If mounted in Slot 5 to 9 and 16 to 20, it occupies 16 ports of its slot and 16 ports of the left slot. If mounted in Slot 10 to 12 and 21 to 23, it occupies 32 ports of its slot.
16 Parties x 1 group	ON	ON	OFF	Do not mount the card in Slot 4 in PIR of Unit 0 (U=0) of Module Group 0 (MG=00) **Note3:** If mounted in Slot 10 to 12 and 21 to 23, it occupies the second half of 16 ports.

Conference Configuration	Switch Settings			Mounting Conditions
	SW80-1	SW80-2	SW80-3	
16 Parties x 2 groups	OFF	OFF	ON	The card can be mounted in Slot 5 in PIR of Unit 0 (U=0) of Module Group 0 (MG=00), but Group 0/1 (G=0/1) cannot be used **Note4:** If mounted in Slot 5 to 9 and 16 to 20, it occupies 16 ports of its slot and 16 ports of the left slot. If mounted in Slot 10 to 12 and 21 to 23, it occupies 32 ports of its slot.
32 Parties x 1 group	ON	OFF	ON	Do not mount the card in Slot 4 or Slot 5 in PIR of Unit 0 (U=0) of Module Group 0 (MG=00) **Note5:** If mounted in Slot 5 to 9 and 16 to 20, it occupies 16 ports of its slot and 16 ports of the left slot. If mounted in Slot 10 to 12 and 21 to 23, it occupies 32 ports of its slot.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches and connectors on this card is shown below.



4. Lamp Indications

The indicator lamps of this card show the operating state as follows:

LAMP NAME	COLOR	STATE	DESCRIPTION
OPE	Green	Light	The card is operating normally
LOAD	Green	Light	Firmware program is in progress Mixing DSP program is in progress
		Flash (60 IPM)	Waiting for the firmware program downloading Echo Canceller program download **Note 1**
		Flash (120 IPM)	The firmware program download failed Mixing DSP program download/card RAM test NG
		OFF	The firmware program download is completed Mixing DSP/Echo Canceller download is completed
BL0~BL31	Green	OFF	The corresponding circuit is idle
		Flash (60 IPM)	The corresponding circuit is in make-busy state
		Flash (1 second light - 2 seconds OFF)	The corresponding circuit is being called (only for calling channels of preset conference)
		Light	The corresponding circuit is busy

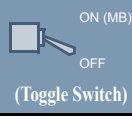
Note 1: When the echo canceller download fails, the lamp flashes for more than 6 seconds.

5. Switch Settings

The switches on the card have the following meanings.

Hardware Switch

SW00 (MB)

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card make-busy (the card is hot-pluggable)
	DOWN	×	Card make-busy cancel (the card is operating)

SW80

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING	SWITCH SHAPE
 (8-Dip Switch)	1	ON		Conference Configuration See Conference Configuration Settings
		OFF	×	
	2	ON		
		OFF	×	
	3	ON		
		OFF	×	
	4	ON		Operation Mode **Note 1** See Operation Mode Settings
		OFF		
	5	ON		
		OFF		
	6	ON		
		OFF		
	7	OFF	×	Fixed to OFF
	8	OFF	×	Fixed to OFF (Line interface)

Note 1: Setting of SW80-4 to 80-6 is applied to the setting of software switches SW10-1 to 10-3 when:
- Those software switches are not yet programmed (such as a case when the card is initialized), or
- There has been any change in the setting of SW80-4 to 80-6 since the last boot.

In this case, template values are applied to other software switches. For details of template values, see Switch Data Template.

Conference Configuration Settings

SW80-1	SW80-2	SW80-3	Conference Configuration
OFF	OFF	OFF	8- Party ×1 Group **Note 2**
ON	OFF	OFF	8- Party ×2 Groups **Note 2**
OFF	ON	OFF	8- Party ×4 Groups **Note 2**
ON	ON	OFF	16- Party ×1 Group
OFF	OFF	ON	16- Party ×2 Groups
ON	OFF	ON	32- Party ×1 Group
Other Settings			Prohibited

Note 2: Set to 8-party conference when [G-23] GROUP CALL - AUTOMATIC CONFERENCE (20-PARTY) or [A-121] ADD ON CONFERENCE - 8 PARTY feature is used.

Operation Mode Settings

SW80-4	SW80-5	SW80-6	Conference Mode
OFF	OFF	OFF	Meet-Me conference **Note 3**
ON	OFF	OFF	Preset Conference **Note 4**
OFF	ON	OFF	Progressive Conference
ON	ON	OFF	Add On Conference-8 Party
Other Settings			Prohibited

Note 3: In case of changing the standard setting, set answer time on Meet-Me conference with SW13-1 to 13-4.

Note 4: In case of changing the standard setting, set call cycle interval on preset conference mode with SW13-1 to 13-4.

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection **Note 5**

Note 5: When the card is rebooted (Make Busy ON->OFF) with a console cable (RJ45 <=> RS-232C serial cable) connected, if there is no key input from the computer within 10 seconds, the OPE lamp will light.

SW10

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Operation Mode Operation Mode Settings
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		PB Tone Control: Disable
	OFF	×	PB Tone Control: Enable
5	ON		Hardware Control: Enable
	OFF	×	Hardware Control: Disable
6	ON		Input Mute Control: TSDW Hardware
	OFF	×	Input Mute Control: LP Command
7	ON		Output Mute Control: TSDW Hardware
	OFF	×	Output Mute Control: LP Command
8	OFF	×	Fixed

SW11

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	OFF	×	Fixed
2	ON		ON/OFF Control with LP Control Command (Input PAD control): Enable
	OFF	×	ON/OFF Control with LP Control Command (Input PAD control): Disable
3	ON		ON/OFF Control with LP Control Command (Output PAD control): Enable
	OFF	×	ON/OFF Control with LP Control Command (Output PAD control): Disable
4	OFF	×	Fixed
5	ON		Audible Notification upon Entry or Exit of Participant **Note 6**: Enable
	OFF	×	Audible Notification upon Entry or Exit of Participant **Note 6**: Disable
6	ON		Audible Entry/Exit Notification Pattern **Note 6** **Note 7**: Sent Collectively
	OFF	×	Audible Entry/Exit Notification Pattern **Note 6**: Sent Individually
7	OFF	×	Fixed
8	OFF	×	Fixed

Note 6: This setting is available for Meet-Me mode only.

Note 7: In this option, the audible notification is sent once for a set of events produced during activation of the notice.

SW12

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Called Ports Released when Calling Port Release **Note 8**: Enable
	OFF	×	Called Ports Released when Calling Port Release: Disable
2	OFF	×	Fixed
3	OFF	×	Fixed
4	OFF	×	Fixed
5	ON	×	PB Signal (#) Forced Release **Note 9**: Enable
	OFF		PB Signal (#) Forced Release: Disable
6	ON	×	PB Signal (0) Privacy Control **Note 9**: Enable
	OFF		PB Signal (0) Privacy Control: Disable
7	OFF	×	Fixed
8	OFF	×	Fixed

Note 8: This setting is available for Progressive Conference mode only.

Note 9: This setting is available for Meet-Me mode only.

SW13 (In the case of Meet-Me Conference Mode)

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Answer waiting time on meet me conference mode settings See Answer Wait Time on Meet Me Conference Mode
	OFF	×	
2	ON		
	OFF	×	
3	ON	×	
	OFF		
4	ON	×	
	OFF		
5	ON	×	Waiting time until the conversation starts settings See Wait Time Until the Conversation Starts
	OFF		
6	ON		
	OFF	×	
7	OFF	×	Fixed
8	OFF	×	Fixed

Answer Wait Time on Meet Me Conference Mode

SW13-1	SW13-2	SW13-3	SW13-4	Answer Time
OFF	OFF	OFF	OFF	0 sec
ON	OFF	OFF	OFF	0.5 sec
OFF	ON	OFF	OFF	1 sec
ON	ON	OFF	OFF	1.5 sec
OFF	OFF	ON	OFF	2 sec
ON	OFF	ON	OFF	2.5 sec
OFF	ON	ON	OFF	3 sec
ON	ON	ON	OFF	3.5 sec
OFF	OFF	OFF	ON	4 sec
ON	OFF	OFF	ON	4.5 sec
OFF	ON	OFF	ON	5 sec
ON	ON	OFF	ON	5.5 sec
OFF	OFF	ON	ON	6 sec (standard setting)
ON	OFF	ON	ON	6.5 sec
OFF	ON	ON	ON	7 sec
ON	ON	ON	ON	7.5 sec

Wait Time Until the Conversation Starts

SW13-5	SW13-6	Waiting Time
OFF	OFF	0 sec
ON	OFF	1 sec (standard setting)
OFF	ON	2 sec
ON	ON	3 sec

Note: This setting is available in the case of Meet-Me mode.

SW13 (In case of Preset Conference Mode)

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Call cycle interval on preset conference mode settings See Call Cycle Interval on Preset Conference Mode
	OFF	×	
2	ON	×	
	OFF		
3	ON		
	OFF	×	
4	ON	×	
	OFF		
5	ON	×	Fixed
6	OFF	×	Fixed
7	OFF	×	Fixed
8	OFF	×	Fixed

Call Cycle Interval on Preset Conference Mode

SW13-1	SW13-2	SW13-3	SW13-4	Interval
OFF	OFF	OFF	OFF	96 ms
ON	OFF	OFF	OFF	64 ms
OFF	ON	OFF	OFF	160 ms
ON	ON	OFF	OFF	224 ms
OFF	OFF	ON	OFF	288 ms
ON	OFF	ON	OFF	352 ms
OFF	ON	ON	OFF	416 ms
ON	ON	ON	OFF	480 ms
OFF	OFF	OFF	ON	1 sec
ON	OFF	OFF	ON	1.5 sec
OFF	ON	OFF	ON	2 sec (standard setting)
ON	ON	OFF	ON	2.5 sec
OFF	OFF	ON	ON	3 sec
ON	OFF	ON	ON	3.5 sec
OFF	ON	ON	ON	4 sec
ON	ON	ON	ON	4.5 sec

SW13 (In case of Progressive Conference Mode)

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	OFF	×	Fixed
2	OFF	×	Fixed
3	OFF	×	Fixed
4	OFF	×	Fixed
5	OFF	×	Fixed
6	OFF	×	Fixed
7	OFF	×	Fixed
8	OFF	×	Fixed

SW14

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Reception PAD value (TSW→CFT direction) See Reception PAD Value
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		Reception PAD Gain/Loss setting **Note 10**: Gain
	OFF	×	Reception PAD Gain/Loss setting: Loss
6	OFF	×	Fixed
7	OFF	×	Fixed
8	OFF	×	Fixed

Note 10: Reception PAD value can be set up to 9 dB. If you attempt to configure a Reception PAD value greater than 9dB, it will be set to 9dB.

Reception PAD Value

SW14-1	SW14-2	SW14-3	SW14-4	PAD
OFF	OFF	OFF	OFF	0 dB (standard setting)
ON	OFF	OFF	OFF	1 dB
OFF	ON	OFF	OFF	2 dB
ON	ON	OFF	OFF	3 dB
OFF	OFF	ON	OFF	4 dB
ON	OFF	ON	OFF	5 dB
OFF	ON	ON	OFF	6 dB
ON	ON	ON	OFF	7 dB
OFF	OFF	OFF	ON	8 dB
ON	OFF	OFF	ON	9 dB
OFF	ON	OFF	ON	10 dB
ON	ON	OFF	ON	11 dB
OFF	OFF	ON	ON	12 dB
ON	OFF	ON	ON	13 dB
OFF	ON	ON	ON	14 dB
ON	ON	ON	ON	15 dB

SW15

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	OFF	×	Fixed
2	OFF	×	Fixed
3	OFF	×	Fixed
4	OFF	×	Fixed
5	OFF	×	Fixed
6	OFF	×	Fixed
7	OFF	×	Fixed
8	OFF	×	Fixed

SW16

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Transmission PAD value (CFT→TSW direction) See Transmission PAD Value
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		Transmission PAD Gain/Loss setting **Note 11**: Gain
	OFF	×	Transmission PAD Gain/Loss setting: Loss
6	OFF	×	Fixed
7	OFF	×	Fixed
8	OFF	×	Fixed

Note 11: Transmission PAD value can be set up to 9 dB. If you attempt to configure a Transmission PAD value greater than 9dB, it will be set to 9dB.

Transmission PAD Value

SW16-1	SW16-2	SW16-3	SW16-4	PAD
OFF	OFF	OFF	OFF	0 dB (standard setting)
ON	OFF	OFF	OFF	1 dB
OFF	ON	OFF	OFF	2 dB
ON	ON	OFF	OFF	3 dB
OFF	OFF	ON	OFF	4 dB
ON	OFF	ON	OFF	5 dB
OFF	ON	ON	OFF	6 dB
ON	ON	ON	OFF	7 dB
OFF	OFF	OFF	ON	8 dB
ON	OFF	OFF	ON	9 dB
OFF	ON	OFF	ON	10 dB
ON	ON	OFF	ON	11 dB
OFF	OFF	ON	ON	12 dB
ON	OFF	ON	ON	13 dB
OFF	ON	ON	ON	14 dB
ON	ON	ON	ON	15 dB

SW17

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	OFF	×	Fixed
2	OFF	×	Fixed
3	OFF	×	Fixed
4	OFF	×	Fixed
5	OFF	×	Fixed
6	OFF	×	Fixed
7	OFF	×	Fixed
8	OFF	×	Fixed

SW18

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	OFF	×	Fixed
2	OFF	×	Fixed
3	OFF	×	Fixed
4	OFF	×	Fixed
5	OFF	×	Fixed
6	OFF	×	Fixed
7	OFF	×	Fixed
8	OFF	×	Fixed

SW19

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Reception clipper See Reception Clipper
	OFF	×	
2	ON		
	OFF	×	
3	ON		Transmission clipper/LPF See Clipper Level
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		PBR time: PT Long (38 ms)
	OFF	×	PBR time: PT Short (28 ms)
8	ON	×	Fixed

Reception Clipper

SW19-1	SW19-2	Reception Clipper
OFF	OFF	0 dBm (standard setting)
ON	OFF	-2 dBm
OFF	ON	+2 dBm
ON	ON	Disabled

Clipper Level

SW19-3	SW19-4	SW19-5	SW19-6	Clipper	LPF
OFF	OFF	OFF	OFF	0 dBm (standard setting)	Enabled (standard setting)
ON	OFF	OFF	OFF	+1 dBm	Enabled
OFF	ON	OFF	OFF	+2 dBm	Enabled
ON	ON	OFF	OFF	-1 dBm	Enabled
OFF	OFF	ON	OFF	-2 dBm	Enabled
ON	OFF	ON	OFF	-3 dBm	Enabled
OFF	ON	ON	OFF	-4 dBm	Enabled
ON	ON	ON	OFF	Disabled	Disabled
OFF	OFF	OFF	ON	-5 dBm	Enabled
ON	OFF	OFF	ON	-6 dBm	Enabled
OFF	ON	OFF	ON	-7 dBm	Enabled
ON	ON	OFF	ON	-8 dBm	Enabled
OFF	OFF	ON	ON	-9 dBm	Enabled
ON	OFF	ON	ON	Disabled	Enabled
OFF	ON	ON	ON	Disabled	Enabled
ON	ON	ON	ON	Disabled	Disabled

SW20

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	OFF	×	Fixed
2	OFF	×	Fixed
3	ON	×	Fixed
4	OFF	×	Fixed
5	OFF	×	Fixed
6	OFF	×	Fixed
7	OFF	×	Fixed
8	OFF	×	Fixed

SW21

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Threshold level of speaking See Threshold Level of Speaking
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON	×	
	OFF		
5	ON		
	OFF	×	
6	ON		Simultaneous speaking See Speak Simultaneous
	OFF	×	
7	ON	×	
	OFF		
8	ON		
	OFF	×	

Threshold Level of Speaking

SW21-1	SW21-2	SW21-3	SW21-4	SW21-5	Threshold Level
OFF	OFF	OFF	OFF	OFF	-30 dBm
ON	OFF	OFF	OFF	OFF	-31 dBm
OFF	ON	OFF	OFF	OFF	-32 dBm
ON	ON	OFF	OFF	OFF	-33 dBm
OFF	OFF	ON	OFF	OFF	-34 dBm
ON	OFF	ON	OFF	OFF	-35 dBm
OFF	ON	ON	OFF	OFF	-36 dBm
ON	ON	ON	OFF	OFF	-37 dBm
OFF	OFF	OFF	ON	OFF	-38 dBm (standard settings)
ON	OFF	OFF	ON	OFF	-39 dBm
OFF	ON	OFF	ON	OFF	-40 dBm
ON	ON	OFF	ON	OFF	-41 dBm
OFF	OFF	ON	ON	OFF	-42 dBm
ON	OFF	ON	ON	OFF	-43 dBm
OFF	ON	ON	ON	OFF	-44 dBm
ON	ON	ON	ON	OFF	-45 dBm
OFF	OFF	OFF	OFF	ON	-46 dBm
ON	OFF	OFF	OFF	ON	-47 dBm
OFF	ON	OFF	OFF	ON	-48 dBm
ON	ON	OFF	OFF	ON	-49 dBm
OFF	OFF	ON	OFF	ON	-50 dBm
ON	OFF	ON	OFF	ON	-51 dBm
OFF	ON	ON	OFF	ON	-52 dBm
ON	ON	ON	OFF	ON	-53 dBm
OFF	OFF	OFF	ON	ON	-54 dBm
ON	OFF	OFF	ON	ON	-55 dBm
Other Settings					Prohibited

Speak Simultaneous

SW21-6	SW21-7	SW21-8	Number of Speakers
OFF	OFF	OFF	3 Persons
ON	OFF	OFF	4 Persons
OFF	ON	OFF	5 Persons (standard setting)
ON	ON	OFF	6 Persons
OFF	OFF	ON	7 Persons
ON	OFF	ON	8 Persons
Other settings			Prohibited

SW22

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Echo Canceller Control: Disable
	OFF	×	Echo Canceller Control: Enable
2	ON		NLP operation mode settings See NLP Operation Mode Settings
	OFF	×	
3	ON		
	OFF	×	
4	ON		ETL (Echo Canceller Tail Length) settings See ETL Settings
	OFF	×	
5	ON		
	OFF	×	
6	OFF	×	Fixed
7	OFF	×	Fixed
8	OFF	×	Fixed

NLP Operation Mode Settings

SW22-2	SW22-3	NLP Operation Mode
OFF	OFF	Low Sensitivity (standard setting)
ON	OFF	Medium Sensitivity
OFF	ON	High Sensitivity
ON	ON	Disabled

ETL Settings

SW22-4	SW22-5	ETL
OFF	OFF	128 ms (standard setting)
ON	OFF	64 ms
OFF	ON	32 ms
ON	ON	Prohibited

SW23

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		NLP Operation Level See NLP Operation Level
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	OFF	×	Fixed
8	OFF	×	Fixed

NLP Operation Level

SW23-1	SW23-2	SW23-3	SW23-4	SW23-5	SW23-6	NLP Operation Level
OFF	OFF	OFF	OFF	OFF	OFF	Automatic (standard setting)
ON	OFF	OFF	OFF	OFF	OFF	-30 dBm
OFF	ON	OFF	OFF	OFF	OFF	-31 dBm
ON	ON	OFF	OFF	OFF	OFF	-32 dBm
OFF	OFF	ON	OFF	OFF	OFF	-33 dBm
ON	OFF	ON	OFF	OFF	OFF	-34 dBm
OFF	ON	ON	OFF	OFF	OFF	-35 dBm
ON	ON	ON	OFF	OFF	OFF	-36 dBm
OFF	OFF	OFF	ON	OFF	OFF	-37 dBm
ON	OFF	OFF	ON	OFF	OFF	-38 dBm
OFF	ON	OFF	ON	OFF	OFF	-39 dBm
ON	ON	OFF	ON	OFF	OFF	-40 dBm
OFF	OFF	ON	ON	OFF	OFF	-41 dBm
ON	OFF	ON	ON	OFF	OFF	-42 dBm
OFF	ON	ON	ON	OFF	OFF	-43 dBm
ON	ON	ON	ON	OFF	OFF	-44 dBm
OFF	OFF	OFF	OFF	ON	OFF	-45 dBm
ON	OFF	OFF	OFF	ON	OFF	-46 dBm
OFF	ON	OFF	OFF	ON	OFF	-47 dBm
ON	ON	OFF	OFF	ON	OFF	-48 dBm
OFF	OFF	ON	OFF	ON	OFF	-49 dBm
ON	OFF	ON	OFF	ON	OFF	-50 dBm
OFF	ON	ON	OFF	ON	OFF	-51 dBm
ON	ON	ON	OFF	ON	OFF	-52 dBm
OFF	OFF	OFF	ON	ON	OFF	-53 dBm
ON	OFF	OFF	ON	ON	OFF	-54 dBm
OFF	ON	OFF	ON	ON	OFF	-55 dBm
ON	ON	OFF	ON	ON	OFF	-56 dBm
OFF	OFF	ON	ON	ON	OFF	-57 dBm
ON	OFF	ON	ON	ON	OFF	-58 dBm
OFF	ON	ON	ON	ON	OFF	-59 dBm
ON	ON	ON	ON	ON	OFF	-60 dBm
OFF	OFF	OFF	OFF	OFF	ON	-61 dBm
ON	OFF	OFF	OFF	OFF	ON	-62 dBm
OFF	ON	OFF	OFF	OFF	ON	-63 dBm
ON	ON	OFF	OFF	OFF	ON	Automatic
....						
ON	ON	ON	ON	ON	ON	

Switch Data Template

The following is the soft switch setting of the switch data template:

Meet-Me Conference (SW80-4=OFF SW80-5=OFF SW80-6=OFF)

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW10	1	OFF	Operation Mode: Meet-Me conference
	2	OFF	
	3	OFF	
	4	OFF	PB Tone Control: Enable
	5	OFF	Hardware Control: Disable
	6	OFF	Input Mute Control: LP Command
	7	OFF	Output Mute Control: LP Command
	8	OFF	Fixed
SW11	1	OFF	Fixed
	2	OFF	ON/OFF Control with LP Control Command (Input PAD control): Disable
	3	OFF	ON/OFF Control with LP Control Command (Output PAD control): Disable
	4	OFF	Fixed
	5	OFF	Audible Notification upon Entry or Exit of Participant: Disable
	6	OFF	Audible Entry/Exit Notification Pattern - Sent Individually: Enable
	7	OFF	Fixed
	8	OFF	Fixed
SW12	1	OFF	Called Ports Released when Calling Port Release: Disable
	2	OFF	Fixed
	3	OFF	
	4	OFF	
	5	ON	PB Signal (#) Forced Release: Enable
	6	ON	PB Signal (0) Privacy Control: Enable
	7	OFF	Fixed
	8	OFF	

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW13	1	OFF	Answer waiting time on meet me conference mode : 6 sec.
	2	OFF	
	3	ON	
	4	ON	
	5	ON	Waiting time until the conversation starts: 1 sec
	6	OFF	
	7	OFF	Fixed
	8	OFF	Fixed
SW14	1	OFF	Reception PAD value: 0 dB
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	Reception PAD Gain/Loss setting: Loss
	6	OFF	Fixed
	7	OFF	
	8	OFF	
SW15	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	
SW16	1	OFF	Transmission PAD value: 0 dB
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	Transmission PAD Gain/Loss setting: Loss
	6	OFF	Fixed
	7	OFF	
	8	OFF	

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW17	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	
SW18	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	
SW19	1	OFF	Reception clipper: 0 dBm
	2	OFF	
	3	OFF	Transmission clipper: 0 dBm/Enabled
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	PBR time: PT Short (28 ms)
	8	ON	Fixed
SW20	1	OFF	Fixed
	2	OFF	
	3	ON	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW21	1	OFF	Threshold level of speaking: -38 dBm
	2	OFF	
	3	OFF	
	4	ON	
	5	OFF	
	6	OFF	Speak Simultaneous: 5 Persons
	7	ON	
	8	OFF	
SW22	1	OFF	Echo Canceller Control: Enable
	2	OFF	NLP operation mode: Low Sensitivity
	3	OFF	
	4	OFF	ETL (Echo Canceller Tail Length): 128 ms
	5	OFF	
	6	OFF	Fixed
	7	OFF	
	8	OFF	
SW23	1	OFF	Automatic
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	Fixed
	8	OFF	

Preset Conference (SW80-4=ON SW80-5=OFF SW80-6=OFF)

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW10	1	ON	Operation Mode: Preset conference
	2	OFF	
	3	OFF	
	4	OFF	PB Tone Control: Enable
	5	OFF	Hardware Control: Disable
	6	OFF	Input Mute Control: LP Command
	7	OFF	Output Mute Control: LP Command
	8	OFF	Fixed
SW11	1	OFF	Fixed
	2	OFF	ON/OFF Control with LP Control Command (Input PAD control): Disable
	3	OFF	ON/OFF Control with LP Control Command (Output PAD control): Disable
	4	OFF	Fixed
	5	OFF	Audible Notification upon Entry or Exit of Participant: Disable
	6	OFF	Audible Entry/Exit Notification Pattern - Sent Individually: Enable
	7	OFF	Fixed
	8	OFF	Fixed
SW12	1	OFF	Called Ports Released when Calling Port Release: Disable
	2	OFF	Fixed
	3	OFF	
	4	OFF	
	5	ON	PB Signal (#) Forced Release: Enable
	6	ON	PB Signal (0) Privacy Control: Enable
	7	OFF	Fixed
	8	OFF	
SW13	1	OFF	Answer waiting time on preset conference mode: 2 sec.
	2	ON	
	3	OFF	
	4	ON	
	5	ON	Fixed
	6	OFF	
	7	OFF	
	8	OFF	

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW14	1	OFF	Reception PAD value: 0 dB
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	Reception PAD Gain/Loss setting: Loss
	6	OFF	Fixed
	7	OFF	
	8	OFF	
SW15	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	
SW16	1	OFF	Transmission PAD value: 0 dB
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	Transmission PAD Gain/Loss setting: Loss
	6	OFF	Fixed
	7	OFF	
	8	OFF	
SW17	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW18	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	
SW19	1	OFF	Reception clipper: 0 dBm
	2	OFF	
	3	OFF	Transmission clipper: 0 dBm/Enabled
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	PBR time: PT Short (28 ms)
	8	ON	Fixed
SW20	1	OFF	Fixed
	2	OFF	
	3	ON	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	
SW21	1	OFF	Threshold level of speaking: -38 dBm
	2	OFF	
	3	OFF	
	4	ON	
	5	OFF	
	6	OFF	Speak Simultaneous: 5 Persons
	7	ON	
	8	OFF	

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW22	1	OFF	Echo Canceller Control: Enable
	2	OFF	NLP operation mode: Low Sensitivity
	3	OFF	
	4	OFF	ETL (Echo Canceller Tail Length): 128 ms
	5	OFF	
	6	OFF	Fixed
	7	OFF	
	8	OFF	
SW23	1	OFF	Automatic
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	Fixed
	8	OFF	

Progressive Conference (SW80-4=OFF SW80-5=ON SW80-6=OFF)

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW10	1	OFF	Operation Mode: Progressive conference
	2	ON	
	3	OFF	
	4	OFF	PB Tone Control: Enable
	5	OFF	Hardware Control: Disable
	6	OFF	Input Mute Control: LP Command
	7	OFF	Output Mute Control: LP Command
	8	OFF	Fixed
SW11	1	OFF	Fixed
	2	OFF	ON/OFF Control with LP Control Command (Input PAD control): Disable
	3	OFF	ON/OFF Control with LP Control Command (Output PAD control): Disable
	4	OFF	Fixed
	5	OFF	Audible Notification upon Entry or Exit of Participant: Disable
	6	OFF	Audible Entry/Exit Notification Pattern - Sent Individually: Enable
	7	OFF	Fixed
	8	OFF	Fixed
SW12	1	OFF	Called Ports Released when Calling Port Release: Disable
	2	OFF	Fixed
	3	OFF	
	4	OFF	
	5	ON	PB Signal (#) Forced Release: Enable
	6	ON	PB Signal (0) Privacy Control: Enable
	7	OFF	Fixed
	8	OFF	
SW13	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW14	1	OFF	Reception PAD value: 0 dB
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	Reception PAD Gain/Loss setting: Loss
	6	OFF	Fixed
	7	OFF	
	8	OFF	
SW15	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	
SW16	1	OFF	Transmission PAD value: 0 dB
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	Transmission PAD Gain/Loss setting: Loss
	6	OFF	Fixed
	7	OFF	
	8	OFF	
SW17	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW18	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	
SW19	1	OFF	Reception clipper: 0 dBm
	2	OFF	
	3	OFF	Transmission clipper: 0 dBm/Enabled
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	PBR time: PT Short (28 ms)
	8	ON	Fixed
SW20	1	OFF	Fixed
	2	OFF	
	3	ON	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	
SW21	1	OFF	Threshold level of speaking: -38 dBm
	2	OFF	
	3	OFF	
	4	ON	
	5	OFF	
	6	OFF	Speak Simultaneous: 5 Persons
	7	ON	
	8	OFF	

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW22	1	OFF	Echo Canceller Control: Enable
	2	OFF	NLP operation mode: Low Sensitivity
	3	OFF	
	4	OFF	ETL (Echo Canceller Tail Length): 128 ms
	5	OFF	
	6	OFF	Fixed
	7	OFF	
	8	OFF	
SW23	1	OFF	Automatic
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	Fixed
	8	OFF	

Add On Conference - 8 Party (SW80-4=ON SW80-5=ON SW80-6=OFF)

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW10	1	ON	Operation Mode: Add on conference - 8 party
	2	ON	
	3	OFF	
	4	ON	PB Tone Control: Disable
	5	ON	Hardware Control: Enable
	6	ON	Input Mute Control: TSDW Hardware
	7	ON	Output Mute Control: TSDW Hardware
	8	OFF	Fixed
SW11	1	OFF	Fixed
	2	OFF	ON/OFF Control with LP Control Command (Input PAD control): Disable
	3	OFF	ON/OFF Control with LP Control Command (Output PAD control): Disable
	4	OFF	Fixed
	5	OFF	Audible Notification upon Entry or Exit of Participant: Disable
	6	OFF	Audible Entry/Exit Notification Pattern - Sent Individually: Enable
	7	OFF	Fixed
	8	OFF	Fixed
SW12	1	OFF	Called Ports Released when Calling Port Release: Disable
	2	OFF	Fixed
	3	OFF	
	4	OFF	
	5	OFF	PB Signal (#) Forced Release: Disable
	6	OFF	PB Signal (0) Privacy Control: Disable
	7	OFF	Fixed
	8	OFF	
SW13	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW14	1	OFF	Reception PAD value: 0 dB
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	Reception PAD Gain/Loss setting: Loss
	6	OFF	Fixed
	7	OFF	
	8	OFF	
SW15	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	
SW16	1	OFF	Transmission PAD value: 0 dB
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	Transmission PAD Gain/Loss setting: Loss
	6	OFF	Fixed
	7	OFF	
	8	OFF	
SW17	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW18	1	OFF	Fixed
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	
SW19	1	OFF	Reception clipper: 0 dBm
	2	OFF	
	3	OFF	Transmission clipper: 0 dBm/Enabled
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	PBR time: PT Short (28 ms)
	8	ON	Fixed
SW20	1	OFF	Fixed
	2	OFF	
	3	ON	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	
SW21	1	OFF	Threshold level of speaking: -38 dBm
	2	OFF	
	3	OFF	
	4	ON	
	5	OFF	
	6	OFF	Speak Simultaneous: 5 Persons
	7	ON	
	8	OFF	

SWITCH	SWITCH NUMBER	ON/OFF	CONTENT
SW22	1	OFF	Echo Canceller Control: Enable
	2	OFF	NLP operation mode: Low Sensitivity
	3	OFF	
	4	OFF	ETL (Echo Canceller Tail Length): 128 ms
	5	OFF	
	6	OFF	Fixed
	7	OFF	
	8	OFF	
SW23	1	OFF	Automatic
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	Fixed
	8	OFF	

6. External Interfaces

This card has no external interface connections.

CH-12COTA (COT)
Central Office Trunk

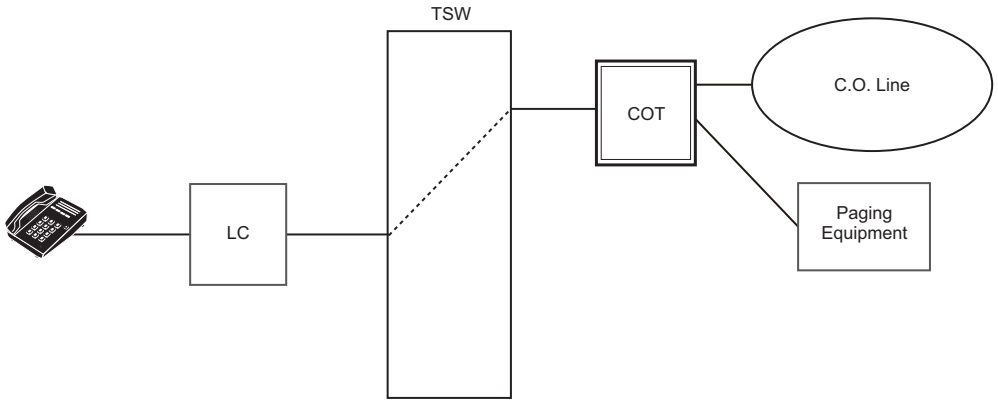
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

This card supports the following interface:

- Interface between twelve C.O. lines and the system
- Interface between ten C.O. lines and the system and two paging equipment lines

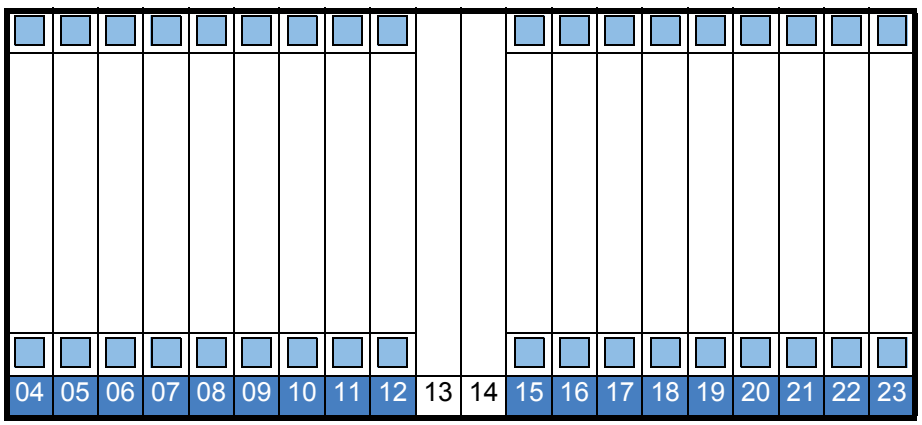
Location of CH-12COTA (COT) in the System



2. Mounting Locations/Conditions

Mounting Location <7U-PIR>

Universal Slot

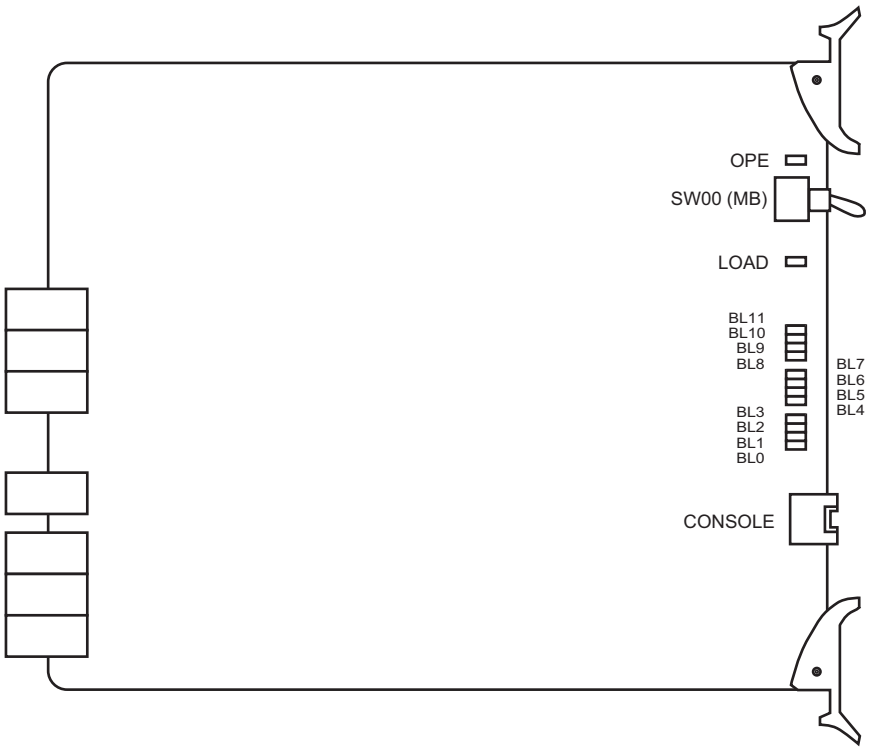


Mounting Conditions:

When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used.
LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps and switches on this card is shown below.



4. Lamp Indications

The content of the lamp indications on this card are shown in the table below.

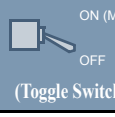
LAMP NAME	COLOR	STATE	DESCRIPTION
OPE	Green	Light	The card is operating normally.
LOAD	Green	Light	The program download is in process. The card initialization starts.
		Flash (60 IPM)	Waiting for the program download
		Flash (120 IPM)	The program download is failed.
		OFF	The program download is completed. The card is operating normally.
BL0-BL11	Green	Light	The corresponding line is in use.
		Flash (Sending DP signals)	The lamp flashes to the dial pulses that are sent out during a call origination.
		Flash (60 IPM)	If a trunk circuit is in Make-Busy state, or the trunk circuit is used for paging equipment, the BL lamp corresponding to that trunk circuit flashes 60 times per minute.
		OFF	The corresponding line is in an idle state.

5. Switch Settings

The switches on the CH-12COTA (COT) card have the following meanings.

Hardware Switch

SW00 (MB)

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy (the card is hot-pluggable.)
	DOWN	×	Card: make-busy cancel (the card is operating.)

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection

SW10

SWITCH TYPE: SOFT SWITCH				
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING	
1	ON		Terminal Impedance See Table-1.	
	OFF	×		
2	ON			
	OFF	×		
3	ON			
	OFF	×		
4	ON			
	OFF	×		
5-7	OFF	×	Fixed to OFF	
8	ON		Setting conditions of Balancing Network (BNW) and PAD selection	Specify the value per line (setting the value used from SW20 to SW31).
	OFF	×		Specify the common value to all lines (setting the value used in SW11).

SW11

SWITCH TYPE: SOFT SWITCH				
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING	
1	ON		Balancing Network (BNW) See Table-1.	
	OFF	×		
2	ON			
	OFF	×		
3	ON			
	OFF	×		
4	ON			
	OFF	×		
5	ON		PAD selection **Note 1**	Send [dB] (TSW→C.O. line) See Table-2.
	OFF	×		
6	ON			
	OFF	×		
7	ON			Receive [dB] (C.O. line→TSW) See Table-3.
	OFF	×		
8	ON			
	OFF	×		

Note: The SW11 switch settings are valid when the SW10−8 is set to OFF.

Note 1: This switch setting is valid when PAD data = 1 is assigned with the ARTD/APAD command (using PCPro).

Table-1

SW10 SETTINGS				SW11/SW20-SW31 SETTINGS				MEANINGS	
1	2	3	4	1	2	3	4	BALANCING NETWORK (BNW)	TERMINAL IMPEDANCE
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	EIA/TIA 464	600 Ω + 2.16 μF
				ON	OFF	OFF	OFF	600 Ω	
				OFF	OFF	ON	OFF	BT3	
ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	ITU-T Q.552	900 Ω + 2.16 μF
				ON	OFF	OFF	OFF	900 Ω	
OFF	OFF	ON	OFF	ON	OFF	OFF	OFF	900 Ω	900 Ω
ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	Brazilian Complex	900 Ω
OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	Chinese Complex	Chinese Complex
OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	600 Ω	Australian Complex
				ON	OFF	OFF	OFF	Australian Complex	
ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	600 Ω	ETSI European Complex
				ON	OFF	OFF	OFF	ETSI European Complex	
OFF	ON	OFF	ON	ON	OFF	OFF	OFF	BT3	BT3
Other Combinations								Inhibited	

Table-2

SW11-5	SW11-6	PAD VALUE (SEND) [dB]
OFF	OFF	0
ON	OFF	3
OFF	ON	6
ON	ON	0

Table-3

SW11-7	SW11-8	PAD VALUE (RECEIVE) [dB]
OFF	OFF	0
ON	OFF	3
OFF	ON	6
ON	ON	-5 (GAIN)

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Country Selection See Table-4.
	OFF	×	
2	ON		
	OFF	×	
3-8	OFF	×	Fixed to OFF

Table-4

SW12-1	SW12-2	Country Selection
OFF	OFF	Other countries than North America and Australia
ON	OFF	North America
OFF	ON	Australia
ON	ON	Not used

SW13

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Paging Trunk: Available
	OFF	×	Paging Trunk: Not Available
2	OFF	×	Fixed to OFF
3 Note 2	ON		Release signal from C.O. cannot be detected.
	OFF	×	Release signal from C.O. can be detected.
4 Note 3	ON		Auto Polarity Decision: Available
	OFF	×	Auto Polarity Decision: Not Available
5 Note 4	ON		Incoming Call Disconnection Detecting Timer: 6 seconds
	OFF	×	Incoming Call Disconnection Detecting Timer: 3 seconds
6	OFF	×	Fixed to OFF
7	OFF	×	Fixed to OFF
8	OFF	×	Fixed to OFF

Note 2: This switch is for returning to an idle state with the detection of the release signal from C.O. or not. The release signal is expected as a polarity reversal from C.O. (Usually, a caller from the C.O. side performs an "on-hook", then C.O. makes a polarity reverse as a release signal to the private system.)

- When the switch setting is "ON":
  The line returns to an idle state when the station goes "on-hook".
- When the switch setting is "OFF":
  The line returns to an idle state if either receiving a release signal from the C.O. or the station goes "on-hook".

There is no timer to be activated when no release signal is detected, so if the release signal does not come, the call will remain connected. (However, a station is expected to go "on-hook" after a conversation ends, which will disconnect the call and return it to an idle state.)

Note 3: This switch is only used for troubleshooting a polarity reversal with "tip" and "ring". Begin with this switch OFF, then after connecting the tip and ring for all trunks on the MDF, if lamps for BL0-11 on the front of the card turn on, the installation personnel should then turn this switch "ON". If the lamps turn off it means there is a polarity reversal with tip and ring. The installation personnel should then redo the wrong connections. This switch discriminates only wrong connection between tip and ring, so this switch should normally be "OFF" when the system is in operation. This switch can detect if individual connections are right or wrong. For example, if this switch is "ON" and only BL1 lamp turns on, this means the second wire connection is wrong. If the lamps continue to turn on, the personnel should continue troubleshooting.

Note 4: When an incoming call arrives at a destination, but no ringer is detected for the predetermined period of time set by SW13-5 (3 or 6 seconds), or the incoming call is delayed before answering. Then the line returns to an idle state.

SW14

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW15

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		E911 Mode Wink Signal Detection Time (For North America) See Table-5.
	OFF	×	
2	ON		
	OFF	×	

SW15

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
3	ON		E911 Mode Answer Signal Detection Time (For North America) See Table-6.
	OFF	×	
4	ON		
	OFF	×	
5-8	OFF	×	Fixed to OFF

Table-5

SW15-1	SW15-2	E911 MODE WINK SIGNAL DETECTION TIME
OFF	OFF	56 ms
ON	OFF	96 ms
OFF	ON	136 ms
ON	ON	176 ms

Table-6

SW15-3	SW15-4	E911 MODE ANSWER SIGNAL DETECTION TIME
OFF	OFF	56 ms
ON	OFF	96 ms
OFF	ON	136 ms
ON	ON	176 ms

SW16

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Call Still Held (For Australia) See Table-7.
	OFF	×	
2	ON		
	OFF	×	
3	ON		Reversal on seizure (for Australia)
	OFF	×	Reversal on answer (for Australia)
4-8	OFF	×	Fixed to OFF

Table-7

SW16-1	SW16-2	Call Still Held (CSH) MODE
OFF	OFF	Not used
ON	OFF	When incoming calls are disconnected
OFF	ON	When calls are disconnected
ON	ON	Not used

SW17

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW20-SW31

SWITCH TYPE: SOFT SWITCH				
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING	
1	ON		Balancing Network (BNW) See Table-1.	
	OFF	×		
2	ON			
	OFF	×		
3	ON			
	OFF	×		
4	ON			
	OFF	×		
5	ON		PAD selection **Note 5**	Send [dB] (TSW→C.O. line) See Table-2.
	OFF	×		
6	ON			
	OFF	×		
7	ON			Receive [dB] (C.O. line→TSW) See Table-3.
	OFF	×		
8	ON			
	OFF	×		

Note:

- The SW20-SW31 switch settings are valid when the SW10-8 is set to ON.
- Switches from SW20 to SW31 corresponds to each line as below.

SWITCH	LINE NUMBER	SWITCH	LINE NUMBER
SW20	00	SW26	06
SW21	01	SW27	07
SW22	02	SW28	08
SW23	03	SW29	09
SW24	04	SW30	10
SW25	05	SW31	11

Note 5: This switch setting is valid when PAD data = 1 is assigned with the ARTD/APAD command (using PCPro).

Reference for PAD Settings

Using PCPro, set the PAD values in accordance with the following table:

PAD Value Reference (1/4)

COMMAND DATA		SEND [dB] (TSW → C.O. LINE)	RECEIVE [dB] (C.O. LINE → TSW)	REMARKS
ARTD (CDN 30)	APAD			
7	15	0	0	Non-IP Configuration Standard Setting
1	1	PAD value (Send)	PAD value (Receive)	PAD selection
2	2	3	0	IP Configuration Standard Setting
3	3	3	3	
4	4	6	0	

PAD Value Reference (2/4)
(See below if BNW = Brazil Complex and Impedance = 900 Ω)

COMMAND DATA		SEND [dB] (TSW → C.O. LINE)	RECEIVE [dB] (C.O. LINE → TSW)	REMARKS
ARTD (CDN 30)	APAD			
7	15	0	0	
1	1	PAD value (Send)	PAD value (Receive)	PAD selection
2	2	6	-1 (Gain)	Brazilian Standard Setting
3	3	1	-6 (Gain)	
4	4	1	-6 (Gain)	

PAD Value Reference (3/4)
(See below if BNW = Chinese Complex and Impedance = Chinese Complex)

COMMAND DATA		SEND [dB] (TSW → C.O. LINE)	RECEIVE [dB] (C.O. LINE → TSW)	REMARKS
ARTD (CDN 30)	APAD			
7	15	0	0	
1	1	PAD value (Send)	PAD value (Receive)	PAD selection
2	2	3	3	Chinese Standard Setting
3	3	3	0	
4	4	3.5	3.5	

PAD Value Reference (4/4)
(See below if Impedance = Australian Complex)

COMMAND DATA		SEND [dB] (TSW → C.O. LINE)	RECEIVE [dB] (C.O. LINE → TSW)	REMARKS
ARTD (CDN 30)	APAD			
7	15	0	-6	
1	1	PAD value (Send)	PAD value (Receive)	PAD selection
2	2	6	-6	
3	3	0	0	

6. External Interface

LT connector lead accommodation of this card is described below.

LT Connector Lead Accommodation (1/2)

Accommodated in * 1				Accommodated in * 2			
LT0, 2, 4, 6, 8, 10 Connector				LT1, 3, 5, 7, 9, 11 Connector			
26	T0	1	R0	26		1	
27	T1	2	R1	27		2	
28	T2	3	R2	28		3	
29	T3	4	R3	29		4	
30	T4	5	R4	30		5	
31	T5	6	R5	31		6	
32	T6	7	R6	32		7	
33	T7	8	R7	33		8	
34	T8	9	R8	34	T0	9	R0
35	T9	10	R9	35	T1	10	R1
36	T10	11	R10	36	T2	11	R2
37	T11	12	R11	37	T3	12	R3
38		13		38	T4	13	R4
39		14		39	T5	14	R5
40		15		40	T6	15	R6
41		16		41	T7	16	R7
42		17		42	T8	17	R8
43		18		43	T9	18	R9
44		19		44	T10	19	R10
45		20		45	T11	20	R11
46		21		46		21	
47		22		47		22	
48		23		48		23	
49		24		49		24	
50		25		50		25	

LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5		LT6	LT7	LT8	LT9	LT10	LT11
Slot No. →	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Group No. →	01	03	05	07	09	11	15	19	23			01	03	05	07	09	11	15	19	23
							14	18	22									14	18	22
	00	02	04	06	08	10	13	17	21			00	02	04	06	08	10	13	17	21
							12	16	20									12	16	20
7U-PIR	* 1		* 2	* 1		* 2	* 1		* 2			* 1		* 2	* 1		* 2	* 1		* 2

LT Connector Lead Accommodation (2/2)

Accommodated in * 3

LT0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	T0	17	R0
43	T1	18	R1
44	T2	19	R2
45	T3	20	R3
46	T4	21	R4
47	T5	22	R5
48	T6	23	R6
49	T7	24	R7
50		25	

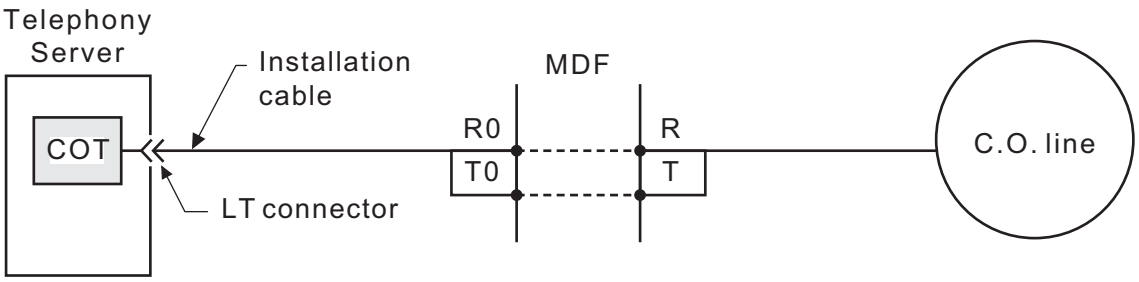
LT1, 3, 5, 7, 9, 11 Connector

26	T8	1	R8
27	T9	2	R9
28	T10	3	R10
29	T11	4	R11
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

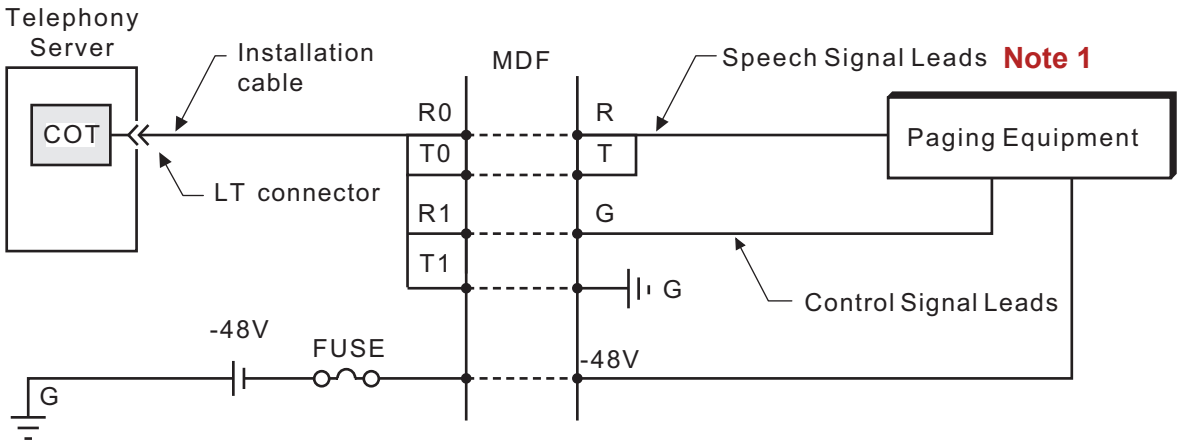
LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5		LT6	LT7	LT8	LT9	LT10	LT11
Slot No. →	04 05 06	07 08 09	10 11 12	13 14	15 16 17	18 19 20	21 22 23						
Group No. →	01 03 05	07 09 11	15 19 23 14 18 22		01 03 05	07 09 11	15 19 23 14 18 22						
	00 02 04	06 08 10	13 17 21 12 16 20		00 02 04	06 08 10	13 17 21 12 16 20						
7U-PIR	* 3	* 3	* 3		* 3	* 3	* 3						

Connecting Route Diagram

[Connection with C.O. Line]



[Connection with Paging Equipment]



Note 1: Two circuits (0 and 1) are required for connecting paging equipment.

CH-12COTB (COT)
Central Office Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	X	X	X	X	X

1. General Functions and Features

This card supports the following interfaces:

- Twelve Central Office Trunk (COT) interface circuits.
- Ten Central Office Trunk (COT) interface circuits and one Paging Equipment Trunk (PGT) interface circuit. **Note 1**

The card also provides a Caller ID service that can be set to FSK (ANSI (Telcordia/Bellcore) standard or ETSI standard) or DTMF (ETSI standard). The following applies to each type of standards:

For FSK (ANSI (Telcordia/Bellcore) standard (**Note 2**) or ETSI standard (**Note 3**)):

- Only On-hook transmission is supported. OFF-hook transmission is not supported.
- FSK reception only supports data transmission during the ringing signal. Transmission before the signal or without signal is not supported.

For DTMF (ETSI standard (**Note 4**)):

- DTMF reception supports data transmission during and before the ringing signal.
- Only the caller number is supported as received data. Original caller of a transfered call number or notification of reason for not displaying the caller number are not supported.
- The [Category Digit] part of the caller number is not supported for Saudi Arabia.

If the card is used with the CH-M03 card, it also provides a Ground Start service.

Note 1: When paging equipment use is enabled, lines 02 to 11 are used for C.O lines and lines 00 and 01 for paging equipment.

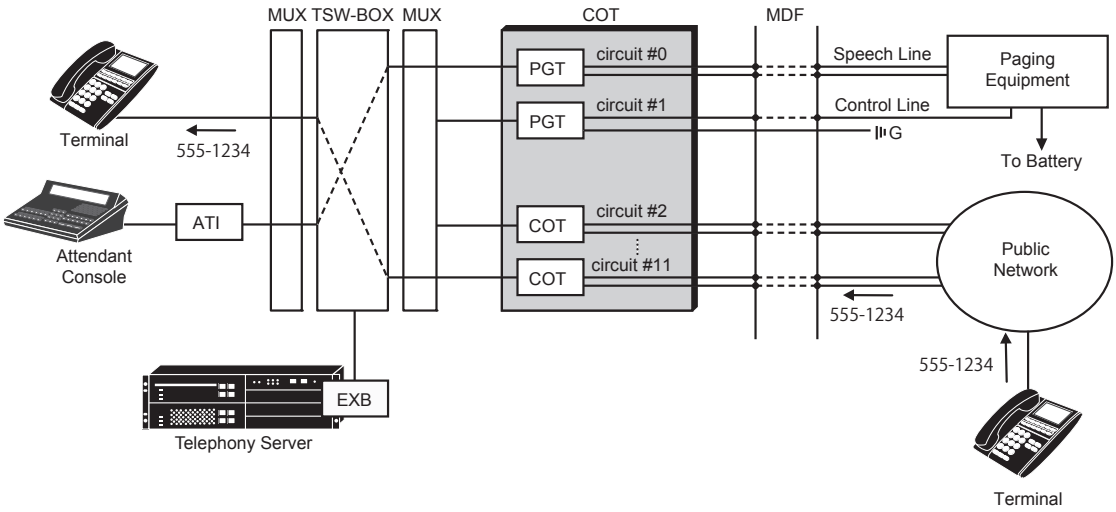
Note 2: Compliant with TIA-777-A May 2003 (Type1).

Note 3: Compliant with ETS 300 778-1:September 1997 (4.2.1.2 Data transmission during ringing).

Note 4: Compliant with ETS 300 778-1:September 1997 Annex A.

Location of CH-12COTB (COT) in the System

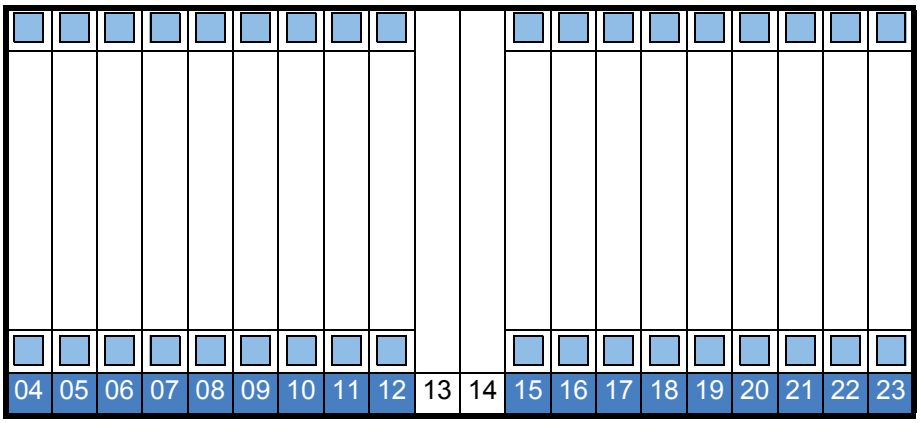
The diagram shows an example where this card is used as both a PGT and COTs.



2. Mounting Locations/Conditions

Mounting Location <7U-PIR>

Universal Slot

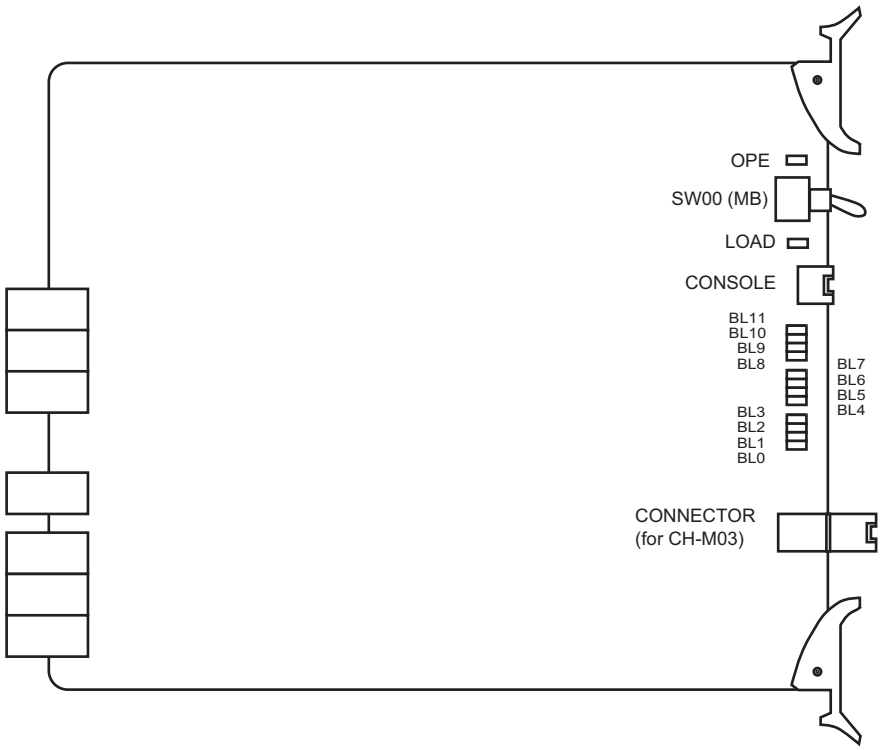


Mounting Conditions:

When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches and connectors on this card is shown below.



4. Lamp Indications

The content of the lamp indications on this card are shown in the table below.

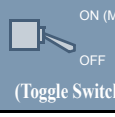
LAMP NAME	COLOR	STATE	DESCRIPTION
OPE	Green	Light	The card is operating normally.
LOAD	Green	Light	The program download is in process. The card initialization starts.
		Flash (60 IPM)	Waiting for the program launch.
		Flash (120 IPM)	The program download failed.
		OFF	The program download is completed. The card is operating normally.
BL0-BL11	Green	Light	The corresponding line is in use.
		Flash (Sending DP signals)	The lamp flashes to the dial pulses that are sent out during a call origination.
		Flash (60 IPM)	If a trunk circuit is in Make-Busy state, or the trunk circuit is used for paging equipment, the BL lamp corresponding to that trunk circuit flashes 60 times per minute.
		OFF	The corresponding line is in an idle state.

5. Switch Settings

The switches on the CH-12COTB (COT) card have the following meanings.

Hardware Switch

SW00 (MB)

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card make-busy (the card is hot-pluggable.)
	DOWN	×	Card make-busy cancel (the card is operating.)

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection

SW10

SWITCH TYPE: SOFT SWITCH				
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING	
1	ON		Terminal Impedance See Table-1.	
	OFF	×		
2	ON			
	OFF	×		
3	ON			
	OFF	×		
4	ON			
	OFF	×		
5-7	OFF	×	Fixed to OFF	
8	ON		Setting conditions of Balancing Network (BNW) and PAD selection	Specify the value per line (setting the value used from SW20 to SW31).
	OFF	×		Specify the common value to all lines (setting the value used in SW11).

SW11

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	**SETTING**	**DEFAULT SETTING**	**MEANING**
1	ON		Balancing Network (BNW) See Table-1.
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		Send PAD selection (TSW→C.O. line) **Note 1** See Table-2.
	OFF	×	
6	ON		
	OFF	×	
7	ON		Receive PAD selection (C.O. line→TSW) **Note 1** See Table-3.
	OFF	×	
8	ON		
	OFF	×	

Note: The SW11 switch settings are valid when the SW10−8 is set to OFF.

Note 1: This switch setting is valid when PAD data = 1 is assigned with the ARTD/APAD command (using PCPro).

Table-1

SW10 SETTINGS				SW11/SW20-SW31 SETTINGS				MEANINGS	
1	2	3	4	1	2	3	4	BALANCING NETWORK (BNW)	TERMINAL IMPEDANCE
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	EIA/TIA 464	600 Ω + 2.16 µF
				ON	OFF	OFF	OFF	600 Ω	
				OFF	OFF	ON	OFF	BT3	
ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	ITU-T Q.552 USA	900 Ω + 2.16 µF
				ON	OFF	OFF	OFF	900 Ω	
OFF	OFF	ON	OFF	ON	OFF	OFF	OFF	900 Ω	
ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	Brazilian Complex	900 Ω
OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	Chinese Complex	Chinese Complex
ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	600 Ω	ETSI European Complex
				ON	OFF	OFF	OFF	ETSI European Complex	
OFF	ON	OFF	ON	ON	OFF	OFF	OFF	BT3	BT3
Other Combinations								Inhibited	

Table-2

SW11-5	SW11-6	PAD VALUE (SEND) [dB]
OFF	OFF	0
ON	OFF	3
OFF	ON	6
ON	ON	0

Table-3

SW11-7	SW11-8	PAD VALUE (RECEIVE) [dB]
OFF	OFF	0
ON	OFF	3
OFF	ON	6
ON	ON	-5 (GAIN)

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Country Selection See Table-4.
	OFF	×	
2	ON		
	OFF	×	
3-8	OFF	×	Fixed to OFF

Table-4

SW12-1	SW12-2	Country Selection
OFF	OFF	Countries other than North America
ON	OFF	North America
OFF	ON	Not used
ON	ON	Not used

SW13

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Paging Trunk: Available
	OFF	×	Paging Trunk: Not Available
2	OFF	×	Fixed to OFF
3 Note 2	ON		Release Signal from C.O. Cannot Be Detected
	OFF	×	Release Signal from C.O. Can Be Detected
4 Note 3	ON		Auto Polarity Decision: Available
	OFF	×	Auto Polarity Decision: Not Available
5 Note 4	ON	×	Incoming Call Disconnection Detecting Timer: 6 seconds
	OFF		Incoming Call Disconnection Detecting Timer: 3 seconds
6	OFF	×	Fixed to OFF
7	ON		Loop Current Monitoring Enabled
	OFF	×	Loop Current Monitoring Disabled
8	OFF	×	Fixed to OFF

Note 2: This switch is for returning to an idle state with the detection of the release signal from C.O. or not. The release signal is expected as a polarity reversal from C.O. (Usually, a caller from the C.O. side performs an "on-hook", then C.O. makes a polarity reverse as a release signal to the private system.)

- When the switch setting is "ON":
  The line returns to an idle state when the station goes "on-hook".
- When the switch setting is "OFF":
  The line returns to an idle state after receiving both release signal from the C.O. and the station goes "on-hook".

There is no timer to be activated when no release signal is detected, so if the release signal does not come, the call will remain connected. (However, a station is expected to go "on-hook" after a conversation ends, which will disconnect the call and return it to an idle state.)

Note 3: This switch is only used for troubleshooting a polarity reversal with "tip" and "ring". Begin with this switch OFF, then after connecting the tip and ring for all trunks on the MDF, if lamps for BL0-11 on the front of the card turn on, the installation personnel should then turn this switch "ON". If the lamps turn off it means there is a polarity reversal with tip and ring. The installation personnel should then redo the wrong connections. This switch discriminates only wrong connection between tip and ring, so this switch should normally be "OFF" when the system is in operation. This switch can detect if individual connections are right or wrong. For example, if this switch is "ON" and only BL1 lamp turns on, this means the second wire connection is wrong. If the lamps continue to turn on, the personnel should continue troubleshooting.

Note 4: When an incoming call arrives at a destination, but no ringer is detected for the predetermined period of time set by SW13-5 (3 or 6 seconds), or the incoming call is delayed before answering. Then the line returns to an idle state.

SW14

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	**SETTING**	**DEFAULT SETTING**	**MEANING**
1-8	OFF	×	Fixed to OFF

SW15

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		E911 Mode Wink Signal Detection Time (For North America) See Table-5.
	OFF	×	
2	ON		
	OFF	×	
3	ON		E911 Mode Answer Signal Detection Time (For North America) See Table-6.
	OFF	×	
4	ON		
	OFF	×	
5-8	OFF	×	Fixed to OFF

Table-5

SW15-1	SW15-2	E911 MODE WINK SIGNAL DETECTION TIME
OFF	OFF	56 ms
ON	OFF	96 ms
OFF	ON	136 ms
ON	ON	176 ms

Table-6

SW15-3	SW15-4	E911 MODE ANSWER SIGNAL DETECTION TIME
OFF	OFF	56 ms
ON	OFF	96 ms
OFF	ON	136 ms
ON	ON	176 ms

SW16

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW17

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Caller ID Standard Settings See Table-8.
	OFF	×	
2	ON		
	OFF	×	
3	OFF	×	Fixed to OFF
4	OFF	×	Fixed to OFF
5	ON		Digits Erasing of Call Number See Table-9.
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Table-8

SW17-1	SW17-2	Caller ID Standards
OFF	OFF	FSK (ANSI (Telcordia/Bellcore))
ON	OFF	FSK (ETSI)
OFF	ON	DTMF (ETSI)
ON	ON	Not used

Table-9

SW17-5	SW17-6	SW17-7	SW17-8	Number of Digits Erased
OFF	OFF	OFF	OFF	No digits erased
ON	OFF	OFF	OFF	1 Digit erased
OFF	ON	OFF	OFF	2 Digits erased
ON	ON	OFF	OFF	3 Digits erased
OFF	OFF	ON	OFF	4 Digits erased
ON	OFF	ON	OFF	5 Digits erased
OFF	ON	ON	OFF	6 Digits erased
ON	ON	ON	OFF	7 Digits erased
OFF	OFF	OFF	ON	8 Digits erased
ON	OFF	OFF	ON	9 Digits erased
OFF	ON	OFF	ON	10 Digits erased
ON	ON	OFF	ON	11 Digits erased
OFF	OFF	ON	ON	12 Digits erased
ON	OFF	ON	ON	13 Digits erased
OFF	ON	ON	ON	14 Digits erased
ON	ON	ON	ON	15 Digits erased

SW18

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW20-SW31

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Balancing Network (BNW) See Table-1.
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		Send PAD selection (TSW→C.O. line) **Note 5** See Table-10.
	OFF	×	
6	ON		
	OFF	×	
7	ON		Receive PAD selection (C.O. line→TSW) **Note 5** See Table-11.
	OFF	×	
8	ON		
	OFF	×	

Note:

- The SW20-SW31 switch settings are valid when the SW10-8 is set to ON.
- Switches from SW20 to SW31 corresponds to each line as below.

SWITCH	LINE NUMBER	SWITCH	LINE NUMBER
SW20	00	SW26	06
SW21	01	SW27	07
SW22	02	SW28	08
SW23	03	SW29	09
SW24	04	SW30	10
SW25	05	SW31	11

Note 5: This switch setting is valid when PAD data = 1 is assigned with the ARTD/APAD command (using PCPro).

Table-10

SW20 (to SW31)-5	SW20 (to SW31)-6	PAD VALUE (SEND) [dB]
OFF	OFF	-5 (GAIN)

Table-10

SW20 (to SW31)-5	SW20 (to SW31)-6	PAD VALUE (SEND) [dB]
ON	OFF	3
OFF	ON	0
ON	ON	6

Table-11

SW20 (to SW31)-7	SW20 (to SW31)-8	PAD VALUE (RECEIVE) [dB]
OFF	OFF	-5 (GAIN)
ON	OFF	3
OFF	ON	0
ON	ON	6

SW40

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON	×	DTMF Reception Level See Table-12.
	OFF		
2	ON	×	
	OFF		
3	ON		
	OFF	×	
4	ON	×	
	OFF		
5-8	OFF	×	Fixed

Table-12

SW40-1	SW40-2	SW40-3	SW40-4	DTMF Reception Level
OFF	OFF	OFF	OFF	-21 dB
ON	OFF	OFF	OFF	-22 dB
OFF	ON	OFF	OFF	-23 dB
ON	ON	OFF	OFF	-24 dB
OFF	OFF	ON	OFF	-25 dB
ON	OFF	ON	OFF	-26 dB
OFF	ON	ON	OFF	-27 dB
ON	ON	ON	OFF	-28 dB
OFF	OFF	OFF	ON	-29 dB
ON	OFF	OFF	ON	-30 dB
OFF	ON	OFF	ON	-31 dB
ON	ON	OFF	ON	-32 dB
OFF	OFF	ON	ON	-33 dB
ON	OFF	ON	ON	-34 dB
OFF	ON	ON	ON	-35 dB
ON	ON	ON	ON	-36 dB

SW41

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed

SW42

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed

SW43

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		DTMF Pause timer See Table-13.
	OFF	×	
2	ON	×	
	OFF		
3	ON		
	OFF	×	
4	ON	×	
	OFF		
5	ON		DTMF Card Timer See Table-14.
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Table-13

SW43-1	SW43-2	SW43-3	SW43-4	DTMF Pause Timer
OFF	OFF	OFF	OFF	23ms
ON	OFF	OFF	OFF	24ms
OFF	ON	OFF	OFF	25ms
ON	ON	OFF	OFF	26ms
OFF	OFF	ON	OFF	27ms
ON	OFF	ON	OFF	28ms
OFF	ON	ON	OFF	29ms
ON	ON	ON	OFF	30ms
OFF	OFF	OFF	ON	31ms
ON	OFF	OFF	ON	32ms
OFF	ON	OFF	ON	33ms
ON	ON	OFF	ON	34ms
OFF	OFF	ON	ON	35ms
ON	OFF	ON	ON	36ms
OFF	ON	ON	ON	37ms
ON	ON	ON	ON	38ms

Table-14

SW43-5	SW43-6	SW43-7	SW43-8	DTMF Card Timer
OFF	OFF	OFF	OFF	28ms
ON	OFF	OFF	OFF	29ms
OFF	ON	OFF	OFF	30ms
ON	ON	OFF	OFF	31ms
OFF	OFF	ON	OFF	32ms
ON	OFF	ON	OFF	33ms
OFF	ON	ON	OFF	34ms
ON	ON	ON	OFF	35ms
OFF	OFF	OFF	ON	36ms
ON	OFF	OFF	ON	37ms
OFF	ON	OFF	ON	38ms
ON	ON	OFF	ON	39ms
OFF	OFF	ON	ON	40ms
ON	OFF	ON	ON	41ms
OFF	ON	ON	ON	42ms
ON	ON	ON	ON	43ms

SW44

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed

Reference for PAD Settings

Using PCPro, set the PAD values in accordance with the following table:

PAD Value Reference (1/3)

COMMAND DATA		SEND [dB] (TSW → C.O. LINE)	RECEIVE [dB] (C.O. LINE → TSW)	REMARKS
ARTD (CDN 30)	APAD			
7	15	0	0	Non-IP Configuration Standard Setting
1	1	PAD value (Send)	PAD value (Receive)	PAD selection
2	2	3	0	IP Configuration Standard Setting
3	3	3	3	
4	4	6	0	

PAD Value Reference (2/3)
(See below if BNW = Brazil Complex and Impedance = 900 Ω)

COMMAND DATA		SEND [dB] (TSW → C.O. LINE)	RECEIVE [dB] (C.O. LINE → TSW)	REMARKS
ARTD (CDN 30)	APAD			
7	15	0	0	
1	1	PAD value (Send)	PAD value (Receive)	PAD selection
2	2	6	-1 (Gain)	Brazilian Standard Setting
3	3	1	-6 (Gain)	
4	4	1	-6 (Gain)	

PAD Value Reference (3/3)
(See below if BNW = Chinese Complex and Impedance = Chinese Complex)

COMMAND DATA		SEND [dB] (TSW → C.O. LINE)	RECEIVE [dB] (C.O. LINE → TSW)	REMARKS
ARTD (CDN 30)	APAD			
7	15	0	0	
1	1	PAD value (Send)	PAD value (Receive)	PAD selection
2	2	3	3	Chinese Standard Setting
3	3	3	0	
4	4	3.5	3.5	

6. External Interface

LT connector lead accommodation of this card is described below.

LT Connector Lead Accommodation (1/2)

Accommodated in * 1				Accommodated in * 2			
LT0, 2, 4, 6, 8, 10 Connector				LT1, 3, 5, 7, 9, 11 Connector			
26	T0	1	R0	26		1	
27	T1	2	R1	27		2	
28	T2	3	R2	28		3	
29	T3	4	R3	29		4	
30	T4	5	R4	30		5	
31	T5	6	R5	31		6	
32	T6	7	R6	32		7	
33	T7	8	R7	33		8	
34	T8	9	R8	34	T0	9	R0
35	T9	10	R9	35	T1	10	R1
36	T10	11	R10	36	T2	11	R2
37	T11	12	R11	37	T3	12	R3
38		13		38	T4	13	R4
39		14		39	T5	14	R5
40		15		40	T6	15	R6
41		16		41	T7	16	R7
42		17		42	T8	17	R8
43		18		43	T9	18	R9
44		19		44	T10	19	R10
45		20		45	T11	20	R11
46		21		46		21	
47		22		47		22	
48		23		48		23	
49		24		49		24	
50		25		50		25	

LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5		LT6	LT7	LT8	LT9	LT10	LT11
Slot No. →	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Group No. →	01	03	05	07	09	11	15	19	23			01	03	05	07	09	11	15	19	23
							14	18	22									14	18	22
	00	02	04	06	08	10	13	17	21			00	02	04	06	08	10	13	17	21
							12	16	20									12	16	20
7U-PIR	*1		*2	*1		*2	*1		*2			*1		*2	*1		*2	*1		*2

LT Connector Lead Accommodation (2/2)

Accommodated in * 3

LT0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	T0	17	R0
43	T1	18	R1
44	T2	19	R2
45	T3	20	R3
46	T4	21	R4
47	T5	22	R5
48	T6	23	R6
49	T7	24	R7
50		25	

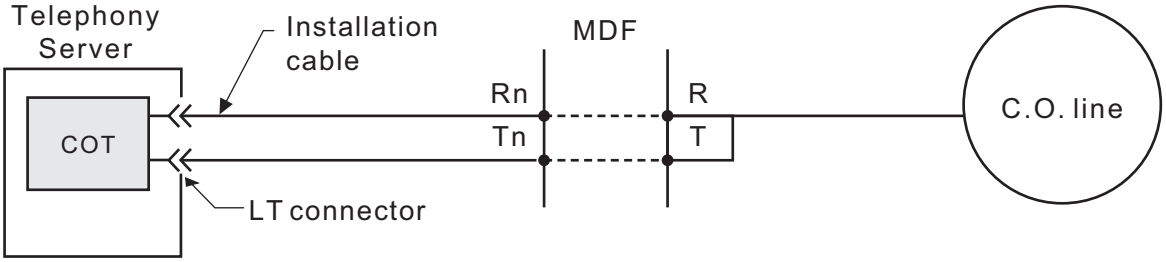
LT1, 3, 5, 7, 9, 11 Connector

26	T8	1	R8
27	T9	2	R9
28	T10	3	R10
29	T11	4	R11
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

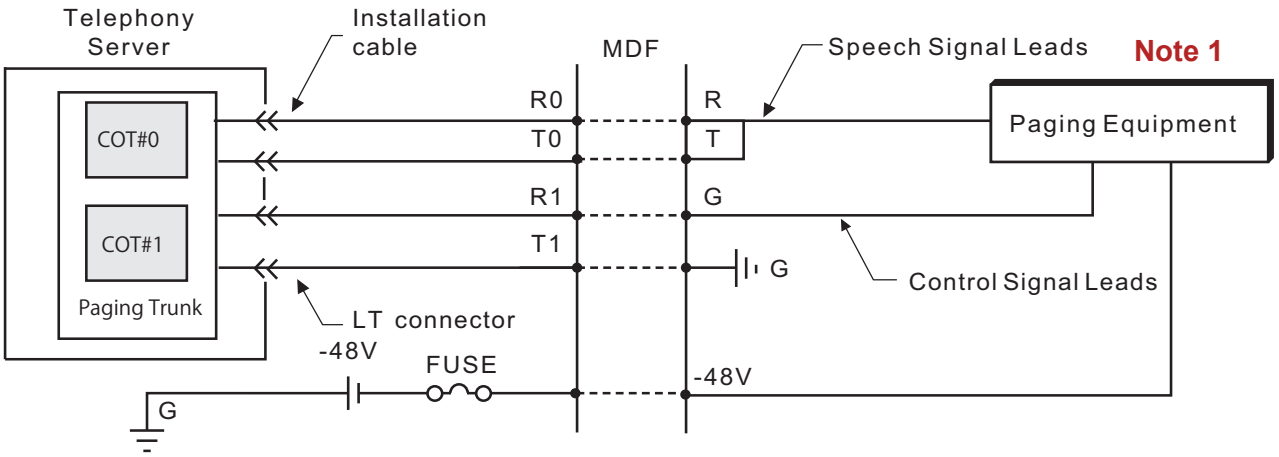
LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5				LT6	LT7	LT8	LT9	LT10	LT11			
Slot No. →	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Group No. →	01	03	05	07	09	11	15	19	23			01	03	05	07	09	11	15	19	23
							14	18	22									14	18	22
	00	02	04	06	08	10	13	17	21			00	02	04	06	08	10	13	17	21
							12	16	20									12	16	20
7U-PIR		* 3			* 3			* 3					* 3			* 3			* 3	

Connecting Route Diagram

[Connection with C.O. Line]



[Connection with Paging Equipment]



Note 1: Two circuits (0 and 1) are required for connecting paging equipment.

CH-8ODTA (ODT)
Out Band Dialing Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	X	X	X	-	X

1. General Function

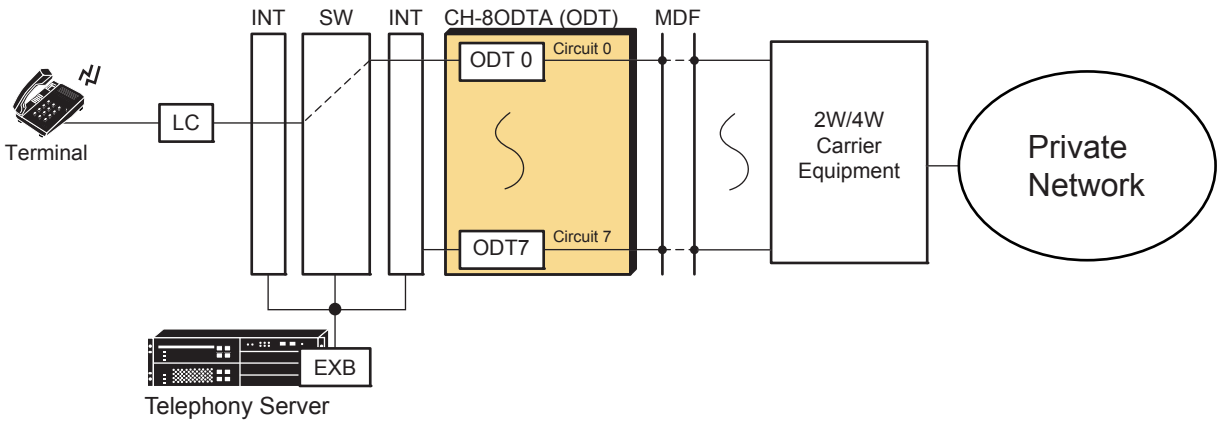
The CH-8ODTA (ODT) circuit card provides eight trunks whose interface can be selected among the following two types with the key setting on a four-channel basis.

- 2-wire E&M
- 4-wire E&M

In addition, programmable PADs, whose value can be adjusted with the key setting, are equipped with the 4-wire E&M interface. Note that a cable (OD TRK CA-A), that is connected to the ODT connector on the front edge of this card, is necessary when circuits 4 through 7 are used.

A typical example of channel allocation is illustrated below.

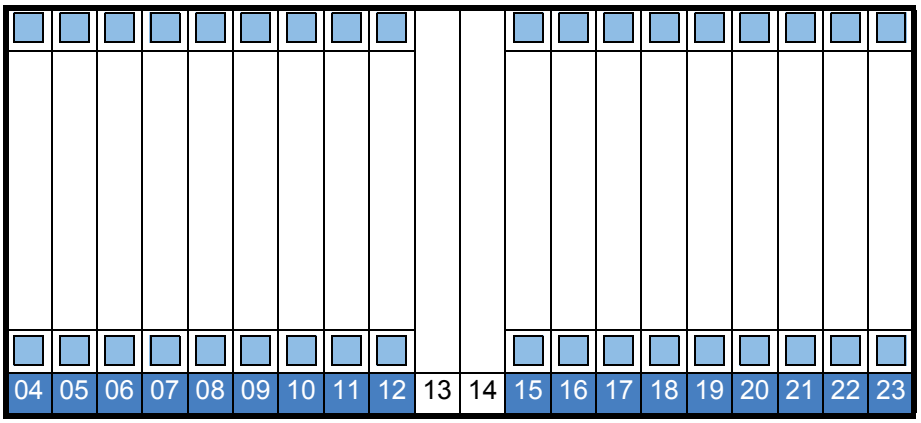
Location of CH-8ODTA (ODT) in the System



2. Mounting Location/Condition

Mounting Location <7U-PIR>

Universal Slot



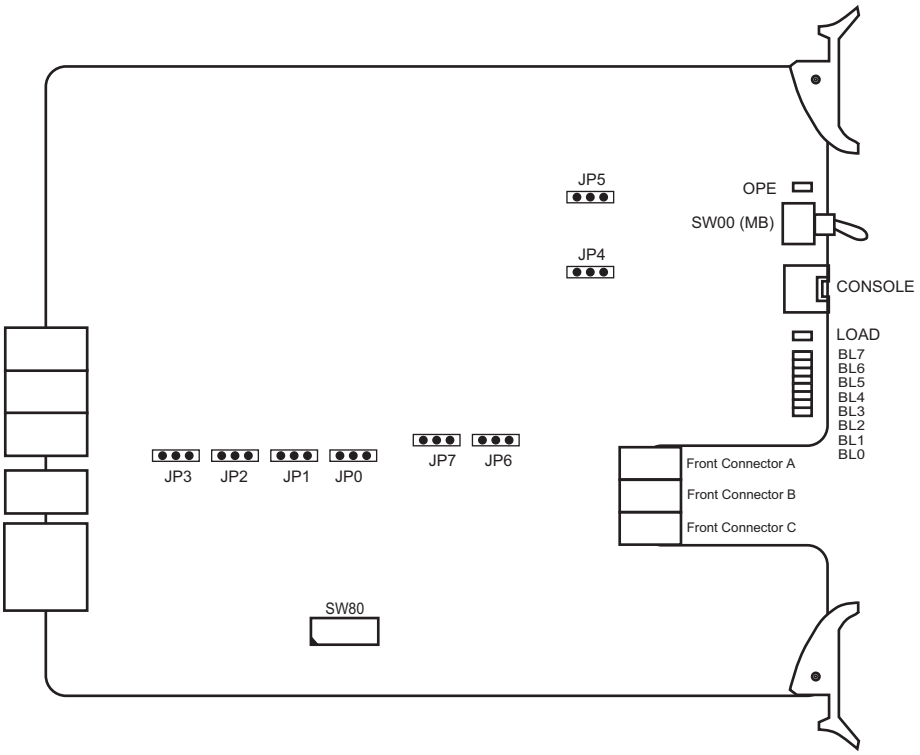
Mounting Conditions:

When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

A cable (OD TRK CA-A) connected to the front of the card is needed when circuits 4 through 7 are used.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps and switches on this card is shown below.



4. Lamp Indications

The content of the lamp indications of this card is shown in the table below.

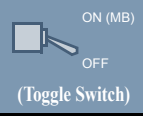
LAMP NAME	COLOR	STATE	DESCRIPTION
OPE	Green	Light	The card is operating normally.
LOAD	Green	Light	The program download is in process. The card initialization starts.
		Flash (60 IPM)	Waiting for the program download.
		Flash (120 IPM)	The program download is failed.
		OFF	The program download is completed. The card is operating normally.
BL0 - BL7	Green	Light	The corresponding line is in use.
		Flash (60 IPM)	The corresponding line is in a make-busy state.
		Flash	DP signals are being sent out or received (flashes to dial pulses).
		OFF	The corresponding line is in an idle state.

5. Switch Settings

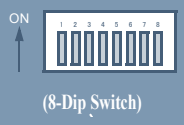
The switches on the CH-8ODTA (ODT) card have the following meanings.

Hardware Switch

SW00 (MB)

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy (the card is hot-pluggable.)
	DOWN	×	Card: make-busy cancel (the card is operating.)

SW80

SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (8-Dip Switch)	1	ON		M-lead Control of Circuit 0-3. Idle: Ground Busy: Battery (Open: **Note 1**)
		OFF		M-lead Control of Circuit 0-3. Idle: Open Busy: Ground
	2	ON		M-lead Control of Circuit 4-7. Idle: Ground Busy: Battery (Open: **Note 1**)
		OFF		M-lead Control of Circuit 4-7. Idle: Open Busy: Ground
	3	ON		E&M Control for Australia “Tone on idle” System.
		OFF		E&M Control for other countries.
	4-8	OFF	×	Fixed to OFF.

Note 1: When SW80-3 is set to "ON" (that is, for Australia "Tone on Idle"), M-lead is open.

JP0-JP7

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING
 1 2 3 Short Plug	1-2 Pin short	×	Fixed

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection

SW10 (Circuits 0-3)/SW11(Circuits 4-7)

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Balancing Network See Table 1. This setting is valid when 2-wire E&M is enabled.
	OFF	×	
2	OFF	×	Fixed to OFF.
3	ON		Speech Line: 2-wire
	OFF	×	Speech Line: 4-wire
4-8	OFF	×	Fixed to OFF.

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Terminal Impedance and Fixed PAD for Australia Settings See Table 1. This setting is valid when 2-wire E&M is enabled.
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4-7	OFF	×	Fixed to OFF
8	ON		Dial pulse counting for Australia
	OFF	×	Other countries

Table 1 : Terminal Impedance and Balancing Network

SW12 SETTINGS			SW10 (Circuit 0-3) SW11 (Circuit 4-7) SETTINGS	MEANING		REMARKS
SW12-1	SW12-2	SW12-3	SW10-1/SW11-1	Balancing Network See Table 2	Terminal Impedance	
OFF	OFF	OFF	ON	600Ω	600Ω+2.16μF	Other Countries
			OFF	EIA/TIA - 464C		
ON	OFF	ON	ON	600Ω	ETSI European Complex	For EMEA
			OFF	ETSI European Complex		
Note 2	ON	ON	ON	600Ω	Australian Complex	For Australia
			OFF	Australian Complex		

Note 2: This setting is Fixed PAD for Australia. See Table 6.

Table 2 : Balancing Network Applicable Range

Cable Diameter	Line Loss	Balancing Network Use
0.4Φ 0.5Φ 0.65Φ	0-2dB	600Ω: Only for short distance
	0-7dB	Complex Impedance: For Standard and medium-long distance

SW13

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF.

SW14

SWITCH TYPE: SOFT SWITCH				
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING	
1	ON		0.5dB	Programmable PAD: P0 Value (Transmission PAD Value). See Table 3. This setting is valid when 4-wire E&M is enabled.
	OFF	×	0dB	
2	ON		1dB	
	OFF	×	0dB	
3	ON		2dB	
	OFF	×	0dB	
4	ON		4dB	
	OFF	×	0dB	
5	ON		8dB	
	OFF	×	0dB	
6-8	OFF	×	Fixed to OFF.	

SW15

SWITCH TYPE: SOFT SWITCH				
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING	
1	ON		0.5dB	Programmable PAD: P1 Value (Reception PAD Value). See Table 3. This setting is valid when 4-wire E&M is enabled.
	OFF	×	0dB	
2	ON		1dB	
	OFF	×	0dB	
3	ON		2dB	
	OFF	×	0dB	
4	ON		4dB	
	OFF	×	0dB	
5	ON		8dB	
	OFF	×	0dB	
6-8	OFF	×	Fixed to OFF	

Table 3 : Programmable PAD P0/P1 Value Settings

SW14/15-1	SW14/15-2	SW14/15-3	SW14/15-4	SW14/15-5	PAD Value
OFF	OFF	OFF	OFF	OFF	0.0dB
ON	OFF	OFF	OFF	OFF	0.5dB
OFF	ON	OFF	OFF	OFF	1.0dB
ON	ON	OFF	OFF	OFF	1.5dB
OFF	OFF	ON	OFF	OFF	2.0dB
ON	OFF	ON	OFF	OFF	2.5dB
OFF	ON	ON	OFF	OFF	3.0dB
ON	ON	ON	OFF	OFF	3.5dB
OFF	OFF	OFF	ON	OFF	4.0dB
ON	OFF	OFF	ON	OFF	4.5dB
OFF	ON	OFF	ON	OFF	5.0dB
ON	ON	OFF	ON	OFF	5.5dB
OFF	OFF	ON	ON	OFF	6.0dB
ON	OFF	ON	ON	OFF	6.5dB
OFF	ON	ON	ON	OFF	7.0dB
ON	ON	ON	ON	OFF	7.5dB
OFF	OFF	OFF	OFF	ON	8.0dB
ON	OFF	OFF	OFF	ON	8.5dB
OFF	ON	OFF	OFF	ON	9.0dB
ON	ON	OFF	OFF	ON	9.5dB
OFF	OFF	ON	OFF	ON	10.0dB
ON	OFF	ON	OFF	ON	10.5dB
OFF	ON	ON	OFF	ON	11.0dB
ON	ON	ON	OFF	ON	11.5dB
OFF	OFF	OFF	ON	ON	12.0dB
ON	OFF	OFF	ON	ON	12.5dB
OFF	ON	OFF	ON	ON	13.0dB
ON	ON	OFF	ON	ON	13.5dB
OFF	OFF	ON	ON	ON	14.0dB
ON	OFF	ON	ON	ON	14.5dB
OFF	ON	ON	ON	ON	15.0dB
ON	ON	ON	ON	ON	15.5dB

SW16

SWITCH TYPE: SOFT SWITCH				
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING	
1	ON		0.5dB	Programmable PAD: P2 Value (Transmission PAD Value). See Table 4. This setting is valid when 4-wire E&M is enabled.
	OFF	×	0dB	
2	ON		1dB	
	OFF	×	0dB	
3	ON		2dB	
	OFF	×	0dB	
4	ON		4dB	
	OFF	×	0dB	
5	ON		0.5dB	Programmable PAD: P3 Value (Reception PAD Value). See Table 4. This setting is valid when 4-wire E&M is enabled.
	OFF	×	0dB	
6	ON		1dB	
	OFF	×	0dB	
7	ON		2dB	
	OFF	×	0dB	
8	ON		4dB	
	OFF	×	0dB	

Table 4 : Programmable PAD P2/P3 Value Settings

SW16-1/5	SW16-2/6	SW16-3/7	SW16-4/8	PAD Value
OFF	OFF	OFF	OFF	0.0dB
ON	OFF	OFF	OFF	0.5dB
OFF	ON	OFF	OFF	1.0dB
ON	ON	OFF	OFF	1.5dB
OFF	OFF	ON	OFF	2.0dB
ON	OFF	ON	OFF	2.5dB
OFF	ON	ON	OFF	3.0dB
ON	ON	ON	OFF	3.5dB
OFF	OFF	OFF	ON	4.0dB
ON	OFF	OFF	ON	4.5dB
OFF	ON	OFF	ON	5.0dB
ON	ON	OFF	ON	5.5dB
OFF	OFF	ON	ON	6.0dB
ON	OFF	ON	ON	6.5dB
OFF	ON	ON	ON	7.0dB
ON	ON	ON	ON	7.5dB

[Remarks]

Table 5 : Fixed PADs (other than Australia)

ARTD Command (CDN: 30) PAD Data	PAD Value [dB]			
	4-wire E&M		2-wire E&M	
	Transmission	Reception	Transmission	Reception
	TSW→ Leased Line	Leased Line →TSW	TSW→ Leased Line	Leased Line →TSW
0	P0	P1	0	0
1	3	3	3	3
2	6	6	6	6
3	12	11	6	-6
4	16	11	0	-6
5	P2	P3	0	0
6	Not used			
7	0	0	0	0

Note: For Programmable PAD P0/P1 values, see Table 3.

APAD Command PAD Data	PAD Value [dB]			
	4-wire E&M		2-wire E&M	
	Transmission	Reception	Transmission	Reception
	TSW → Leased Line	Leased Line →TSW	TSW → Leased Line	Leased Line →TSW
1	3	3	3	3
2	6	6	6	6
3	12	11	6	-6
4	16	11	0	-6
5	P2	P3	0	0
6-14	Not used			
15	0	0	0	0

Note: For Programmable PAD P2/P3 values, see Table 4.

Table 6 : Fixed PADs (for Australia)

ARTD Command (CDN: 30) PAD Data	PAD Value [dB]					
	4-wire E&M		2-wire E&M			
			SW12-1: OFF		SW12-1: ON	
	Transmission	Reception	Transmission	Reception	Transmission	Reception
	TSW→ Leased Line	Leased Line →TSW	TSW→ Leased Line	Leased Line →TSW	TSW→ Leased Line	Leased Line →TSW
0	P0	P1	0	0	0	-6
1	3	3	3	3	6	-6
2	6	6	6	6	0	-6
3	12	11	6	-6	0	-6
4	16	11	0	-6	0	-6
5	P2	P3	0	0	0	-6
6	Not used					
7	0	0	0	0	0	-6

Note: For Programmable PAD P0/P1 values, see Table 3.

APAD Command PAD Data	PAD Value [dB]					
	4-wire E&M		2-wire E&M			
			SW12-1: OFF		SW12-1: ON	
	Transmission	Reception	Transmission	Reception	Transmission	Reception
	TSW→ Leased Line	Leased Line →TSW	TSW→ Leased Line	Leased Line →TSW	TSW→ Leased Line	Leased Line →TSW
1	3	3	3	3	6	-6
2	6	6	6	6	0	-6
3	12	11	6	-6	0	-6
4	16	11	0	-6	0	-6
5	P2	P3	0	0	0	-6
6-14	Not used					
15	0	0	0	0	0	-6

Note: For Programmable PAD P2/P3 values, see Table 4.

6. External Interface

LT connector lead accommodation of this card is described below.

LT Connector Lead Accommodation (1/2)

Accommodated in 1*

LT0, 2, 4, 6, 8, 10 Connector

Note 1

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34	RB0	9	RA0
35	RB1	10	RA1
36	RB2	11	RA2
37	RB3	12	RA3
38	M0	13	E0
39	M1	14	E1
40	M2	15	E2
41	M3	16	E3
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2*

LT1, 3, 5, 7, 9, 11 Connector

Note 1

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42	RB0	17	RA0
43	RB1	18	RA1
44	RB2	19	RA2
45	RB3	20	RA3
46	M0	21	E0
47	M1	22	E1
48	M2	23	E2
49	M3	24	E3
50		25	

LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5		LT6	LT7	LT8	LT9	LT10	LT11
Slot Number →	04 05 06	07	08 09	10 11 12	13 14	15 16 17	18 19 20	21 22 23					
Group Number. →	01 03 05	07	09 11	15 19 23 14 18 22		01 03 05	07 09 11	15 19 23 14 18 22					
	00 02 04	06	08 10	13 17 21 12 16 20		00 02 04	06 08 10	13 17 21 12 16 20					
7U-PIR	*1	*2	*1	*2	*1	*2		*1	*2	*1	*2	*1	*2

LT Connector Lead Accommodation (2/2)

Accommodated in 3 *

LT0, 2, 4, 6, 8, 10 Connector				LT1, 3, 5, 7, 9, 11 Connector			
26		1		26	RB0	1	RA0
27		2		27	RB1	2	RA1
28		3		28	RB2	3	RA2
29		4		29	RB3	4	RA3
30		5		30	M0	5	E0
31		6		31	M1	6	E1
32		7		32	M2	7	E2
33		8		33	M3	8	E3
34		9		34		9	
35		10		35		10	
36		11		36		11	
37		12		37		12	
38		13		38		13	
39		14		39		14	
40		15		40		15	
41		16		41		16	
42	B0	17	A0	42		17	
43	B1	18	A1	43		18	
44	B2	19	A2	44		19	
45	B3	20	A3	45		20	
46	B4	21	A4	46		21	
47	B5	22	A5	47		22	
48	B6	23	A6	48		23	
49	B7	24	A7	49		24	
50		25		50		25	

Note 1

LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5		LT6	LT7	LT8	LT9	LT10	LT11
Slot Number →	04 05 06 07 08 09				10 11 12		13 14	15 16 17 18 19 20				21 22 23	
Group Number. →	01 03 05 07 09 11				15 19 23 14 18 22			01 03 05 07 09 11				15 19 23 14 18 22	
	00 02 04 06 08 10				13 17 21 12 16 20			00 02 04 06 08 10				13 17 21 12 16 20	
7U-PIR	* 3			* 3		* 3			* 3		* 3		* 3

Note 1: “An” and “Bn” (n: number) are terminal names (call signal line names) when using a 2-wire interface. An and Bn correspond to TAn and TBn terminal names (call signal line names) of the sending side when using a 4-wire interface.

OD TRK CA-A CABLE Lead Accommodation

ODT FRONT CONNECTOR A

D6	RA4	C6		B6	RB4	A6	
D5		C5	RA5	B5		A5	RB5
D4	RA6	C4		B4	RB6	A4	
D3		C3	RA7	B3		A3	RB7
D2	M4	C2		B2	E4	A2	
D1		C1	M5	B1		A1	E5

ODT FRONT CONNECTOR B

D6	M6	C6		B6	E6	A6	
D5		C5	M7	B5		A5	E7
D4	AL4	C4		B4	AS4	A4	
D3		C3	AL5	B3		A3	AS5
D2	AL6	C2		B2	AS6	A2	
D1		C1	AL7	B1		A1	AS7

ODT FRONT CONNECTOR C

D6	AL0	C6		B6	AS0	A6	
D5		C5	AL1	B5		A5	AS1
D4	AL2	C4		B4	AS2	A4	
D3		C3	AL3	B3		A3	AS3
D2	GND	C2		B2	GND	A2	
D1		C1	GND	B1		A1	GND

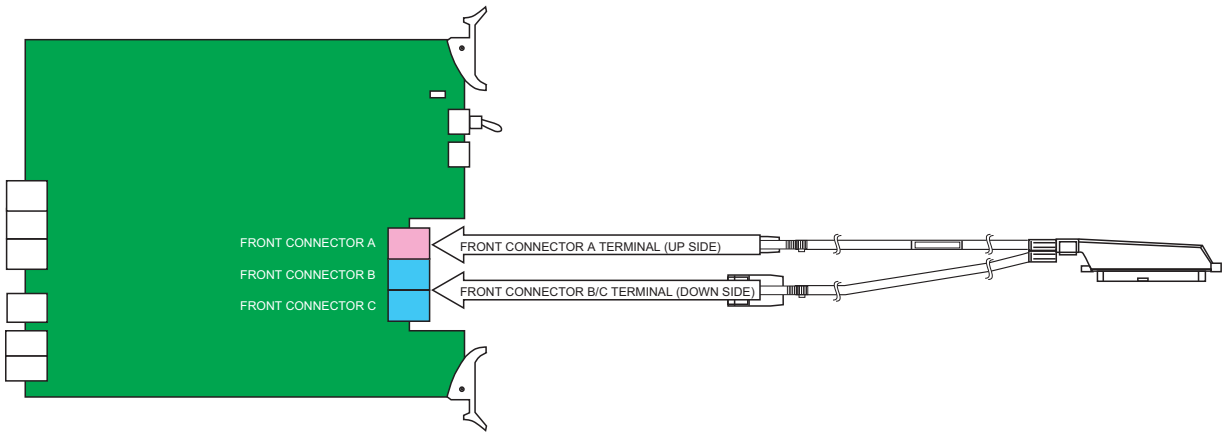
OD TRK CA-A

CHAMP CONNECTOR

26	RB4	1	RA4
27	M4	2	E4
28	RB5	3	RA5
29	M5	4	E5
30	RB6	5	RA6
31	M6	6	E6
32	RB7	7	RA7
33	M7	8	E7
34	AS0	9	AL0
35	AS1	10	AL1
36	AS2	11	AL2
37	AS3	12	AL3
38	AS4	13	AL4
39	AS5	14	AL5
40	AS6	15	AL6
41	AS7	16	AL7
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Note: AL0-7 and AS0-7 leads are not used.

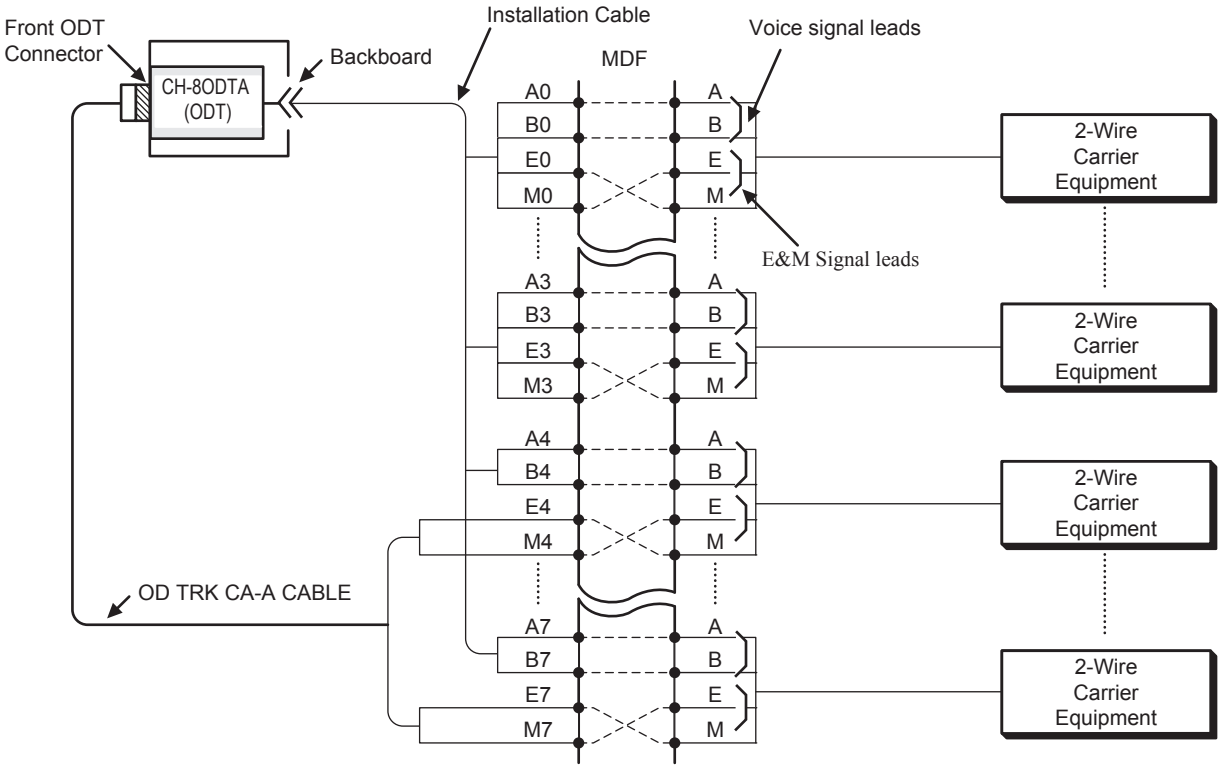
OD TRK CA-A CABLE Connections



Connecting Route Diagram (2-Wire E&M)

- 2W E&M

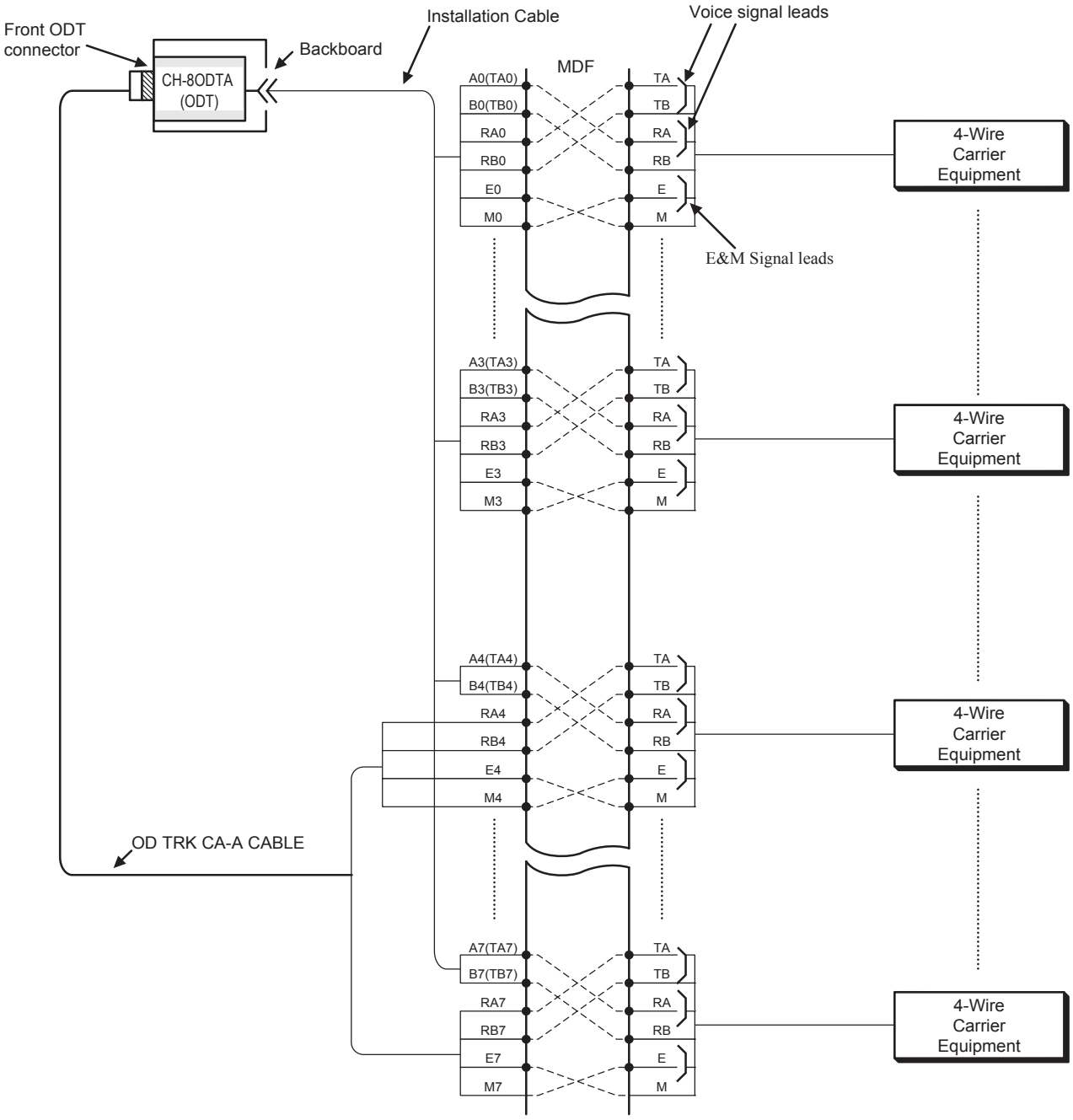
This diagram shows connecting route diagram when the card is used as a 2-wire E&M trunk. In this instance, E&M leads for Channels 4 - 7 appear from the ODT connector equipped on the front edge of this card.



Connecting Route Diagram (4-Wire E&M)

- 4W E&M

This diagram shows connecting route diagram when the card is used as a 4-wire E&M trunk. In this instance, RA, RB, and E&M leads for Channels 4 - 7 appear from the ODT connector equipped on the front edge of this card.



CH-DATA (DAT) Digital Announcement Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

The CH-DATA circuit card is used as a Digital Announcement Trunk supporting service features related to announcement function such as AUTOMATED ATTENDANT [A-82], DELAY ANNOUNCEMENT ATTENDANT [D-114] and ANNOUNCEMENT SERVICE - GUEST STATION [A-141] (for Hotel system).

A message can be recorded from a sound source device or a telephone set. A sound file can be uploaded with a web browser. Also, any existing message can be overwritten as needed.

Depending upon the switch setting, this circuit card works in one of the following four modes.

- 64-second mode (maximum eight sound sources per card).
- 128-second mode (maximum four sound sources per card).
- 256-second mode (maximum two sound sources per card).
- 512-second mode (maximum one sound source per card)

The card may also be used as an External Music-On-Hold source.

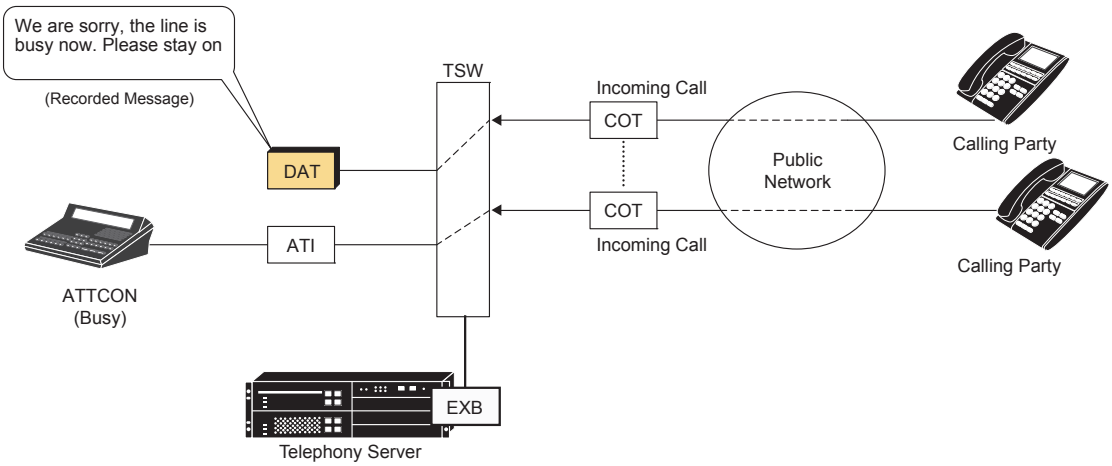
The card has the following service conditions:

- DAT and EMA/PLO must be connected one to one. Multi connection is not supported.
- The card has a LAN interface, but it can be used only for an intra-net connection or a LAN connection (it cannot be connected with the Internet). Also, it can be directly connected to a PC with a crossover LAN cable.
- System messages [7-K (PM MB Key On)] and [7-L (PM MB Key Off)] are generated when:
  - The system is initialized
  - A switch is changed using the CPSW command
  - The card is rebooted using a serial console command
- The card only supports IPv4 addresses, IPv6 addresses are not supported.
- Notifications of link status events (disconnect or reconnect) are not displayed. Check the link state with the serial console command [show status card] or the LINK/ACT lamp of the card.
- When the card is booted, IP address, subnet mask and default gateway IP address set with soft switches are checked. If there is any problem, the network interface cannot be used (the status of the interface can be checked with the command [show status card] of the serial console).
- When the card is booted, if the contents of the record memory (SRAM) are damaged (checksum value does not match), such contents are erased.
- PCPro command MBPM cannot be used. Set Make-Busy to ON/OFF for each trunk with the MBTK command.
- WEB console and a serial console can be simultaneously connected to the card. However, only one user can access WEB console at the same time.

WEB Console and Serial Console Simultaneous Connection

		Connected in Second Place	
		Serial Console Connection (config enter)	Web Console Connection (LOGIN enter)
Connected in First Place	During Serial Connection (prompt (>) is displayed)	-	From the WEB console connected in second place: WEB console connection is performed (no restriction)
	During WEB Connection (LOGIN finished)	From the serial console connected in second place: Serial console connection is performed (no restriction)	From the WEB console connected in second place: The message “Other user login.” is displayed and the WEB connection is blocked.

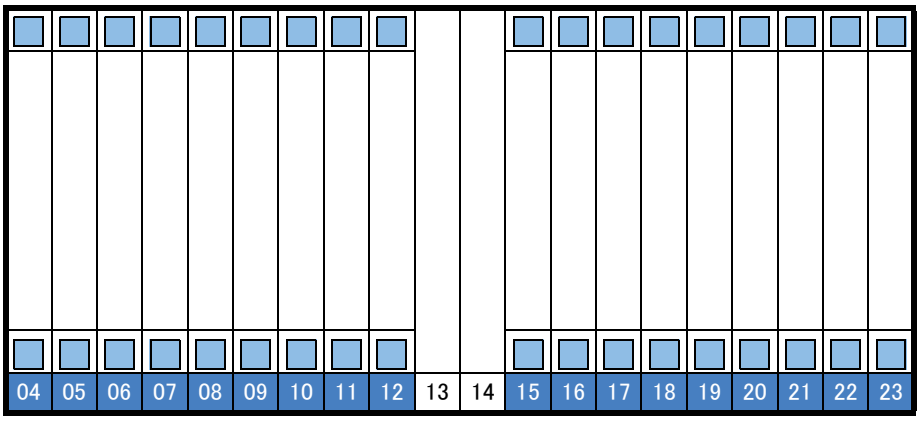
Location of CH-DATA Card in the System



2. Mounting Locations/Conditions

Mounting Module <7U-PIR>

Universal Slot.

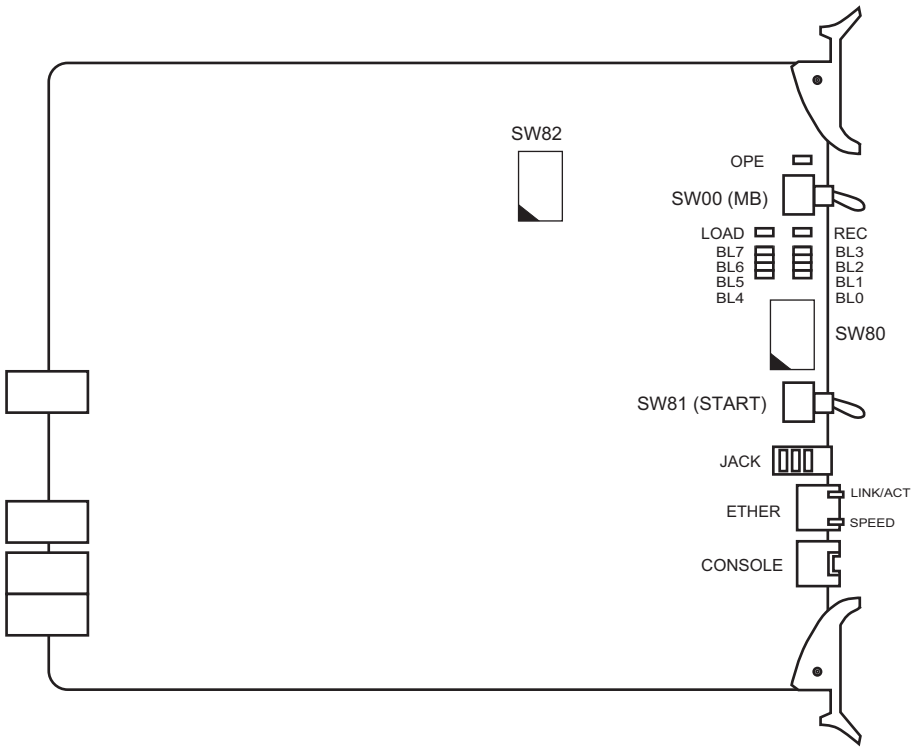


Mounting Conditions:

- When this card is mounted in Slot 04 of PIR0 (in the case of MMG system, PIR0 of IMG0), Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches and connectors on this card is shown below.



4. Lamp Indications

The content of the lamp indications of this card is shown in the table below..

LAMP NAME	COLOR	STATE	DESCRIPTION
OPE	Green	Light	The card is operating normally
LOAD	Green	Light	Program downloading Sound Source file downloading
		Flash (60 IPM)	Waiting for the program download
		Flash (120 IPM)	The program download is failed
		OFF	The program download is completed
BL0~BL7	Green	Light	The corresponding circuits #0 - #7 are in use
		Flash (60 IPM)	The corresponding circuits #0 - #7 are in a make busy state or not registered to the system
		Flash (120 IPM)	The corresponding circuits #0 - #7 are in a make busy state (recording from the jack terminal)
		OFF	Circuits #0-#7 are in an idle state
REC	Red	Light	The card is booting: Record memory erased The card is operating normally: Record is starting
		Flash (60 IPM)	Recording
		Flash (120 IPM)	Recording finished (Time over)
		OFF	Playing
LINK/ACT	Green	Light	Link established
		Flash	Accessing (transmitting)
		OFF	Link not established
SPEED	Orange	Light	1 Gbps
	Green	Light	100 Mbps
	-	OFF	10 Mbps

5. Switch Settings

The switches on the card have the following meanings.

Hardware Switch

SW00 (MB)

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy (the card is hot-pluggable)
	DOWN	×	Card: make-busy cancel (the card is operating)

SW80

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING	SWITCH SHAPE
 (8-Dip Switch)	1			Record/Play channels set Set the proper channels for each record mode (128-second mode, 256-second mode and 512-second mode). **Note 1** See Record/Play Channels Setting
	2			
	3			
	4	OFF	×	Fixed
	5	OFF	×	Fixed
	6	OFF	×	Fixed
	7	ON		WRITE (record) mode
		OFF	×	READ (play) mode
	8	ON		Record from the jack enabled **Note 2**
		OFF	×	Record from the jack disabled

Note 1: The channels for each record mode are as follows:
- 128-second mode: Channel 0, Channel 2, Channel 4 and Channel 6.
- 256-second mode: Channel 0 and Channel 4.
- 512-second mode: Channel 0.

Note 2: Used for recording from the front card jack.The designated channels in the settings enter into a make busy state. The channels for the record modes below are as follows:
- 128-second mode: The pair chosen from Channel 0 and Channel 1, Channel 2 and Channel 3, Channel 4 and Channel 5, and Channel 6 and Channel 7.
- 256-second mode: The group chosen from the group of Channel 0 to Channel 3 or the group of Channel 4 to Channel 7.
- 512-second mode: All sound sources from Channel 0 to Channel 7.

To disable the make busy state, set to OFF SW80-8 (Record from the jack disabled). However, in that case the channels put to a make busy state with SW01 will continue in such state. Disable busy state in both switches for the channels you want to put on a disable busy state.

Record/Play Channels Setting

SW80-1	SW80-2	SW80-3	Record/Play Channels Setting
OFF	OFF	OFF	Channel 0
ON	OFF	OFF	Channel 1
OFF	ON	OFF	Channel 2
ON	ON	OFF	Channel 3
OFF	OFF	ON	Channel 4
ON	OFF	ON	Channel 5
OFF	ON	ON	Channel 6
ON	ON	ON	Channel 7

SW81 (START)

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Starts recording/playing from an external audio source
	DOWN	×	Normal setting

SW82

SWITCH SHAPE	SWITCH NUMBER	SETTINGS	STANDARD SETTING	MEANING
 (8-Dip Switch)	1	ON		Record Mode **Note 3 Note 4** (Announcement mode for each channels settings) See Record Mode
		OFF	×	
	2	ON		
		OFF	×	
	3	OFF	×	Fixed
	4	ON		Used as External Music-On-Hold **Note 5 Note 6**
		OFF	×	Used as announcement device
	5	ON		μ-Law
		OFF		A-Law
	6-8	OFF	×	Fixed

Note 3: For record modes 128, 256 and 512, when one channel is used for recording, no other channel of the same area can be used for recording simultaneously.

Note 4: If the record mode is changed after a recording, since the record memory will not match, all the record memory data will be erased when the card is rebooted.

Note 5: When the card is used as an External Music-On-Hold source, recording or playing from the front card jack terminal is not available.

Note 6: When the card is used as an External Music-On-Hold source, only the channels designated in SW80 Record/Play Channels Setting can be used for that purpose. Other channels can be used for announcements.

Record Mode

SW82-1	SW82-2	Record Mode
OFF	OFF	64-Second Mode (8 sound sources can be used)
ON	OFF	128-Second Mode (4 sound sources can be used)
OFF	ON	256-Second Mode (2 sound sources can be used)
ON	ON	512-Second Mode (1 sound source can be used)

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial console connection

SW01

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Channel 0 make-busy state request
	OFF	×	Channel 0 make-busy state request cancel
2	ON		Channel 1 make-busy state request
	OFF	×	Channel 1 make-busy state request cancel
3	ON		Channel 2 make-busy state request
	OFF	×	Channel 2 make-busy state request cancel

SW01

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
4	ON		Channel 3 make-busy state request
	OFF	×	Channel 3 make-busy state request cancel
5	ON		Channel 4 make-busy state request
	OFF	×	Channel 4 make-busy state request cancel
6	ON		Channel 5 make-busy state request
	OFF	×	Channel 5 make-busy state request cancel
7	ON		Channel 6 make-busy state request
	OFF	×	Channel 6 make-busy state request cancel
8	ON		Channel 7 make-busy state request
	OFF	×	Channel 7 make-busy state request cancel

SW10

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		LAN transfer rate setting See LAN Transfer Rate Setting
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4-8	OFF	×	Fixed

LAN Transfer Rate Setting

SW10-1	SW10-2	SW10-3	LAN Transfer Rate Setting
OFF	OFF	OFF	Automatic Negotiation ON **Note 7**
ON	OFF	OFF	100 Mbps full-duplex fixed **Note 8**
OFF	ON	OFF	This setting is prohibited. (100 Mbps half-duplex fixed)
ON	ON	OFF	10 Mbps full-duplex fixed **Note 8**
OFF	OFF	ON	This setting is prohibited. (10 Mbps half-duplex fixed)
ON	OFF	ON	These settings are prohibited. (Automatic Negotiation ON)
OFF	ON	ON	
ON	ON	ON	

Note 7: The transmission rate (10 Mbps / 100 Mbps / 1000 Mbps) and duplex mode of the LAN connection are determined through Automatic Negotiation.

Note 8: All peripheral devices such as switching hubs are required to support the interface properties.

SW11

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		IP address first octet setting **Note 9** Set 0-255 in binary. (MSB= SW Num. 1, LSB= SW Num. 8) Default Setting: 0.0.0.0 **Note 10** **Note:** Card IP address is set with SW11-SW14. Example for setting 192.168.0.1: 0/1 = OFF/ON SW11 1 2 3 4 5 6 7 8 1 1 0 0 0 0 0 0 192 (0xC0) SW12 1 2 3 4 5 6 7 8 1 0 1 0 1 0 0 0 168 (0xA8) SW13 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 0 0 (0x00) SW14 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 1 1 (0x01)
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Note 9: You can use an IP address of class A, B, or C. Do not assign a network address (in the example above 192.168.0.0) or a broadcast address (192.168.0.255). If such addresses are assigned, the network interface will be disabled and an IP connection will not be possible.

Note 10: A connection with the default IP address (0.0.0.0) is not possible. Connect the card to a LAN after set an IP address.

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		IP address second octet setting **Note 11** Set 0-255 in binary. (MSB= SW Num. 1, LSB= SW Num. 8) Default Setting: 0.0.0.0 **Note 12** **Note:** Card IP address is set with SW11-SW14. Example for setting 192.168.0.1: 0/1 = OFF/ON SW11 1 2 3 4 5 6 7 8 1 1 0 0 0 0 0 0 192 (0xC0) SW12 1 2 3 4 5 6 7 8 1 0 1 0 1 0 0 0 168 (0xA8) SW13 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 0 0 (0x00) SW14 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 1 1 (0x01)
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Note 11: You can use an IP address of class A, B, or C. Do not assign a network address (in the example above 192.168.0.0) or a broadcast address (192.168.0.255). If such addresses are assigned, the network interface will be disabled and an IP connection will not be possible.

Note 12: A connection with the default IP address (0.0.0.0) is not possible. Connect the card to a LAN after set an IP address.

SW13

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		IP address third octet setting **Note 13** Set 0-255 in binary. (MSB= SW Num. 1, LSB= SW Num. 8) Default Setting: 0.0.0.0 **Note 14** **Note:** Card IP address is set with SW11-SW14. Example for setting 192.168.0.1: 0/1 = OFF/ON SW11 1 2 3 4 5 6 7 8 1 1 0 0 0 0 0 0 192 (0xC0) SW12 1 2 3 4 5 6 7 8 1 0 1 0 1 0 0 0 168 (0xA8) SW13 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 0 0 (0x00) SW14 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 1 1 (0x01)
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Note 13: You can use an IP address of class A, B, or C. Do not assign a network address (in the example above 192.168.0.0) or a broadcast address (192.168.0.255). If such addresses are assigned, the network interface will be disabled and an IP connection will not be possible.

Note 14: A connection with the default IP address (0.0.0.0) is not possible. Connect the card to a LAN after set an IP address.

SW14

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		IP address fourth octet setting **Note 15** Set 0-255 in binary. (MSB= SW Num. 1, LSB= SW Num. 8) Default Setting: 0.0.0.0 **Note 16** **Note:** Card IP address is set with SW11-SW14. Example for setting 192.168.0.1: 0/1 = OFF/ON SW11 1 2 3 4 5 6 7 8 1 1 0 0 0 0 0 0 192 (0xC0) SW12 1 2 3 4 5 6 7 8 1 0 1 0 1 0 0 0 168 (0xA8) SW13 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 0 0 (0x00) SW14 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 1 1 (0x01)
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Note 15: You can use an IP address of class A, B, or C. Do not assign a network address (in the example above 192.168.0.0) or a broadcast address (192.168.0.255). If such addresses are assigned, the network interface will be disabled and an IP connection will not be possible.

Note 16: A connection with the default IP address (0.0.0.0) is not possible. Connect the card to a LAN after set an IP address.

SW15

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Subnet mask setting Specify the subnet mask by using Classless Inter-Domain Routing (CIDR) notation.. Default Setting: 0 See Subnet Mask Setting
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		Fixed
	OFF	×	
8	ON		
	OFF	×	

Subnet Mask Setting

SW15-1	SW15-2	SW15-3	SW15-4	SW15-5	SW15-6	Subnet Mask	
						Bit Number	Decimal Notation
OFF	OFF	OFF	OFF	OFF	OFF	0	0.0.0.0 **Note 17**
ON	OFF	OFF	OFF	OFF	OFF	1	128.0.0.0.
OFF	ON	OFF	OFF	OFF	OFF	2	192.0.0.0
ON	ON	OFF	OFF	OFF	OFF	3	224.0.0.0
OFF	OFF	ON	OFF	OFF	OFF	4	240.0.0.0
ON	OFF	ON	OFF	OFF	OFF	5	248.0.0.0
OFF	ON	ON	OFF	OFF	OFF	6	252.0.0.0
ON	ON	ON	OFF	OFF	OFF	7	254.0.0.0
OFF	OFF	OFF	ON	OFF	OFF	8	255.0.0.0
ON	OFF	OFF	ON	OFF	OFF	9	255.128.0.0
OFF	ON	OFF	ON	OFF	OFF	10	255.192.0.0
ON	ON	OFF	ON	OFF	OFF	11	255.224.0.0
OFF	OFF	ON	ON	OFF	OFF	12	255.240.0.0
ON	OFF	ON	ON	OFF	OFF	13	255.248.0.0
OFF	ON	ON	ON	OFF	OFF	14	255.252.0.0
ON	ON	ON	ON	OFF	OFF	15	255.254.0.0
OFF	OFF	OFF	OFF	ON	OFF	16	255.255.0.0
ON	OFF	OFF	OFF	ON	OFF	17	255.255.128.0
OFF	ON	OFF	OFF	ON	OFF	18	255.255.192.0
ON	ON	OFF	OFF	ON	OFF	19	255.255.224.0
OFF	OFF	ON	OFF	ON	OFF	20	255.255.240.0
ON	OFF	ON	OFF	ON	OFF	21	255.255.248.0
OFF	ON	ON	OFF	ON	OFF	22	255.255.252.0
ON	ON	ON	OFF	ON	OFF	23	255.255.254.0
OFF	OFF	OFF	ON	ON	OFF	24	255.255.255.0
ON	OFF	OFF	ON	ON	OFF	25	255.255.255.128
OFF	ON	OFF	ON	ON	OFF	26	255.255.255.192
ON	ON	OFF	ON	ON	OFF	27	255.255.255.224
OFF	OFF	ON	ON	ON	OFF	28	255.255.255.240
ON	OFF	ON	ON	ON	OFF	29	255.255.255.248
OFF	ON	ON	ON	ON	OFF	30	255.255.255.252
ON	ON	ON	ON	ON	OFF	31	255.255.255.254
OFF	OFF	OFF	OFF	OFF	ON	32	255.255.255.255
Other than above						Setting not allowed	

Note 17: A connection with this setting is not possible. Connect the card to a LAN after assigning the correct subnet mask.

SW16

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	**SETTING**	**DEFAULT SETTING**	**MEANING**
1	ON		Default gateway IP address first octet setting **Note 18** Set 0-255 in binary. (MSB= SW Num. 1, LSB= SW Num. 8) Default Setting: 0.0.0.0 **Note 19** **Note:** Card default gateway IP address is set with SW16-SW19. Example for setting 192.168.0.254: 0/1 = OFF/ON SW16 SW17 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8 1 1 0 0 0 0 0 0 1 0 1 0 1 0 0 0 192 (0xC0) 168 (0xA8) SW18 SW19 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 0 0 (0x00) 254 (0xFE)
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Note 18: You can use an IP address of class A, B, or C. Do not assign a network address (in the example above 192.168.0.0) or a broadcast address (192.168.0.255). If such addresses are assigned, the network interface will be disabled and an IP connection will not be possible.

Note 19: A connection with the default IP address (0.0.0.0) is not possible. Connect the card to a LAN after set a default gateway IP address.

SW17

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Default gateway IP address second octet setting **Note 20** Set 0-255 in binary. (MSB= SW Num. 1, LSB= SW Num. 8) Default Setting: 0.0.0.0 **Note 21** **Note:** Card default gateway IP address is set with SW16-SW19. Example for setting 192.168.0.254: 0/1 = OFF/ON SW16 1 2 3 4 5 6 7 8 1 1 0 0 0 0 0 0 192 (0xC0) SW17 1 2 3 4 5 6 7 8 1 0 1 0 1 0 0 0 168 (0xA8) SW18 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 0 0 (0x00) SW19 1 2 3 4 5 6 7 8 1 1 1 1 1 1 1 0 254 (0xFE)
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Note 20: You can use an IP address of class A, B, or C. Do not assign a network address (in the example above 192.168.0.0) or a broadcast address (192.168.0.255). If such addresses are assigned, the network interface will be disabled and an IP connection will not be possible.

Note 21: A connection with the default IP address (0.0.0.0) is not possible. Connect the card to a LAN after set a default gateway IP address.

SW18

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Default gateway IP address third octet setting **Note 22** Set 0-255 in binary. (MSB= SW Num. 1, LSB= SW Num. 8) Default Setting: 0.0.0.0 **Note 23** **Note:** Card default gateway IP address is set with SW16-SW19. Example for setting 192.168.0.254: 0/1 = OFF/ON SW16 1 2 3 4 5 6 7 8 1 1 0 0 0 0 0 0 192 (0xC0) SW17 1 2 3 4 5 6 7 8 1 0 1 0 1 0 0 0 168 (0xA8) SW18 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 0 0 (0x00) SW19 1 2 3 4 5 6 7 8 1 1 1 1 1 1 1 0 254 (0xFE)
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Note 22: You can use an IP address of class A, B, or C. Do not assign a network address (in the example above 192.168.0.0) or a broadcast address (192.168.0.255). If such addresses are assigned, the network interface will be disabled and an IP connection will not be possible.

Note 23: A connection with the default IP address (0.0.0.0) is not possible. Connect the card to a LAN after set a default gateway IP address.

SW19

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	**SETTING**	**DEFAULT SETTING**	**MEANING**
1	ON		Default gateway IP address fourth octet setting **Note 24** Set 0-255 in binary. (MSB= SW Num. 1, LSB= SW Num. 8) Default Setting: 0.0.0.0 **Note 25** **Note:** Card default gateway IP address is set with SW16-SW19. Example for setting 192.168.0.254: 0/1 = OFF/ON SW16 1 2 3 4 5 6 7 8 1 1 0 0 0 0 0 0 192 (0xC0) SW17 1 2 3 4 5 6 7 8 1 0 1 0 1 0 0 0 168 (0xA8) SW18 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 0 0 (0x00) SW19 1 2 3 4 5 6 7 8 1 1 1 1 1 1 1 0 254 (0xFE)
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Note 24: You can use an IP address of class A, B, or C. Do not assign a network address (in the example above 192.168.0.0) or a broadcast address (192.168.0.255). If such addresses are assigned, the network interface will be disabled and an IP connection will not be possible.

Note 25: A connection with the default IP address (0.0.0.0) is not possible. Connect the card to a LAN after set a default gateway IP address.

SW20

<table>
<tr><th colspan="4">SWITCH TYPE: SOFT SWITCH</th></tr>
<tr><th>SWITCH NUMBER</th><th>SETTING</th><th>DEFAULT SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">1</td><td>ON</td><td></td><td>Enable VLAN Note 26</td></tr>
<tr><td>OFF</td><td>×</td><td>Disable VLAN</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td rowspan="6">VLAN COS setting
Set 0-7 in binary.
(MSB= SW Num. 2, LSB= SW Num. 4)
Default Setting: VLAN COS=1 (0/1 = OFF/ON)

Note: Example:
SW20
1 2 3 4 5 6 7 8
- 0 0 1 - - - -</td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td rowspan="6">VLAN ID upper order 4 bit setting
Set 1-4094 in binary.
(MSB= SW Num. 5, LSB= SW Num. 8)
Default Setting: VLAN ID=1 (0/1 = OFF/ON)

Note: VLAN ID is set with switches from SW20-5 to SW21-8.
Example:
SW20 SW21
1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8
- - - - 0 0 0 0 0 0 0 0 0 0 1</td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
</table>

Note 26: VLAN method is Tag-VLAN. The default setting is disable VLAN, therefore do not forget to set to SW20-1= ON for enabling VLAN.

SW21

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		VLAN ID low order 8 bit setting Set 1-4094 in binary. (MSB= SW Num.1, LSB= SW Num.8) Default Setting: VLAN ID=1 (0/1 = OFF/ON) **Note:** VLAN ID is set with switches from SW20-5 to SW21-8. Example: SW20: 1 2 3 4 5 6 7 8 / - - - - 0 0 0 0 SW21: 1 2 3 4 5 6 7 8 / 0 0 0 0 0 0 0 1
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON	×	
	OFF		

Note: The whole setting of SW20 and SW21 when VLAN COS=1 and VLAN ID=1 with VLAN enabled would be as follows:

SW20
1 2 3 4 5 6 7 8
1 0 0 1 0 0 0 0

SW21
1 2 3 4 5 6 7 8
0 0 0 0 0 0 0 1

SW22

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON	×	Fixed
2	OFF	×	Fixed
3	ON	×	Fixed
4	OFF	×	Fixed
5	OFF	×	Fixed
6	OFF	×	Fixed
7	OFF	×	Fixed
8	OFF	×	Fixed

SW23

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		HTTP port number upper order bytes settings. Group of port numbers from which the HTTP port number can be selected: 80 and 1024-65535. Set 0-255 in binary. (MSB= SW Num. 1, LSB= SW Num. 8) Default HTTP port number: 9801 (0x2469) (0/1 = OFF/ON) **Note:** HTTP port number is set with switches SW23 and SW24. Example to set 9801: SW23 1 2 3 4 5 6 7 8 0 0 1 0 0 1 1 0 (0x26) SW24 1 2 3 4 5 6 7 8 0 1 0 0 1 0 0 1 (0x49)
	OFF	×	
2	ON		
	OFF	×	
3	ON	×	
	OFF		
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON	×	
	OFF		
7	ON	×	
	OFF		
8	ON		
	OFF	×	

SW24

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		HTTP port number lower order bytes settings. Group of port numbers from which the HTTP port number can be selected: 80 and 1024-65535. Set 0-255 in binary. (MSB= SW Num. 1, LSB= SW Num. 8) Default HTTP port number: 9801 (0x2469) (0/1 = OFF/ON) **Note:** HTTP port number is set with switches SW23 and SW24. Example to set 9801: SW23 1 2 3 4 5 6 7 8 0 0 1 0 0 1 1 0 (0x26) SW24 1 2 3 4 5 6 7 8 0 1 0 0 1 0 0 1 (0x49)
	OFF	×	
2	ON	×	
	OFF		
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON	×	
	OFF		
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON	×	
	OFF		

SW25

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		When the card boots the record memory is erased. **Note 27**
	OFF	×	The record memory is maintained.
2	ON		Fixed
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Note 27: If the card is rebooted with the switch in the ON position, the data in the record memory is erased and the switch automatically changes to OFF (the record memory is maintained). Then the boot process starts.

SW26

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Play single playback the record of channel 0 **Note 29**
	OFF	×	Play multiple playback the record of channel 0 **Note 28**
2	ON		Play single playback the record of channel 1 **Note 29**
	OFF	×	Play multiple playback the record of channel 1 **Note 28**
3	ON		Play single playback the record of channel 2 **Note 29**
	OFF	×	Play multiple playback the record of channel 2 **Note 28**
4	ON		Play single playback the record of channel 3 **Note 29**
	OFF	×	Play multiple playback the record of channel 3 **Note 28**
5	ON		Play single playback the record of channel 4 **Note 29**
	OFF	×	Play multiple playback the record of channel 4 **Note 28**
6	ON		Play single playback the record of channel 5 **Note 29**
	OFF	×	Play multiple playback the record of channel 5 **Note 28**
7	ON		Play single playback the record of channel 6 **Note 29**
	OFF	×	Play multiple playback the record of channel 6 **Note 28**
8	ON		Play single playback the record of channel 7 **Note 29**
	OFF	×	Play multiple playback the record of channel 7 **Note 28**

Note 28: When this card is used as announcement equipment, SW26-1 to SW26-8 should be multiple playback (OFF).

Note 29: For AUTOMATED ATTENDANT [A-82] and DELAY ANNOUNCEMENT - ATTENDANT [D-114], set single playback (ON).

SW27

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Combined sound sources play settings See Combined Sound Sources Play Settings **Note 30**
	OFF	×	
2	ON		
	OFF	×	
3	OFF	×	Fixed

Note 30: Recording a message during multiple sound source playback may cause a sudden stop of the playback or an unexpected switch to another sound source.

Combined Sound Sources Play Settings

SW27-1	SW27-2	Combined Sound Source Play Settings
OFF	OFF	Normal playback
ON	OFF	Changed playback 1 **Note 31**
OFF	ON	Changed playback 2 **Note 31**
ON	ON	Not used

Note 31: The records of different sound source areas are played in combination. The combination pattern is set with the record mode setting (SW82) and the combined play pattern (SW27).

Combination Pattern

Record Mode (SW82)	Combined Sound Sources Settings (SW27)		
	Normal Playback	Changed Playback 1	Changed Playback 2
64-Second mode	Normal Play	64 Seconds x 4 Areas x 2 Groups	64 Seconds x 8 Areas x 1 Group
128-Second mode	Normal Play	128 Seconds x 4 Areas x 1 Group	Same as left
256-Second mode	Normal Play	256 Seconds x 2 Areas x 1 Group	Same as left
512-Second mode	Normal Play	512 Seconds x 1 Area x 1 Group	Same as left

Combination Patterns (SW26=Play Multiple Playback)

Combination Patterns	Sequence of Sound
Normal Play (default setting)	The sound source play of the selected channel is continuously repeated [64-Second mode: 8 Sound Sources] 0 Ch. : 0-0-0-0-0-0-0-0-0-0-0-0… 1 Ch. : 1-1-1-1-1-1-1-1-1-1-1-1… : 7 Ch. : 7-7-7-7-7-7-7-7-7-7-7-7… [128-Second mode: 4 Sound Sources] 0-1 Ch. : 0-0-0-0-0-0-0-0-0-0-0-0… 2-3 Ch. : 1-1-1-1-1-1-1-1-1-1-1-1… 4-5 Ch. : 2-2-2-2-2-2-2-2-2-2-2-2… 6-7 Ch. : 3-3-3-3-3-3-3-3-3-3-3-3… [256-Second mode: 2 Sound Sources] 0-3 Ch. : 0-0-0-0-0-0-0-0-0-0-0-0… 4-7 Ch. : 1-1-1-1-1-1-1-1-1-1-1-1… [512-Second mode: 1 Sound Source] 0-7 Ch. : 0-0-0-0-0-0-0-0-0-0-0-0…
64 Seconds x 4 Areas x 2 Groups	0-3 Ch. : After playing 0-1, 2-3 is continuously repeated **Note 32** 0-1-2-3-2-3-2-3-2-3-2-3… 4-7 Ch. : After playing 4-5, 6-7 is continuously repeated **Note 32** 4-5-6-7-6-7-6-7-6-7-6-7…
64 Seconds x 8 Areas x 1 Group	0-7 Ch. : After playing 0-1-2-3, 4-5-6-7 is continuously repeated **Note 32** 0-1-2-3-4-5-6-7-4-5-6-7…
128 Seconds x 4 Areas x 1 Group	0-7 Ch. : After playing 0-1, 2-3 is continuously repeated **Note 32** 0-1-2-3-2-3-2-3-2-3-2-3…
256 Seconds x 2 Areas x 1 Group	0-7 Ch. : After playing 0, 1 is continuously repeated **Note 32** 0-1-1-1-1-1-1-1-1-1-1-1…
512 Seconds x 1 Area x 1 Group	0-7 Ch. : 0 is continuously repeated **Note 32** 0-0-0-0-0-0-0-0-0-0-0-0…

Note 32: Pause time (soundless) between combined sound sources can be set through the ARTD CDN 33 (HD: Trunk Hold Timing).

Combination Patterns (SW26=Play Single Playback)

Combination Patterns	Sequence of Sound
Normal Play (default setting)	The sound source play of the selected channel is played single playback [64-Second mode: 8 Sound Sources] 0 Ch. : 0 1 Ch. : 1 : 7 Ch. : 7 [128-Second mode: 4 Sound Sources] 0-1 Ch. : 0 2-3 Ch. : 1 4-5 Ch. : 2 6-7 Ch. : 3 [256-Second mode: 2 Sound Sources] 0-3 Ch. : 0 4-7 Ch. : 1 [512-Second mode: 1 Sound Source] 0-7 Ch. : 0
64 Seconds x 4 Areas x 2 Groups	0-3 Ch. : 0-1-2-3 is played **Note 33** 4-7 Ch. : 4-5-6-7 is played **Note 33**
64 Seconds x 8 Areas x 1 Group	0-7 Ch. : 0-1-2-3-4-5-6-7 is played **Note 33**
128 Seconds x 4 Areas x 1 Group	0-7 Ch. : 0-1-2-3 is played **Note 33**
256 Seconds x 2 Areas x 1 Group	0-7 Ch. : 0-1 is played **Note 33**
512 Seconds x 1 Area x 1 Group	0-7 Ch. : 0 is played

Note 33: Pause time (soundless) between combined sound sources can be set through the ARTD CDN 33 (HD: Trunk Hold Timing).

ARTD HD	Pause Time (Soundless)
0	Continuous playback
1	128 ms
2	256 ms
3	384 ms
4	512 ms
5	640 ms
6	1024 ms
7	1280 ms
8	1536 ms
9	1792 ms
10	2048 ms
11	2560 ms
12	3072 ms
13	3584 ms
14	4096 ms
15	4608 ms

SW28

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed

SW29

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed

SW60

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed

SW61

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed

SW70

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed

SW71

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed

6. Record Function

[Record Area]

The term record area means the total amount of time (512 seconds) that can be used for records. The record area can be split in a maximum of 8 parts, each part being one sound source record.

Record Area (Per each Record Mode)

<table>
<tr><th></th><th>8 Parts Split
(64-Second mode)</th><th>4 Parts Split
(128-Second mode)</th><th>2 Parts Split
(256-Second mode)</th><th>No Split
(512-Second mode)</th></tr>
<tr><td rowspan="8">Record Area</td><td>Sound Source Number 0:
Max. 64 seconds</td><td rowspan="2">Sound Source Number 0:
Max. 128 seconds</td><td rowspan="4">Sound Source Number 0:
Max. 256 seconds</td><td rowspan="8">Sound Source Number 0:
Max. 512 seconds</td></tr>
<tr><td>Sound Source Number 1:
Max. 64 seconds</td></tr>
<tr><td>Sound Source Number 2:
Max. 64 seconds</td><td rowspan="2">Sound Source Number 1:
Max. 128 seconds</td></tr>
<tr><td>Sound Source Number 3:
Max. 64 seconds</td></tr>
<tr><td>Sound Source Number 4:
Max. 64 seconds</td><td rowspan="2">Sound Source Number 2:
Max. 128 seconds</td><td rowspan="4">Sound Source Number 1:
Max. 256 seconds</td></tr>
<tr><td>Sound Source Number 5:
Max. 64 seconds</td></tr>
<tr><td>Sound Source Number 6:
Max. 64 seconds</td><td rowspan="2">Sound Source Number 3:
Max. 128 seconds</td></tr>
<tr><td>Sound Source Number 7:
Max. 64 seconds</td></tr>
</table>

Note: The record mode can be set with SW82-1 and SW82-2. See SW82.

The channels distribution for each record area is as follows:

Assigned Channels per Record Area

<table>
<tr><th>Channel</th><th>8 Parts Split
(64-Second mode)</th><th>4 Parts Split
(128-Second mode)</th><th>2 Parts Split
(256-Second mode)</th><th>No Split
(512-Second mode)</th></tr>
<tr><td>0</td><td>Sound Source Number 0</td><td rowspan="2">Sound Source Number 0</td><td rowspan="4">Sound Source Number 0</td><td rowspan="8">Sound Source Number 0</td></tr>
<tr><td>1</td><td>Sound Source Number 1</td></tr>
<tr><td>2</td><td>Sound Source Number 2</td><td rowspan="2">Sound Source Number 1</td></tr>
<tr><td>3</td><td>Sound Source Number 3</td></tr>
<tr><td>4</td><td>Sound Source Number 4</td><td rowspan="2">Sound Source Number 2</td><td rowspan="4">Sound Source Number 1</td></tr>
<tr><td>5</td><td>Sound Source Number 5</td></tr>
<tr><td>6</td><td>Sound Source Number 6</td><td rowspan="2">Sound Source Number 3</td></tr>
<tr><td>7</td><td>Sound Source Number 7</td></tr>
</table>

[Recording Methods]

The recording methods of the record memory are as follows:

Recording Methods

Method	Explanation
Recording from a jack terminal	Connect a sound source device to the front earphone jack and record the announcement. For operation procedure see 7. Record from the Jack Terminal.
Recording from a WEB console	Using the web browser of a computer, perform a HTTP access and upload a WAVE file to the card. For operation procedure see 9. Record from WEB Console and Operations Procedure.
Recording from a telephone	Dial the access code from a telephone and record the announcement. See Multi Channel Recording - DAT [M-48] in Data Programming Manual - Business. **Note 1**

Note 1: Multi Channel Recording - DAT [M-48] operating procedures do not work for copying messages to trunks registered to the second half of Levels (from Level 4 to Level 7). To perform multi channel recording with a CH-DATA card, follow one of the operations below:

- Perform “3. Recording by designating RT” by registering trunks only from Level 0 to Level 3.
- Perform “5. Recording of an announcement for a UCD Group” by registering trunks only from Level 0 to Level 3.
- Perform “7. Recording of a message for ACD” by registering trunks only from Level 0 to Level 3.
- After any of the operations above is completed, perform additional recording operations to trunks registered to the second half of Levels (from Level 4 to Level 7) with “1. Recording by designating RT and TK.”

[Record Memory Backup]

If the power supply to the card is stopped due to a blackout or other reason, the record memory is backed up for 48 hours after the power failure. However, it is necessary to mount the card in the PIR for more than 20 minutes to charge it.

[Record State]

The state of the record memory (SRAM) can be checked with the command [show rec_data] from a serial console. For details, refer to Software Switch Setting in Chapter 6.

7. Record from the Jack Terminal

The following explains the operation and checking methods to connect a sound source of records to the card frontal jack.

[Start]

＜Record Settings and Operation Procedure＞

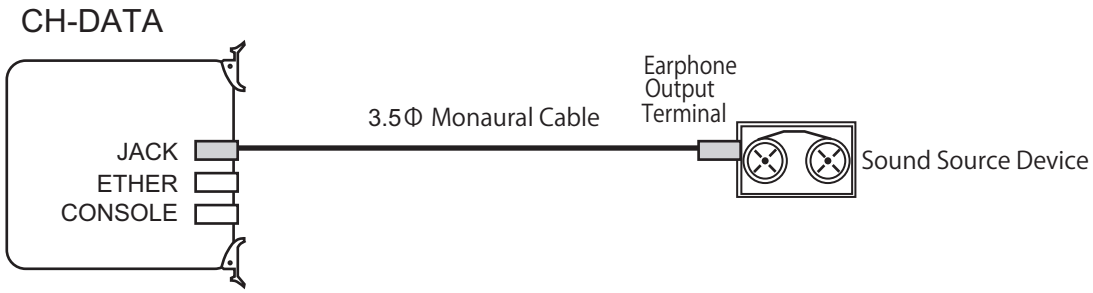
Step1: Key Settings

Perform the following key settings before install the card in the PIR:

Switch Number	Settings
SW80-7	OFF (READ (play) mode)
SW80-8	OFF (Record from the jack disabled)
SW81	Down (START key (normal case))
SW82-1 to 82-2	Record mode settings
SW82-4	OFF (used as announcement device)
SW82-5	ON (μ-Law)/ OFF(A-Law)

Step2: Record Preparation

Install the card in the PIR. Wait till the OPE lamp turns solid green and connect the card front jack terminal and the sound source device output terminal (earphone terminal).



Note: For the connection use a universal 3.5φ monaural cable.

Step3: SW80-1 to SW80-3 settings (record channels).

Set the channel that performs the message record.

Note: Select the lowest numbered circuits in case of using 512-second mode, 256-second mode and 128-second mode.

- 512-second mode (all channels for the same announcement): Circuit 0.
- 256-second mode (when using 2 messages, one for channels 0, 1, 2 and 3 and the other for channels 4, 5, 6 and 7): record respectively in Circuit 0 and Circuit 4.
- 128-second mode (4 messages for channels 0 and 1, channels 2 and 3, channels 4 and 5 and channels 6 and 7): record respectively in Circuit 0, Circuit 2, Circuit 4 and Circuit 6.

Step4: Set SW80-8 (Record from the jack enabled) to ON.

The BL lamp of the record area corresponding to the set channel will flash at 120 IPM.

Step5: Set SW80-7 (WRITE (record) mode) to ON.

The REC lamp will light up.

Step6: Sound Source Device Output Level settings and Output Start

To avoid excessive input to the card, set the sound source device at a lower output level.

The input impedance of the card is 680 Ω. Also, if there is an earth terminal in the sound source device, connect the earth wire to the earth terminal.

Step7: Turn the SW81 (START Key) upwards and start recording.

During recording process, the REC lamp will flash at 60 IPM.



Note: When the recording time has expired, the REC lamp will flash at 120 IPM.

Step8: After finishing the recording, return the SW81 (START Key) to the previous position. The recording will stop.

The REC lamp will light on.



Step9: Set to OFF SW80-7 (READ (play) mode).

The REC lamp will go off.

＜Record Result Checking＞

After finishing the recording set to SW80-7 (WRITE/READ mode) to OFF (READ) and check the recorded sound with an earphone. If the output level is too much low or there are crackling noises, adjust the output levels and perform the recording again

Step10: Remove the card frontal jack connection and connect an earphone. Turn the SW81 (START Key) upwards and start the playing. Check the record (if you do not need to check it go to STEP12).

During the playing, the BL lamp of the set record channel will light on.



Note: As long as you do not return the SW81 (START key) to the original position, the record will play continuously. When playing from the front jack, since the PAD is not used, the sound will be played just as when recorded.

Step11: After checking the record, return the SW81 (START Key) to the previous position. The playing will stop.

The BL lamp of the set record channel will flash at 120 IPM.



Note: If the result is not satisfactory, you can try again. Go back to STEP5.

Step12: Set to OFF the SW80-8 (Record from the jack disabled).

The BL lamp of the record area corresponding to the set channel will go off.

Note: When performing an MB setting with SW01 or office data, it flashes at 60 IPM.

Step13: If the card is used as an external Music-On-Hold source, make the following External-Music-On-Hold setting:

- SW80-1 to 80-3 (Channel Settings): Specify the circuit for playback of music on hold.
- SW82-4: ON.

[Finish]

8. Play a Recorded Sound Source

The following explains the procedure to hear an announcement output to the card front jack from a source sound device (earphone or speaker).

Note: Use a source sound device with a impedance of at least 16Ω.

[Start]

Step1: Key settings

Perform the following key settings before install the card in the PIR:

Switch	Settings
SW80-7	OFF (READ (play) mode)
SW80-8	OFF (Record from the jack disabled)
SW81	Down (START key (normal case))
SW82-4	OFF (used as announcement device)
SW82-5	ON (μ-Law)/ OFF(A-Law)

Step2: Playing preparation

Install the card in the PIR. Wait till the OPE lamp turns solid green and connect the front card jack with the sound source device earphone output.

Step3: Set SW80-1 to 80-3(play circuits setting).

Set the channel that plays the announcement.

Step4: Set the SW80-8 (Record from the jack enabled) to ON.

The BL lamp of the record area corresponding to the set channel will flash at 120 IPM.

Step5: Turn the SW81 (START Key) upwards.

During the playing, the BL lamp of the record area corresponding to the set channel will light on.



Note: As long as you do not put the SW81 (START key) down, the record will play continuously. When playing from the front jack, since the PAD does not enter, the sound will be played just as when recorded.

Step6: Return the SW81 (START Key) to the previous position. The playing stops.

The BL lamp of the record area corresponding to the set channel will flash at 120 IPM.



Step7: Set the SW80-8 (Record from the jack disabled) to OFF.

The BL lamp of the record area corresponding to the set channel will go off.

Note: When performing an MB setting with SW01 or office data, it flashes at 60 IPM.

Step8: If the card is used as an external Music-On-Hold source, make the following External-Music-On-Hold setting:

- SW80-1 to 80-3 (Channel Settings): Specify the circuit for the playback of music on hold.
- SW82-4: ON (Used as External Music-On-Hold).

[Finish]

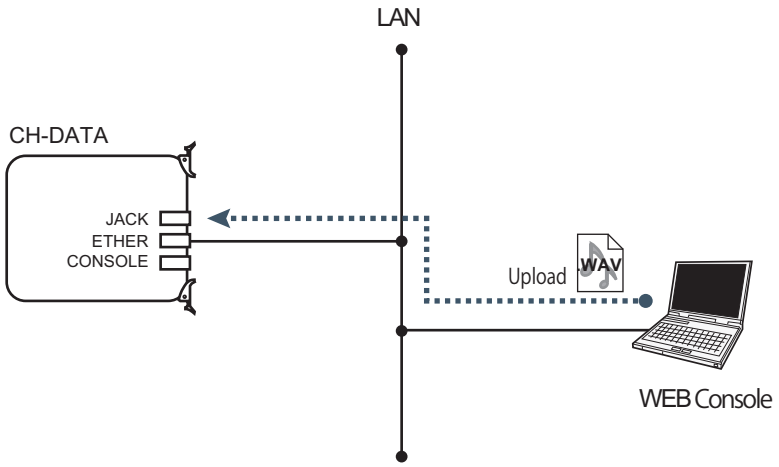
9. Record from WEB Console and Operations Procedure

The following explains how to upload a WAVE file to the card by using the WEB console in a web browser.

The following are conditions for the WAVE file.

- The WAVE file must have a RIFF file format (.wav).
- The WAVE file format should comply to the following:
  Sampling Frequency: 8kHz
  Quantifying Bit Number: 8
  Quantization Format: G.711 A/μ-law (same as DAT card settings)
  Channel: Monaural
- The file name of an uploaded WAVE file can be a maximum of 63 characters in length. Up to 32 characters including spaces are saved as the title of the record. The following ASCII characters can be used for the title:
  !#$%&’()+,-.0123456789;=@ABCDEFGHIJKLMNOPQRSTUVWXYZ[ ]
  ^_`abcdefghijklmnopqrstuvwxyz{ }~
  Multi-byte characters (such as Japanese or Chinese) may be displayed incorrectly in certain environments. You can upload a WAVE file named with multi-byte characters, but the file may be illegible or garbled.
- Uploaded WAVE files cannot be bigger than 5 Megabytes. Also, even if smaller than 5 Megabytes, if the playing time of the uploaded WAVE file is longer than the playing time in the selected record mode, the card saves only the portion of the file from the beginning to the end of the capacity determined by the record mode.

Note: The response from the web browser may be lost if you try to upload a file with an invalid format or a file which is bigger than 5 Megabytes. When the response from the web browser is lost, click the [Abort] button.



[Start]

＜Record Settings and Operation Procedure＞

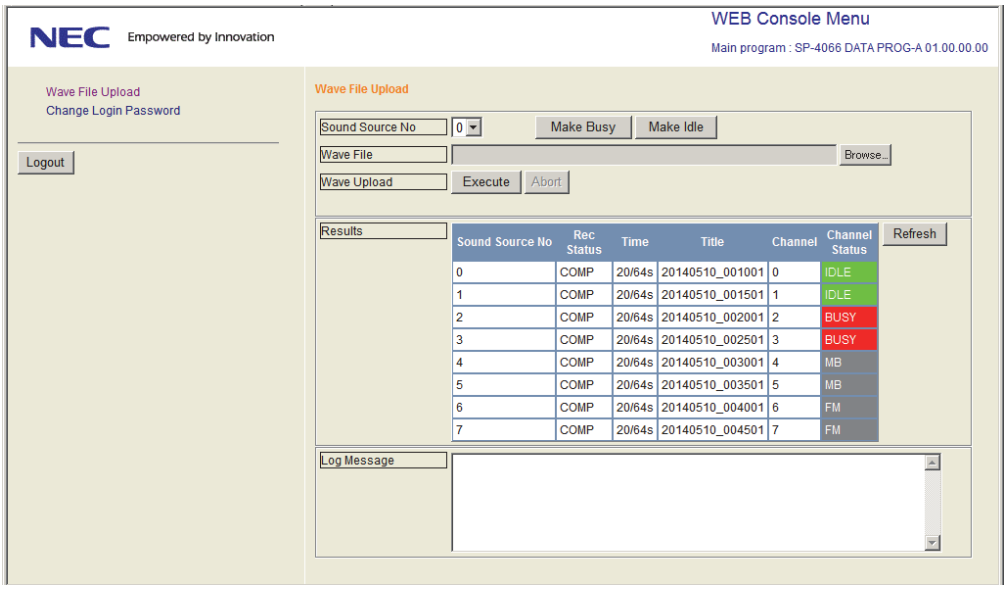
Step1: Put the WAVE file in a folder of your choice of the WEB console PC.

Step2: Log in to the WEB console. See WEB Console in chapter 6 for the login procedure.

Step3: Select [Wave File Upload] on the left side of the screen.



Step4: [WAVE File Upload] screen is displayed.



Step5: Select the sound source number for uploading.

Sound Source No. designates which WAVE file is uploaded to which sound source number.

Note: The sound source number that you can select depends on the SW82-1 and SW82-2 settings.

Example:

64-second mode: Sound Source Numbers 0-7
128-second mode: Sound Source Numbers 0-3
256-second mode: Sound Source Numbers 0-1
512-second mode: Sound Source Number 0

Step6: Check the channel status.

Upload is only possible if each of the channels of the record area is set to [MB], [---] or [FM]. If any of the desired channel is in IDLE state, click the [Make Busy] button to change it to [MB]. Also, in case of setting the [FM] option, if the [Make Busy] button is clicked, the channel status does not change to [MB] but it is possible to download. However, in that case the current sound source is forced to stop and another one is used instead, so if External Music-On-Hold is being heard at that moment, the playback stops for a moment.

Make Busy: Set to ON the record area of the designated sound source number corresponding to SW01 (MB request) **Note 1 Note 2**

Make Idle: Set to OFF the record area of the designated sound source number corresponding to SW01 (MB cancel) **Note 2**

Note 1: After set Make Busy, if SW01 is set to OFF using a PCPro command or a serial console, MB is canceled. Also, because SW01 is an immediate switch, changes made to it will not be saved when the card is rebooted.

Note 2: Because SW01 asks the server to set MB, the setting may take a moment. Also, since it is not a function based on office data, MB cannot be canceled using office data based commands as MBTK.

Results: Each state of the DAT card is displayed

Note: The status are automatically updated each 5 seconds. The status can be manually updated by clicking the [Refresh] button.

Rec Status: The status of the record memory

---: No record data

WAIT: Preparing recording

Note: The process enters in this state from the moment a request for recording is made till the moment the record actually starts. [WAIT] may be displayed for no more than 5 seconds.

REC: Recording

COMPWAIT: Preparing the recording completion

Note: The process enters in this state from the moment the recording is stopped and the control parameter information is updated. [COMPWAIT] may be displayed for no more than 5 seconds.

COMP: Record completed

T.O: Record finished (time over)

Note: The record is done only for the set time. If the record of the sound source is longer than the set time it can be heard but only until the set time (the part that exceeds the set time will not be recorded). In that case set the proper time and record again.

Time: Record duration

Title: Title of record

Channel: Assigned channel

Channel Status: State of the channel

IDLE: The channel is in an idle state

BUSY: The channel is in a busy state

MB: The channel is in a make busy state

FM: The channel is in an External Music-On-Hold state

---: Not usable

Note: This sign is displayed if the OPE lamp is OFF, or the OPE lamp is ON but there is not any office data registered to the card.

Step7: Select the WAVE file to upload.

Wave file: Click the [Browse] button and select the file.

Note: You cannot specify a file to upload by typing a file name in the [Wave File] box of the screen.

Note: The last folder selected with the [browse] button will be recorded.

Step8: Click [Execute]. The upload will start.

The upload progress will be shown on the [Log Messages] space.

The upload can be stopped in the middle of the process by clicking the [Abort] button.

Note: Only the process of transferring the WAVE file to the DAT card can be aborted. After the transferring, the writing to the record memory cannot be aborted.

Note: After the upload is completed the make-busy state request of the circuits of the record area are canceled (SW01= OFF). If the MB setting was performed with office data it will not be canceled.

Note: The response from the web browser may be lost if you try to upload a file with an invalid format or a file which is bigger than 5 Megabytes. When the response from the web browser is lost, click the [Abort] button.

[Finish]

10. Record Memory All Clear

The following explains how to completely clear the record memory of the card, which is the storage of audio information. Erasing can be done using PCPro or a serial console.

From PCPro

[Start]

Step1: Key settings

Set SW25-1 to ON (When the card boots the record memory is erased) with the CPSW command.

Note: After setting SW25-1 to ON and rebooting the card, the record memory is erased, the switch changes automatically to OFF Circuit 0 (make-busy state request cancel) and then the rebooting starts.

Step2: Card rebooting

Write the switch settings changed with the CPSW command (writing mode = normal) to the editing memory of the card. After that, initialize the card. When the card is booting the REC lamp will turn be turned on.

Step3: Record memory erasing

When the erasing is finished, the REC lamp will be turned off.

The message [The circuit card initialization has been completed] will appear in the CPSW command.

Note: The switch SW25-1 is automatically set to OFF at the rebooting of the card. If you execute the CPSW command to read the switch status of the card, [SW25-1=OFF] will be displayed.

[Finish]

From Serial Console

[Start]

Step1: Key settings

Set SW25-1 to ON with the command [set sw 25] (When the card boots the record memory is erased).

Step2: Card rebooting

Execute the [save] command, enter [y] for the selection of saving and reboot the card. When the card is booting, the REC lamp will be turned on.

Step3: Record memory erasing

When the erasing is finished, the REC lamp will be turned off.

Note: The switch SW25-1 is automatically set to OFF at the rebooting of the card. If you execute the [show sw] command to read the switch status of the card, [SW25-1=0(OFF)] will be displayed.

[Finish]

11. External Interfaces

LT connector lead accommodation of this card is described below.

LT Connector Lead Accommodation of PIR

Accommodated in *1

LT0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	E	9	FM
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in *2

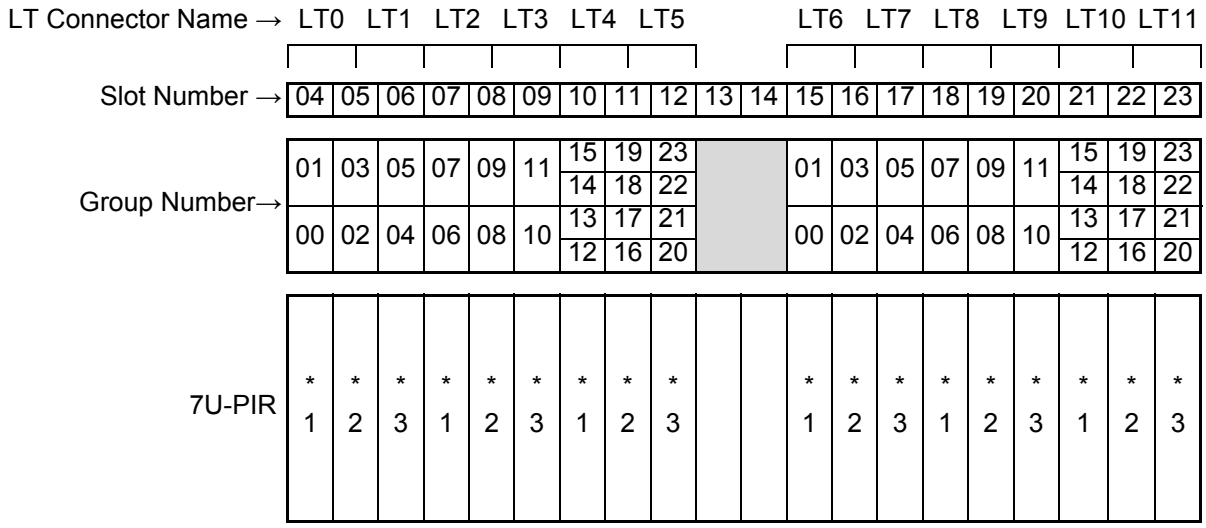
LT1, 3, 5, 7, 9, 11 Connector

26	E	1	FM
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in *3

LT1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	E	17	FM
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	



Note: For External Music-On-Hold cabling connection, see External Music-On-Hold Cable Connection section in MODULES MOUNTING AND CONNECTION (7U-PIR CONFIGURATION) chapter and External Music-On-Hold Cable Connection section in MODULES MOUNTING AND CONNECTION (7U-PIR AND 8U-PIR MIXED CONFIGURATION) chapter of Appliance Model Installation Manual.

CH-M03 Ground Start Sub Card

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
—	—	—	—	X	—	—

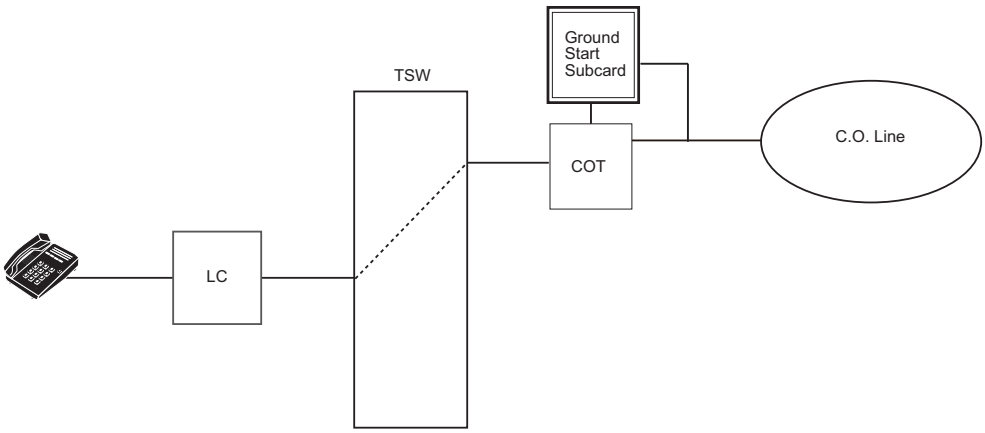
1. General Functions

CH-M03 is a sub card for the CH-12COTB card. The card provides ground start signaling detection. CH-M03 is installed in one of the adjacent slots of the CH-12COTB slot and connected using its front card cable connector.

Note: The card can be used only in a set with CH-12COTB, independent use is not possible.

Note: Ground start circuit must be set in the CH-12COTB card office data. If it is not set, the card cannot be used (OPE lamp will be OFF).

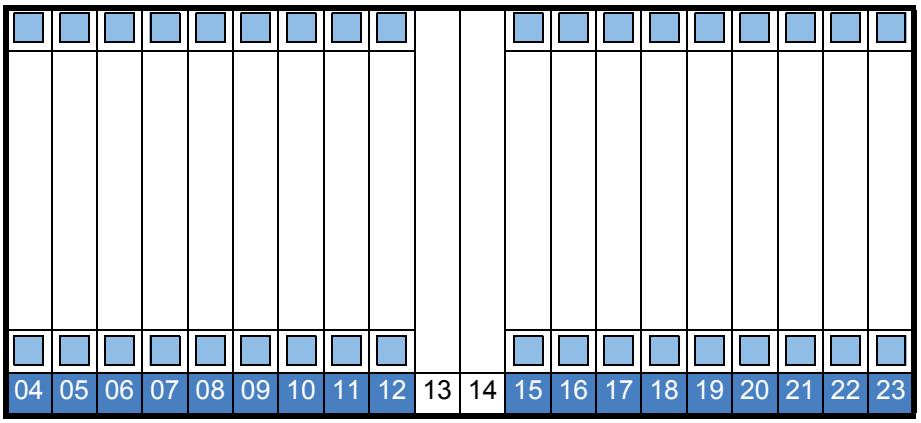
Location of CH-MO3 in the System



2. Mounting Locations/Conditions

Mounting Location <7U-PIR>

Universal Slot



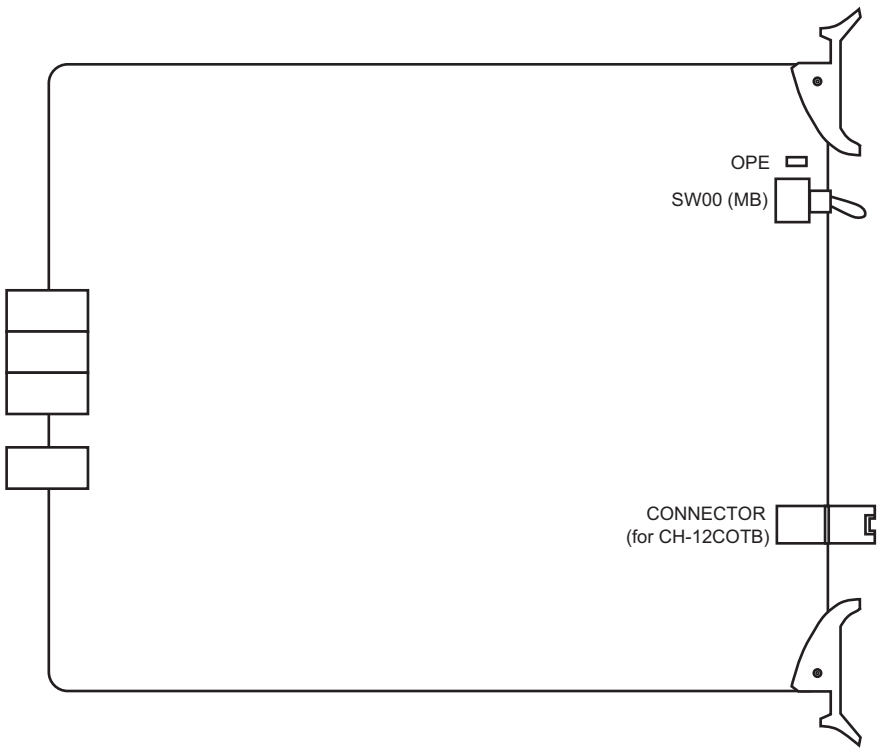
Mounting Conditions:

CH-M03 is installed in one of the adjacent slots of CH-12COTB.

Note: CH-M03 card cannot be mounted to a PA Adapter.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches and connectors on this card is shown below.



4. Lamp Indications

The content of the lamp indications on this card are shown in the table below.

LAMP NAME	COLOR	STATE	DESCRIPTION
OPE	Green	Light	The card is operating normally.
		OFF	The card is not operating.

5. Switch Settings

The switches on the CH-M03 card have the following meanings.

Hardware Switch

SW00 (MB)

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card make-busy (the card is hot-pluggable.)
	DOWN	×	Card make-busy cancel (the card is operating.)

6. External Interface

LT connector lead accommodation of this card is described below.

LT Connector Lead Accommodation (1/2)

Accommodated in * 1

LT0, 2, 4, 6, 8, 10 Connector

26	T0	1	R0
27	T1	2	R1
28	T2	3	R2
29	T3	4	R3
30	T4	5	R4
31	T5	6	R5
32	T6	7	R6
33	T7	8	R7
34	T8	9	R8
35	T9	10	R9
36	T10	11	R10
37	T11	12	R11
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in * 2

LT1, 3, 5, 7, 9, 11 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	T0	9	R0
35	T1	10	R1
36	T2	11	R2
37	T3	12	R3
38	T4	13	R4
39	T5	14	R5
40	T6	15	R6
41	T7	16	R7
42	T8	17	R8
43	T9	18	R9
44	T10	19	R10
45	T11	20	R11
46		21	
47		22	
48		23	
49		24	
50		25	

LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5		LT6	LT7	LT8	LT9	LT10	LT11
Slot No. →	04 05 06	07 08 09	10 11 12	13 14	15 16 17	18 19 20	21 22 23						
Group No. →	01 03 05	07 09 11	15 19 23 14 18 22		01 03 05	07 09 11	15 19 23 14 18 22						
	00 02 04	06 08 10	13 17 21 12 16 20		00 02 04	06 08 10	13 17 21 12 16 20						
7U-PIR	* 1	* 2	* 1	* 2	* 1	* 2		* 1	* 2	* 1	* 2	* 1	* 2

LT Connector Lead Accommodation (2/2)

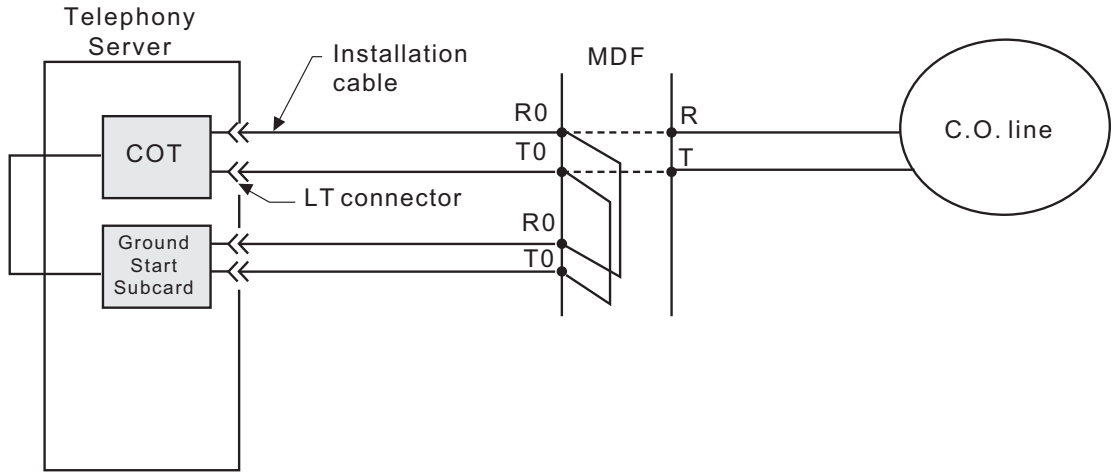
Accommodated in * 3

LT0, 2, 4, 6, 8, 10 Connector			
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	T0	17	R0
43	T1	18	R1
44	T2	19	R2
45	T3	20	R3
46	T4	21	R4
47	T5	22	R5
48	T6	23	R6
49	T7	24	R7
50		25	

LT1, 3, 5, 7, 9, 11 Connector			
26	T8	1	R8
27	T9	2	R9
28	T10	3	R10
29	T11	4	R11
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5				LT6	LT7	LT8	LT9	LT10	LT11			
Slot No. →	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Group No. →	01	03	05	07	09	11	15	19	23			01	03	05	07	09	11	15	19	23
							14	18	22									14	18	22
	00	02	04	06	08	10	13	17	21			00	02	04	06	08	10	13	17	21
							12	16	20									12	16	20
7U-PIR		* 3			* 3			* 3					* 3			* 3			* 3	

Connecting Route Diagram



Note 1

Note 1: COT and Ground Start subcard are connected with their front card connectors. For the connection, use only the cable (GS TRK CA) provided with the CH-M03 card.

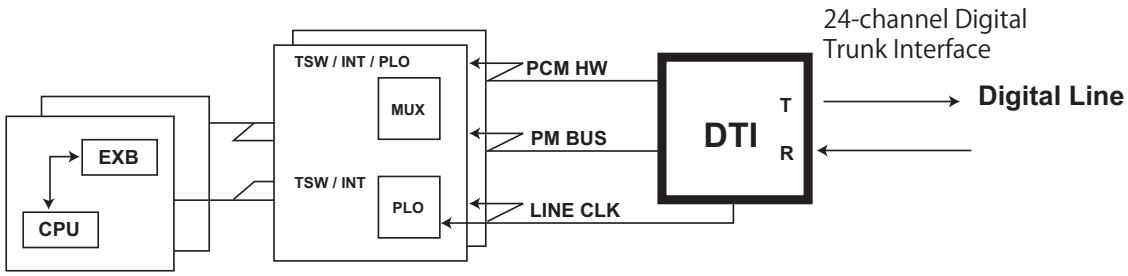
CH-PRTA (1.5M DTI)

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	-	-	X	-	-

1. General Functions

This card provides an interface between a digital trunk for AMI (T1) and the system at 1.5 Mbit/s. To an obtain appropriate speech level, this card has a standard PAD and a flexible PAD. A flexible PAD can set a more detailed PAD value than a standard PAD. A flexible PAD can set values for the loss from 0 to 17 dB and the gain from -1 to -8 dB respectively in 1dB step. The loss and the gain values can also be set through the APAD or ARTD commands. Note that substitution of the Standard/Flexible PAD and level setting of Flexible PAD are performed with the switches.

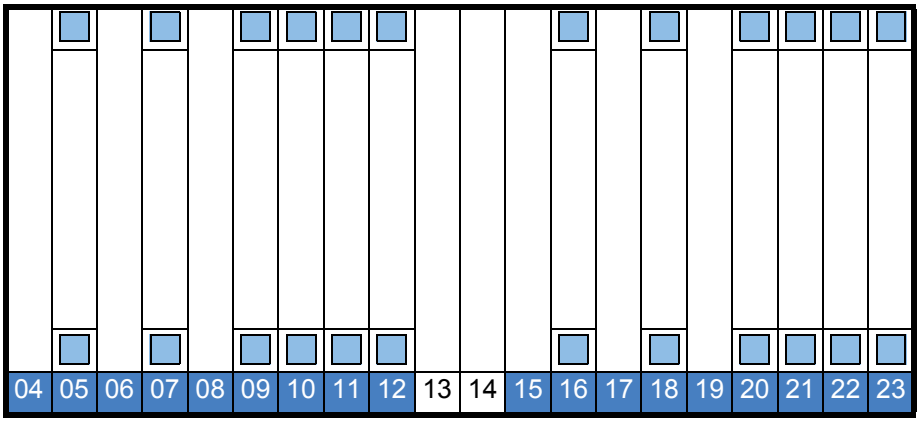
Location of CH-PRTA (1.5M DTI) in the System



2. Mounting Locations/Conditions

Mounting Location <7U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-23



Mounting Conditions:

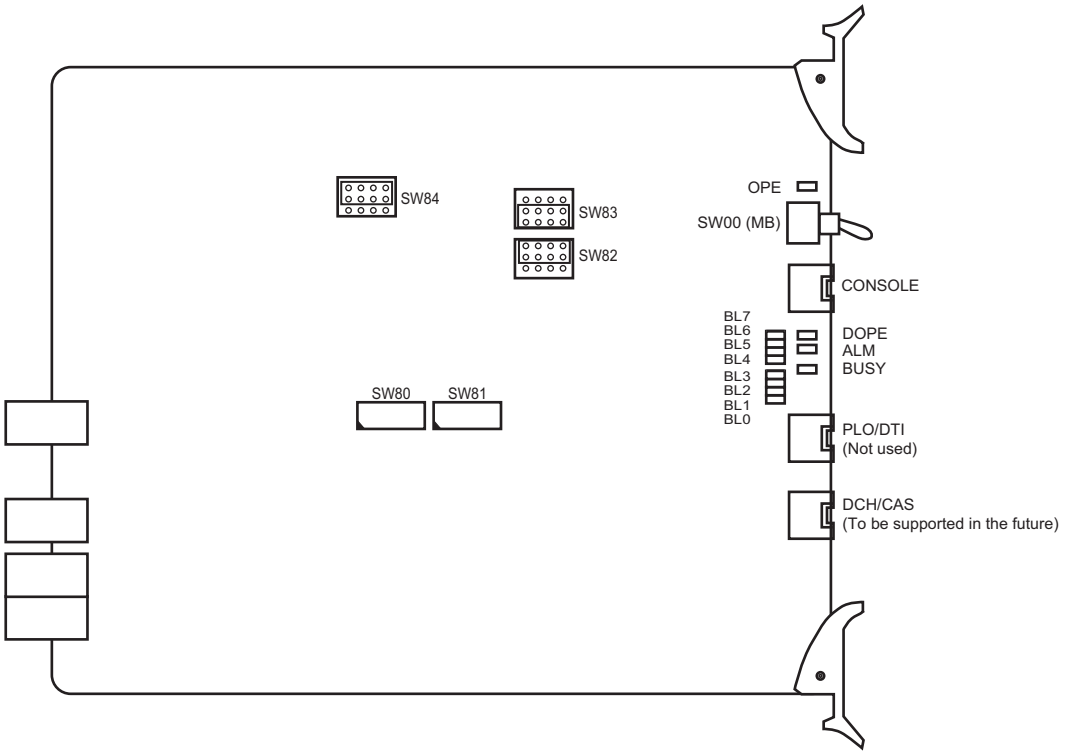
- This card seizes 24 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot.

- Mount this card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.

3. Face Layout of Lamps, Switches and Connectors

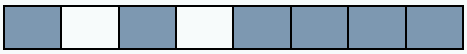
The face layout of lamps, switches, and connectors on this card is shown below.

Face Layout of CH-PRTA (1.5M DTI)



4. Lamp Indications

The contents of lamp indications on this card are shown in the table below.

LAMP NAME	COLOR	DESCRIPTION		
OPE	Green	Light	This card is operating normally.	
DOPE	Green	Flash	Refer to DOPE - BL Lamp Control (Card Status Display).	
BUSY	Green	Light	BL0 - BL7: Indicates the status of CH0 to CH7.	Refer to BUSY - BL Lamp Control (CH Status Display).
		Flash (flashes once)	256 milliseconds OFF/256 milliseconds ON: once/1536 milliseconds OFF BL0 - BL7: Indicates the status of CH8 to CH15. 	
		Flash (flashes twice)	256 milliseconds OFF/256 milliseconds ON: twice/1024 milliseconds OFF BL0 - BL7: Indicates the status of CH16 to CH23. 	
		OFF	Other than those above	
ALM	Red	Light	Refer to ALM - BL Lamp Control (While Detecting a Line Alarm).	
		OFF	No line alarm	
BL0 - BL7	Green	DOPE, BUSY and ALM lamps are used in combination with each other.		

LAMP NAME				STATUS	CONTROL PROGRAM
OPE	ALM	DOPE	BUSY		
OFF	OFF	Light	Light	BOOT program starting up.	BOOT
OFF	OFF	Flash (60 IPM)	OFF	Waiting for downloading the program.	
OFF	OFF	Light	OFF	Downloading the program.	
OFF	OFF	OFF	OFF	Program Download is completed.	
OFF	OFF	Flash (120 IPM)	OFF	Program Download has failed.	
OFF	OFF	Light	Light	Main program initialization is starting up.	

LAMP NAME				STATUS	CONTROL PROGRAM
OPE	ALM	DOPE	BUSY		
OFF	OFF	OFF	OFF	Initialization starting.	MAIN
OFF	OFF	Flash (60 IPM)	Flash (60 IPM)	Built-in RAM test starting.	
OFF	Flash (120 IPM)	Flash (120 IPM)	OFF	Built-in RAM test error.	
Light	Light	OFF	OFF	Detecting a line alarm.	
Light	OFF	Light	OFF	Indicates the status of the card (except ALM and BUSY).	
Light	OFF	OFF	Light	Indicates the BL status of CH0-7.	
Light	OFF	OFF	Flash (special)	Indicates the BL status of CH8-15 (BUSY: Flashes once every approximately two seconds).	
Light	OFF	OFF	Flash (special)	Indicates the BL status of CH16-23 (BUSY: Flashes twice every approximately two seconds).	

<Priorities for ALM, BUSY and DOPE lamps>

After the initialization is completed, the status of ALM (line alarm) is indicated. When no line alarm is detected, the status of DOPE is indicated.

DOPE is indicated (Busy: Off) while all the lines are not used. BUSY is indicated (DOPE: Off) when making/receiving a call.

DOPE is indicated again when all the channels are in idle state.

(a) DOPE - BL Lamp Control (Card Status Display)

The table below shows descriptions of BL0 to BL7 lamps while DOPE lamp lights.

LAMP NAME	COLOR	DESCRIPTION	
BL7	Green	Light	Operates with 1.5M.
BL5 - 6	Green	OFF	Not used
BL4	Green	Light	Loopback is being activated.
		OFF	In operation.
BL0 - 3	Green	OFF	Not used

(b) BUSY - BL Lamp Control (CH Status Display)

A status of channel is indicated by a combination of BUSY lamp and BL lamp indications.

BUSY lamp indicates a target group of channels (i.e., CH0-7, CH8-15 or CH16-23) by its lighting pattern. A status of each channel belonging to the target group is indicated by the lighting pattern of BL lamp.

To display statuses of multiple channels belonging to different groups, the lighting pattern of BUSY lamp changes with a period of approximately two seconds.

- Example 1 - When CH0 and CH7 (belonging to the same group) are busy.

  BUSY lamp: Light
  BL0 lamp: Light
  BL7 lamp: Light

- Example 2 - When CH0 and CH15 (belonging to different groups) are busy.

BUSY lamp:	Light	Flash once	Light	...
BL0 lamp:	Light	OFF	Light	...
BL7 lamp:	OFF	Light	OFF	...

See the following tables for more details:

LAMP NAME	COLOR	CHANNELS INDICATED BY BUSY AND BL LAMP		
BUSY	Green	Light	Flash once/ approx. 2 seconds	Flash twice/ approx. 2 seconds
BL7	Green	CH7	CH15	CH23
BL6	Green	CH6	CH14	CH22
BL5	Green	CH5	CH13	CH21
BL4	Green	CH4	CH12	CH20
BL3	Green	CH3	CH11	CH19
BL2	Green	CH2	CH10	CH18
BL1	Green	CH1	CH9	CH17
BL0	Green	CH0	CH8	CH16

STATUS OF BL LAMP	DESCRIPTION	REMARKS
Light	Corresponding channel is in use.	
Flash (Flash according to DP signal)	DP relaying	
Flash (30 IPM)	Corresponding channel is in make-busy state (outgoing/incoming). 512 milliseconds ON/1536 milliseconds OFF 	BUSY lamp is not controlled only when the channel is placed in make-busy state. Flashes when other channels in the same group are used.
Flash (60 IPM)	Corresponding channel is in make-busy state (outgoing). 512 milliseconds ON/512 milliseconds OFF: twice 	
OFF	Corresponding channel is in idle state.	OFF also when D channels / CCIS signal channels are registered.

(c) ALM - BL Lamp Control (While Detecting a Line Alarm)

The table below shows descriptions of BL0 to 7 lamps while ALM lamp lights.

LAMP NAME	COLOR	DESCRIPTION	
BL7	Green	Light	Input signal down (PCM LOSS) is detected.
		OFF	Input signal down (PCM LOSS) is not detected.
BL6	Green	Light	Frame alignment loss is detected.
		OFF	Frame alignment loss is not detected.
BL5	Green	OFF	Not used
BL4	Green	Light	Remote Alarm is received.
		OFF	Remote Alarm is not received.
BL3	Green	Light	Main Signal ALL1 is received.
		OFF	Main Signal ALL1 is not received.
BL2	Green	Light	Alarm Information Signal (AIS) is received.
		OFF	Alarm Information Signal (AIS) is not received.
BL1	Green	Light	Frequent CRC error (24 multiframe)/Bit error is detected (12 multiframe).
		OFF	Frequent CRC error (24 multiframe)/Bit error is not detected (12 multiframe).
BL0	Green	OFF	Not used

<Reference>

Check the following when ALM lamp lights on during the startup of the card.

- BL7

  Check the cable connection between the card and the connected device (especially the direction from the connected device to the card)

- BL6

  Different types of multiframe (12-multiframe/24-multiframe) are set between the card and the connected device. Check the switch setting of SW12-2 again.

- BL4

  Check the cable connection between the card and the connected device (especially the direction from the card to the connected device)

  or

  Different types of multiframe (12-multiframe/24-multiframe) are set between the card and the connected device. Check the switch setting of SW12-2 again.

- BL2

  There is a problem with the connected device (network side).

5. Switch Settings

Standard settings of switches on this card are shown in the tables below.

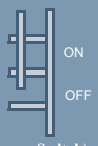
Hardware Switch

Note: For switch settings of SW80 and SW81, refer to Starting up the Card.

SW00 (MB)

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy
	DOWN	×	Card: make-busy cancel

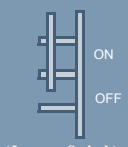
SW82

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	UP (ON)	×	Fixed to ON

SW83

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	DOWN (OFF)	×	Fixed to OFF

SW84

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	UP (ON)	×	Middle point of reception transformer: Open
	DOWN (OFF)		Middle point of reception transformer: Ground

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection.

Note: When initializing software switch settings, they are initialized to a predefined template value selected by settings of hardware switches SW80 and SW81. For further details, refer to Switch Settings of Template.

SW01

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Local Loopback: Set (Internal)
	OFF	×	Local Loopback: Cancel (Internal)
2	ON		Line Loopback: Set (External)
	OFF	×	Line Loopback: Cancel (External)
3	ON		Payload Loopback: Set
	OFF	×	Payload Loopback: Cancel
4	ON		All channel make-busy: Set
	OFF	×	All channel make-busy: Cancel
5-8	OFF	×	Fixed to OFF

<Reference>

(a) Local Loopback (Internal Loopback)

All the 24 Channels sent from TSW are sent back to TSW by the Line Interface. AIS will be sent to the opposite node while 24 Channels are sent back. The opposite node will detect AIS.

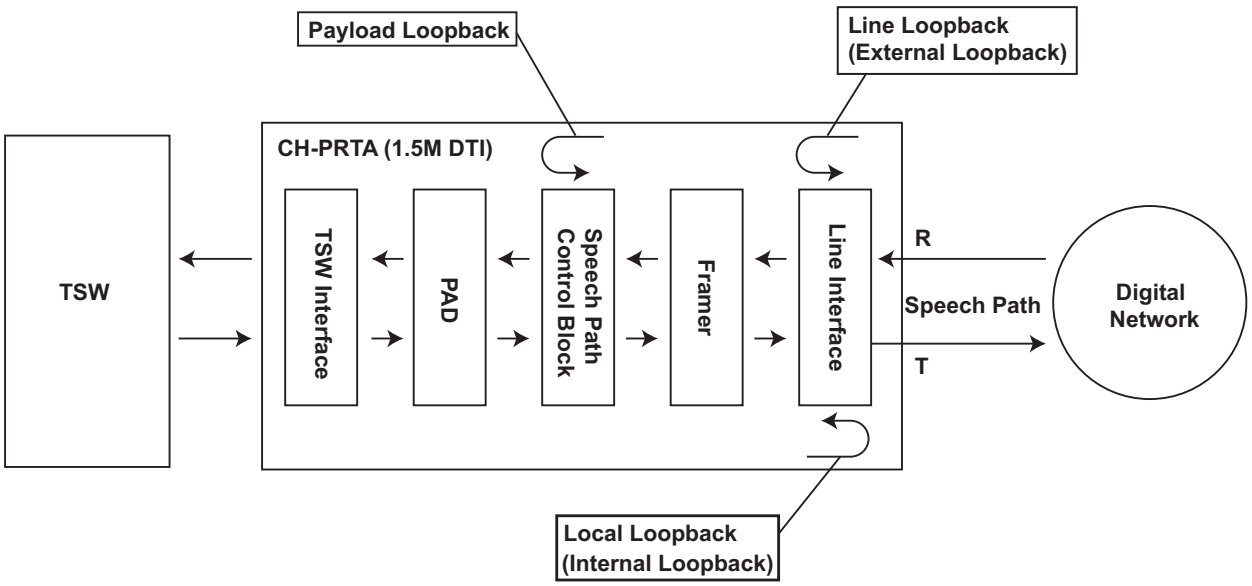
(b) Line Loopback (External Loopback)

All the 24 Channels sent from the Line are sent back to the Line by the Line Interface.

(c) Payload Loopback

All the 24 Channels sent from the Line are sent back to the Line by the Speech Path Control Block.

Available Locations for Loopback Testing



Note: A difference between Line Loopback and Payload Loopback:

Line Loopback operates by the timing of line side, and Payload Loopback operates partially by the timing of the system. Therefore, the Payload Loopback will have a bit error if the system is not synchronized with the Line. The Line Loopback will not have this error.

SW10

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Remote Alarm Send Out Restricted
	OFF	×	Remote Alarm Send Out Unrestricted
2	ON		Remote Alarm In Channel **Note 1**
	OFF	×	Remote Alarm Data Link **Note 1**
3	ON	×	Remote Alarm is not sent when AIS was detected. (US)
	OFF		Remote Alarm is sent when AIS was detected. (JP)
4	ON		Alarm Release Time: (Long)
	OFF	×	Alarm Release Time: (Short)
5	ON		Alarm Detect/Release Type (AT&T)
	OFF		Alarm Detect/Release Type (Normal)
6	ON		PLO is controlled when main signal ALL1.
	OFF	×	PLO is not controlled when main signal ALL1.
7	ON		PLO Clock Supply Control: No
	OFF	×	PLO Clock Supply Control: Yes
8	ON		DCH Layer 1/CCH Level 1 Alarm Release: Yes
	OFF	×	DCH Layer 1/CCH Level 1 Alarm Release: No

Note 1: ON when using 12 multiframe, OFF when using 24 multiframe.

SW11

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission Equalizer Settings See Transmission Equalizer Settings.
2			
3			
4-7	OFF	×	Fixed to OFF
8	ON		TTC JT-G704 mode (only 1st edition and 2nd edition)
	OFF	×	ITU-T G.704 mode

Transmission Equalizer Settings

SW11-1	SW11-2	SW11-3	TRANSMISSION DISTANCE Note 2
OFF	OFF	OFF	0-40 m
ON	OFF	OFF	40-80 m
OFF	ON	OFF	80-120 m
ON	ON	OFF	120-160 m
OFF	OFF	ON	160-200 m
ON	OFF	ON	0-40 m
OFF	ON	ON	0-40 m
ON	ON	ON	0-40 m

Note 2: The transmission distance indicates the half point between the card and DSU/Opposite Device. If the distance is 100m, the half point is 50m. In this case, the transmission distance is "40-80 m".

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Line Signal: AMI/ZCS **Note 3**
	OFF	×	Line Signal: B8ZS
2	ON		Multiframe: 12 multiframe
	OFF	×	Multiframe: 24 multiframe
3	ON	**Note 4**	4k Data Link: MOS
	OFF	**Note 4**	4k Data Link: BOM
4		**Note 4**	MOS/BOM Operation Mode See MOS/BOM Operation Mode.
5		**Note 4**	
6-7	OFF	×	Fixed to OFF
8	ON	×	Fixed to ON

Note 3: AMI is used when “Bit Steal Inhibited” is selected with the switch setting of SW24-1/2.

Note 4: Available only when 24 multiframe is selected (SW12-2=OFF).

MOS/BOM Operation Mode

MOS/BOM	SW12-4	SW12-5	STANDARD SETTING	MOS/BOM OPERATION MODE
When BOM is used (SW11-8: OFF)	OFF	OFF	×	7E7EH data are sent/BOM message is received (Standard Setting) (MODE0)
	ON	OFF		7E7EH data are sent/BOM message is not received (MODE1)
	OFF	ON		FFFFH data are sent/BOM message is received (MODE2)
	ON	ON		FFFFH data are sent/BOM message is not received (MODE3)
When BOM is used (SW11-8: ON)	OFF	OFF	×	7E7EH data are sent/BOM message is received (Standard Setting) (MODE0)
	ON	OFF		7E7EH data are sent/BOM message is not received (MODE1)
	OFF	ON		0000H data are sent/BOM message is received (MODE2)
	ON	ON		0000H data are sent/BOM message is not received (MODE3)

MOS/BOM	SW12-4	SW12-5	STANDARD SETTING	MOS/BOM OPERATION MODE
When MOS is used	OFF	OFF	×	PPR data are sent/MOS message is received (Standard Setting) (MODE0)
	ON	OFF		PPR data are sent/MOS message is not received (MODE1)
	OFF	ON		Flag (7EH) data are sent/MOS message is received (MODE2)
	ON	ON		Flag (7EH) data are sent/MOS message is not received (MODE3)

SW13

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Main Signal ALL1 is detected (when using HSD Line).
	OFF	×	Main Signal ALL1 is not detected.
2	ON		Idle Code is sent.
	OFF	×	Idle Code is not sent.
3	ON		DP relay function is used for FCCS.
	OFF	×	DP relay function is not used for FCCS.
4	ON		Simultaneous Seizure Detection (SSD): Disabled
	OFF	×	Simultaneous Seizure Detection (SSD): Enabled
5	ON		Not activate counter node when detecting Simultaneous Seizure.
	OFF	×	Activate counter node when detecting Simultaneous Seizure.
6	ON		Layer 1/Level 1 Alarm is not notified to CPU.
	OFF	×	Layer 1/Level 1 Alarm is notified to CPU.
7	ON		CAS is not effective when DCH/CCH is used.
	OFF	×	CAS is effective when DCH/CCH is used.
8	ON		Incoming/Outgoing call collision processing is used. **Note 5**
	OFF	×	Incoming/Outgoing call collision processing is not used.

Note 5: When incoming/outgoing call collision processing is used (SW13-8=ON), assign ASYD, SYS1, Index7, Bit3=1.

SW14

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF (For production test)
7	ON		PAD Control Method (Using Both Flexible/Standard PAD) See PAD Control Method.
	OFF	×	
8	ON		
	OFF	×	

Flexible PAD Level Setting of SW14-SW21

SWITCH NUMBER OF SW14-SW21					PAD LEVEL (dB)
1	2	3	4	5	
OFF	OFF	OFF	OFF	OFF	0
ON	OFF	OFF	OFF	OFF	1 (Loss)
OFF	ON	OFF	OFF	OFF	2 (Loss)
ON	ON	OFF	OFF	OFF	3 (Loss)
OFF	OFF	ON	OFF	OFF	4 (Loss)
ON	OFF	ON	OFF	OFF	5 (Loss)
OFF	ON	ON	OFF	OFF	6 (Loss)
ON	ON	ON	OFF	OFF	7 (Loss)
OFF	OFF	OFF	ON	OFF	8 (Loss)
ON	OFF	OFF	ON	OFF	9 (Loss)
OFF	ON	OFF	ON	OFF	10 (Loss)
ON	ON	OFF	ON	OFF	11 (Loss)
OFF	OFF	ON	ON	OFF	12 (Loss)
ON	OFF	ON	ON	OFF	13 (Loss)
OFF	ON	ON	ON	OFF	14 (Loss)
ON	ON	ON	ON	OFF	15 (Loss)
OFF	OFF	OFF	OFF	ON	16 (Loss)
ON	OFF	OFF	OFF	ON	17 (Loss)
OFF	ON	OFF	OFF	ON	-1 (Gain)
ON	ON	OFF	OFF	ON	-2 (Gain)
OFF	OFF	ON	OFF	ON	-3 (Gain)
ON	OFF	ON	OFF	ON	-4 (Gain)
OFF	ON	ON	OFF	ON	-5 (Gain)
ON	ON	ON	OFF	ON	-6 (Gain)
OFF	OFF	OFF	ON	ON	-7 (Gain)
ON	OFF	OFF	ON	ON	-8 (Gain)
Other settings					Not available

PAD Control Method

SW14-7	SW14-8	PAD CONTROL
OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB) (Standard Setting)
ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
OFF	ON	Fixed to ARTD (Transmission/Reception PAD Control)
ON	ON	Transmission/Reception PAD Control

SW15

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 2 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7			PAD Selection (Using Both Flexible/Standard PAD) See PAD Selection.
8			

PAD Selection

SW15-7	SW15-8	PAD SELECTION
OFF	OFF	μ-Law (Standard Setting)
ON	OFF	A-Law
OFF	ON	A-Law (TDSW) → μ-Law (line)
ON	ON	μ-Law (TDSW) → A-Law (line)

SW16

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 3 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7			PAD Pattern Selection See PAD Pattern Selection.
8			

PAD Pattern Selection

SW16-7	SW16-8	PAD SELECTION
OFF	OFF	PAD Pattern 1 (Standard Setting)
ON	OFF	PAD Pattern 2
OFF	ON	PAD Pattern 3
ON	ON	PAD Pattern 4

Note: PAD Patterns 1 - 4 correspond to Patterns 1 - 4 in <Standard PAD Level>.

SW17

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 4 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7			Data PAD Pattern Selection See Data PAD Pattern Selection.
8			

Data PAD Pattern Selection

SW17-7	SW17-8	Data PAD Selection
OFF	OFF	64k (Standard Setting)
ON	OFF	64k INV
OFF	ON	56k
ON	ON	48k

SW18

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7	ON		Flexible PAD (See <Flexible PAD Level>.)
	OFF	×	Standard PAD (See <Standard PAD Level>.)
8	OFF	×	Fixed to OFF

SW19

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

SW20

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

SW21

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

<Switch Setting for PAD Selection>

PAD Kind	SW18-7	SW15-8	SW15-7	SW16-8	SW16-7	PCM-Law: PAD Pattern
Standard PAD	OFF	OFF	OFF	OFF	OFF	μ-Law: Pattern 1
					ON	μ-Law: Pattern 2
				ON	OFF	μ-Law: Pattern 3
					ON	μ-Law: Pattern 4
			ON	OFF	OFF	A-Law: Pattern 1
					ON	A-Law: Pattern 2
				ON	OFF	A-Law: Pattern 3
					ON	A-Law: Pattern 4
		ON	OFF	OFF	OFF	A-Law → μ-Law: Pattern 1
					ON	A-Law → μ-Law: Pattern 2
				ON	OFF	A-Law → μ-Law: Pattern 3
					ON	A-Law → μ-Law: Pattern 4
			ON	OFF	OFF	μ-Law → A-Law: Pattern 1
					ON	μ-Law → A-Law: Pattern 2
				ON	OFF	μ-Law → A-Law: Pattern 3
					ON	μ-Law → A-Law: Pattern 4
Flexible PAD	ON	OFF	OFF	Not used		μ-Law
			ON	Not used		A-Law
		ON	OFF	OFF	Not used	A-Law → μ-Law: Pattern 5 **Note 6**
				ON	Not used	A-Law → μ-Law: Pattern 6 **Note 6**
			ON	OFF	Not used	μ-Law → A-Law: Pattern 5 **Note 6**
				ON	Not used	μ-Law → A-Law: Pattern 6 **Note 6**

Note 6: Refer to Flexible PAD Level of ARTD: 7 or APAD:15.

<Standard PAD Level>

μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	2dB	2dB	8dB	16dB	2dB	2dB	-3dB	3dB
2	4dB	4dB	8dB	4dB	4dB	4dB	3dB	3dB
3	12dB	12dB	4dB	12dB	6dB	6dB	0dB	6dB
4	8dB	8dB	0dB	8dB	8dB	8dB	3dB	9dB

A-law pattern Setting (Switch 15-7, 8 ON, OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	2dB	2dB	2dB	2dB	1dB	1dB	-3dB	3dB
2	4dB	4dB	4dB	4dB	3dB	3dB	3dB	3dB
3	6dB	6dB	12dB	12dB	5dB	5dB	0dB	6dB
4	8dB	8dB	8dB	8dB	7dB	7dB	3dB	9dB

From A-law to μ-law Conversion Setting (Switch 15-7, 8 OFF, ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	0dB	4dB	4dB	4dB	4dB	4dB
3	6dB	6dB	0dB	12dB	6dB	6dB	12dB	12dB
4	8dB	8dB	0dB	8dB	8dB	8dB	8dB	8dB

From μ-law to A-law Conversion Setting (Switch 15-7,8 ON, ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	0dB	4dB	4dB	4dB	4dB	4dB
3	6dB	6dB	0dB	12dB	6dB	6dB	12dB	12dB
4	8dB	8dB	0dB	8dB	8dB	8dB	8dB	8dB

<Flexible PAD Level>

Flexible PAD Level (SW18-7:ON)

ARTD/APAD Setting Data	Transmission	Reception
ARTD: 7 APAD: 15	See Flexible PAD Level of ARTD: 7 or APAD:15.	
1	Set value of SW18-1, 2, 3, 4, 5	Set value of SW14-1, 2, 3, 4, 5
2	Set value of SW19-1, 2, 3, 4, 5	Set value of SW15-1, 2, 3, 4, 5
3	Set value of SW20-1, 2, 3, 4, 5	Set value of SW16-1, 2, 3, 4, 5
4	Set value of SW21-1, 2, 3, 4, 5	Set value of SW17-1, 2, 3, 4, 5

Flexible PAD Level of ARTD: 7 or APAD:15

PCM-Law:Pattern No.	Transmission	Reception
μ-Law	0dB	0dB
A-law	0dB	0dB
A-Law → μ-Law: Pattern 5	through	through
A-Law → μ-Law: Pattern 6	0dB	0dB
μ-Law → A-Law: Pattern 5	through	through
μ-Law → A-Law: Pattern 6	0dB	0dB

SW22

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Seizure Acknowledgement Guard Time See Seizure Acknowledgement Guard Time.
2			
3			
4			
5			Seizure Acknowledgement Detection Time See Seizure Acknowledgement Detection Time.
6			
7			
8			

Seizure Acknowledgement Guard Time

SW22-1	SW22-2	SW22-3	SW22-4	Seizure Acknowledgement Guard Time
OFF	OFF	OFF	OFF	48 milliseconds (Standard Setting)
ON	OFF	OFF	OFF	56 milliseconds
OFF	ON	OFF	OFF	64 milliseconds
ON	ON	OFF	OFF	72 milliseconds
OFF	OFF	ON	OFF	80 milliseconds
ON	OFF	ON	OFF	88 milliseconds
OFF	ON	ON	OFF	96 milliseconds
ON	ON	ON	OFF	104 milliseconds
OFF	OFF	OFF	ON	112 milliseconds
ON	OFF	OFF	ON	120 milliseconds
OFF	ON	OFF	ON	128 milliseconds
ON	ON	OFF	ON	136 milliseconds
OFF	OFF	ON	ON	144 milliseconds
ON	OFF	ON	ON	152 milliseconds
OFF	ON	ON	ON	160 milliseconds
ON	ON	ON	ON	168 milliseconds

Seizure Acknowledgement Detection Time

SW22-5	SW22-6	SW22-7	SW22-8	Seizure Acknowledgement Detection Time
OFF	OFF	OFF	OFF	56 milliseconds (Standard Setting)
ON	OFF	OFF	OFF	76 milliseconds
OFF	ON	OFF	OFF	96 milliseconds
ON	ON	OFF	OFF	116 milliseconds
OFF	OFF	ON	OFF	136 milliseconds
ON	OFF	ON	OFF	156 milliseconds
OFF	ON	ON	OFF	176 milliseconds
ON	ON	ON	OFF	196 milliseconds
OFF	OFF	OFF	ON	216 milliseconds
ON	OFF	OFF	ON	236 milliseconds
OFF	ON	OFF	ON	256 milliseconds
ON	ON	OFF	ON	276 milliseconds
OFF	OFF	ON	ON	296 milliseconds
ON	OFF	ON	ON	316 milliseconds
OFF	ON	ON	ON	336 milliseconds
ON	ON	ON	ON	356 milliseconds

SW23

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Seizure Acknowledgement Monitoring Time See Seizure Acknowledgement Monitoring Time.
2			
3			
4			Answer Detection Time See Answer Detection Time.
5			
6			
7			
8			

Seizure Acknowledgement Monitoring Time

SW23-1	SW23-2	SW23-3	Seizure Acknowledgement Monitoring Time
OFF	OFF	OFF	200 milliseconds
ON	OFF	OFF	360 milliseconds
OFF	ON	OFF	520 milliseconds
ON	ON	OFF	680 milliseconds
OFF	OFF	ON	840 milliseconds
ON	OFF	ON	1000 milliseconds
OFF	ON	ON	1160 milliseconds
ON	ON	ON	1320 milliseconds (Standard Setting)

Answer Detection Time

SW23-4	SW23-5	SW23-6	SW23-7	SW23-8	Answer Detection Time
OFF	OFF	OFF	OFF	OFF	100 milliseconds
ON	OFF	OFF	OFF	OFF	148 milliseconds
OFF	ON	OFF	OFF	OFF	200 milliseconds (Standard Setting)
ON	ON	OFF	OFF	OFF	248 milliseconds
OFF	OFF	ON	OFF	OFF	300 milliseconds
ON	OFF	ON	OFF	OFF	348 milliseconds
OFF	ON	ON	OFF	OFF	400 milliseconds
ON	ON	ON	OFF	OFF	448 milliseconds
OFF	OFF	OFF	ON	OFF	500 milliseconds
ON	OFF	OFF	ON	OFF	548 milliseconds
OFF	ON	OFF	ON	OFF	600 milliseconds
ON	ON	OFF	ON	OFF	648 milliseconds
OFF	OFF	ON	ON	OFF	700 milliseconds
ON	OFF	ON	ON	OFF	748 milliseconds
OFF	ON	ON	ON	OFF	800 milliseconds
ON	ON	ON	ON	OFF	848 milliseconds
OFF	OFF	OFF	OFF	ON	900 milliseconds
ON	OFF	OFF	OFF	ON	948 milliseconds
OFF	ON	OFF	OFF	ON	1000 milliseconds
ON	ON	OFF	OFF	ON	1048 milliseconds
OFF	OFF	ON	OFF	ON	1100 milliseconds
ON	OFF	ON	OFF	ON	1148 milliseconds
OFF	ON	ON	OFF	ON	1200 milliseconds
ON	ON	ON	OFF	ON	1248 milliseconds
OFF	OFF	OFF	ON	ON	1300 milliseconds
ON	OFF	OFF	ON	ON	1348 milliseconds
OFF	ON	OFF	ON	ON	1400 milliseconds
ON	ON	OFF	ON	ON	1448 milliseconds
OFF	OFF	ON	ON	ON	1500 milliseconds
ON	OFF	ON	ON	ON	1548 milliseconds
OFF	ON	ON	ON	ON	1600 milliseconds
ON	ON	ON	ON	ON	1648 milliseconds

SW24

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1		**Note 7**	Send Signaling Pattern Selection See Send Signaling Pattern Selection.
2		**Note 7**	
3		**Note 7**	Receive Signaling Pattern Selection See Receive Signaling Pattern Selection.
4		**Note 7**	
5	ON	**Note 7**	Send Signaling A Logic: Negative
	OFF	**Note 7**	Send Signaling A Logic: Positive
6	ON	**Note 7**	Receive Signaling A Logic: Negative
	OFF	**Note 7**	Receive Signaling A Logic: Positive
7	ON		Long haul mode
	OFF	×	Short haul mode
8	ON		4k data link activation mode: Network side mode **Note 8**
	OFF		4k data link activation mode: User side mode **Note 8**

Note 7: The settings of SW24-1 to 24-6 is used for the ACIS line mode. It needs to be set according to the specification of the opposite device. The following table shows an example of the settings.

SWITCH NUMBER	SETTINGS FOR ACIS AND CCIS/ACIS COEXISTENCE	SETTINGS FOR CCIS
SW24-1	OFF	OFF
SW24-2	OFF	ON
SW24-3	OFF	OFF
SW24-4	OFF	ON
SW24-5	OFF	OFF
SW24-6	OFF	OFF
SW24-7	OFF	OFF
SW24-8	OFF	OFF

Note 8: Check connectivity for network in advance if you are going to use Network mode.

Send Signaling Pattern Selection

SW24-1	SW24-2	Signaling Pattern
OFF	OFF	AAAA
ON	OFF	ABAB
OFF	ON	Bit Steal Inhibited
ON	ON	ABCD

Receive Signaling Pattern Selection

SW24-3	SW24-4	Signaling Pattern
OFF	OFF	AAAA
ON	OFF	ABAB
OFF	ON	Bit Steal Inhibited
ON	ON	ABCD

SW25

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1-8	OFF	×	Fixed to OFF (Not used)

SW26

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1-3	ON	×	Fixed to ON (Not used)
4	OFF	×	Fixed to OFF (Not used)
5	ON	×	Fixed to ON (Not used)
6-8	OFF	×	Fixed to OFF (Not used)

SW27

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1-8	OFF	×	Fixed to OFF (Not used)

6. Starting up the Card

CH-PRTA can be started up with the predefined template data. You can choose either one of the following modes (starting methods) through the switch settings of SW80 and SW81 when starting up the card.

- Normal Starting-up mode (SW80-7=OFF, SW80-8=OFF)

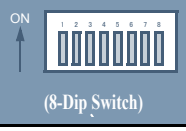
  In this mode, the card starts up with the settings of the software switches. When the software switches are not set or settings of the hardware switches are changed after the software switch settings, the card starts up with the predefined template data (a setting pattern of the template is specified by the settings of SW80 and SW81).

- Switch setting initialization mode (SW80-7=OFF, SW80-8=ON)

  In this mode, the card starts up with the settings of the hardware switches. The card is forcibly initialized and restarted with the predefined template data (a setting pattern of the template is specified by the settings of SW80 and SW81).

Note: For contents (switch settings) of the template, refer to Switch Settings of Template.

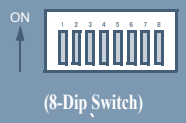
SW80

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
	1-6	OFF	×	Fixed to OFF
	7			Switch Setting Mode See Switch Setting Mode.
	8			

Switch Setting Mode

SW80-7	SW80-8	Switch Setting Mode
OFF	OFF	Normal starting-up mode (Standard Setting)
ON	OFF	Not used
OFF	ON	Switch setting initialization mode
ON	OFF	Not used

SW81

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (8-Dip Switch)	1			Transmission Equalizer Settings See Transmission Equalizer Settings. This setting is reflected to SW11-1 to 3.
	2			
	3			
	4			ACIS operation Mode See ACIS Operation Mode.
	5			
	6	ON	×	North America
		OFF		Japan
	7	OFF	×	Fixed to OFF
	8	ON	×	Fixed to ON

Transmission Equalizer Settings

SW80-1	SW80-2	SW80-3	TRANSMISSION DISTANCE
OFF	OFF	OFF	0-40 m
ON	OFF	OFF	40-80 m
OFF	ON	OFF	80-120 m
ON	ON	OFF	120-160 m
OFF	OFF	ON	160-200 m
Other settings			0-40 m

ACIS Operation Mode

SW81-4	SW81-5	MEANING
OFF	OFF	24 multiframe (Tie Line)
ON	OFF	24 multiframe (C.O. line)
OFF	ON	12 multiframe (Tie Line)
ON	ON	12 multiframe (C.O. line)

Switch Settings of Template

The table below shows each switch setting when using the predefined template. To use an appropriate template, ensure that SW81-6 is set to ON.

Switch Name	Switch Number	24 multiframe (SW81-5=OFF)		12 multiframe (SW81-5=ON)		Meaning
		Tie Line (SW81-4 =OFF)	C.O. Line (SW81-4 =ON)	Tie Line (SW81-4 =OFF)	C.O. Line (SW81-4 =ON)	
SW01	1	OFF	OFF	OFF	OFF	Local Loopback: Cancel (Internal)
	2	OFF	OFF	OFF	OFF	Line Loopback: Cancel (External)
	3	OFF	OFF	OFF	OFF	Payload Loopback: Cancel
	4	OFF	OFF	OFF	OFF	All channel make-busy: Cancel
	5-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW10	1	OFF	OFF	OFF	OFF	Remote Alarm Send Out Unrestricted
	2	OFF	OFF	ON	ON	<24 multiframe> Remote Alarm Data Link <12 multiframe> Remote Alarm In Channel
	3	ON	ON	ON	ON	Remote Alarm is not sent when AIS was not detected.
	4	ON	ON	ON	ON	Alarm Release Time: (Long)
	5	OFF	OFF	OFF	OFF	Alarm Detect/Release Type (Normal)
	6	OFF	OFF	OFF	OFF	PLO is not controlled when main signal ALL1.
	7	OFF	OFF	OFF	OFF	PLO Clock Supply Control: Yes
	8	OFF	OFF	OFF	OFF	DCH Layer 1/CCH Level 1 Alarm Release: No
SW11	1-3	Sets by SW81-1 to SW81-3				Transmission Equalizer Settings
	4-7	OFF	OFF	OFF	OFF	Fixed to OFF
	8	OFF	OFF	OFF	OFF	ITU-T G.704 mode
SW12	1	OFF	OFF	ON	ON	<24 multiframe> Line Signal: B8ZS <12 multiframe> Line Signal: AMI/ZCS
	2	OFF	OFF	ON	ON	OFF: 24 multiframe ON: 12 multiframe
	3	ON	ON	OFF	OFF	<24 multiframe> 4k Data Link: MOS
	4-7	OFF	OFF	OFF	OFF	Fixed to OFF
	8	Sets by SW81-8=ON				Fixed to ON

Switch Name	Switch Number	24 multiframe (SW81-5=OFF)		12 multiframe (SW81-5=ON)		Meaning
		Tie Line (SW81-4 =OFF)	C.O. Line (SW81-4 =ON)	Tie Line (SW81-4 =OFF)	C.O. Line (SW81-4 =ON)	
SW13	1	OFF	OFF	OFF	OFF	Main Signal ALL1 is not received.
	2	OFF	OFF	OFF	OFF	Idle Code is not sent.
	3	OFF	OFF	OFF	OFF	DP relay function is not used for FCCS.
	4	OFF	OFF	OFF	OFF	Simultaneous Seizure Detection (SSD): Enabled
	5	OFF	OFF	OFF	OFF	Activate counter node when detecting Simultaneous Seizure.
	6	OFF	OFF	OFF	OFF	Layer 1/Level 1 Alarm is notified to CPU.
	7	OFF	OFF	OFF	OFF	CAS is effective when DCH/CCH is used.
	8	OFF	OFF	OFF	OFF	Incoming/Outgoing call collision processing is not used.
SW14	1	OFF	OFF	OFF	OFF	Reception PAD 1: 2 (Loss)
	2	ON	ON	ON	ON	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
	8	OFF	OFF	OFF	OFF	
SW15	1	OFF	OFF	OFF	OFF	Reception PAD 2: 4 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	ON	ON	ON	ON	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	PAD Selection: μ-Law
	8	OFF	OFF	OFF	OFF	

Switch Name	Switch Number	24 multiframe (SW81-5=OFF)		12 multiframe (SW81-5=ON)		Meaning
		Tie Line (SW81-4 =OFF)	C.O. Line (SW81-4 =ON)	Tie Line (SW81-4 =OFF)	C.O. Line (SW81-4 =ON)	
SW16	1	OFF	OFF	OFF	OFF	Reception PAD 3: 12 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	ON	ON	ON	ON	
	4	ON	ON	ON	ON	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	PAD Pattern 1
	8	OFF	OFF	OFF	OFF	
SW17	1	OFF	OFF	OFF	OFF	Reception PAD 4: 8 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	ON	ON	ON	ON	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Data PAD Pattern Selection: 64k
	8	OFF	OFF	OFF	OFF	
SW18	1	OFF	OFF	OFF	OFF	Transmission PAD 1: 2 (Loss)
	2	ON	ON	ON	ON	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Standard PAD
	8	OFF	OFF	OFF	OFF	Fixed to OFF
SW19	1	OFF	OFF	OFF	OFF	Transmission PAD 2: 4 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	ON	ON	ON	ON	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF

Switch Name	Switch Number	24 multiframe (SW81-5=OFF)		12 multiframe (SW81-5=ON)		Meaning
		Tie Line (SW81-4 =OFF)	C.O. Line (SW81-4 =ON)	Tie Line (SW81-4 =OFF)	C.O. Line (SW81-4 =ON)	
SW20	1	OFF	OFF	OFF	OFF	Transmission PAD 3: 12 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	ON	ON	ON	ON	
	4	ON	ON	ON	ON	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW21	1	OFF	OFF	OFF	OFF	Transmission PAD 4: 8 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	ON	ON	ON	ON	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW22	1	OFF	OFF	OFF	OFF	Seizure Acknowledgement Guard Time: 48 milliseconds
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	Seizure Acknowledgement Detection Time: 56 milliseconds
	6	OFF	OFF	OFF	OFF	
	7	OFF	OFF	OFF	OFF	
	8	OFF	OFF	OFF	OFF	
SW23	1	ON	ON	ON	ON	Seizure Acknowledgement Monitoring Time: 360 milliseconds
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	Answer Detection Time: 200 milliseconds
	5	ON	ON	ON	ON	
	6	OFF	OFF	OFF	OFF	
	7	OFF	OFF	OFF	OFF	
	8	OFF	OFF	OFF	OFF	

Switch Name	Switch Number	24 multiframe (SW81-5=OFF)		12 multiframe (SW81-5=ON)		Meaning
		Tie Line (SW81-4 =OFF)	C.O. Line (SW81-4 =ON)	Tie Line (SW81-4 =OFF)	C.O. Line (SW81-4 =ON)	
SW24	1	OFF	ON	OFF	ON	Send Signaling Pattern Selection: <Tie Line> AAAA <C.O. line> ABAB
	2	OFF	OFF	OFF	OFF	
	3	OFF	ON	OFF	ON	Receive Signaling Pattern Selection: <Tie Line> AAAA <C.O. line> ABAB
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	Send Signaling A Logic: Positive
	6	OFF	OFF	OFF	OFF	Receive Signaling A Logic: Positive
	7	OFF	OFF	OFF	OFF	Short haul mode
	8	OFF	OFF	OFF	OFF	4k data link activation mode: User side mode
SW25	1-3	Sets by SW80-1 to SW80-3=OFF				Fixed to OFF (Not used)
	4	Sets by SW80-4=OFF				
	5-8	OFF	OFF	OFF	OFF	
SW26	1-3	ON	ON	ON	ON	Fixed to ON (Not used)
	4	OFF	OFF	OFF	OFF	Fixed to OFF (Not used)
	5	ON	ON	ON	ON	Fixed to ON (Not used)
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF (Not used)
SW27	1-8	OFF	OFF	OFF	OFF	Fixed to OFF (Not used)

7. External Interface

LT connector lead accommodation of this card is described below.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	PoutB	5	PoutA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

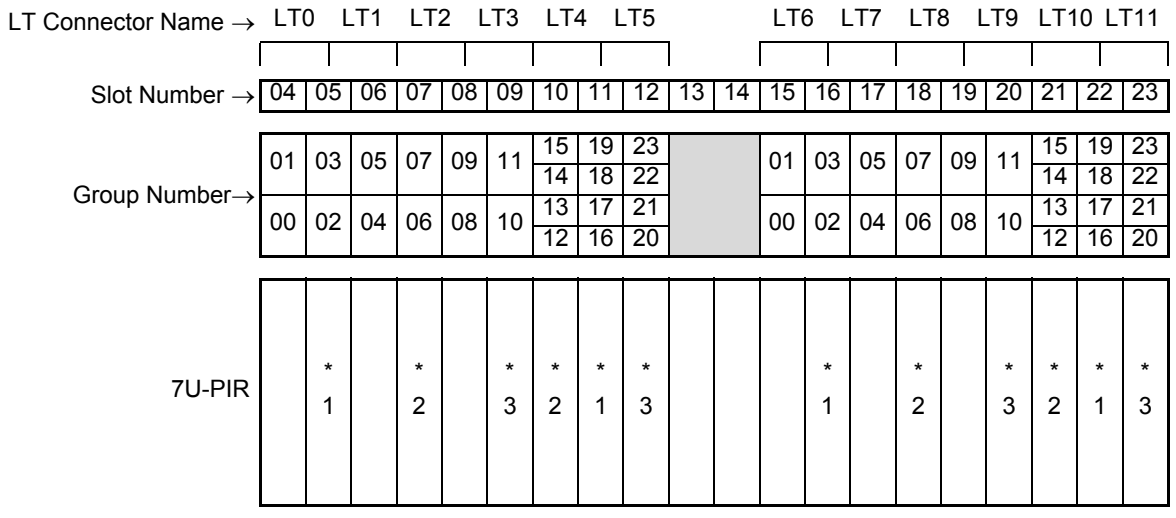
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	PoutB	13	PoutA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

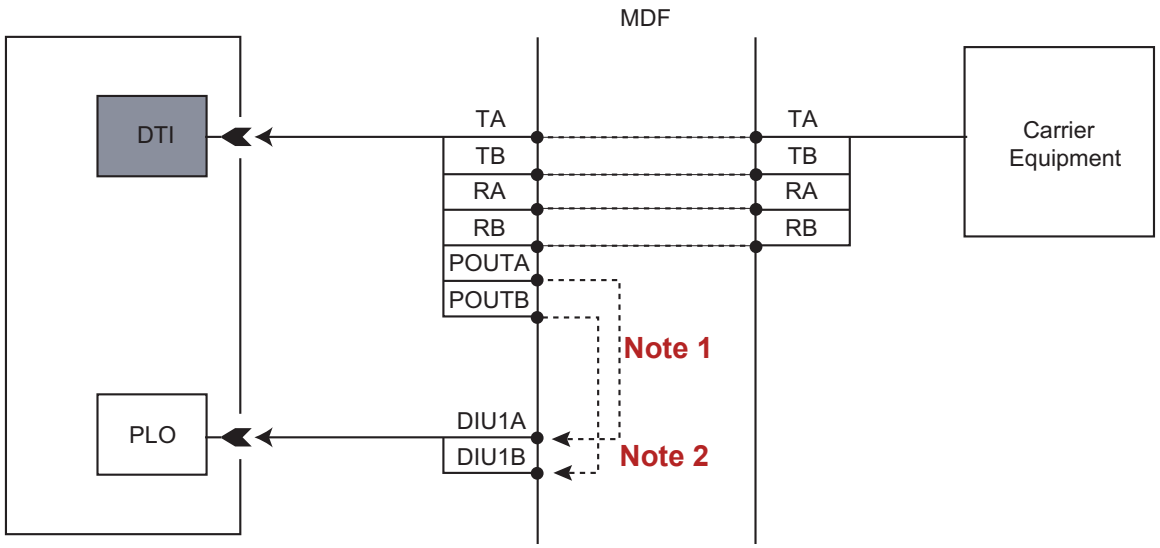
Accommodated in 3

LT3, 5, 9, 11 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	PoutB	21	PoutA
47		22	
48		23	
49	TB	24	TA
50		25	



Connecting Route Diagram



Note 1: This cable connection is required when clock signals must be extracted from the network side.

Note 2: As an example, DIU1A and DIU1B leads are used in this diagram.

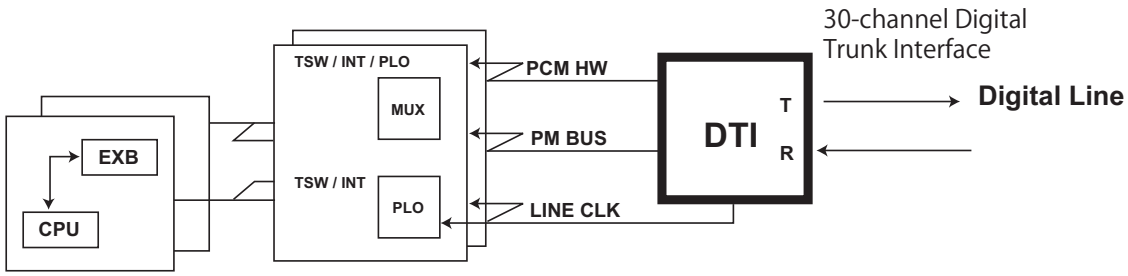
CH-PRTA (2M DTI)

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	-	X	-

1. General Functions

This card provides an interface between 30 digital trunks for the system at 2Mbit/s. To obtain an appropriate speech level, this card has a standard PAD and a flexible PAD. A flexible PAD can set a more detailed PAD value than a standard PAD. A flexible PAD can set values for the loss from 0 to 17 dB and the gain from -1 to -8 dB respectively in 1dB step. The loss and the gain values can also be set through the APAD or ARTD commands. Note that substitution of the Standard/Flexible PAD and level setting of Flexible PAD are performed with the switches.

Location of CH-PRTA (2M DTI) in the System

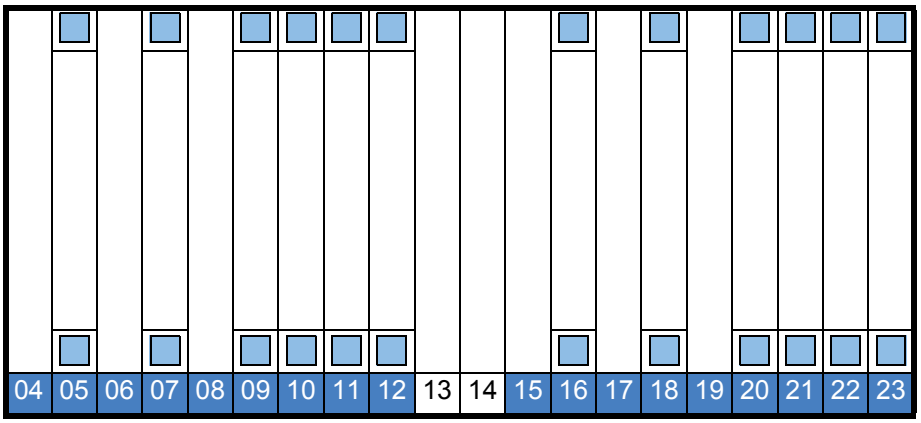


2. Mounting Locations/Conditions

Mounting Location <7U-PIR>

Twisted Pair Cable

Slots 05, 07, 09-12, 16, 18, 20-23



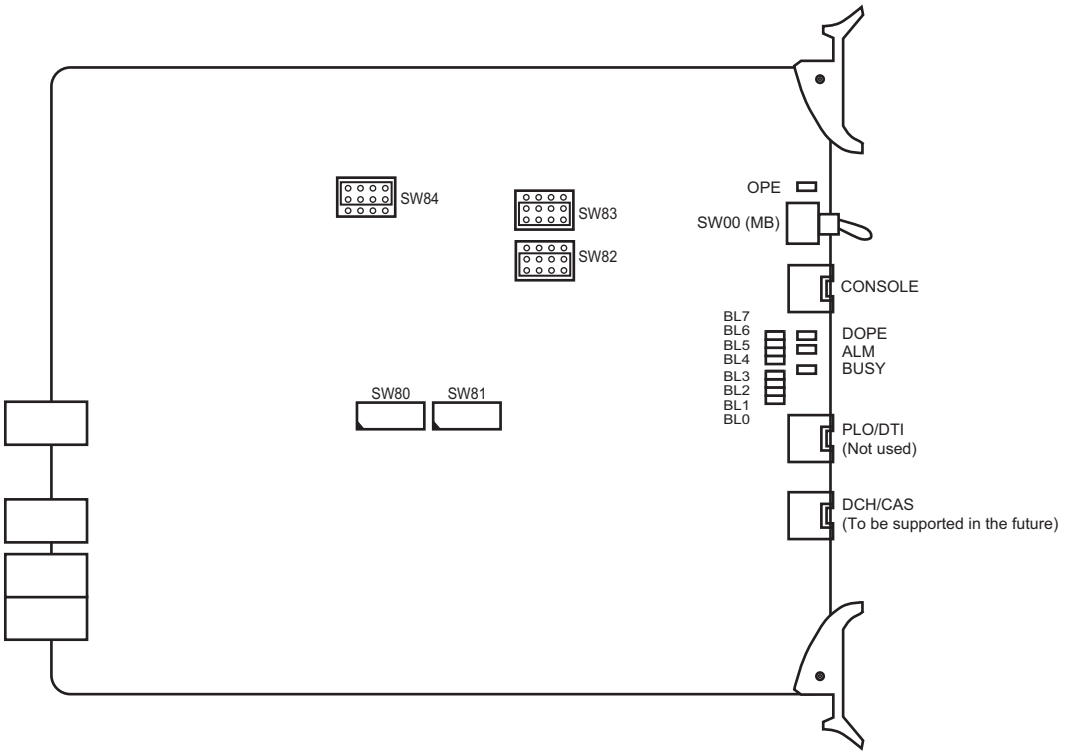
Mounting Conditions:

- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot.
- Mount this card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.

3. Face Layout of Lamps, Switches and Connectors

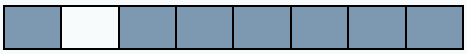
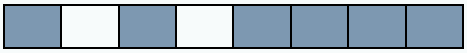
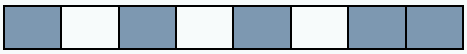
The face layout of lamps, switches, and connectors on this card is shown below.

Face Layout of CH-PRTA (2M DTI)



4. Lamp Indications

The contents of lamp indications on this card are shown in the table below.

<table>
<tr><th>LAMP NAME</th><th>COLOR</th><th colspan="3">DESCRIPTION</th></tr>
<tr><td>OPE</td><td>Green</td><td>Light</td><td colspan="2">This card is operating normally.</td></tr>
<tr><td>DOPE</td><td>Green</td><td>Flash</td><td colspan="2">Refer to DOPE - BL Lamp Control (Card Status Display).</td></tr>
<tr><td rowspan="5">BUSY</td><td rowspan="5">Green</td><td>Light</td><td>BL0 - BL7: Indicates the status of CH0 to CH7.</td><td rowspan="5">Refer to BUSY - BL Lamp Control (CH Status Display).</td></tr>
<tr><td>Flash (flashes once)</td><td>256 milliseconds OFF/256 milliseconds ON: once/1536 milliseconds OFF
BL0 - BL7: Indicates the status of CH8 to CH15.
  </td></tr>
<tr><td>Flash (flashes twice)</td><td>256 milliseconds OFF/256 milliseconds ON: twice/1024 milliseconds OFF
BL0 - BL7: Indicates the status of CH16 to CH23.
  </td></tr>
<tr><td>Flash (flashes three times)</td><td>256 milliseconds OFF/256 milliseconds ON: three times/512 milliseconds OFF
BL0 - BL7: Indicates the status of CH24 to CH31.
  </td></tr>
<tr><td>OFF</td><td>Other than those above</td></tr>
<tr><td rowspan="2">ALM</td><td rowspan="2">Red</td><td>Light</td><td colspan="2">Refer to ALM - BL Lamp Control (While Detecting a Line Alarm).</td></tr>
<tr><td>OFF</td><td colspan="2">No line alarm</td></tr>
<tr><td>BL0 - BL7</td><td>Green</td><td colspan="3">DOPE, BUSY and ALM lamps are used in combination with each other.</td></tr>
</table>

LAMP NAME				STATUS	CONTROL PROGRAM
OPE	ALM	DOPE	BUSY		
OFF	OFF	Light	Light	BOOT program starting up.	BOOT
OFF	OFF	Flash (60 IPM)	OFF	Waiting for downloading the program.	
OFF	OFF	Light	OFF	Downloading the program.	
OFF	OFF	OFF	OFF	Program Download is completed.	
OFF	OFF	Flash (120 IPM)	OFF	Program Download has failed.	
OFF	OFF	Light	Light	Main program initialization is starting up.	
OFF	OFF	OFF	OFF	Initialization starting.	MAIN
OFF	OFF	Flash (60 IPM)	Flash (60 IPM)	Built-in RAM test starting.	
OFF	Flash (120 IPM)	Flash (120 IPM)	OFF	Built-in RAM test error.	
Light	Light	OFF	OFF	Detecting a line alarm.	
Light	OFF	Light	OFF	Indicates the status of the card (except ALM and BUSY).	
Light	OFF	OFF	Light	Indicates the BL status of CH0-7.	
Light	OFF	OFF	Flash (special)	Indicates the BL status of CH8-15 (BUSY: Flashes once every approximately two seconds).	
Light	OFF	OFF	Flash (special)	Indicates the BL status of CH16-23 (BUSY: Flashes twice every approximately two seconds).	
Light	OFF	OFF	Flash (special)	Indicates the BL status of CH24-31 (BUSY: Flashes three times every approximately two seconds).	

<Priorities for ALM, BUSY and DOPE lamps>

After the initialization is completed, the status of ALM (line alarm) is indicated. When no line alarm is detected, the status of DOPE is indicated.

DOPE is indicated (Busy: Off) while all the lines are not used. BUSY is indicated (DOPE: Off) when making/receiving a call.

DOPE is indicated again when all the channels are in idle state.

(a) DOPE - BL Lamp Control (Card Status Display)

The table below shows descriptions of BL0 to BL7 lamps while DOPE lamp lights

LAMP NAME	COLOR	DESCRIPTION	
BL7	Green	OFF	Operates with 2M.
BL5 - 6	Green	OFF	Not used
BL4	Green	Light	Loopback is being activated.
		OFF	In operation.
BL3	Green	OFF	Not used
BL2	Green	OFF	Not used
BL1	Green	OFF	Not used
BL0	Green	OFF	Not used

(b) BUSY - BL Lamp Control (CH Status Display)

A status of channel is indicated by a combination of BUSY lamp and BL lamp indications.

BUSY lamp indicates a target group of channels (i.e., CH0-7, CH8-15, CH16-23 or CH24-31) by its lighting pattern. A status of each channel belonging to the target group is indicated by the lighting pattern of BL lamp.

To display statuses of multiple channels belonging to different groups, the lighting pattern of BUSY lamp changes with a period of approximately two seconds.

- Example 1 - When CH0 and CH7 (belonging to the same group) are busy.

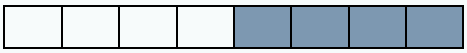
BUSY lamp:	Light	
BL0 lamp:	Light	
BL7 lamp:	Light	

- Example 2 - When CH0 and CH15 (belonging to different groups) are busy.

BUSY lamp:	Light	Flash once	Light	...
BL0 lamp:	Light	OFF	Light	...
BL7 lamp:	OFF	Light	OFF	...

See the following tables for more details:

LAMP NAME	COLOR	CHANNELS INDICATED BY BUSY AND BL LAMP			
BUSY	Green	Light	Flash once/ approx. two seconds	Flash twice/ approx. two seconds	Flash three times/ approx. two seconds
BL7	Green	CH7	CH15	CH23	CH31
BL6	Green	CH6	CH14	CH22	CH30
BL5	Green	CH5	CH13	CH21	CH29
BL4	Green	CH4	CH12	CH20	CH28
BL3	Green	CH3	CH11	CH19	CH27
BL2	Green	CH2	CH10	CH18	CH26
BL1	Green	CH1	CH9	CH17	CH25
BL0	Green	CH0	CH8	CH16	CH24

STATUS OF BL LAMP	DESCRIPTION	REMARKS
Light	Corresponding channel is in use.	
Flash (Flash according to DP signal)	DP relaying	
Flash (30 IPM)	Corresponding channel is in make-busy state (outgoing/incoming). 512 milliseconds ON/1536 milliseconds OFF 	BUSY lamp is not controlled only when the channel is placed in make-busy state. Flashes when other channels in the same group are used.
Flash (30 IPM)	Corresponding channel is in make-busy state (blocking). 1024 milliseconds ON/1024 milliseconds OFF 	
Flash (60 IPM)	Corresponding channel is in make-busy state (outgoing). 512 milliseconds ON/512 milliseconds OFF 	
OFF	Corresponding channel is in idle state.	OFF also when D channels / CCIS signal channels are registered.

(c) ALM - BL Lamp Control (While Detecting a Line Alarm)

The table below shows descriptions of BL0 to BL7 lamps while ALM lamp lights.

LAMP NAME	COLOR	DESCRIPTION	
BL7	Green	Light	Input signal down (PCM LOSS) is detected.
		OFF	Input signal down (PCM LOSS) is not detected.
BL6	Green	Light	Frame alignment loss is detected.
		OFF	Frame alignment loss is not detected.
BL5	Green	Light	Multiframe alignment loss is detected.
		OFF	Multiframe alignment loss is not detected.
BL4	Green	Light	Remote Alarm is received.
		OFF	Remote Alarm is not received.
BL3	Green	Light	Main Signal ALL1 is received.
		OFF	Main Signal ALL1 is not received.
BL2	Green	Light	Alarm Information Signal (AIS) is received.
		OFF	Alarm Information Signal (AIS) is not received.
BL1	Green	Light	Frequent CRC error /Bit error is detected.
		OFF	Frequent CRC error /Bit error is not detected.
BL0	Green	Light	Multiframe Remote Alarm is received.
		OFF	Multiframe Remote Alarm is not received.

<Reference>

Check the following when ALM lamp lights on during the startup of the card.

- BL7

  Check the cable connection between the card and the connected device (especially the direction from the connected device to the card)

- BL6, BL5

  Different types of multiframe (Basic Frame/CRC-4 Multiframe) are set between the card and the connected device. Check the switch setting of SW12-2/SW12-5 again.

- BL4

  Check the cable connection between the card and the connected device (especially the direction from the card to the connected device)

  or

  Different types of multiframe (Basic Frame/CRC-4 Multiframe) are set between the card and the connected device. Check the switch setting of SW12-2 again.

- BL2

  There is a problem with the connected device (network side).

5. Switch Settings

Standard settings of switches on this card are shown in the tables below.

Hardware Switch

Note: For switch settings of SW80 and SW81, refer to Starting up the Card.

SW00 (MB)

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy
	DOWN	×	Card: make-busy cancel

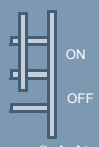
SW82

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	DOWN (OFF)	×	Fixed to OFF

SW83

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	UP (ON)		Receive Impedance 75 Ω
	DOWN (OFF)	×	Receive Impedance 120 Ω

SW84

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	UP (ON)	×	Middle point of reception transformer: Open
	DOWN (OFF)		Middle point of reception transformer: Ground

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection

Note: When initializing software switch settings, they are initialized to a predefined template value selected by settings of hardware switches SW80 and SW81. For further details, refer to Switch Settings of Template.

SW01

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Local Loopback: Set (Internal)
	OFF	×	Local Loopback: Cancel (Internal)
2	ON		Line Loopback: Set (External)
	OFF	×	Line Loopback: Cancel (External)
3	ON		Payload Loopback: Set
	OFF	×	Payload Loopback: Cancel
4	ON		All channel make-busy: Set
	OFF	×	All channel make-busy: Cancel
5-8	OFF	×	Fixed to OFF

<Reference>

(a) Local Loopback (Internal Loopback)

All the 32 Channels sent from TSW are sent back to TSW by the Line Interface. AIS will be sent to the opposite node while 32 Channels are sent back. The opposite node will detect AIS.

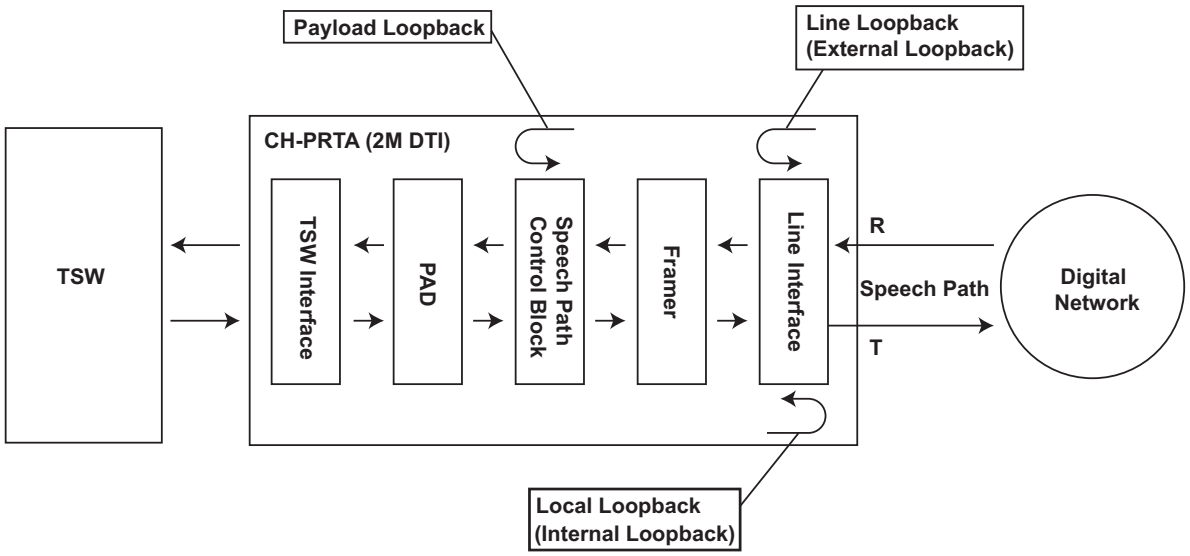
(b) Line Loopback (External Loopback)

All the 32 Channels sent from the Line are sent back to the Line by the Line Interface.

(c) Payload Loopback

All the 32 Channels sent from the Line are sent back to the Line by the Speech Path Control Block.

Available Locations for Loopback Testing



SW10

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Remote Alarm Send Out Restricted
	OFF	×	Remote Alarm Send Out Unrestricted
2	OFF	×	Fixed to OFF
3	ON		Multiframe Remote Alarm is not sent when AIS was detected.
	OFF	×	Multiframe Remote Alarm is sent when AIS was detected.
4	ON		Alarm Release Time: (Long)
	OFF	×	Alarm Release Time: (Short)
5	ON		Alarm Detect/Release Type (ETSI))
	OFF		Alarm Detect/Release Type (Normal)
6	ON		PLO is controlled when main signal ALL1.
	OFF	×	PLO is not controlled when main signal ALL1.
7	ON		PLO Clock Supply Control: No
	OFF	×	PLO Clock Supply Control: Yes
8	ON		DCH Layer 1/CCH Level 1 Alarm Release: Yes
	OFF	×	DCH Layer 1/CCH Level 1 Alarm Release: No

SW11

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1-3	OFF	×	Fixed to OFF
4-7	OFF	×	ACIS Operation Mode See ACIS Operation Mode.
8	OFF	×	Fixed to OFF

ACIS Operation Mode

SW11-4	SW11-5	SW11-6	SW11-7	ACIS Operation Mode
OFF	OFF	OFF	OFF	ITU-T Q. 421/Q. 422 (No Meter Pulse) (ITU-T STD)
ON	OFF	OFF	OFF	ITU-T Q. 421/Q. 422 (Pulse Clear Back) (ITU-T PLS CLB)
OFF	ON	OFF	OFF	ITU-T Q. 421/Q. 422 (Pulse Answer) (ITU-T PLS ANS)
ON	ON	OFF	OFF	Australia P2 Protocol
OFF	OFF	ON	OFF	China
ON	OFF	ON	OFF	Thailand
OFF	ON	ON	OFF	Brazil LME
ON	ON	ON	OFF	Brazil (Collect Call Blocking)
OFF	OFF	OFF	ON	Brazil (Continuous E&M Signal A Positive)
ON	OFF	OFF	ON	Brazil (Continuous E&M Signal A Negative)
OFF	ON	OFF	ON	Brazil (Continuous E&M Signal B Positive)
ON	ON	OFF	ON	Iran TCI Interface
OFF	OFF	ON	ON	Peru (Continuous E&M Signal A Positive)
ON	OFF	ON	ON	Peru (Continuous E&M Signal A Negative)
OFF	ON	ON	ON	ITU-T Q. 421/Q. 422 (UK:No Meter Pulse)
ON	ON	ON	ON	ITU-T Q. 421/Q. 422 (ETSI:No MeterPulse)

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Line Signal: AMI
	OFF	×	Line Signal: HDB3
2	ON		CRC-4 Control: Basic Frame (Double Frame)
	OFF	×	CRC-4 Control: CRC-4 Multiframe
3	ON		E-Bit Sending: Controlled by CPU
	OFF	×	E-Bit Sending: Automatic
4	ON		Signaling Format Setting: CEPT
	OFF		Signaling Format Setting: ITU-T
5	ON		TS16 Control: Data Through
	OFF	×	TS16 Control: Used for Signaling
6	ON		CRC-4 Multiframe Format: ITU-T G. 706 Annex-B type
	OFF	×	CRC-4 Multiframe Format: Normal

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
7	OFF	×	Fixed to OFF
8	ON	×	Fixed to ON

SW13

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Main Signal ALL1 is detected (when using HSD Line).
	OFF	×	Main Signal ALL1 is not detected.
2	ON		Idle Code is sent.
	OFF	×	Idle Code is not sent.
3	ON		DP relay function is used for FCCS.
	OFF	×	DP relay function is not used for FCCS.
4	ON		Simultaneous Seizure Detection (SSD): Disabled
	OFF	×	Simultaneous Seizure Detection (SSD): Enabled
5	ON		Not activate counter node when detecting Simultaneous Seizure.
	OFF	×	Activate counter node when detecting Simultaneous Seizure.
6	ON		Layer 1/Level 1 Alarm is not notified to CPU.
	OFF	×	Layer 1/Level 1 Alarm is notified to CPU.
7	ON		CAS is not effective when DCH/CCH is used.
	OFF	×	CAS is effective when DCH/CCH is used.
8	ON	×	Incoming/Outgoing call collision processing is used. **Note 1**
	OFF		Incoming/Outgoing call collision processing is not used.

Note 1: When incoming/outgoing call collision processing is used (SW13-8=ON), assign ASYD, SYS1, Index 7, Bit3=1.

SW14

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF (For production test)
7	ON		PAD Control Method (Using Both Flexible/Standard PAD) See PAD Control Method.
	OFF	×	
8	ON		
	OFF	×	

Flexible PAD Level Setting of SW14-SW21

SWITCH NUMBER OF SW14-SW21					PAD LEVEL (dB)
1	2	3	4	5	
OFF	OFF	OFF	OFF	OFF	0
ON	OFF	OFF	OFF	OFF	1 (Loss)
OFF	ON	OFF	OFF	OFF	2 (Loss)
ON	ON	OFF	OFF	OFF	3 (Loss)
OFF	OFF	ON	OFF	OFF	4 (Loss)
ON	OFF	ON	OFF	OFF	5 (Loss)
OFF	ON	ON	OFF	OFF	6 (Loss)
ON	ON	ON	OFF	OFF	7 (Loss)
OFF	OFF	OFF	ON	OFF	8 (Loss)
ON	OFF	OFF	ON	OFF	9 (Loss)
OFF	ON	OFF	ON	OFF	10 (Loss)
ON	ON	OFF	ON	OFF	11 (Loss)
OFF	OFF	ON	ON	OFF	12 (Loss)
ON	OFF	ON	ON	OFF	13 (Loss)
OFF	ON	ON	ON	OFF	14 (Loss)
ON	ON	ON	ON	OFF	15 (Loss)
OFF	OFF	OFF	OFF	ON	16 (Loss)
ON	OFF	OFF	OFF	ON	17 (Loss)
OFF	ON	OFF	OFF	ON	-1 (Gain)
ON	ON	OFF	OFF	ON	-2 (Gain)
OFF	OFF	ON	OFF	ON	-3 (Gain)
ON	OFF	ON	OFF	ON	-4 (Gain)
OFF	ON	ON	OFF	ON	-5 (Gain)
ON	ON	ON	OFF	ON	-6 (Gain)
OFF	OFF	OFF	ON	ON	-7 (Gain)
ON	OFF	OFF	ON	ON	-8 (Gain)
Other settings					Not available

PAD Control Method

SW14-7	SW14-8	PAD CONTROL
OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB) (Standard Setting)
ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
OFF	ON	Fixed to ARTD (Transmission/Reception PAD Control)
ON	ON	Transmission/Reception PAD Control

SW15

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 2 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7	ON	×	PAD Selection (Using Both Flexible/Standard PAD) See PAD Selection.
	OFF		
8	ON		
	OFF	×	

PAD Selection

SW15-7	SW15-8	PAD SELECTION
OFF	OFF	μ-Law
ON	OFF	A-Law (Standard Setting)
OFF	ON	A-Law (TDSW) → μ-Law (line)
ON	ON	μ-Law (TDSW) → A-Law (line)

SW16

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 3 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7	ON		PAD Pattern Selection See PAD Pattern Selection.
	OFF	×	
8	ON		
	OFF	×	

PAD Pattern Selection

SW16-7	SW16-8	PAD SELECTION
OFF	OFF	PAD Pattern 1 (Standard Setting)
ON	OFF	PAD Pattern 2
OFF	ON	PAD Pattern 3
ON	ON	PAD Pattern 4

Note: PAD Patterns 1 - 4 correspond to Patterns 1 - 4 in <Standard PAD Level>.

SW17

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 4 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7	ON		Data PAD Pattern Selection See Data PAD Pattern Selection.
	OFF	×	
8	ON		
	OFF	×	

Data PAD Pattern Selection

SW17-7	SW17-8	Data PAD Selection
OFF	OFF	64k (Standard Setting)
ON	OFF	64k INV
OFF	ON	56k
ON	ON	48k

SW18

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7	ON		PAD Kind: Flexible PAD (See <Flexible PAD Level>.)
	OFF	×	PAD Kind: Standard PAD (See <Standard PAD Level>.)
8	ON		PAD Selection: UK PAD (See <UK PAD Level>.) **Note 2**
	OFF	×	PAD Selection: Standard PAD (See <Standard PAD Level>.)

Note 2: When UK PAD is used (SW18-8=ON), SW18-7 must be set to OFF.

SW19

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

SW20

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			

SW20

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
6-8	OFF	×	Fixed to OFF

SW21

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

<Switch Setting for PAD Selection>

PAD Kind	SW18-7	SW15-8	SW15-7	SW16-8	SW16-7	PCM-Law: PAD Pattern
Standard/UK PAD	OFF	OFF	OFF	OFF	OFF	μ-Law: Pattern 1
					ON	μ-Law: Pattern 2
				ON	OFF	μ-Law: Pattern 3
					ON	μ-Law: Pattern 4
			ON	OFF	OFF	A-Law: Pattern 1
					ON	A-Law: Pattern 2
				ON	OFF	A-Law: Pattern 3
					ON	A-Law: Pattern 4
		ON	OFF	OFF	OFF	A-Law → μ-Law: Pattern 1
					ON	A-Law → μ-Law: Pattern 2
				ON	OFF	A-Law → μ-Law: Pattern 3
					ON	A-Law → μ-Law: Pattern 4
			ON	OFF	OFF	μ-Law → A-Law: Pattern 1
					ON	μ-Law → A-Law: Pattern 2
				ON	OFF	μ-Law → A-Law: Pattern 3
					ON	μ-Law → A-Law: Pattern 4
Flexible PAD	ON	OFF	OFF	Not used		μ-Law
			ON	Not used		A-Law
		ON	OFF	OFF	Not used	A-Law → μ-Law: Pattern 5 **Note 3**
				ON	Not used	A-Law → μ-Law: Pattern 6 **Note 3**
			ON	OFF	Not used	μ-Law → A-Law: Pattern 5 **Note 3**
				ON	Not used	μ-Law → A-Law: Pattern 6 **Note 3**

Note 3: Refer to Flexible PAD Level of ARTD: 7 or APAD:15.

<Standard PAD Level>

μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	2dB	2dB	8dB	16dB	2dB	2dB	-3dB	3dB
2	4dB	4dB	8dB	4dB	4dB	4dB	3dB	3dB
3	12dB	12dB	4dB	12dB	6dB	6dB	0dB	6dB
4	8dB	8dB	0dB	8dB	8dB	8dB	3dB	9dB

A-law pattern Setting (Switch 15-7, 8 ON, OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	2dB	2dB	2dB	2dB	1dB	1dB	-3dB	3dB
2	4dB	4dB	4dB	4dB	3dB	3dB	3dB	3dB
3	6dB	6dB	12dB	12dB	5dB	5dB	0dB	6dB
4	8dB	8dB	8dB	8dB	7dB	7dB	3dB	9dB

From A-law to μ-law Conversion Setting (Switch 15-7, 8 OFF, ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	0dB	4dB	4dB	4dB	4dB	4dB
3	6dB	6dB	0dB	12dB	6dB	6dB	12dB	12dB
4	8dB	8dB	0dB	8dB	8dB	8dB	8dB	8dB

From μ-law to A-law Conversion Setting (Switch 15-7,8 ON, ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	0dB	4dB	4dB	4dB	4dB	4dB
3	6dB	6dB	0dB	12dB	6dB	6dB	12dB	12dB
4	8dB	8dB	0dB	8dB	8dB	8dB	8dB	8dB

<UK PAD Level>

μ-law Pattern Setting (SW15-7: OFF, SW15-8: OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	-3dB	3dB	-3dB	3dB	4dB	4dB	2dB	2dB
2	3dB	3dB	3dB	3dB	8dB	0dB	8dB	0dB
3	0dB	6dB	0dB	6dB	6dB	6dB	6dB	6dB
4	3dB	8dB	3dB	8dB	8dB	8dB	8dB	8dB

A-law pattern Setting (SW15-7: ON, SW15-8: OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	-3dB	3dB	-3dB	3dB	4dB	4dB	2dB	2dB
2	3dB	3dB	3dB	3dB	8dB	0dB	4dB	0dB
3	0dB	6dB	0dB	6dB	6dB	6dB	6dB	6dB
4	3dB	8dB	3dB	8dB	8dB	8dB	8dB	8dB

A-μ Conversion Setting (SW15-7: OFF, SW15-8: ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	-3dB	3dB	4dB	4dB	3dB	3dB
3	8dB	0dB	0dB	0dB	6dB	6dB	12dB	12dB
4	3dB	8dB	3dB	3dB	8dB	8dB	8dB	8dB

μ-A Conversion Setting (SW15-7: ON, SW15-8: ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	-3dB	3dB	4dB	4dB	3dB	3dB
3	8dB	0dB	0dB	6dB	6dB	6dB	12dB	12dB
4	3dB	8dB	3dB	8dB	8dB	8dB	8dB	8dB

<Flexible PAD Level>

Flexible PAD Level (SW18-7: OFF)

ARTD/APAD Setting Data	Transmission	Reception
ARTD: 7 APAD: 15	See Flexible PAD Level of ARTD: 7 or APAD:15.	
1	Set value of SW18-1, 2, 3, 4, 5	Set value of SW14-1, 2, 3, 4, 5
2	Set value of SW19-1, 2, 3, 4, 5	Set value of SW15-1, 2, 3, 4, 5
3	Set value of SW20-1, 2, 3, 4, 5	Set value of SW16-1, 2, 3, 4, 5
4	Set value of SW21-1, 2, 3, 4, 5	Set value of SW17-1, 2, 3, 4, 5

Flexible PAD Level of ARTD: 7 or APAD:15

PCM-Law:Pattern No.	Transmission	Reception
μ-Law	0dB	0dB
A-law	0dB	0dB
A-Law → μ-Law: Pattern 5	through	through
A-Law → μ-Law: Pattern 6	0dB	0dB
μ-Law → A-Law: Pattern 5	through	through
μ-Law → A-Law: Pattern 6	0dB	0dB

SW22

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Seizure Acknowledgement Guard Time See Seizure Acknowledgement Guard Time.
2			
3			
4			
5			Seizure Acknowledgement Detection Time See Seizure Acknowledgement Detection Time.
6			
7			
8			

Seizure Acknowledgement Guard Time

SW22-1	SW22-2	SW22-3	SW22-4	Seizure Acknowledgement Guard Time
OFF	OFF	OFF	OFF	48 milliseconds (Standard Setting)
ON	OFF	OFF	OFF	56 milliseconds
OFF	ON	OFF	OFF	64 milliseconds
ON	ON	OFF	OFF	72 milliseconds
OFF	OFF	ON	OFF	80 milliseconds
ON	OFF	ON	OFF	88 milliseconds
OFF	ON	ON	OFF	96 milliseconds
ON	ON	ON	OFF	104 milliseconds
OFF	OFF	OFF	ON	112 milliseconds
ON	OFF	OFF	ON	120 milliseconds
OFF	ON	OFF	ON	128 milliseconds
ON	ON	OFF	ON	136 milliseconds
OFF	OFF	ON	ON	144 milliseconds
ON	OFF	ON	ON	152 milliseconds
OFF	ON	ON	ON	160 milliseconds
ON	ON	ON	ON	168 milliseconds

Seizure Acknowledgement Detection Time

SW22-5	SW22-6	SW22-7	SW22-8	Seizure Acknowledgement Detection Time
OFF	OFF	OFF	OFF	56 milliseconds (Standard Setting)
ON	OFF	OFF	OFF	76 milliseconds
OFF	ON	OFF	OFF	96 milliseconds
ON	ON	OFF	OFF	116 milliseconds
OFF	OFF	ON	OFF	136 milliseconds
ON	OFF	ON	OFF	156 milliseconds
OFF	ON	ON	OFF	176 milliseconds
ON	ON	ON	OFF	196 milliseconds
OFF	OFF	OFF	ON	216 milliseconds
ON	OFF	OFF	ON	236 milliseconds
OFF	ON	OFF	ON	256 milliseconds
ON	ON	OFF	ON	276 milliseconds
OFF	OFF	ON	ON	296 milliseconds
ON	OFF	ON	ON	316 milliseconds
OFF	ON	ON	ON	336 milliseconds
ON	ON	ON	ON	356 milliseconds

SW23

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Seizure Acknowledgement Monitoring Time See Seizure Acknowledgement Monitoring Time.
2			
3			
4			Answer Detection Time See Answer Detection Time.
5			
6			
7			
8			

Seizure Acknowledgement Monitoring Time

SW23-1	SW23-2	SW23-3	Seizure Acknowledgement Monitoring Time
OFF	OFF	OFF	200 milliseconds
ON	OFF	OFF	360 milliseconds
OFF	ON	OFF	520 milliseconds
ON	ON	OFF	680 milliseconds
OFF	OFF	ON	840 milliseconds
ON	OFF	ON	1000 milliseconds
OFF	ON	ON	1160 milliseconds
ON	ON	ON	1320 milliseconds (Standard Setting)

Answer Detection Time

SW23-4	SW23-5	SW23-6	SW23-7	SW23-8	Answer Detection Time
OFF	OFF	OFF	OFF	OFF	100 milliseconds
ON	OFF	OFF	OFF	OFF	148 milliseconds
OFF	ON	OFF	OFF	OFF	200 milliseconds (Standard Setting)
ON	ON	OFF	OFF	OFF	248 milliseconds
OFF	OFF	ON	OFF	OFF	300 milliseconds
ON	OFF	ON	OFF	OFF	348 milliseconds
OFF	ON	ON	OFF	OFF	400 milliseconds
ON	ON	ON	OFF	OFF	448 milliseconds
OFF	OFF	OFF	ON	OFF	500 milliseconds
ON	OFF	OFF	ON	OFF	548 milliseconds
OFF	ON	OFF	ON	OFF	600 milliseconds
ON	ON	OFF	ON	OFF	648 milliseconds
OFF	OFF	ON	ON	OFF	700 milliseconds
ON	OFF	ON	ON	OFF	748 milliseconds
OFF	ON	ON	ON	OFF	800 milliseconds
ON	ON	ON	ON	OFF	848 milliseconds
OFF	OFF	OFF	OFF	ON	900 milliseconds
ON	OFF	OFF	OFF	ON	948 milliseconds
OFF	ON	OFF	OFF	ON	1000 milliseconds
ON	ON	OFF	OFF	ON	1048 milliseconds
OFF	OFF	ON	OFF	ON	1100 milliseconds
ON	OFF	ON	OFF	ON	1148 milliseconds
OFF	ON	ON	OFF	ON	1200 milliseconds
ON	ON	ON	OFF	ON	1248 milliseconds
OFF	OFF	OFF	ON	ON	1300 milliseconds
ON	OFF	OFF	ON	ON	1348 milliseconds
OFF	ON	OFF	ON	ON	1400 milliseconds
ON	ON	OFF	ON	ON	1448 milliseconds
OFF	OFF	ON	ON	ON	1500 milliseconds
ON	OFF	ON	ON	ON	1548 milliseconds
OFF	ON	ON	ON	ON	1600 milliseconds
ON	ON	ON	ON	ON	1648 milliseconds

SW24

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1-6	OFF	×	Fixed to OFF
7	ON		Long haul mode
	OFF	×	Short haul mode
8	OFF	×	Fixed to OFF

SW25

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1-8	OFF	×	Fixed to OFF (Not used)

SW26

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1-4	OFF	×	Fixed to OFF (Not used)
5	ON	×	Fixed to ON (Not used)
6-8	OFF	×	Fixed to OFF (Not used)

SW27

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1-8	OFF	×	Fixed to OFF (Not used)

6. Starting up the Card

CH-PRTA can be started up with the predefined template data. You can choose either one of the following modes (starting methods) through the switch settings of SW80 and SW81 when starting up the card.

- Normal Starting-up mode (SW80-7=OFF, SW80-8=OFF)

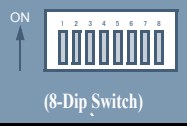
In this mode, the card starts up with the settings of the software switches. When the software switches are not set or settings of the hardware switches are changed after the software switch settings, the card starts up with the predefined template data (a setting pattern of the template is specified by the settings of SW80 and SW81).

- Switch setting initialization mode (SW80-7=OFF, SW80-8=ON)

  In this mode, the card starts up with the settings of the hardware switches. The card is forcibly initialized and restarted with the predefined template data (a setting pattern of the template is specified by the settings of SW80 and SW81).

Note: For contents (switch settings) of the template, refer to Switch Settings of Template.

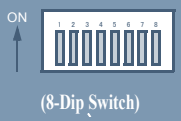
SW80

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (8-Dip Switch)	1-6	OFF	×	Fixed to OFF
	7			Switch Setting Mode See Switch Setting Mode.
	8			

Switch Setting Mode

SW80-7	SW80-8	Switch Setting Mode
OFF	OFF	Normal starting-up mode (Standard Setting)
ON	OFF	Not used
OFF	ON	Switch setting initialization mode
ON	OFF	Not used

SW81

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING	
 (8-Dip Switch)	1	ON		Alarm Detect Type: ETSI	This setting is reflected to SW10-5.
		OFF		Alarm Detect Type: ITU-T	
	2	ON		CRC-4 Control: Disabled (Basic Frame)	This setting is reflected to SW12-2.
		OFF	×	CRC-4 Control: Enabled (CRC-4 multiframe)	
	3			ACIS Operation Mode See ACIS Operation Mode. This setting is reflected to SW11-4 to 7.	
	4				
	5				
	6				
	7	OFF	×	Fixed to OFF	
	8	ON	×	Fixed to ON	

ACIS Operation Mode

SW81-3	SW81-4	SW81-5	SW81-6	ACIS Operation Mode
OFF	OFF	OFF	OFF	ITU-T Q. 421/Q. 422 (No Meter Pulse) (ITU-T STD)
ON	OFF	OFF	OFF	ITU-T Q. 421/Q. 422 (Pulse Clear Back) (ITU-T PLS CLB)
OFF	ON	OFF	OFF	ITU-T Q. 421/Q. 422 (Pulse Answer) (ITU-T PLS ANS)
ON	ON	OFF	OFF	Australia P2 Protocol
OFF	OFF	ON	OFF	China
ON	OFF	ON	OFF	Thailand
OFF	ON	ON	OFF	Brazil LME Interface
ON	ON	ON	OFF	Brazil Collect Call Blocking
OFF	OFF	OFF	ON	Brazil Continuous E&M Signal A Positive
ON	OFF	OFF	ON	Brazil Continuous E&M Signal A Negative
OFF	ON	OFF	ON	Brazil Continuous E&M Signal B Positive
ON	ON	OFF	ON	Iran TCI Interface
OFF	OFF	ON	ON	Peru Continuous E&M Signal A Positive
ON	OFF	ON	ON	Peru Continuous E&M Signal A Negative
OFF	ON	ON	ON	ITU-T UK Q. 421/Q. 422 (No Meter Pulse)
ON	ON	ON	ON	ITU-T ETSI Q. 421/Q. 422 (No Meter Pulse)

Note: The setting of SW81-3 to 6 is reflected to SW11-4 to 7.

Switch Settings of Template

The table below shows each switch setting when using the predefined template

Note: Mode 1 to Mode 4 refer to the following country/recommendation specifications respectively.

ACIS Operation Mode List (Sets by SW81-3 to SW81-6)

Mode 1	Mode 2	Mode 3	Mode 4
ITU-T STD ITU-T PLS CLB AUST CHINA THAI BRAZIL CCB BRAZIL(A/P) BRAZIL(A/N) PERU(A/P) PERU(A/N) ETSI	ITU-T PLS ANS BRAZIL LME BRAZIL(B/P)	IRAN TCI	UK

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW01	1	OFF	OFF	OFF	OFF	Local Loopback: Cancel (Internal)
	2	OFF	OFF	OFF	OFF	Line Loopback: Cancel (External)
	3	OFF	OFF	OFF	OFF	Payload Loopback: Cancel
	4	OFF	OFF	OFF	OFF	All channel make-busy: Cancel
	5-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW10	1	OFF	OFF	OFF	OFF	Remote Alarm Send Out: Unrestricted
	2	OFF	OFF	OFF	OFF	Fixed to OFF
	3	OFF	OFF	OFF	OFF	Multiframe Remote Alarm Sending: Allowed
	4	OFF	OFF	OFF	OFF	Alarm Release Time: Short
	5	Sets by SW81-1				Alarm Detect/Release Type
	6	OFF	OFF	OFF	OFF	PLO is not controlled when main signal ALL1.
	7	OFF	OFF	OFF	OFF	PLO Clock Supply Control: Yes
	8	OFF	OFF	OFF	OFF	DCH Layer 1/CCH Level 1 Alarm Release: No
SW11	1-3	OFF	OFF	OFF	OFF	Fixed to OFF
	4-7	Sets by SW81-3 to 81-6				ACIS Operation Mode
	8	OFF	OFF	OFF	OFF	Fixed to OFF
SW12	1	OFF	OFF	OFF	OFF	Line Signal: HDB3
	2	Sets by SW81-2				CRC-4 Control
	3	OFF	OFF	OFF	OFF	E-Bit Sending: Automatic
	4	OFF	OFF	OFF	OFF	Signaling Format Setting: ITU-T
	5	OFF	OFF	OFF	OFF	TS16 Control: Used for Signaling
	6	OFF	OFF	OFF	OFF	CRC-4 Multiframe Format: Normal
	7	OFF	OFF	OFF	OFF	Fixed to OFF
	8	Sets by SW81-8=ON				Fixed to ON
SW13	1	OFF	OFF	OFF	OFF	Main Signal ALL1 is not received.
	2	OFF	OFF	OFF	OFF	Idle Code is not sent.
	3	OFF	OFF	OFF	OFF	DP relay function is not used for FCCS.
	4	OFF	OFF	OFF	OFF	Simultaneous Seizure Detection (SSD): Enabled
	5	OFF	OFF	OFF	OFF	Activate counter node when detecting Simultaneous Seizure.
	6	OFF	OFF	OFF	OFF	Layer 1/Level 1 Alarm is notified to CPU.
	7	OFF	OFF	OFF	OFF	CAS is effective when DCH/CCH is used.
	8	ON	ON	ON	ON	Incoming/Outgoing call collision processing is used.

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW14	1	OFF	OFF	OFF	ON	Reception PAD 1: Mode 1, 2, 3 : 2 (Loss) Mode 4 : 3 (Loss)
	2	ON	ON	ON	ON	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
	8	OFF	OFF	OFF	OFF	
SW15	1	OFF	OFF	OFF	ON	Reception PAD 2: Mode 1, 2, 3 : 4 (Loss) Mode 4 : 3 (Loss)
	2	OFF	OFF	OFF	ON	
	3	ON	ON	ON	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	ON	ON	ON	ON	PAD Selection: A-Law
	8	OFF	OFF	OFF	OFF	
SW16	1	OFF	OFF	OFF	OFF	Reception PAD 3: 6 (Loss)
	2	ON	ON	ON	ON	
	3	ON	ON	ON	ON	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	PAD Pattern 1
	8	OFF	OFF	OFF	OFF	
SW17	1	OFF	OFF	OFF	OFF	Reception PAD 4: 8 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	ON	ON	ON	ON	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Data PAD Pattern Selection: 64k
	8	OFF	OFF	OFF	OFF	

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW18	1	OFF	OFF	OFF	OFF	Transmission PAD 1: Mode 1, 2, 3 : 2 (Loss) Mode 4 : -3 (Gain)
	2	ON	ON	ON	OFF	
	3	OFF	OFF	OFF	ON	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	ON	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	PAD Kind : Standard PAD
	8	OFF	OFF	OFF	ON	PAD Selection: Mode 1, 2, 3 : Standard PAD, Mode 4 : UK
SW19	1	OFF	OFF	OFF	ON	Transmission PAD 2: Mode 1, 2, 3 : 4 (Loss) Mode 4 : 3 (Loss)
	2	OFF	OFF	OFF	ON	
	3	ON	ON	ON	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW20	1	OFF	OFF	OFF	OFF	Transmission PAD 3: Mode 1, 2, 3 : 6 (Loss) Mode 4 : 0
	2	ON	ON	ON	OFF	
	3	ON	ON	ON	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW21	1	OFF	OFF	OFF	ON	Transmission PAD 4: Mode 1, 2, 3 : 8 (Loss) Mode 4 : 3 (Loss)
	2	OFF	OFF	OFF	ON	
	3	OFF	OFF	OFF	OFF	
	4	ON	ON	ON	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW22	1	OFF	OFF	OFF	OFF	Seizure Acknowledgement Guard Time: 48 milliseconds
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	Seizure Acknowledgement Detection Time: 56 milliseconds
	6	OFF	OFF	OFF	OFF	
	7	OFF	OFF	OFF	OFF	
	8	OFF	OFF	OFF	OFF	
SW23	1	ON	ON	ON	ON	Seizure Acknowledgement Monitoring Time: 1320 milliseconds
	2	ON	ON	ON	ON	
	3	ON	ON	ON	ON	
	4	OFF	OFF	OFF	OFF	Answer Detection Time: Mode 1, 4: 200 milliseconds Mode 2: 100 milliseconds Mode 3: 800 milliseconds
	5	ON	OFF	ON	ON	
	6	OFF	OFF	ON	OFF	
	7	OFF	OFF	ON	OFF	
	8	OFF	OFF	OFF	OFF	
SW24	1-6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Short haul mode
	8	OFF	OFF	OFF	OFF	Fixed to OFF
SW25	1-3	Sets by SW80-1 to SW80-3=OFF				Fixed to OFF (Not used)
	4	Sets by SW80-4=OFF				
	5-8	OFF	OFF	OFF	OFF	
SW26	1-4	OFF	OFF	OFF	OFF	Fixed to OFF (Not used)
	5	ON	ON	ON	ON	Fixed to ON (Not used)
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF (Not used)
SW27	1-8	OFF	OFF	OFF	OFF	Fixed to OFF (Not used)

7. External Interface

LT connector lead accommodation of this card is described below.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	PoutB	5	PoutA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	PoutB	13	PoutA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

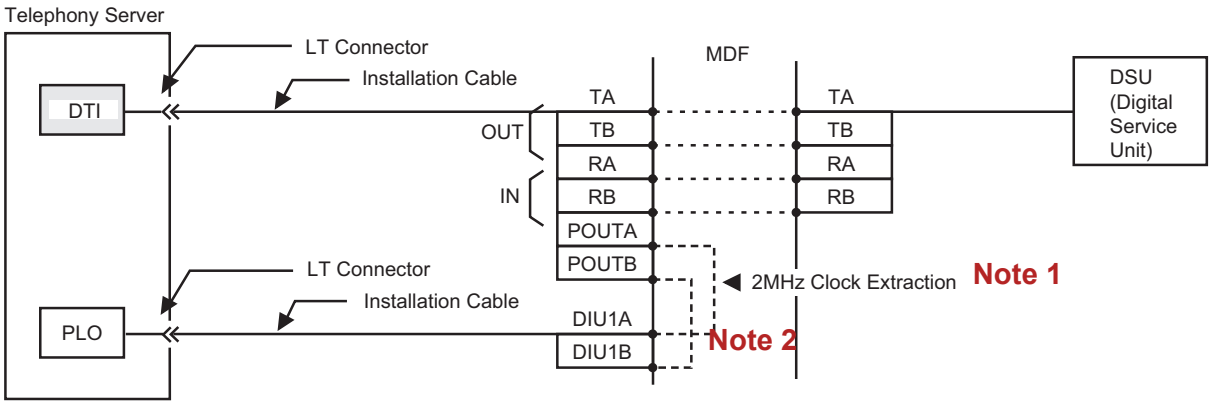
Accommodated in 3

LT3, 5, 9, 11 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	PoutB	21	PoutA
47		22	
48		23	
49	TB	24	TA
50		25	

LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5		LT6	LT7	LT8	LT9	LT10	LT11
Slot Number →	04 05 06 07 08 09				10 11 12		13 14	15 16 17 18 19 20				21 22 23	
Group Number→	01 03 05 07 09 11				15 19 23 14 18 22			01 03 05 07 09 11				15 19 23 14 18 22	
	00 02 04 06 08 10				13 17 21 12 16 20			00 02 04 06 08 10				13 17 21 12 16 20	
7U-PIR	* 1		* 2		* 3	* 2	* 1 * 3	* 1		* 2		* 3	* 2 * 1 * 3

Connecting Route Diagram



Note 1: This cable connection is required when clock signals must be extracted from the network side.

Note 2: As an example, DIU1A and DIU1B leads are used in this diagram.

CH-16ELCA (ELC) Electronic Line Circuit

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

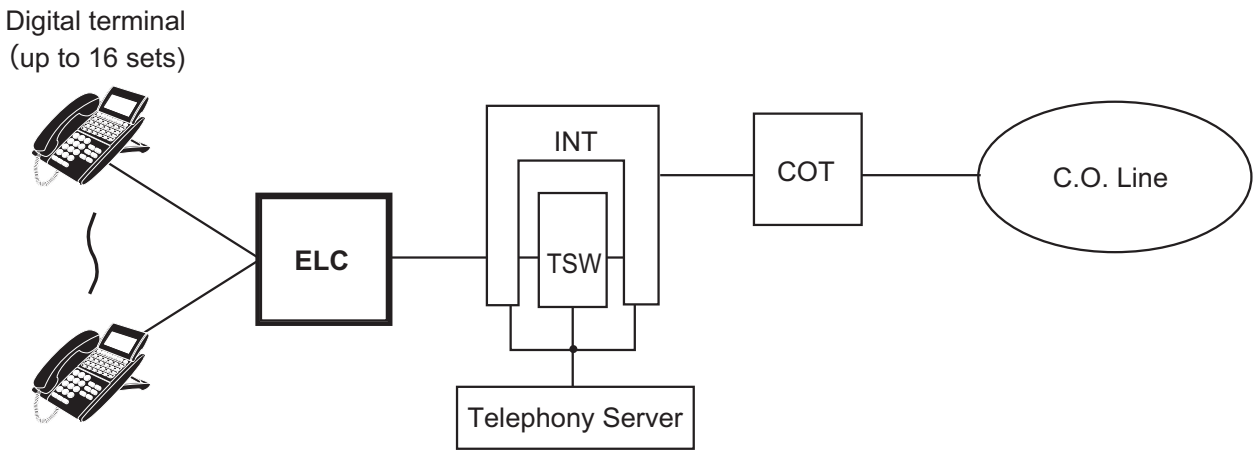
1. General Functions

The CH-16ELCA (ELC) card provides an interface for 16 or 8 Digital terminals that use the TCM (Time Compression Multiplex) transmission method.

Depending on the switch settings, this card works in the following two modes.

	Line	Time Slot
16ELC mode	16 lines	16 Time Slot
8DLC mode	8 lines	16 Time Slot

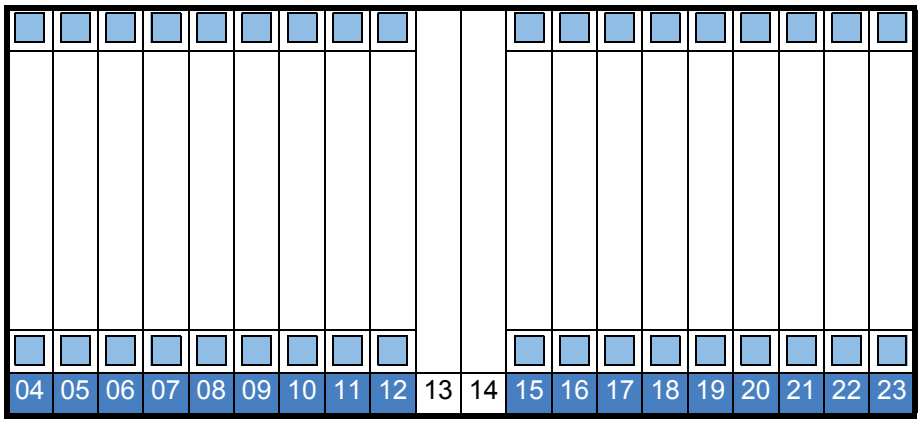
Location of CH-16ELCA (ELC) in the System



2. Mounting Locations/Conditions

Mounting Location <7U-PIR>

Universal Slot



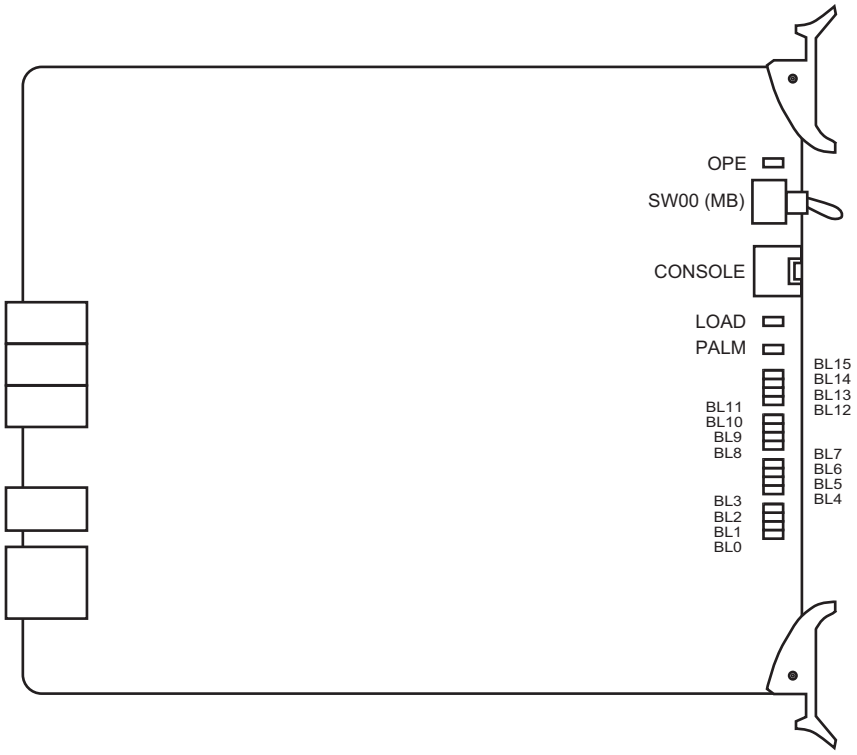
Mounting Conditions:

When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

Note: This card can be mounted in any of the available slots as shown above, as long as a Night Change Unit (NCU) card is not used (ASYD, SYS1, Index 77, Bit 4 = 0 and Bit 5 = 0). If you want to use an NCU card, do not install the CH-16ELCA (ELC) card in Slot 04 or Slot 15 of all PIRs.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps and switches on this card is shown below.



4. Lamp Indications

The content of the lamp indications of this card is shown in the table below.

LAMP NAME	COLOR	STATE	DESCRIPTION
OPE	Green	Light	The card is operating normally.
LOAD	Green	Light	The program download is in process. The card initialization starts.
		Flash (60 IPM)	Waiting for the program download.
		Flash (120 IPM)	The program download is failed.
		OFF	The program download is completed. The card is operating normally.
BL0 - BL15	Green	Light	The card initialization is in process. The corresponding line is in use.
		Flash (60 IPM)	The corresponding line is in a make-busy state.
		Flash (120 IPM)	The power supply to the corresponding line(s) is stopped.
		OFF	The corresponding line is in an idle state.
PALM	Red	Light	A power supply failure has occurred on more than one line.
		OFF	All lines are operating normally.

Note 1: When connected terminals do not start up while they are powered on and PALM lamp is OFF, disconnect the terminals and connect them again.

5. Switch Settings

The switches on the CH-16ELCA (ELC) card have the following meanings.

Hardware Switch

SW00 (MB)

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy (the card is hot-pluggable.)
	DOWN	×	Card: make-busy cancel (the card is operating.)

Note: When turning on SW00 (MB), make sure that BL Lamps for the lines (BL0-BL15) are off (that means the lines to which station data is assigned are not used) or flashing (that means station data is not assigned to the lines or the lines are in make busy state). If SW00 (MB) is turned on while the data for SPEED CALLING - ONE TOUCH [S-26D] is being registered (the BL Lamp for the corresponding line is flashing), it may cause a loss or corruption of the data being registered.
If "SPEED SET" does not appear on the display of a Digital terminal after the data for SPEED CALLING - ONE TOUCH [S-26D] is registered, a loss or corruption of the registered data may have occurred. In this case, the data must be reregistered before using SPEED CALLING - ONE TOUCH [S-26D].

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection

SW10

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1 - 3	OFF	×	Fixed to OFF
4 **Note 1**	ON		8DLC mode
	OFF	×	16ELC mode
5 **Note 1**	ON		Analog Port Adapter is available.
	OFF	×	Analog Port Adapter is not available.
6 - 8	OFF	×	Fixed to OFF

Note 1: The Analog Port Adapter is optionally available when connecting to Digital terminals. It provides an interface for connecting to Analog terminals. The Analog Port Adapter can be used with the following switch settings:

SW10-4	SW10-5	SETTINGS FOR USING ANALOG PORT ADAPTER OR DATA ADAPTER
OFF	OFF	• Up to 16 lines are available per card. • Voice communication only.
OFF	ON	• Up to 16 lines are available per card. • Simultaneous voice and data communications are not available.
ON	ON	• Up to 8 lines are available per card. • Simultaneous voice and data communications are available.

SW11

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1 - 8	OFF	×	Fixed to OFF

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1 - 8	OFF	×	Fixed to OFF

6. External Interface

LT connector lead accommodation of this card is described below.

Note: Be sure to turn on SW00 (MB) when connecting the LT cables that are accommodated in the CH-16ELCA (ELC) card to the PIR. If the LT cables are connected to the PIR while SW00 (MB) is off, an overcurrent to Digital terminals may occur and it may cause a corruption of the CH-16ELCA (ELC) card or the PIR may be down due to the voltage reduction (-48V) of the system power supply.

LT Connector Lead Accommodation (16ELC Mode) (1/2)

Accommodated in* 1

LT0, 2, 4, 6, 8, 10 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in * 2

LT1, 3, 5, 7, 9, 11 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42	B8	17	A8
43	B9	18	A9
44	B10	19	A10
45	B11	20	A11
46	B12	21	A12
47	B13	22	A13
48	B14	23	A14
49	B15	24	A15
50		25	

LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5		LT6	LT7	LT8	LT9	LT10	LT11
Slot No. →	04 05 06	07 08 09	10 11 12	13 14	15 16 17	18 19 20	21 22 23						
Group No. →	01 03 05	07 09 11	15 19 23 14 18 22		01 03 05	07 09 11	15 19 23 14 18 22						
	00 02 04	06 08 10	13 17 21 12 16 20		00 02 04	06 08 10	13 17 21 12 16 20						
7U-PIR	* 1	* 2	* 1	* 2	* 1	* 2		* 1	* 2	* 1	* 2	* 1	* 2

LT Connector Lead Accommodation (16ELC Mode) (2/2)

Accommodated in * 3

LT0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	

LT1, 3, 5, 7, 9, 11 Connector

26	B8	1	A8
27	B9	2	A9
28	B10	3	A10
29	B11	4	A11
30	B12	5	A12
31	B13	6	A13
32	B14	7	A14
33	B15	8	A15
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5		LT6	LT7	LT8	LT9	LT10	LT11
Slot No. →	04 05 06	07 08 09	10 11 12	13 14	15 16 17	18 19 20	21 22 23						
Group No. →	01 03 05	07 09 11	15 19 23 14 18 22		01 03 05	07 09 11	15 19 23 14 18 22						
	00 02 04	06 08 10	13 17 21 12 16 20		00 02 04	06 08 10	13 17 21 12 16 20						
7U-PIR	* 3	* 3	* 3		* 3	* 3	* 3						

LT Connector Lead Accommodation (8DLC Mode)

Accommodated in *1

LT0, 2, 4, 6, 8, 10 connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in *2

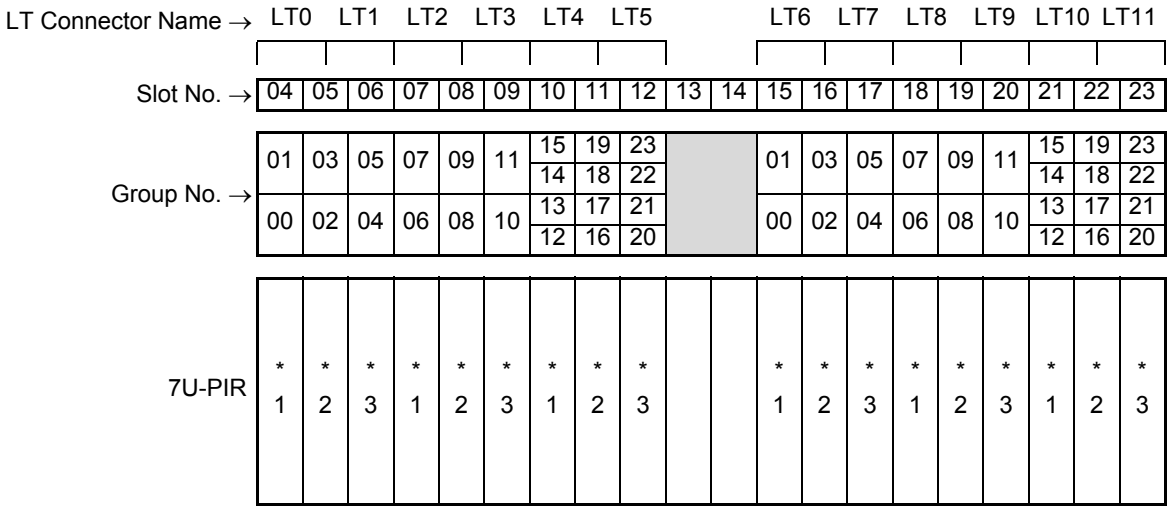
LT1, 3, 5, 7, 9, 11 connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

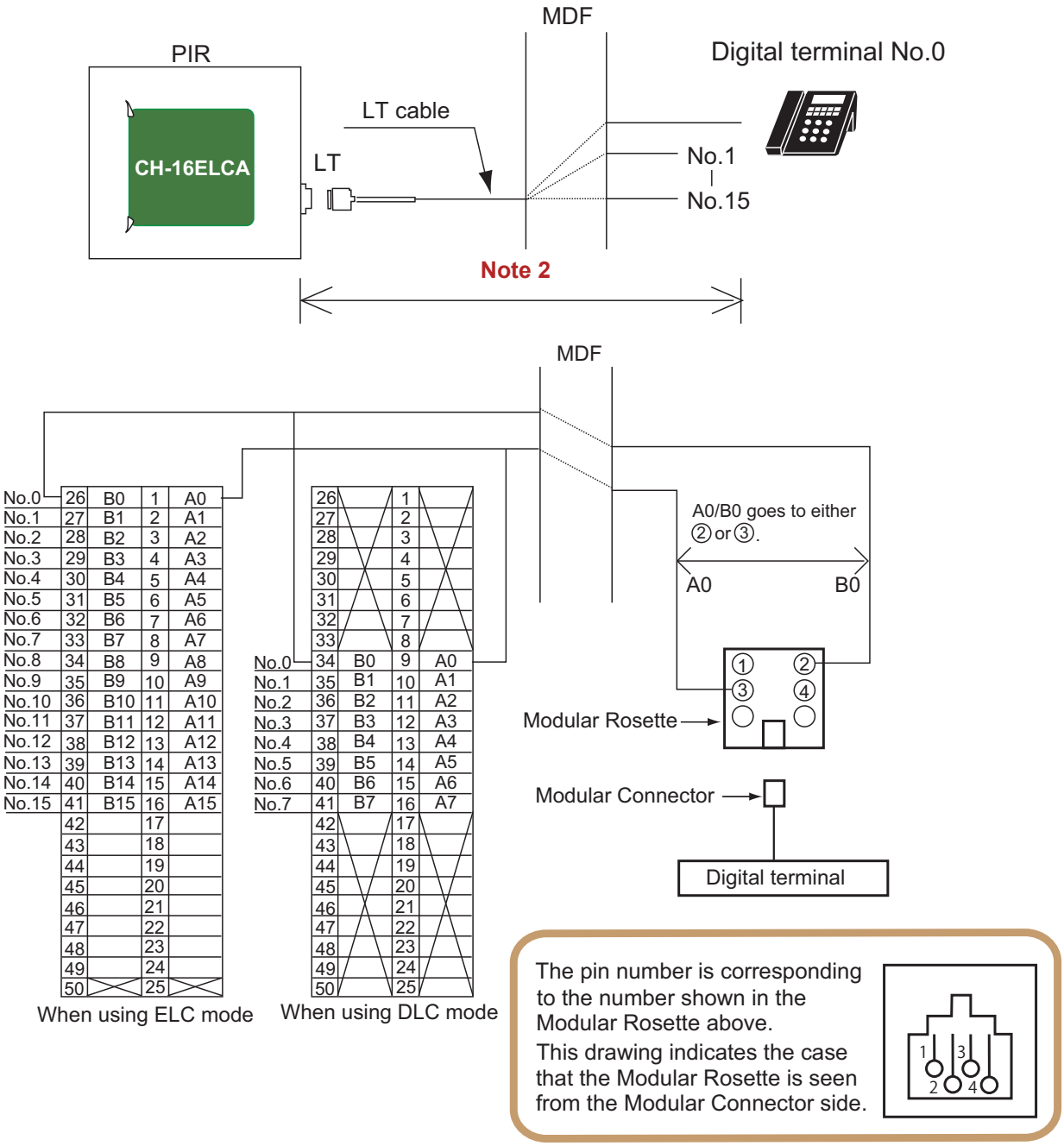
Accommodated in *3

LT1, 3, 5, 7, 9, 11 connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	



Connection Route Diagram Note 1



No.0	26	B0	1	A0
No.1	27	B1	2	A1
No.2	28	B2	3	A2
No.3	29	B3	4	A3
No.4	30	B4	5	A4
No.5	31	B5	6	A5
No.6	32	B6	7	A6
No.7	33	B7	8	A7
No.8	34	B8	9	A8
No.9	35	B9	10	A9
No.10	36	B10	11	A10
No.11	37	B11	12	A11
No.12	38	B12	13	A12
No.13	39	B13	14	A13
No.14	40	B14	15	A14
No.15	41	B15	16	A15
	42		17	
	43		18	
	44		19	
	45		20	
	46		21	
	47		22	
	48		23	
	49		24	
	50		25	

When using ELC mode

	26		1	
	27		2	
	28		3	
	29		4	
	30		5	
	31		6	
	32		7	
	33		8	
No.0	34	B0	9	A0
No.1	35	B1	10	A1
No.2	36	B2	11	A2
No.3	37	B3	12	A3
No.4	38	B4	13	A4
No.5	39	B5	14	A5
No.6	40	B6	15	A6
No.7	41	B7	16	A7
	42		17	
	43		18	
	44		19	
	45		20	
	46		21	
	47		22	
	48		23	
	49		24	
	50		25	

When using DLC mode

Note 1: The accommodation of connector leads depends on LENS of the card.

Note 2: Here shows the allowable cable distances.

Power supply from System (Without arrestor)

	DT300 Series/Dterm Series *i* *
ϕ 0.4	600 m
ϕ 0.5	850 m
ϕ 0.65	1400 m
ϕ 0.9	1800 m

*: DSS Console is not available. AC Adapter is required for DSS Console.

Local power supply

	DT300 Series/Dterm Series *i*
ϕ 0.4	700 m
ϕ 0.5	1200 m
ϕ 0.65	1800 m
ϕ 0.9	1800 m

CH-IPDA (IPPAD) IP Line Card

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

CH-IPDA (IPPAD) card provides a gateway function for voice signals when a call is to be established between the terminals/devices in PIRs and IP terminals. Maximum 32 lines of terminals/devices can be connected via a switching HUB.

This card provides the following functions:

- Voice Encoding/Decoding: G.711: 64Kbps, G.729a: 8Kbps **Note 1**
- Fax Passthrough (G.711, G.726 (ADPCM))
- Fax Relay (T.30, T.38 (UDP)) **Note 2**
- Encryption: AES **Note 3**
- Echo Canceler: G.168 (128 ms)
- IP Network Interface: 10/100/1000 Mbps LAN interface **Note 6**
- Payload: 20-40 ms (10 ms step) **Note 4**
- Jitter Buffer: 10-300 ms (10 ms step)
- PAD: 0-20 dB **Note 5**
- DTMF sending: Inband/Outband

Note 1: G.729a (8 Kbps) is used with voice compression.

Note 2: While Fax Relay is operating, Echo Canceler becomes invalid.

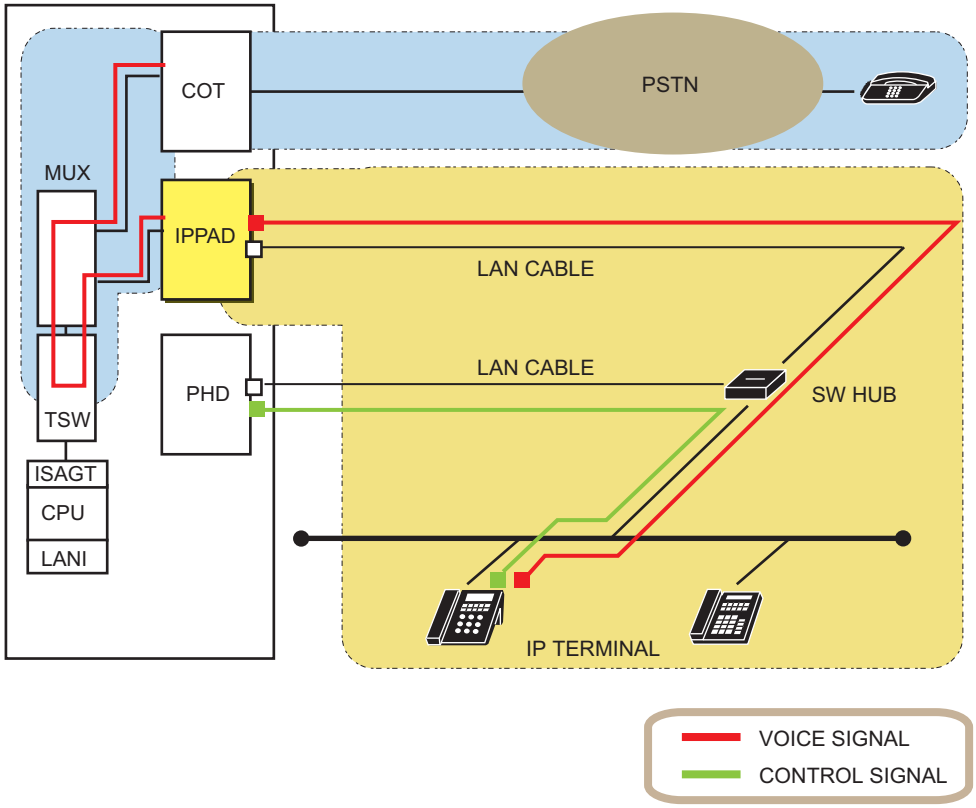
Note 3: For assigning encryption data, please refer to VoIP Encryption [V-27] in the Data Programming Manual- Business.

Note 4: Payload: 10 ms is not supported.

Note 5: For assigning PAD data, please refer to IP Service PAD/Echo Canceler Data in the Data Programming Manual - Business.

Note 6: Half-duplex mode is not supported. When Automatic Negotiation is enabled, use the serial console command [show status card] to check if the interface is full-duplex.

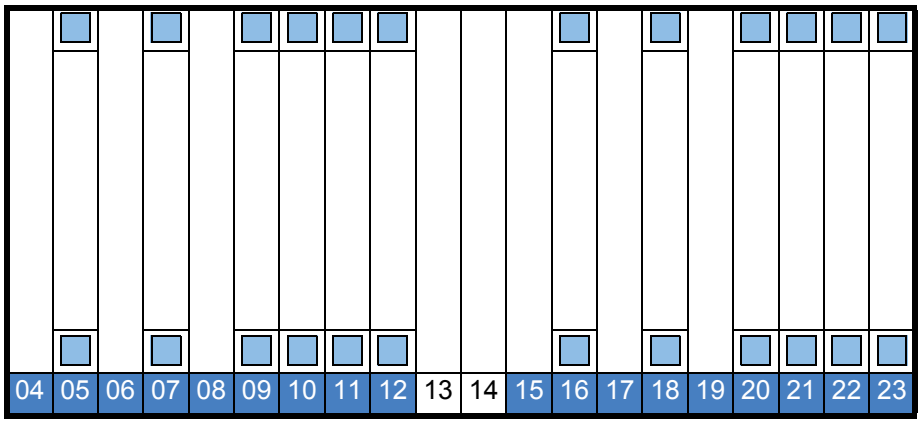
Location of CH-IPDA (IPPAD)



2. Mounting Locations/Conditions

Mounting Location <7U-PIR>

Slots 05 **Note 1**, 07, 09-12, 16 **Note 1**, 18, 20-23



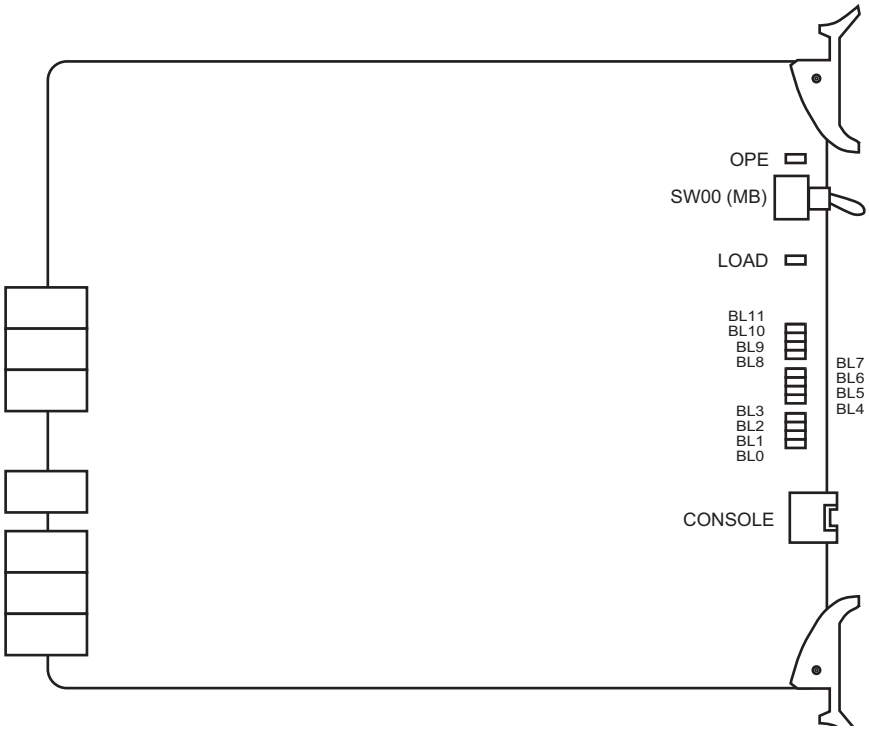
Mounting Conditions:

- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot.
- The card cannot be mounted in Slot 05 of PIR0. This card cannot use Port 0 (LV=0) of Group 0 (G=00). LENS:000000 is not available for the users.

Note 1: This card can be mounted in any of the available slots as shown in Mounting Location, as long as a Night Change Unit (NCU) card is not used (ASYD, SYS1, Index 77, Bit 4 = 0 and Bit 5 = 0).
If you want to use an NCU card, do not install the CH-IPDA (IPPAD) card in Slot 05 or Slot 16 of all PIRs.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps and switches on this card is shown below.



4. Lamp Indications

The contents of lamp indications on this card are shown in the table below.

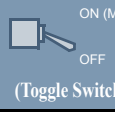
LAMP NAME	COLOR	STATE	DESCRIPTION
OPE	Green	Light	The card is operating normally.
LOAD	Green	Light	The program download is in process.
		Flash (60 IPM)	The program download is waiting.
		Flash (120 IPM)	The program download failed.
		OFF	The program download is completed.
BUSY	Green	Light	A card initialization is in process or at least one line is processing a call.
		Flash (60 IPM)	At least one line is in a make-busy state.
		Flash (120 IPM)	All lines are in the make-busy state.
		OFF	Idle state
LINK/ACT	Green	Light	A link is established.
		Flash	Accessing (Communicating)
		OFF	No link is established.
SPEED	Orange	Light	1Gbps
	Green	Light	100Mbps
	-	OFF	10Mbps

5. Switch Settings

Standard settings of switches on this card are shown in the table below.

Hardware Switch

SW00 (MB)

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy (the card is hot-pluggable.)
	DOWN	×	Card: make-busy cancel (the card is operating.)

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection

SW10

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-5	OFF	×	Fixed to OFF
6	ON		PAD pattern selection See Table-1.
	OFF	×	
7	ON		
	OFF	×	
8	OFF	×	Fixed to OFF

Table-1

PAD PATTERN SELECTION		
SW10-6	SW10-7	MEANING
OFF	OFF	PAD Pattern 1 (Default Setting)
ON	OFF	PAD Pattern 2
OFF	ON	PAD Pattern 3
ON	ON	PAD Pattern 4

[PAD VALUE SET WITH PATTERN SELECTIONS]

Note: PAD No. is to be specified with the ACRD/AIVCL commands.

Note: PAD Numbers 6 and 0 should not be set. Do not use them when performing the configurations below. Also, numbers 5 and 8 to 15 are not used.

[PAD Pattern (μ-Law Pattern)]

ACRD/AIVCL PAD NO.	μ-LAW PAD PATTERN 1		μ-LAW PAD PATTERN 2		μ-LAW PAD PATTERN 3		μ-LAW PAD PATTERN4	
	TSW→IP	IP→TSW	TSW→IP	IP→TSW	TSW→IP	IP→TSW	TSW→IP	IP→TSW
7	0 [dB]	0 [dB]	0 [dB]	0 [dB]	0 [dB]	0 [dB]	0 [dB]	0 [dB]
1	0 [dB]	2 [dB]	0 [dB]	16 [dB]	0 [dB]	2 [dB]	0 [dB]	3 [dB]
2	0 [dB]	4 [dB]	0 [dB]	4 [dB]	0 [dB]	4 [dB]	0 [dB]	3 [dB]
3	0 [dB]	12 [dB]	0 [dB]	12 [dB]	0 [dB]	6 [dB]	0 [dB]	6 [dB]

ACRD/AIVCL PAD NO.	μ-LAW PAD PATTERN 1		μ-LAW PAD PATTERN 2		μ-LAW PAD PATTERN 3		μ-LAW PAD PATTERN4	
	TSW→IP	IP→TSW	TSW→IP	IP→TSW	TSW→IP	IP→TSW	TSW→IP	IP→TSW
4	0 [dB]	8 [dB]	0 [dB]	8 [dB]	0 [dB]	8 [dB]	0 [dB]	9 [dB]

[PAD Pattern (A-Law Pattern)]

ACRD/AIVCL PAD NO.	A-LAW PAD PATTERN 1		A-LAW PAD PATTERN 2		A-LAW PAD PATTERN 3		A-LAW PAD PATTERN4	
	TSW→IP	IP→TSW	TSW→IP	IP→TSW	TSW→IP	IP→TSW	TSW→IP	IP→TSW
7	0 [dB]	0 [dB]	0 [dB]	0 [dB]	0 [dB]	0 [dB]	0 [dB]	0 [dB]
1	0 [dB]	2 [dB]	0 [dB]	16 [dB]	0 [dB]	1 [dB]	0 [dB]	3 [dB]
2	0 [dB]	4 [dB]	0 [dB]	4 [dB]	0 [dB]	3 [dB]	0 [dB]	3 [dB]
3	0 [dB]	6 [dB]	0 [dB]	12 [dB]	0 [dB]	5 [dB]	0 [dB]	6 [dB]
4	0 [dB]	8 [dB]	0 [dB]	8 [dB]	0 [dB]	7 [dB]	0 [dB]	9 [dB]

SW11

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Sending DTMF: 120 ms Pause: 180 ms
	OFF	×	Sending DTMF: 60 ms Pause: 70 ms
2-6	OFF	×	Fixed to OFF
7	ON		DTMF sending method: Inband **Note 1**
	OFF	×	DTMF sending method: Outband
8	ON	×	Fixed to ON

Note 1: DTMF relay of the inband signaling is effective only for the speech transferring of CODEC G.711. Make sure the CODEC type is adjusted for this function.

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-4	OFF	×	Fixed to OFF

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
5	ON	×	Echo canceler operation See Table-2.
	OFF		
6	ON		
	OFF	×	
7-8	OFF	×	Fixed to OFF

Table-2

ECHO CANCELER OPERATION			
CARD DEFAULT VALUE		AIVCL DATA ASSIGNMENT	ECHO CANCELER OPERATION
When SW12-5 is ON (Conforms to SW12-6 setting)	SW12-6 = OFF: Echo Canceler is forcibly set to ON.	No data is set with the AIVCL command.	ON
		Echo Canceler is set to OFF with the AIVCL command.	
		Echo Canceler is set to ON with the AIVCL command.	
	SW12-6 = ON: Echo Canceler is forcibly set to OFF.	No data is set with the AIVCL command.	OFF
		Echo Canceler is set to OFF with the AIVCL command.	
		Echo Canceler is set to ON with the AIVCL command.	
When SW12-5 is OFF (Conforms to Telephony Server Data Assignment)	ACRD CDN 8 = 1: Echo Canceler is set to ON.	No data is set with the AIVCL command.	ON
		Echo Canceler is set to OFF with the AIVCL command.	OFF
		Echo Canceler is set to ON with the AIVCL command.	ON
	ACRD CDN 8 = 0: Echo Canceler is set to OFF.	No data is set with the AIVCL command.	OFF
		Echo Canceler is set to OFF with the AIVCL command.	
		Echo Canceler is set to ON with the AIVCL command.	ON

Note: When the APDIL command is used, the APDIL command data assignment is effective regardless of the switch settings mentioned above (Table-2).

SW13

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-4	OFF	×	Fixed to OFF
5	ON		Echo Canceler is bypassed when FAX answer tone is detected. (2100 Hz)
	OFF	×	Echo Canceler is not bypassed when FAX answer tone is detected. (2100 Hz)
6	OFF	×	Fixed to OFF
7	ON	×	Fixed to ON
8	OFF	×	Fixed to OFF

SW14

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Available Period of Switching to FAX See Table-3. **Note:** The switches 1-3 of SW14 is available when the switch 3 of SW16 is set to ON.
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON	×	Setting of maximum voice level sent to TSW. When connected with a 2-wire trunk, see Table-4. **Note:** This setting is controlled on a call basis.
	OFF		
5	ON		
	OFF	×	
6	ON	×	Setting of maximum voice level sent to TSW. When connected with a station or a trunk except for a 2-wire trunk, see Table-5. **Note:** This setting is controlled on a call basis.
	OFF		
7	ON		
	OFF	×	
8	ON		EC Training is unavailable.
	OFF	×	EC Training is available.

Table-3

AVAILABLE PERIOD OF SWITCHING TO FAX			
SW14-1	SW14-2	SW14-3	AVAILABLE PERIOD OF SWITCHING TO FAX
OFF	OFF	OFF	1 minute (Default Setting)
ON	OFF	OFF	2 minute
OFF	ON	OFF	3 minute
ON	ON	OFF	4 minute
OFF	OFF	ON	5 minute
ON	OFF	ON	0 minute (Fixed to Voice Mode)
OFF	ON	ON	No Timer (Voice/FAX automatic distinction)
ON	ON	ON	Not used.

Table-4

SETTING OF MAXIMUM VOICE LEVEL (FOR A CONNECTION WITH 2-WIRE TRUNK)		
SW14-4	SW14-5	MAXIMUM VOICE LEVEL
OFF	OFF	No setting is necessary.
ON	OFF	+2 dBm (Mode 1) (Default Setting)
OFF	ON	-5 dBm (Mode 2)
ON	ON	-2 dBm (Mode 3)

Table-5

SETTING OF MAXIMUM VOICE LEVEL (FOR A CONNECTION WITH A STATION OR A TRUNK EXCEPT FOR A 2-WIRE TRUNK)		
SW14-6	SW14-7	MAXIMUM VOICE LEVEL
OFF	OFF	No setting is necessary.
ON	OFF	+2 dBm (Mode 1) (Default Setting)
OFF	ON	-5 dBm (Mode 2)
ON	ON	-2 dBm (Mode 3)

SW15

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		LAN speed setting See Table-6.
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4-8	OFF	×	Fixed to OFF

Table-6

LAN INTERFACE SPEED SETTING			
SW15-1	SW15-2	SW15-3	MEANING
OFF	OFF	OFF	Automatic Negotiation ON (Default Setting) **Note 2**
ON	OFF	OFF	100 Mbps full-duplex **Note 3**
OFF	ON	OFF	This setting is prohibited. (100 Mbps half-duplex)
ON	ON	OFF	10 Mbps full-duplex **Note 3**
OFF	OFF	ON	This setting is prohibited. (10 Mbps half-duplex)
ON	OFF	ON	These setting are prohibited. (Automatic Negotiation ON)
OFF	ON	ON	
ON	ON	ON	

Note 2: The transmission rate (10 Mbps / 100 Mbps / 1000 Mbps) and duplex mode of the LAN connection are determined through Automatic Negotiation.

Note 3: All peripheral devices are required to support the interface properties.

SW16

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	OFF	×	Fixed to OFF
2	ON		DTMF relay (RFC2833) **Note 4**
	OFF	×	DTMF relay (UII/Proprietary Method) **Note 4**
3	ON		FAX setting priority: Switch settings on the card take priority
	OFF	×	FAX setting priority: Office data settings take priority
4	OFF	×	Fixed to OFF
5	ON		RTP (no tone) packets are not sent during DTMF relay (RFC2833).
	OFF	×	RTP (no tone) packets are sent during DTMF relay (RFC2833).
6-8	OFF	×	Fixed to OFF

Note 4: The switch 2 of SW16 is available when the switch 7 of SW11 is set to OFF.

SW17

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		FAX Control setting See Table-7.
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4-8	OFF	×	Fixed to OFF

Table-7

FAX CONTROL SETTING			
SW17-1	SW17-2	SW17-3	FAX CONTROL SETTING
OFF	OFF	OFF	Conforms to Telephony Server setting (Default Setting)
ON	OFF	OFF	Fax Passthrough (G.711)
OFF	ON	OFF	Fax Passthrough (G.726)
ON	ON	OFF	T.30 FAX relay
OFF	OFF	ON	T.38 (UDP) FAX relay
ON	OFF	ON	This setting is prohibited. (Conforms to Telephony Server setting)
OFF	ON	ON	
ON	ON	ON	

Note: The switches 1-3 of SW17 is available when the switch 3 of SW16 is set to ON.

SW18

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-3	OFF	×	Fixed to OFF
4-5	ON	×	Fixed to ON
6-8	OFF	×	Fixed to OFF

SW19

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW20

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW21

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW22

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW23

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW24

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW25

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW26

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW27

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW28

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

SW29

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1-8	OFF	×	Fixed to OFF

6. PAD Setting for Other Cards

When CH-IPDA card and the following cards are used, set the data as follows.

(a) COT

Send (TSW→C.O. line direction): 3dB
Receive (C.O. line→TSW direction): 0dB

Example: For the case of CH-12COTB or CH-12COTA (SW11-5/SW11-6, SW11-7/SW11-8)

PAD Value Reference (1/4)

COMMAND DATA		SEND (dB) (TSW → C.O. LINE)	RECEIVE (dB) (C.O. LINE → TSW)	SETTING
ARTD (CDN 30)	APAD			
7	15	0	0	Standard Setting
1	1	PAD value (Send) **Note 1**	PAD value (Receive) **Note 2**	PAD selection
2	2	3	0	
3	3	3	3	
4	4	6	0	

PAD Value Reference (2/4)
(See below if BNW = Brazil Complex and Impedance = 900 Ω)

COMMAND DATA		SEND (dB) (TSW → C.O. LINE)	RECEIVE (dB) (C.O. LINE → TSW)	SETTING
ARTD (CDN 30)	APAD			
7	15	0	0	
1	1	PAD value (Send) **Note 1**	PAD value (Receive) **Note 2**	PAD selection
2	2	6	-1 (Gain)	Brazilian Standard Setting
3	3	1	-6 (Gain)	
4	4	1	-6 (Gain)	

PAD Value Reference (3/4)
(See below if BNW = Chinese Complex and Impedance = Chinese Complex)

COMMAND DATA		SEND (dB) (TSW → C.O. LINE)	RECEIVE (dB) (C.O. LINE → TSW)	SETTING
ARTD (CDN 30)	APAD			
7	15	0	0	
1	1	PAD value (Send) **Note 1**	PAD value (Receive) **Note 2**	PAD selection
2	2	3	3	Chinese Standard Setting
3	3	3	0	
4	4	3.5	3.5	

PAD Value Reference (4/4)
(See below if Impedance = Australian Complex)

COMMAND DATA		SEND (dB) (TSW → C.O. LINE)	RECEIVE (dB) (C.O. LINE → TSW)	SETTING
ARTD (CDN 30)	APAD			
7	15	0	-6	
1	1	PAD value (Send) **Note 1**	PAD value (Receive) **Note 2**	PAD selection
2	2	6	-6	
3	3	0	0	

Note 1: Pad Value (Send) is specified by CH-12COTB and CH-12COTA SW11-5/SW11-6.

SWITCH 5	SWITCH 6	PAD VALUE (SEND)
OFF	OFF	0
ON	OFF	3
OFF	ON	6
ON	ON	0

Note 2: Pad Value (Receive) is specified by CH-12COTB and CH-12COTA SW11-7/SW11-8.

SWITCH 7	SWITCH 8	PAD VALUE (RECEIVE)
OFF	OFF	0
ON	OFF	3
OFF	ON	6
ON	ON	-5 (GAIN)

Example: For the case of PA-16COTBD-B/PA-16COTBH

- SW-12-4: OFF
- Set the command data referring to “PAD Value Reference” tables in PA-16COTBD-B/ PA-16COTBH

COMMAND DATA		SEND [dB] (TSW → C.O. Line)	RECEIVE [dB] (C.O. Line →TSW)	SETTING
ARTD (CDN 30)	APAD			
7	15	0	0	
2	2	3	0	Standard Setting
3	3	3	3	
4	4	6	0	

(b) PRT

Example: For the case of CH-PRTA/PA-PRTC

- SW16-7: OFF, SW16-8: OFF (PAD pattern 1)
- For only PAD control of receiving side (SW14-7: OFF, SW14-8: OFF), set the command data as below table.

COMMAND DATA ARTD (CDN 30)/APAD	SEND [dB] (TSW → C.O. Line)	RECEIVE [dB] (C.O. Line → TSW)	SETTING
7	0	0	
1	0	2	
2	0	4	
3	0	12	
4	0	8	Standard Setting

7. External Interfaces

This card has no external interface connections.

CH-16LCA (LC)
Line Circuit

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

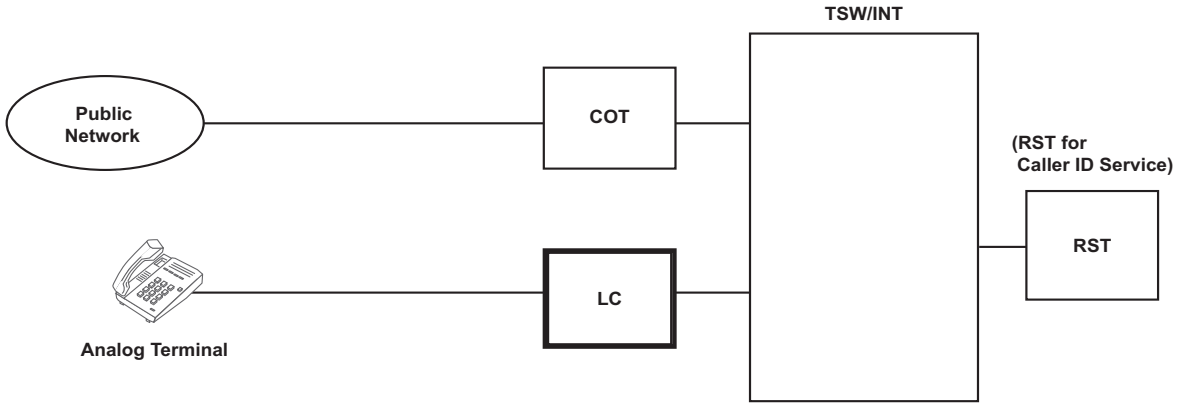
This card provides an interface for 16 analog voice terminals. The functions and conditions of this card are as follows:

- Balancing network : two types (North America, Australia, Brazil, Other countries)
  one type (China, UK, New Zealand)
- Message Waiting Lamp (MWL) control : Lit or Flashing can be selected. **Note 1**
- Stutter Dial Tone : available or not available can be selected.
- Pre-ringer : available or not available can be selected.
- PAD control : available on the receiving side during a station-to-station call.
- Polarity reverse : available for all lines.
- Caller ID service : available for all lines. **Note 2**
- Line resistance : up to 1200 Ω (including terminal resistance).
- Maximum concurrent calls : up to eight lines
- Howler tone : PCM Howler tone (2000 Hz, intermittent tone)

Note 1: When using a MWL control, use a terminal that has a Message Waiting Lamp. A failure may occur if other types of terminals are used while the MWL control is enabled.

Note 2: Regarding the Caller ID service, note the following:
- For a line to which the Caller ID service is set, use a terminal that supports this service.
- The pre-ringer function cannot be enabled for the lines that use the Caller ID service.
- Available or not available can be selected with the ASFC command by using PCPro.

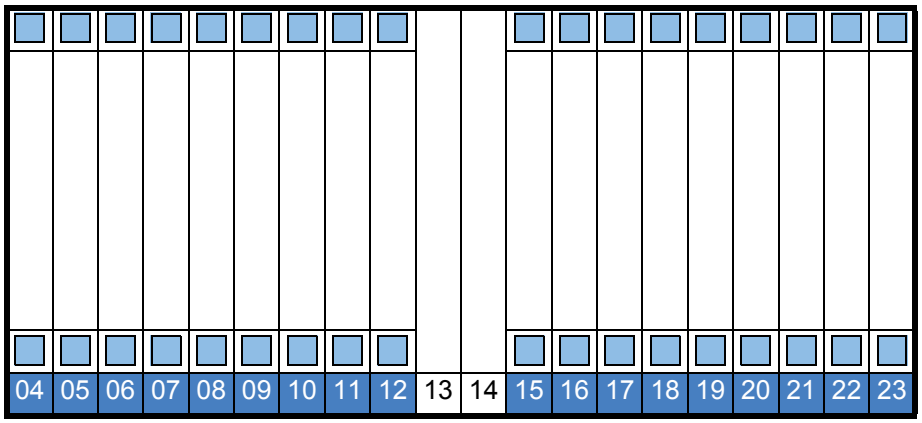
Location of CH-16LCA (LC) in the System



2. Mounting Locations/Conditions

Mounting Module <7U-PIR>

Universal Slot

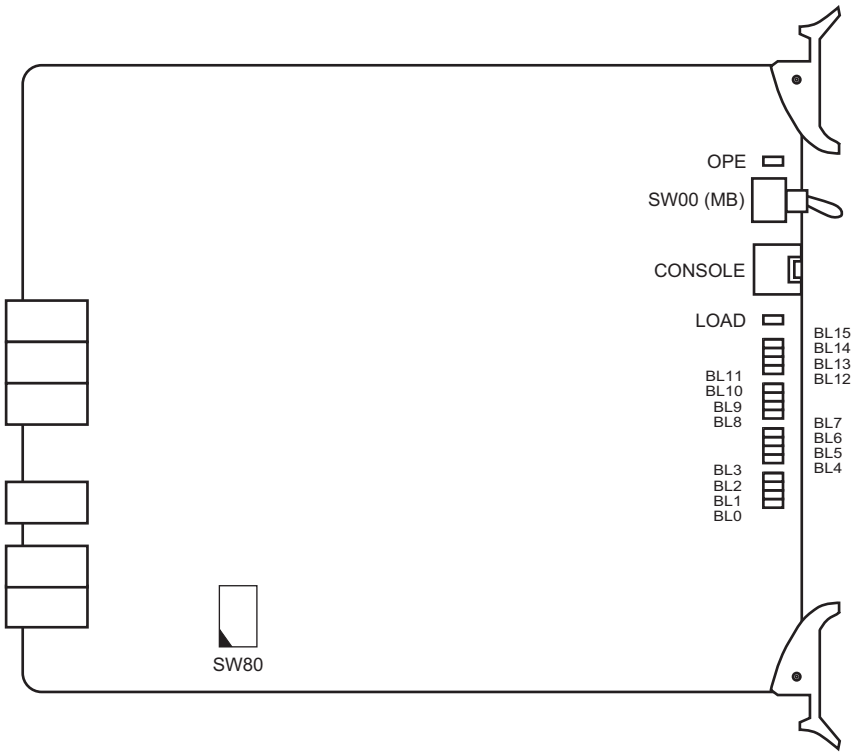


Mounting Conditions:

When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps and switches on this card is shown below.



4. Lamp Indications

The content of the lamp indications of this card is shown in the table below.

LAMP NAME	COLOR	STATE	DESCRIPTION
OPE	Green	Light	The card is operating normally.
LOAD	Green	Light	The program download is in process. The card initialization starts.
		Flash (60 IPM)	Waiting for the program download.
		Flash (120 IPM)	The program download is failed.
		OFF	The program download is completed. The card is operating normally.
BL0 - BL15	Green	Light	The corresponding line is in use. **Note 1**
		Flash (60 IPM)	The corresponding line is in a make-busy state.
		Flash	Receiving dial pulse signals. Sending ringing signals.
		OFF	The corresponding line is in an idle state.

Note 1: This description refers to the following conditions:

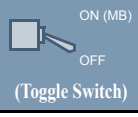
- In an off-hook state
- Sending a howler tone
- Detecting a ground fault

5. Switch Settings

The switches on the CH-16LCA (LC) card have the following meanings.

Hardware Switch

SW00 (MB)

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy (the card is hot-pluggable.)
	DOWN	×	Card: make-busy cancel (the card is operating.)

SW80

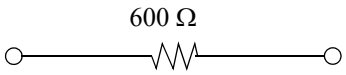
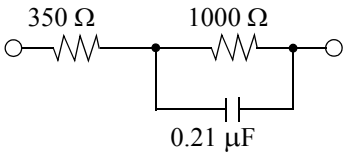
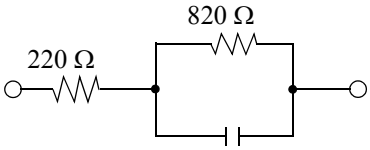
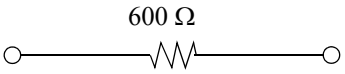
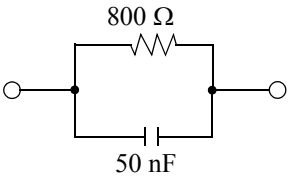
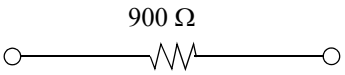
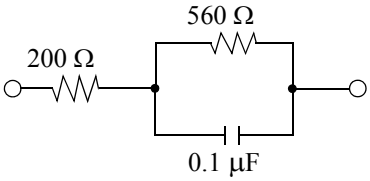
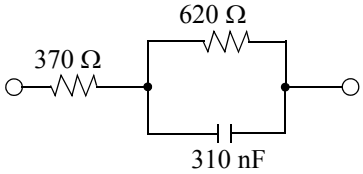
SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (8-Dip Switch)	1	OFF	×	Fixed to OFF
	2			Country Selection See Table-1.
	3			
	4			
	5 - 6	OFF	×	Fixed to OFF
	7	ON		BNW2 (for all channels)
		OFF	×	BNW1 (for all channels)
	8 **Note 1**	ON		Momentary Open
		OFF		Polarity Reverse

Note 1: Available or not available can be selected with the ASFC command by using PCPro.

Table-1

SW80-2	SW80-3	SW80-4	COUNTRY
ON	OFF	OFF	North America, Other Countries (μ-law)
OFF	ON	OFF	Other Countries (A-law)
ON	ON	OFF	Australia (A-law)
OFF	OFF	ON	Brazil (A-law)
ON	OFF	ON	New Zealand (A-law)
OFF	ON	ON	China (A-law)
ON	ON	ON	UK (A-law)

Table-2

	BNW1 (OFF)	BNW2 (ON)
North America, Other countries		 Compromise Impedance (EIA/TIA-464C)
Australia	 (For Standard use)	
Brazil		
China		Not used
UK, New Zealand		Not used

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection

SW11

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1 - 8	OFF	×	Fixed to OFF

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1 - 5	OFF	×	Fixed to OFF
6	ON		Message Waiting Lamp Control: Polarity Reverse (UK only)
	OFF	×	Message Waiting Lamp Control: High Voltage
7	ON		Message Waiting Lamp constantly flashing (1 sec. ON, 1 sec. OFF)
	OFF	×	Message Waiting Lamp constantly lit or flashing (selected and controlled by software)
8	ON		Stutter Dial Tone available
	OFF	×	Stutter Dial Tone not available

SW13

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1 - 8	OFF	×	Fixed to OFF

SW14

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1 - 8	OFF	×	Fixed to OFF

SW15

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1 - 8	OFF	×	Fixed to OFF

6. External Interface

LT connector lead accommodation of this card is described below.

LT Connector Lead Accommodation (1/2)

Accommodated in* 1			
LT0, 2, 4, 6, 8, 10 Connector			
26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in * 2			
LT1, 3, 5, 7, 9, 11 Connector			
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42	B8	17	A8
43	B9	18	A9
44	B10	19	A10
45	B11	20	A11
46	B12	21	A12
47	B13	22	A13
48	B14	23	A14
49	B15	24	A15
50		25	

LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5		LT6	LT7	LT8	LT9	LT10	LT11
Slot No. →	04 05 06	07 08 09	10 11 12	13 14	15 16 17	18 19 20	21 22 23						
Group No. →	01 03 05	07 09 11	15 19 23 14 18 22		01 03 05	07 09 11	15 19 23 14 18 22						
	00 02 04	06 08 10	13 17 21 12 16 20		00 02 04	06 08 10	13 17 21 12 16 20						
7U-PIR	* 1	* 2	* 1	* 2	* 1	* 2		* 1	* 2	* 1	* 2	* 1	* 2

LT Connector Lead Accommodation (2/2)

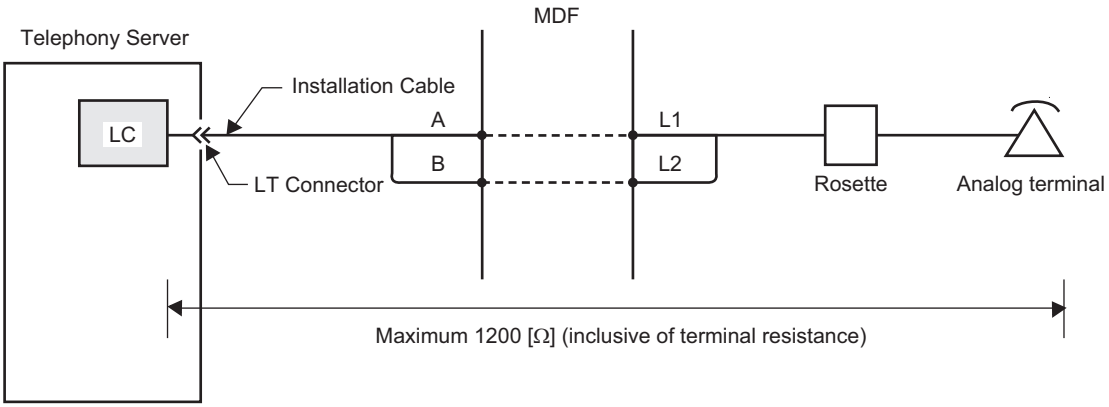
Accommodated in * 3

LT0, 2, 4, 6, 8, 10 Connector			
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	

LT1, 3, 5, 7, 9, 11 Connector			
26	B8	1	A8
27	B9	2	A9
28	B10	3	A10
29	B11	4	A11
30	B12	5	A12
31	B13	6	A13
32	B14	7	A14
33	B15	8	A15
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5		LT6	LT7	LT8	LT9	LT10	LT11
Slot No. →	04 05 06 07 08 09	10 11 12	13 14	15 16 17 18 19 20	21 22 23								
Group No. →	01 03 05 07 09 11	15 19 23 14 18 22		01 03 05 07 09 11	15 19 23 14 18 22								
	00 02 04 06 08 10	13 17 21 12 16 20		00 02 04 06 08 10	13 17 21 12 16 20								
7U-PIR		* 3			* 3			* 3			* 3		* 3

Connection Route Diagram



CJ-PC00 (MUX) Multiplexer

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

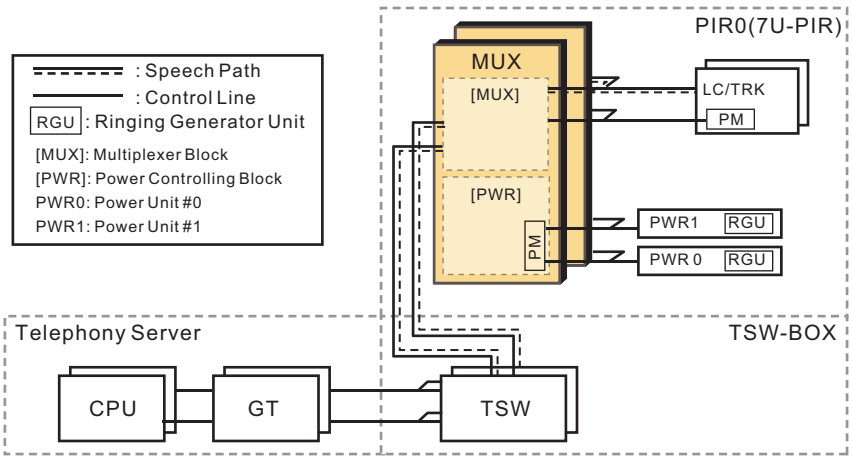
1. General Functions

The CJ-PC00 (MUX) card is composed of the following two blocks, which are completely separated on the card:

- MUX block
- Power Controlling block

The following shows the location of CJ-PC00 (MUX) card when using TSW-BOX (1-IMG) as an example.

Location of CJ-PC00 (MUX) Card



MUX Block

MUX block is an interface for mounting line circuits and/or trunks. Between the Telephony Server and the Port Microprocessor (PM) of the line/trunk circuit, this card provides an interface for PM control and management by the CPU. Likewise in between the TSW and the line circuit/trunks, this card provides an interface for multiplexing/de-multiplexing of voice Pulse Code Modulation (PCM) information and digital data information.

The PCM highway running is shown in the figure below. There are two PCM highways (HW 0/HW 1) in the PIR. Each PCM highway runs from the MUX card to a card slot. For instance, Highway Number Zero (HW 0) appears in slots from 04 to 12, and the HW 0 carries the PCM of Groups from 0 to 31.

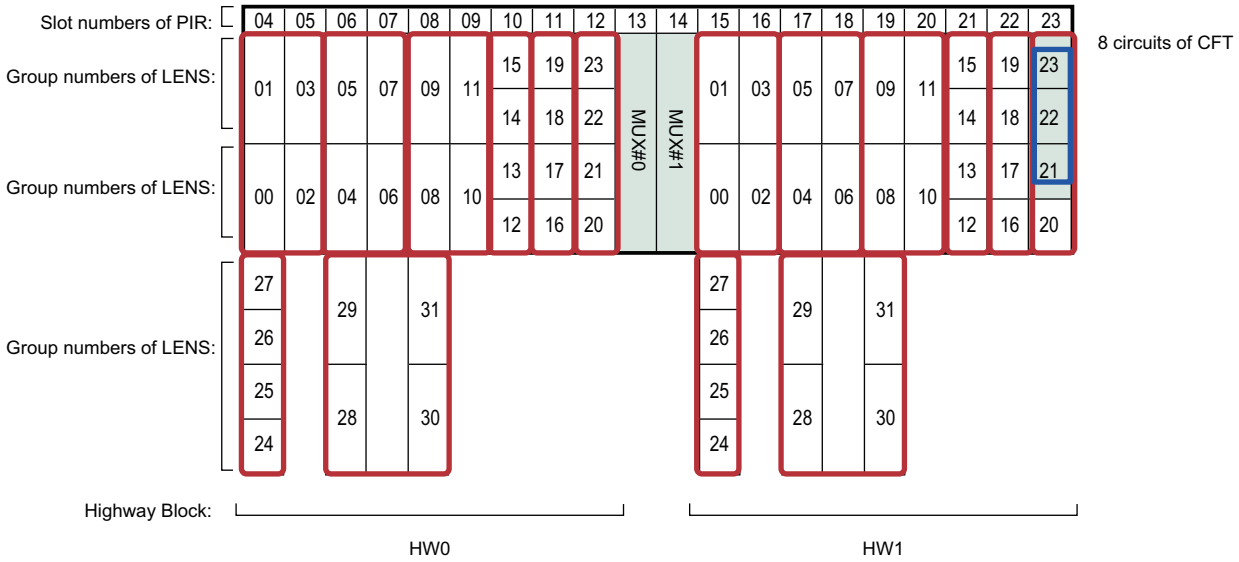
The time slots of Groups 24 and 25 are exclusively used for the Speech Path Memory (SPM).

All highways in the PIR lead to a MUX card, so 512 time slots of PCM are multiplexed/de-multiplexed at a MUX and sent/received to/from the TSW card.

The MUX card provides the PM bus interface. The Telephony Server controls and administrates the PM of the line/trunk card via the TSW and the MUX.

In addition, this card also supports 3-Party Conference (CFT) function and is equipped with eight circuits of 3-Party Conference. The CFT appears in Time Slots 8 through 31 of the HW 1 (Group 21 - 23).

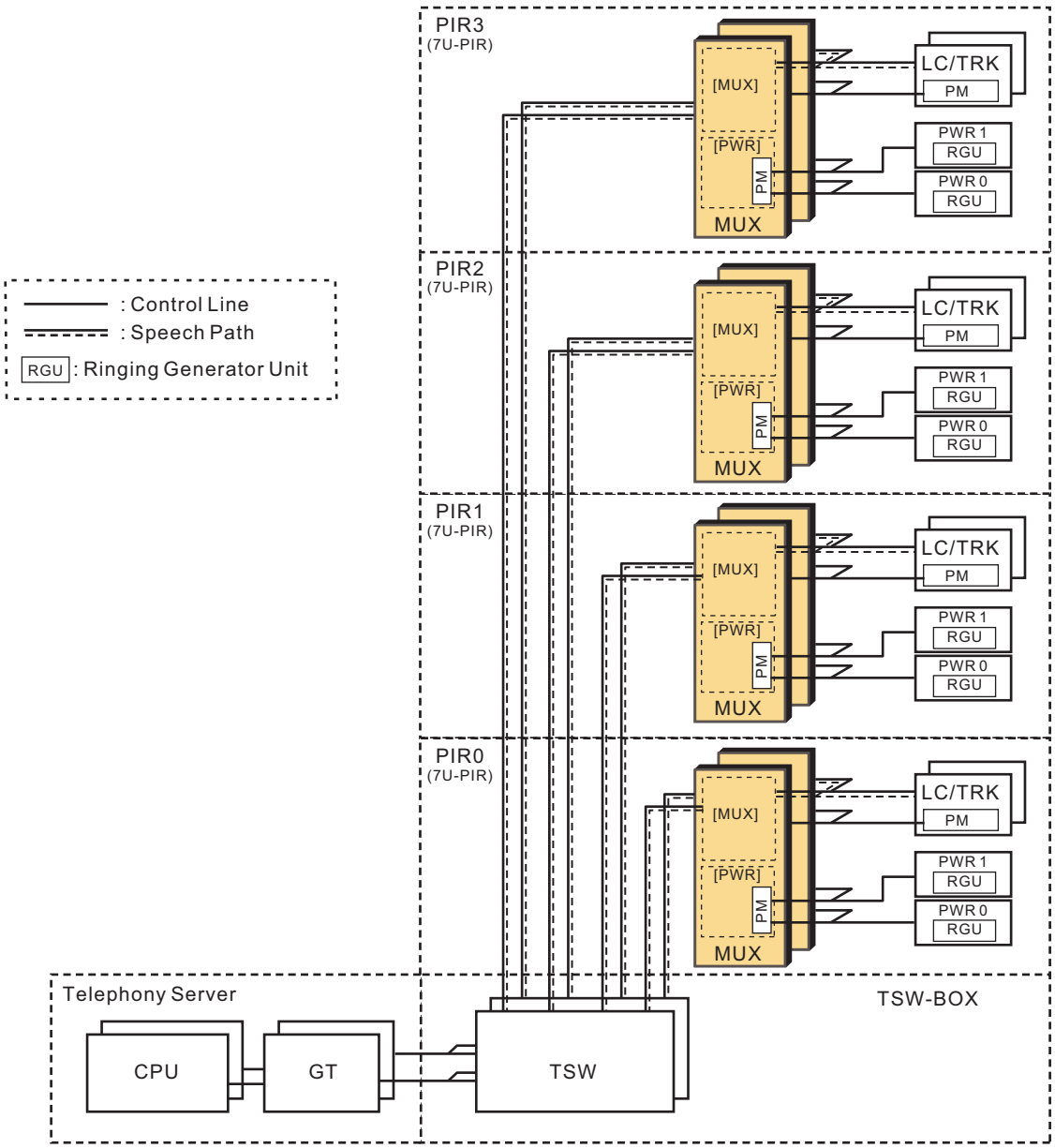
PCM Highway Running



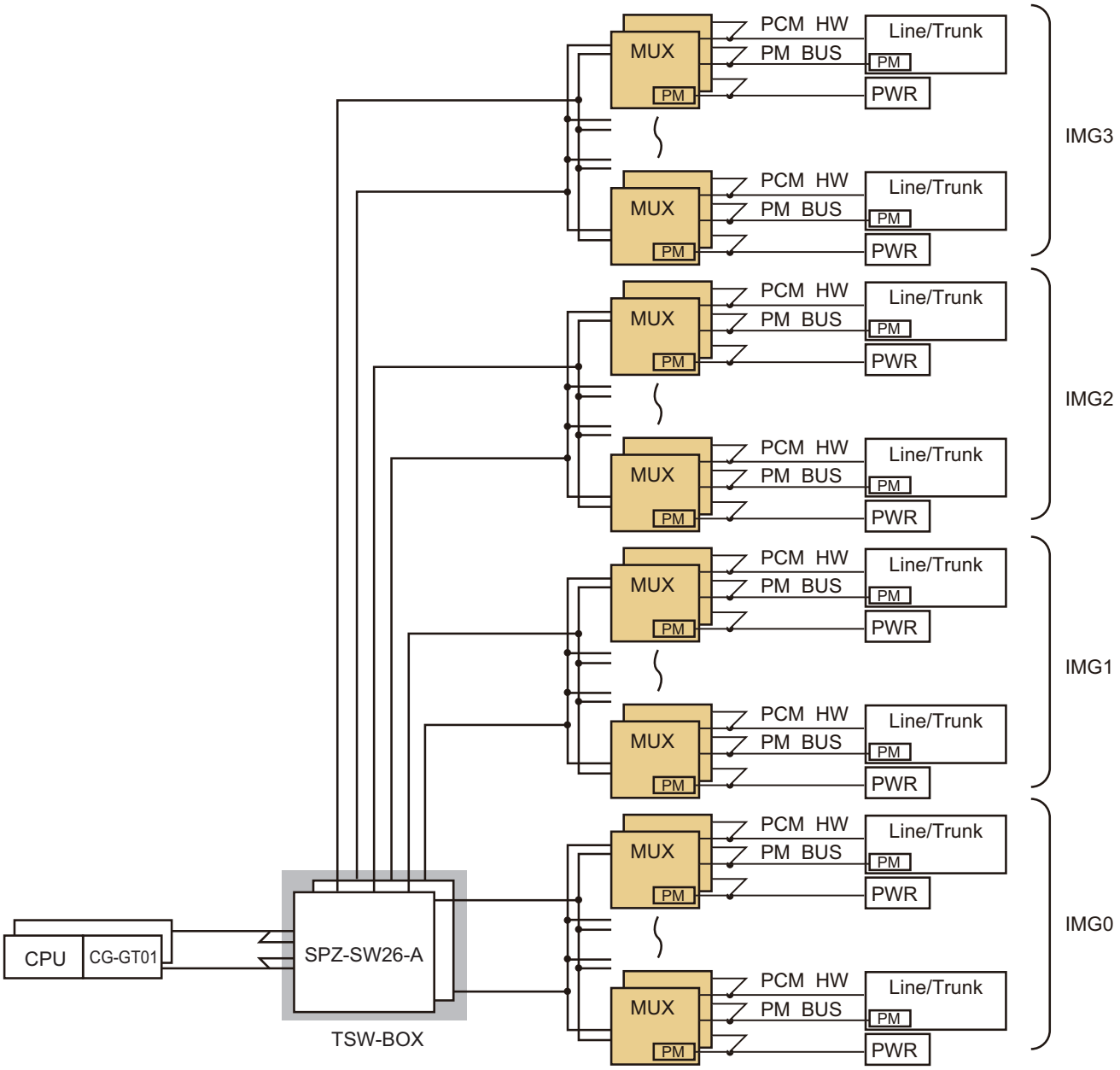
PWR Controlling Block

The Port Microprocessor (PM) of the power unit is mounted on MUX card, which controls the power unit. Ringing Generator Unit (RGU) is mounted on the power unit.

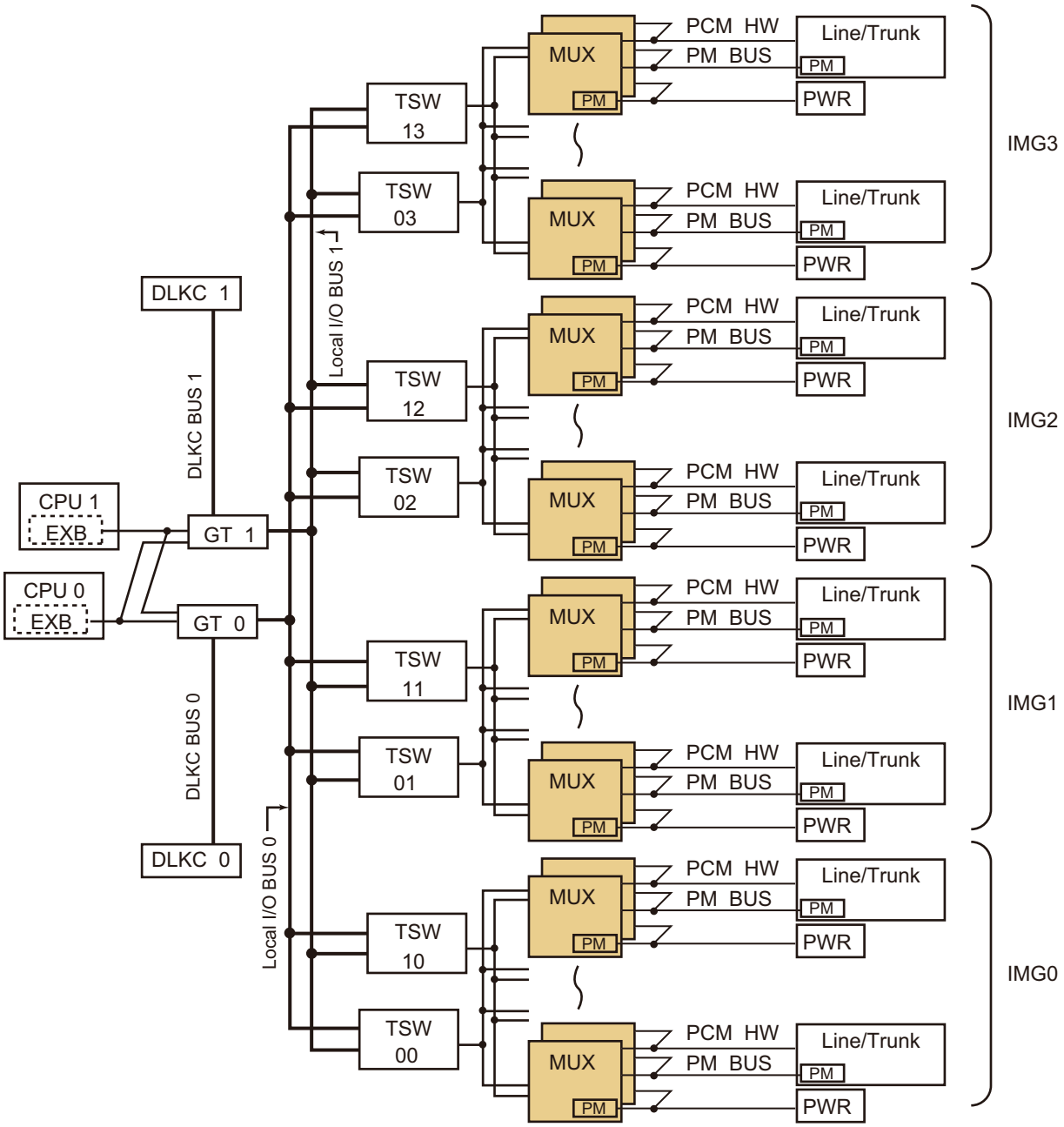
Location of CJ-PC00 (MUX) Card in the IMG System



Location of CJ-PC00 (MUX) Card in the MMG System (When Using TSW-BOX)



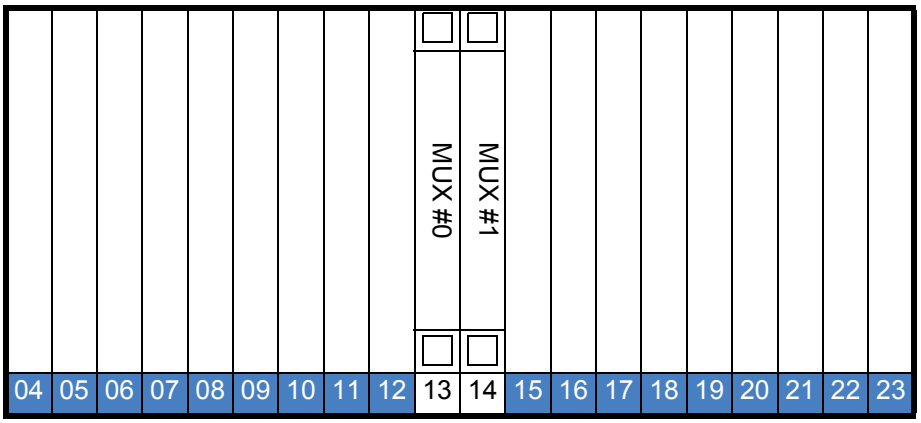
Location of CJ-PC00 (MUX) Card in the MMG System (When Using TSWR)



2. Mounting Locations/Conditions

Mounting Location <7U-PIR>

Universal Slot



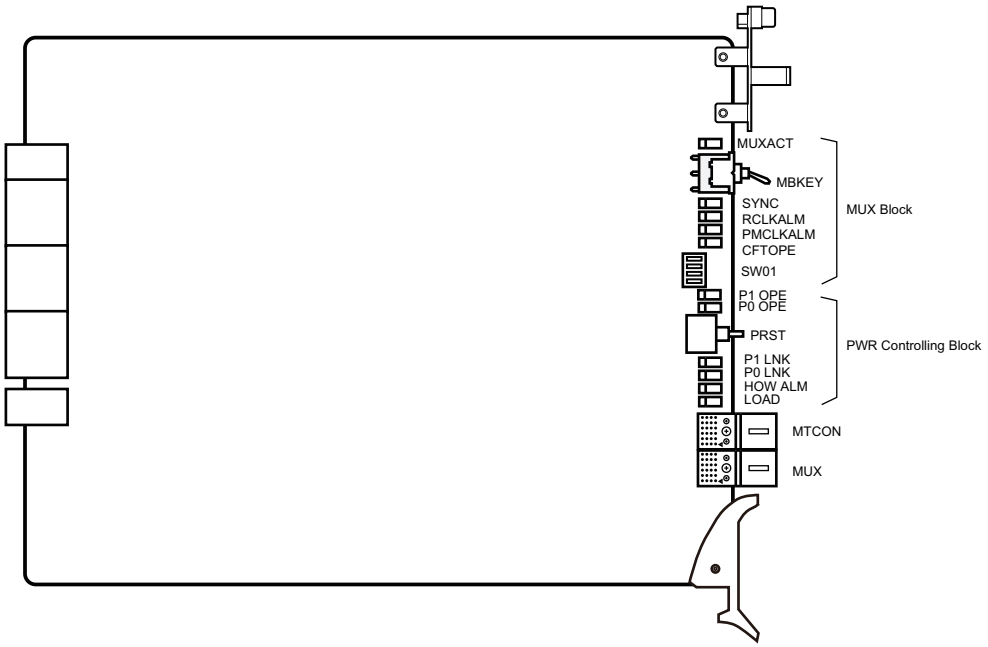
Mounting Conditions:

The CJ-PC00 (MUX) card is mounted in slots 13 and 14 of all 7U-PIRs.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors is shown below.

Face Layout of CJ-PC00 (MUX)



4. Lamp Indications

The contents of lamp indications of this card are shown in the table below.

Lamps in MUX Block

LAMP NAME	COLOR	STATE
MUXACT	Green	Remains lit while this card is in active state.
SYNC	Green	Lights when 32 Mbps Frame Head (FH) synchronization is established between the MUX and TSW.
RCLKALM	Red	Lights when the 32 Mbps clock signals (that are supplied by TSW) loss has occurred.
PMCLKALM	Red	Lights when either the following clock signals output failure has occurred. • 32 Mbps clock signals (data rate is 16 Mbps), which are supplied to the line/trunks • Frame Head signal
CFTOPE	Green	Lights when the CFT circuit is valid.

Lamps in Power Controlling Block

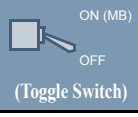
LAMP NAME	COLOR	LED STATUS	STATE
P1 OPE	Green	Light	Sending or receiving the information between the Power Controlling block #1 (G25) and Telephony Server is available.
		OFF	Sending or receiving the information between the Power Controlling block #1 (G25) and Telephony Server is not available.
P0 OPE	Green	Light	Sending or receiving the information between the Power Controlling block #0 (G24) and Telephony Server is available.
		OFF	Sending or receiving the information between the Power Controlling block #0 (G24) and Telephony Server is not available.
P1 LNK	Green	Light	Monitoring the state of Power Unit #1 is in progress.
		Flash (60 IPM)	The synchronization is established with Power Unit #1.
		OFF	The synchronization is not established with Power Unit #1 (not detected).
P0 LNK	Green	Light	Monitoring the state of Power Unit #0 is in progress.
		Flash (60 IPM)	The synchronization is established with Power Unit #0.
		OFF	The synchronization is not established with Power Unit #0 (not detected).
HOW ALM	Red	OFF	Not used.
LOAD	Green	Light	Power Controlling block is initializing.
		OFF	Power Controlling block is operating normally.

5. Switch Settings

The switches on the CJ-PC00 (MUX) card have the following meanings.

Hardware Switch

MBKEY

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card Make-Busy.
	DOWN	×	Card Make-Busy cancel.

PRST

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
 (Push Button Switch)	PUSH		PM is restarted by pressing this switch more than 1 second.

SW01

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
 (4-Dip Switch)	1	ON		3-Party Conference Function (CFT) is valid.
		OFF		3-Party Conference Function (CFT) is invalid.
	2	ON		Setting for A-law in the CFT function block.
		OFF		Setting for μ-law in the CFT function block.
	3	OFF	×	Not used.
	4	OFF	×	Not used.

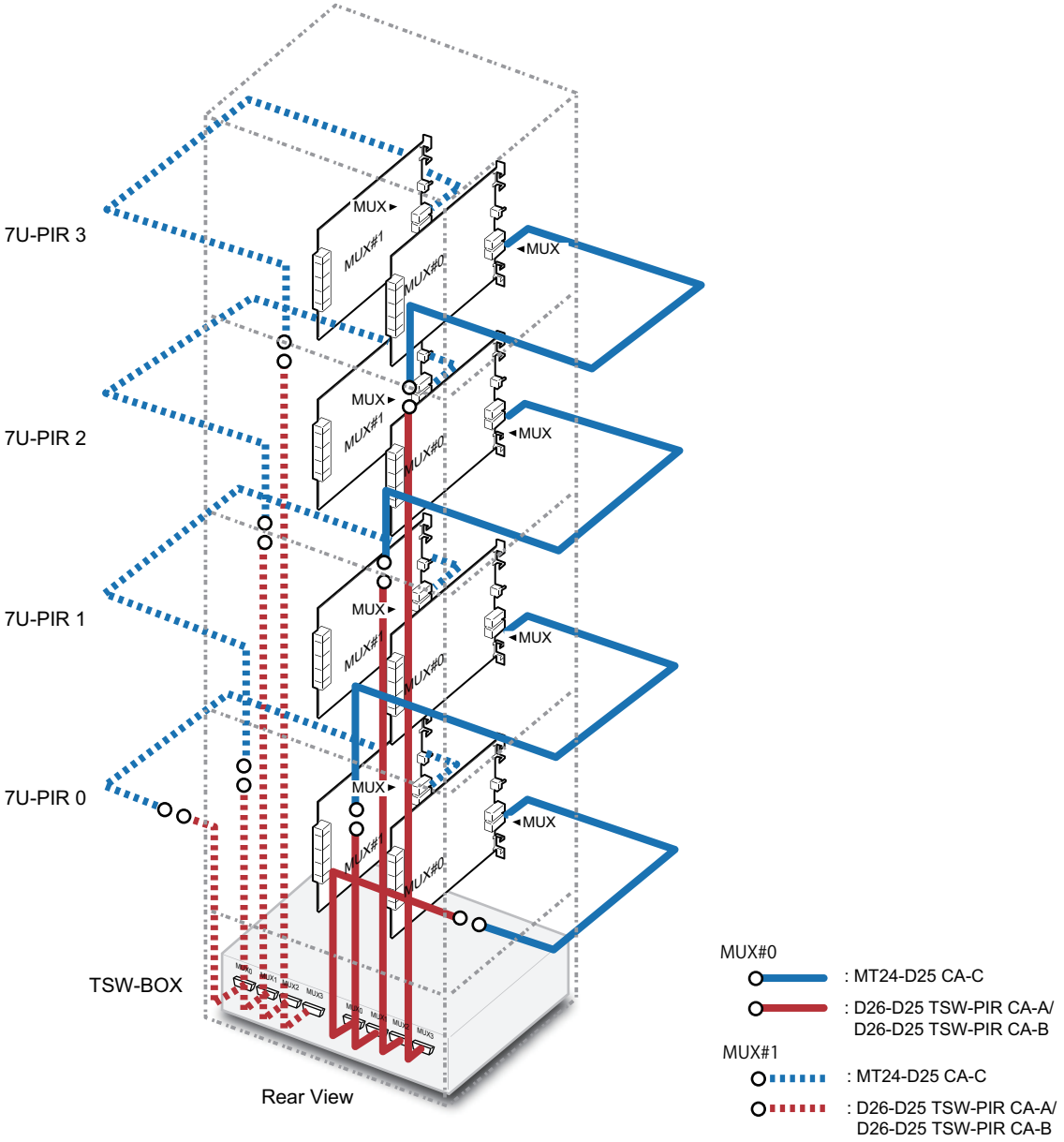
Software Switch

This card does not have software switches.

6. External Interface

For the IMG system, the cable connections between the MUX and the TSW are shown below.

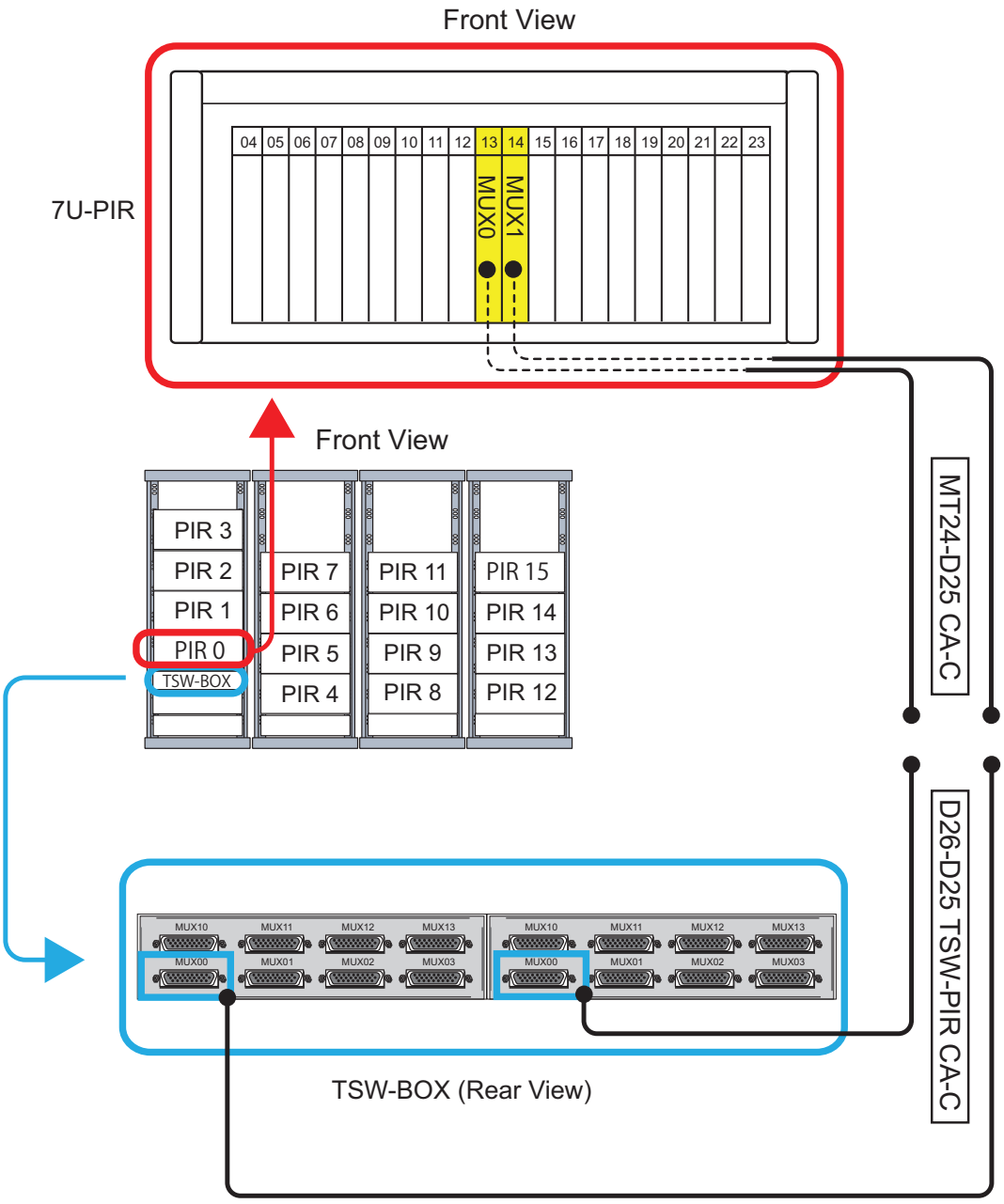
External Interface for CJ-PC00



Note: The MUX number has logical meaning, which does not depend on the physical mounting location.

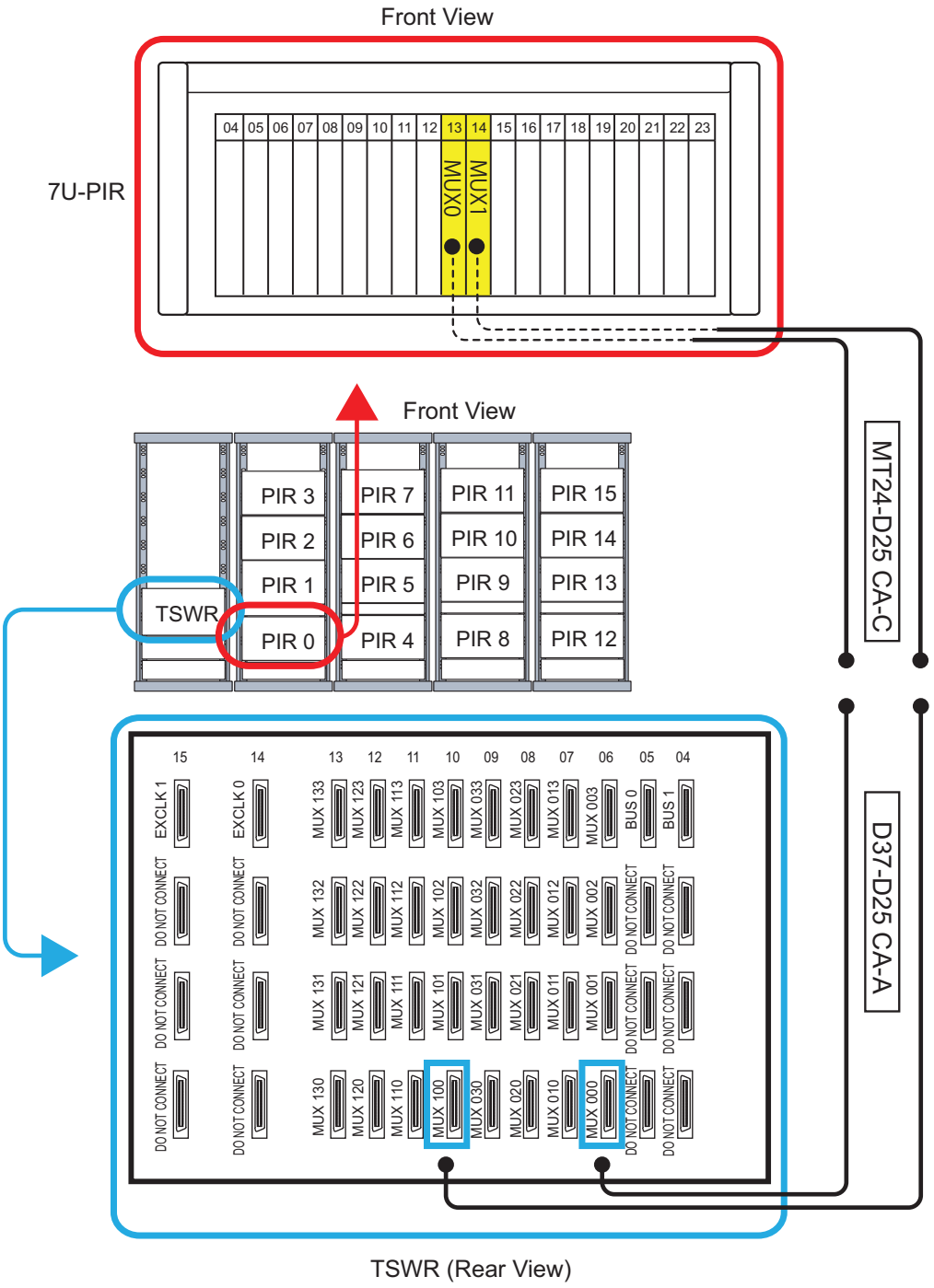
When TSW-BOX is used in the MMG system, the cable connections between the MUX and the TSW are shown below.

The internal cable (MT24-D25 CA-C) connected to the front of the MUX leads to the rear of the PIR. From the rear connector, the external cable (D26-D25 TSW-PIR CA-C) leads to the TSW-BOX. Refer to the "Appliance Model Installation Manual" for more details.



When TSWR is used in the MMG system, the cable connections between the MUX and the TSW are shown below.

The internal cable (MT24-D25 CA-C) connected to the front of the MUX leads to the rear of the PIR. From the rear connector, the external cable (D37-D25 CA-A) leads to the connector on the Back Wired Board (BWB) of the TSWR. Refer to the "Appliance Model Installation Manual" for more details.



CH-M01 (NCU) Night Change Unit Card

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

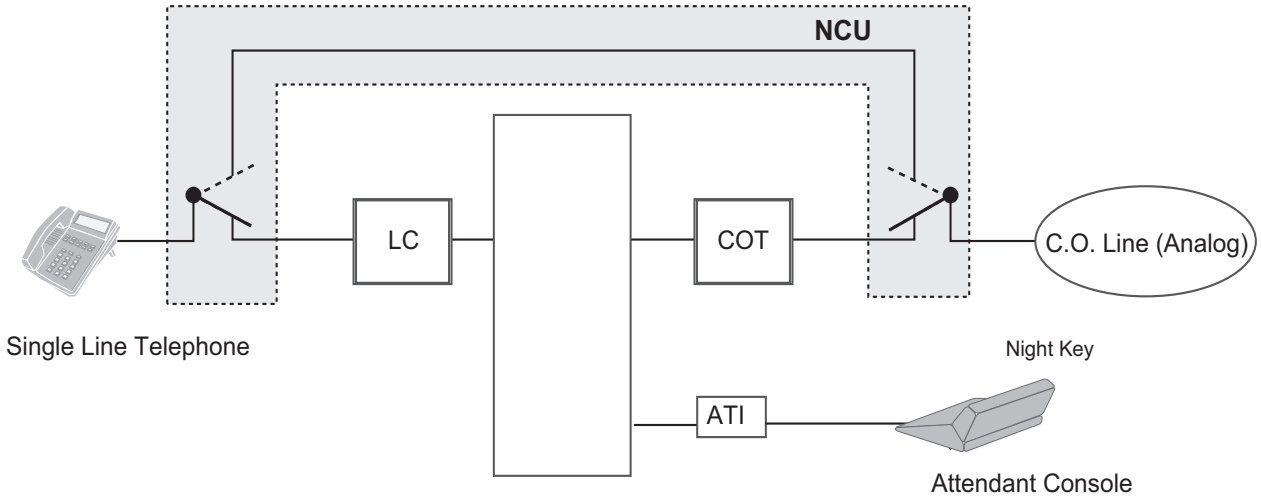
1. General Functions

This card provides a connection of a C.O. line to a designated Night Mode telephone or a release of a C.O. line in case of a power supply failure, system down, or software order. This card is equipped with 12 switching circuits, 8 circuits of an external key which are used for an activation of Day/Night Class of Service, and up to 6 lines used for Digital Terminal with PFT adapter (in case of IP terminal with PFT adapter, 12 lines). Also the coexistence of Single Line Telephone, Digital Terminal with PFT adapter, and IP terminal with PFT adapter is allowed in this card.

The numbers of circuits used for each telephone are as below:

- Digital Terminal with PFT adapter: 2 circuits
- Single Line Telephone/Digital terminal with PFT adapter: 1 circuit

Location of CH-M01(NCU) in the System

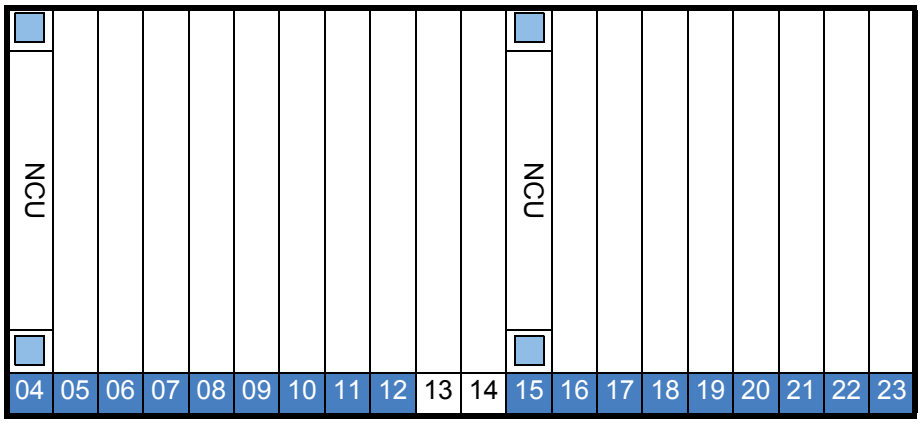


2. Mounting Locations/Conditions

The mounting locations of this card and the conditions related to mounting are shown below.

Mounting Module <7U-PIR>

Slot No. 04, 15



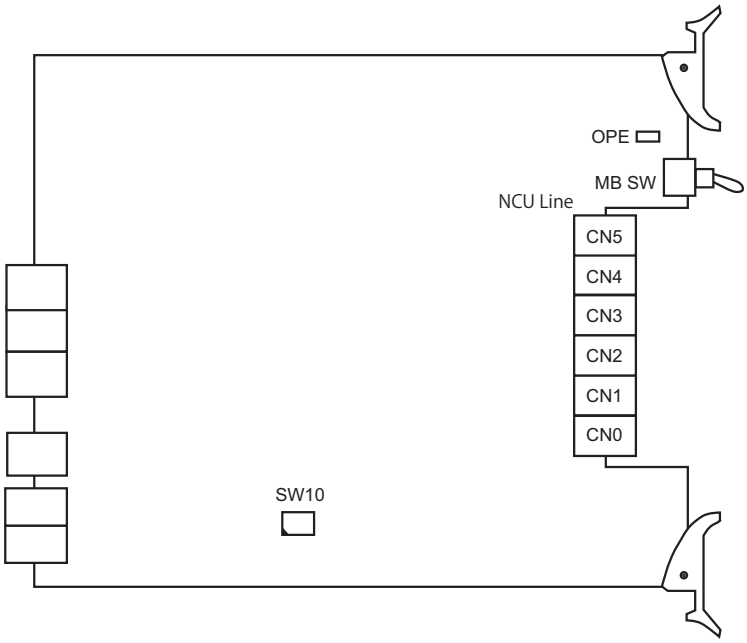
Mounting Conditions:

When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

Note: This card cannot be mounted to a PA Adapter.

3. Face Layout of Lamp, Switches and Connectors

The face layout of lamp, switches, and connectors of this card are shown below.



4. Lamp Indications

The contents of Lamp indications on this card are shown in the table below.

NAME	COLOR	CONDITION	DESCRIPTION
OPE	Green	ON	At least 1 circuit (out of 12) is used for Night Connection - FIXED Station.
			Digital Terminal/IP Terminal with PFT adapter is connected, and at least 1 circuit (out of 6) is busy.

5. Switch Settings

Standard settings of various switches on this card are shown in the table below.

Hardware Switch

MB

SWITCH SHAPE	SETTING	STANDARD SETTING	DESCRIPTION
 (Toggle Switch)	UP		Card: make-busy (the card is hot-pluggable).
	DOWN	×	Card: make-busy cancel (the card is in ACT state).

SW10

SWITCH SHAPE	SWITCH NUMBER	SETTING	STANDARD SETTING	DESCRIPTION
 (4-Dip Switch)	1	ON		Fixed to ON
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF

Software Switch

This card does not have software switches.

6. External Interface

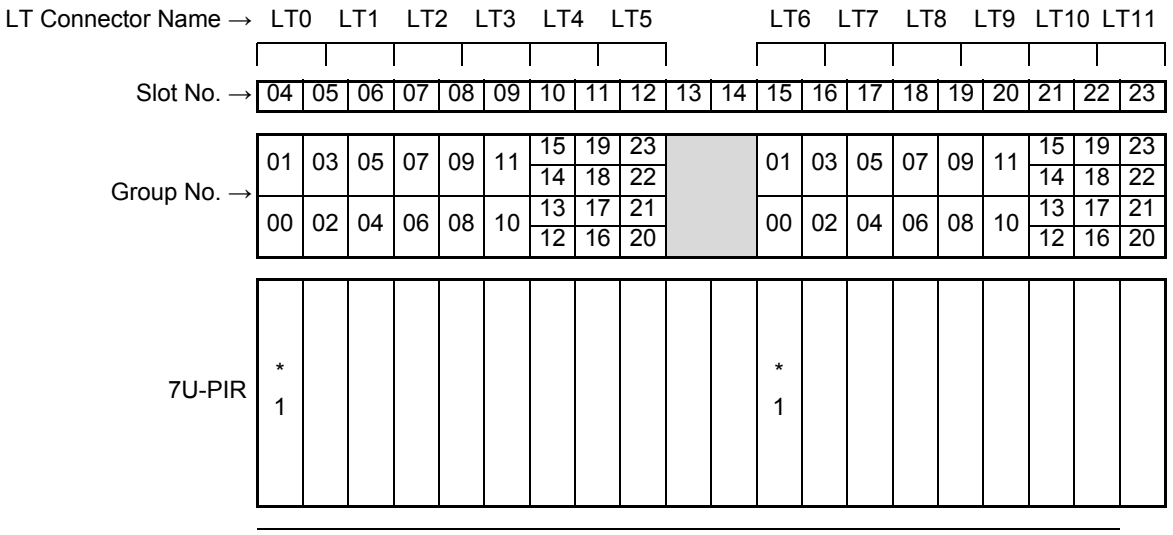
LT connector lead accommodation of this card is described below.

Lead Accommodation of the NCU Connector

* Accommodated in 1

LT0, 6 Connector

					26	KY1	1	KY0	KEY BOX
					27	KY3	2	KY2	
					28	KY5	3	KY4	
					29	KY7	4	KY6	
Station	TEL	Station	LC	—	30	AO11	5	AI11	No.11
Station	TEL	Station	LC	—	31	BO11	6	BI11	
C.O. line	CO	C.O. line	TRK	—	32	RO11	7	RI11	
C.O. line	CO	C.O. line	TRK	—	33	TO11	8	TI11	
Station	TEL	Station	LC	—	34	AO10	9	AI10	No.10
Station	TEL	Station	LC	—	35	BO10	10	BI10	
C.O. line	CO	C.O. line	TRK	—	36	RO10	11	RI10	
C.O. line	CO	C.O. line	TRK	—	37	TO10	12	TI10	
Station	TEL	Station	LC	—	38	AO08	13	AI08	No.8
Station	TEL	Station	LC	—	39	BO08	14	BI08	
C.O. line	CO	C.O. line	TRK	—	40	RO08	15	RI08	
C.O. line	CO	C.O. line	TRK	—	41	TO08	16	TI08	
					42		17		
					43		18		
					44		19		
					45		20		
					46		21		
					47		22		
					48		23		
					49		24		
					50		25		



NCU Connector Accommodation (Champ Connector of NCU cable from the front)

Connector NCU CA-A

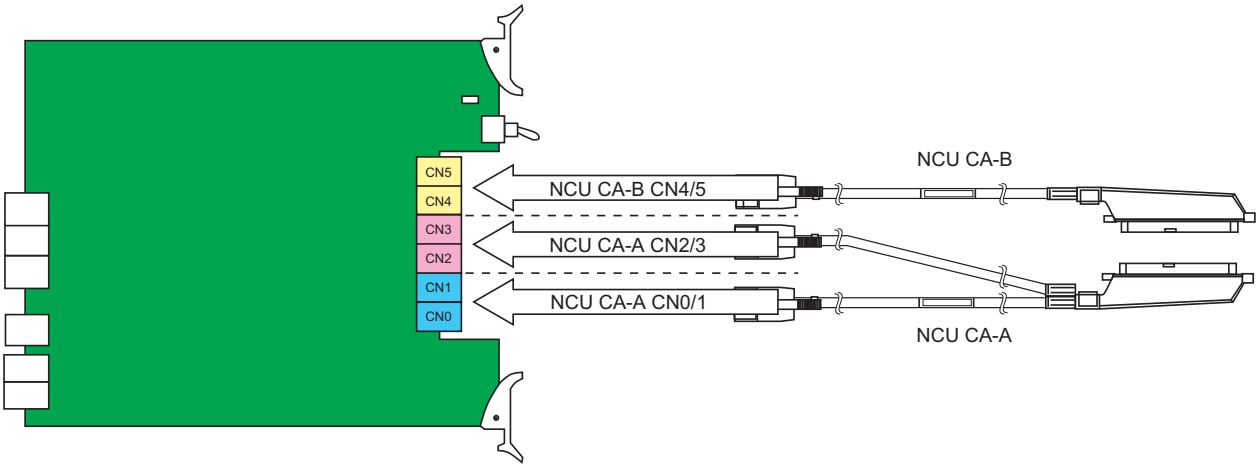
Station	TEL	—	26	BO00	1	AO00	No. 0	
	LC	—	27	BI00	2	AI00		
C.O.	CO	—	28	TO00	3	RO00		
line	TRK	—	29	TI00	4	RI00		
Station	TEL	—	30	BO01	5	AO01	No. 1	
	LC	—	31	BI01	6	AI01		
C.O.	CO	—	32	TO01	7	RO01		
line	TRK	—	33	TI01	8	RI01		
Station	TEL	—	34	BO02	9	AO02	No. 2	
	LC	—	35	BI02	10	AI02		
C.O.	CO	—	36	TO02	11	RO02		
line	TRK	—	37	TI02	12	RI02		
Station	TEL	—	38	BO03	13	AO03	No. 3	
	LC	—	39	BI03	14	AI03		
C.O.	CO	—	40	TO03	15	RO03		
line	TRK	—	41	TI03	16	RI03		
Station	TEL	—	42	BO04	17	AO04	No. 4	
	LC	—	43	BI04	18	AI04		
C.O.	CO	—	44	TO04	19	RO04		
line	TRK	—	45	TI04	20	RI04		
Station	TEL	—	46	BO05	21	AO05	No. 5	
	LC	—	47	BI05	22	AI05		
C.O.	CO	—	48	TO05	23	RO05		
line	TRK	—	49	TI05	24	RI05		
			50	—	25	—		

Connector NCU CA-B

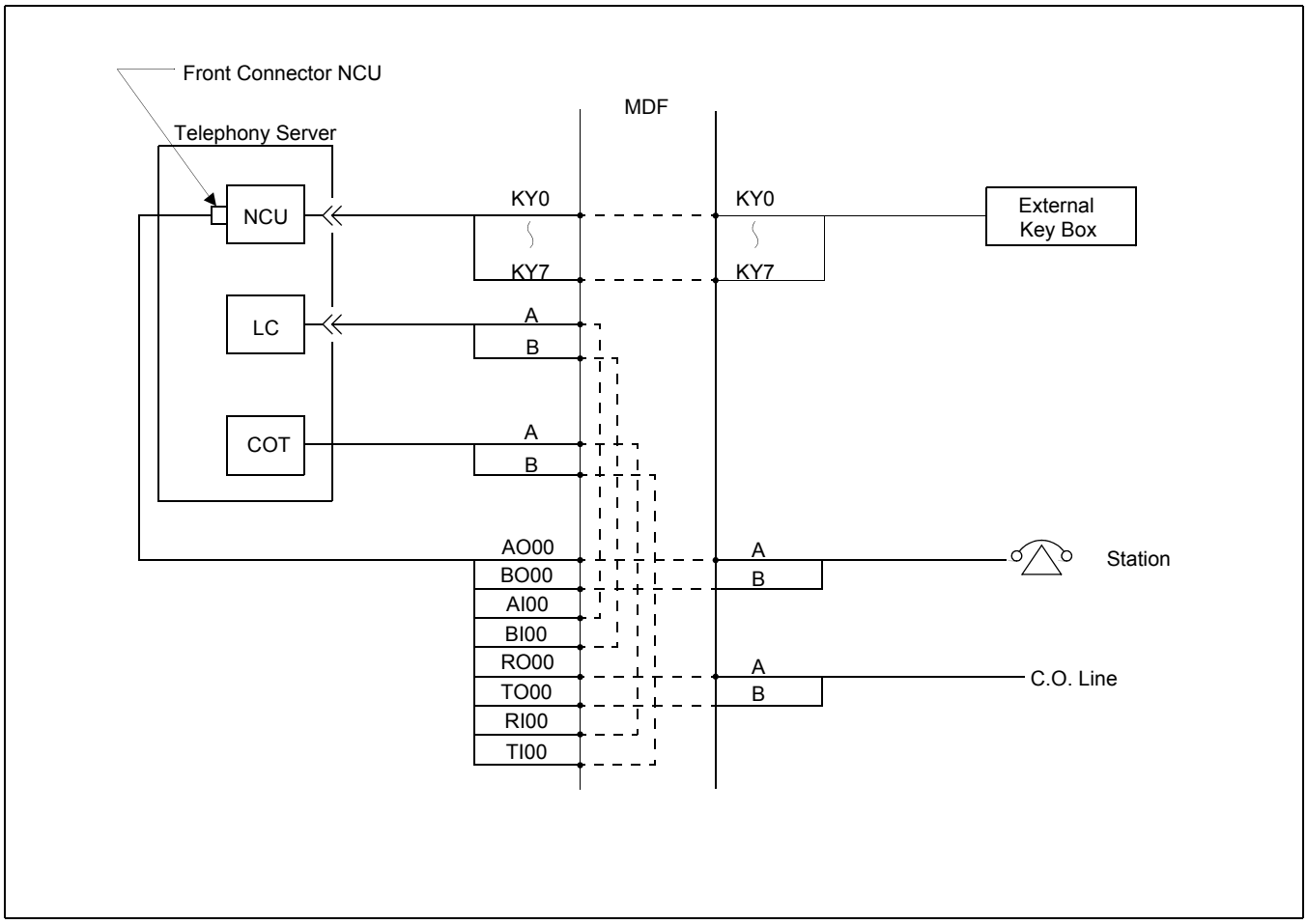
Station	TEL	—	26	BO06	1	AO06	No. 6	
	LC	—	27	BI06	2	AI06		
C.O.	CO	—	28	TO06	3	RO06		
line	TRK	—	29	TI06	4	RI06		
Station	TEL	—	30	BO07	5	AO07	No. 7	
	LC	—	31	BI07	6	AO07		
C.O.	CO	—	32	TO07	7	RO07		
line	TRK	—	33	TI07	8	RI07		
			34	—	9	—		
			35	—	10	—		
			36	—	11	—		
			37	—	12	—		
Station	TEL	—	38	BO09	13	AO09	No. 9	
	LC	—	39	BI09	14	AI09		
C.O.	CO	—	40	TO09	15	RO09		
line	TRK	—	41	TI09	16	RI09		
			42	—	17	—		
			43	—	18	—		
			44	—	19	—		
			45	—	20	—		
			46	—	21	—		
			47	—	22	—		
			48	—	23	—		
			49	—	24	—		
			50	—	25	—		

Connecting Route Diagram

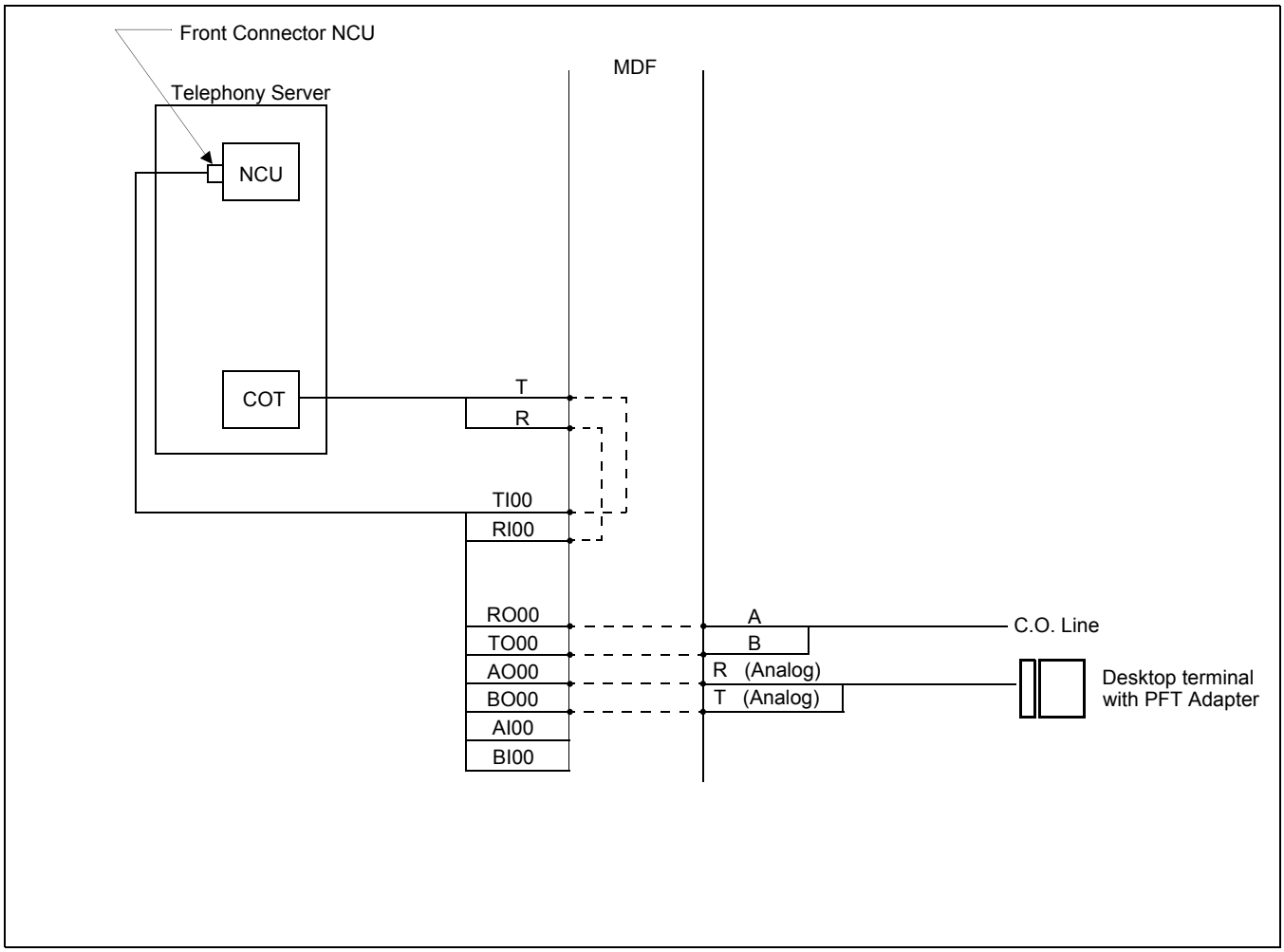
Connecting Route Diagram for this Card with NCU Cables (NCU CA-A/NCU CA-B)



Connecting Route Diagram (1/3)



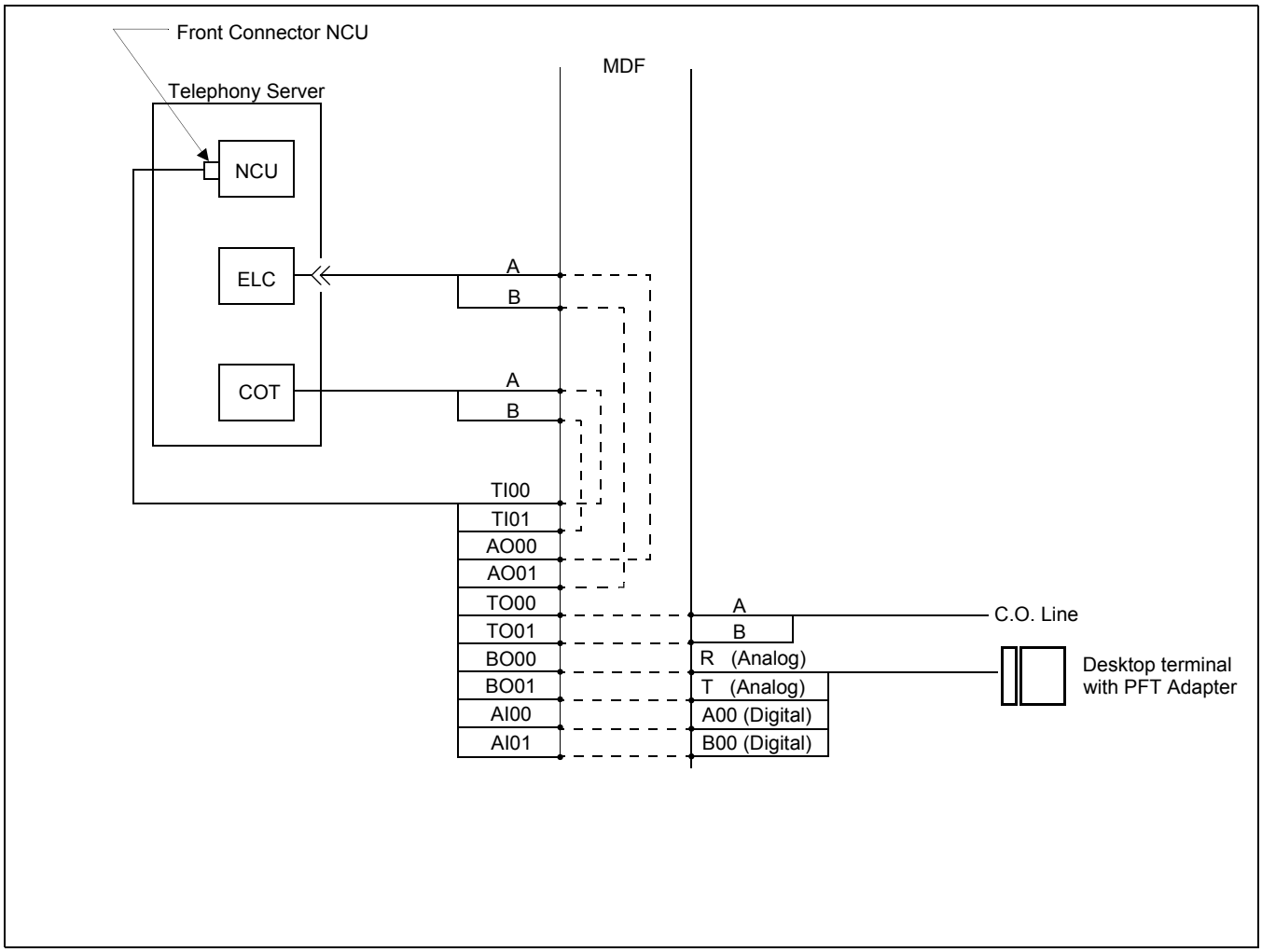
Connecting Route Diagram (2/3)



Note: To use DT700 Series as a Power Failure Transfer Terminal, refer to the connection diagrams in the following manuals.

DT700 Series : "Connection Diagram of DT700 Series as Power Failure Transfer Terminal" on Chapter 3 in Peripheral Equipment Description (Multi-Line Telephone).

Connecting Route Diagram (3/3)



Note: To use DT300 Series as a Power Failure Transfer Terminal, refer to the connection diagrams in the following manuals.

DT300 Series : "Connection Diagram for Digital Terminal as Power Failure Transfer Terminal" on Chapter 2 in Peripheral Equipment Description (Multi-Line Telephone).

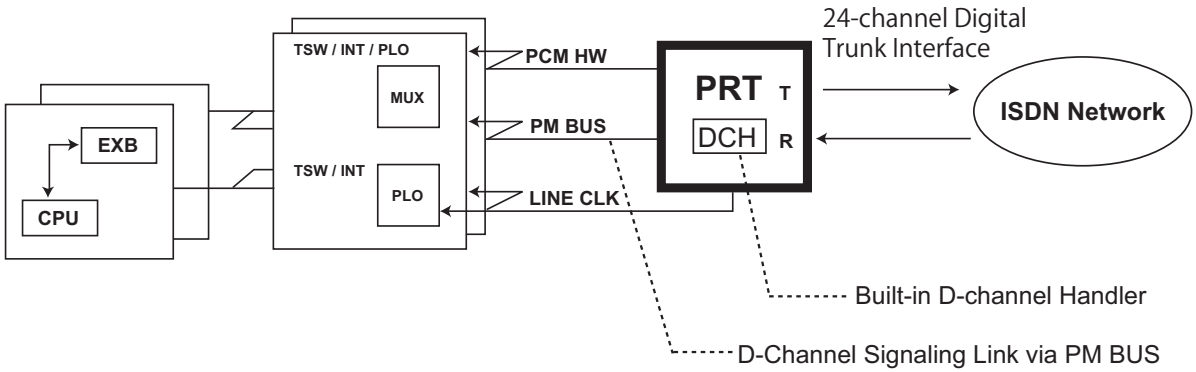
CH-PRTA (1.5M PRT)

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	-	-	X	-	-

1. General Functions

This card is a digital interface supporting voice and data communications at 1.5 M bit/second. This card builds in the Dch handler accordance with ITU-T I/Q series and offers Primary Rate Access Interface (PRI) with the system. A built-in resonance circuit extracts clock signals that are supplied from the network, so that the system may be in exact synchronization with the network. To obtain an appropriate speech level, this card has a standard PAD and a flexible PAD. A flexible PAD can set a more detailed PAD value than a standard PAD. A flexible PAD can set values for the loss from 0 to 17 dB and the gain from -1 to -8 dB respectively in 1dB step. The loss and the gain values can also be set through the APAD or ARTD commands. Note that substitution of the Standard/Flexible PAD, level setting of Flexible PAD are performed by the switches.

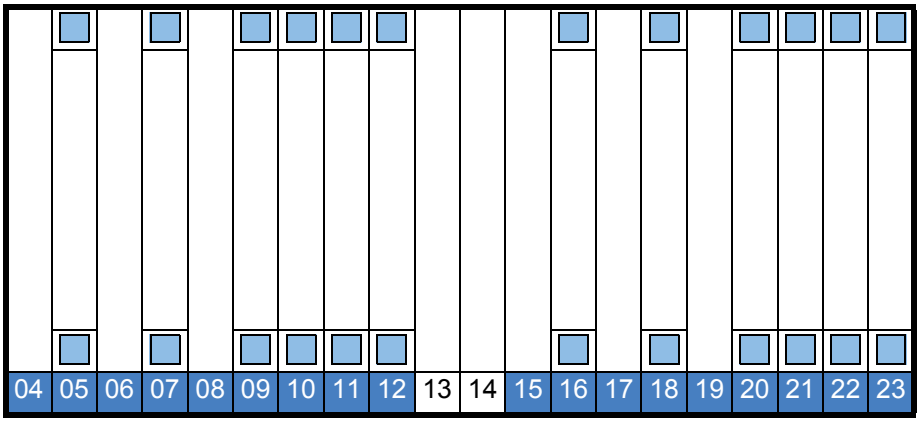
Location of CH-PRTA (1.5M PRT) in the System



2. Mounting Locations/Conditions

Mounting Location <7U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-23



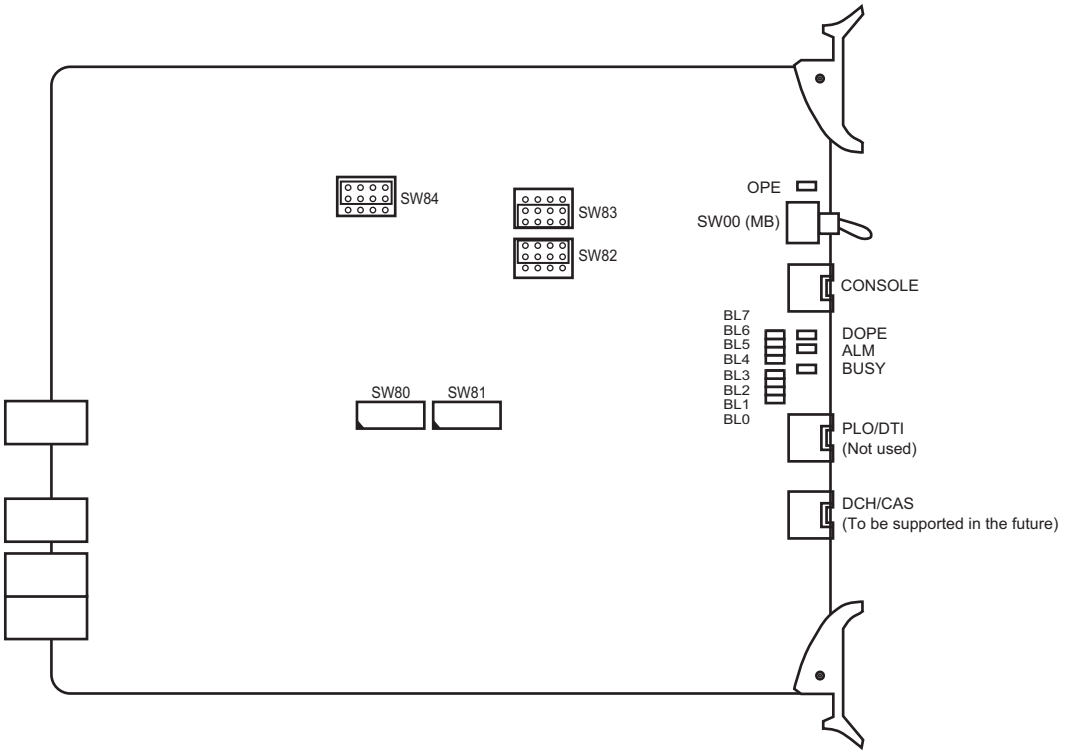
Mounting Conditions:

- When mounted in PIR of Unit 0 (U=0) of Module Group 0 (MG=00), this card cannot be mounted in the Slot 5.
- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot.
- Mount this circuit card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.

3. Face Layout of Lamps, Switches and Connectors

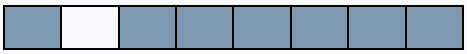
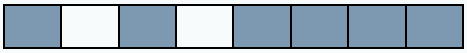
The face layout of lamps, switches, and connectors on this card is shown below.

Face Layout of CH-PRTA (1.5M PRT)



4. Lamp Indications

The contents of lamp indications on this card are shown in the table below.

<table>
<tr><th>LAMP NAME</th><th>COLOR</th><th colspan="3">DESCRIPTION</th></tr>
<tr><td>OPE</td><td>Green</td><td>Light</td><td colspan="2">This card is operating normally.</td></tr>
<tr><td>DOPE</td><td>Green</td><td>Flash</td><td colspan="2">Refer to DOPE - BL Lamp Control (Card Status Display).</td></tr>
<tr><td rowspan="4">BUSY</td><td rowspan="4">Green</td><td>Light</td><td>BL0 - BL7: Indicates the status of CH0 to CH7.</td><td rowspan="4">Refer to BUSY - BL Lamp Control (CH Status Display).</td></tr>
<tr><td>Flash (flashes once)</td><td>256 milliseconds OFF/256 milliseconds ON: once/1536 milliseconds OFF
BL0 - BL7: Indicates the status of CH8 to CH15.
  </td></tr>
<tr><td>Flash (flashes twice)</td><td>256 milliseconds OFF/256 milliseconds ON: twice/1024 milliseconds OFF
BL0 - BL7: Indicates the status of CH16 to CH23.
  </td></tr>
<tr><td>OFF</td><td>Other than those above</td></tr>
<tr><td rowspan="2">ALM</td><td rowspan="2">Red</td><td>Light</td><td colspan="2">Refer to ALM - BL Lamp Control (While Detecting a Line Alarm).</td></tr>
<tr><td>OFF</td><td colspan="2">No line alarm</td></tr>
<tr><td>BL0 - BL7</td><td>Green</td><td colspan="3">DOPE, BUSY and ALM lamps are used in combination with each other.</td></tr>
</table>

LAMP NAME				STATUS	CONTROL PROGRAM
OPE	ALM	DOPE	BUSY		
OFF	OFF	Light	Light	BOOT program starting up.	BOOT
OFF	OFF	Flash(60 IPM)	OFF	Waiting for downloading the program.	
OFF	OFF	Light	OFF	Downloading the program.	
OFF	OFF	OFF	OFF	Program Download is completed.	
OFF	OFF	Flash (120 IPM)	OFF	Program Download has failed.	
OFF	OFF	Light	Light	Main program initialization is starting up.	
OFF	OFF	OFF	OFF	Initialization starting.	MAIN
OFF	OFF	Flash(60 IPM)	Flash (60 IPM)	Built-in RAM test starting.	
OFF	Flash (120 IPM)	Flash (120 IPM)	OFF	Built-in RAM test error.	
Light	Light	OFF	OFF	Detecting a line alarm.	
Light	OFF	Light	OFF	Indicates the status of the card (except ALM and BUSY).	
Light	OFF	OFF	Light	Indicates the BL status of CH0-7.	
Light	OFF	OFF	Flash (special)	Indicates the BL status of CH8-15 (BUSY: Flashes once every approximately two seconds).	
Light	OFF	OFF	Flash (special)	Indicates the BL status of CH16-23 (BUSY: Flashes twice every approximately two seconds).	

<Priorities for ALM, BUSY and DOPE lamps>

After the initialization is completed, the status of ALM (line alarm) is indicated. When no line alarm is detected, the status of DOPE is indicated.

The status of DOPE is indicated while configuring a link.

After the link is established, DOPE is indicated (Busy: Off) while all the lines are not used. BUSY is indicated (DOPE: Off) when making/receiving a call.

DOPE is indicated again when all the channels are in idle state.

(a) DOPE - BL Lamp Control (Card Status Display)

The table below shows descriptions of BL0 to BL7 lamps while DOPE lamp lights.

LAMP NAME	COLOR	DESCRIPTION	
BL7	Green	Light	Operates with 1.5M.
BL5 - 6	Green	OFF	Not used
BL4	Green	Light	Loopback is being activated.
		OFF	In operation.
BL3	Green	OFF	Not used
BL2	Green	Light	Layer 2 is established.
		Flash(120 IPM)	Configuring Layer 2 link.
		OFF	Layer 2 is established.
BL1	Green	OFF	Not used
BL0	Green	Light	D-Channel Handler is on.
		OFF	D-Channel Handler is not activated.

(b) BUSY - BL Lamp Control (CH Status Display)

A status of channel is indicated by a combination of BUSY lamp and BL lamp indications.

BUSY lamp indicates a target group of channels (i.e., CH0-7, CH8-15 or CH16-23) by its lighting pattern. A status of each channel belonging to the target group is indicated by the lighting pattern of BL lamp.

To display statuses of multiple channels belonging to different groups, the lighting pattern of BUSY lamp changes with a period of approximately two seconds.

- Example 1 - When CH0 and CH7 (belonging to the same group) are busy.

  BUSY lamp: Light
  BL0 lamp: Light
  BL7 lamp: Light

- Example 2 - When CH0 and CH15 (belonging to different groups) are busy.

BUSY lamp:	Light	Flash once	Light	...
BL0 lamp:	Light	OFF	Light	...
BL7 lamp:	OFF	Light	OFF	...

See the following tables for more details:

LAMP NAME	COLOR	CHANNELS INDICATED BY BUSY AND BL LAMP		
BUSY	Green	Light	Flash once /approx. 2 seconds	Flash twice /approx. 2 seconds
BL7	Green	CH7	CH15	CH23
BL6	Green	CH6	CH14	CH22
BL5	Green	CH5	CH13	CH21
BL4	Green	CH4	CH12	CH20
BL3	Green	CH3	CH11	CH19
BL2	Green	CH2	CH10	CH18
BL1	Green	CH1	CH9	CH17
BL0	Green	CH0	CH8	CH16

STATUS OF BL LAMP	DESCRIPTION	REMARKS
Light	Corresponding channel is in use.	
Flash (Flash according to DP signal)	DP relaying	
Flash (30 IPM)	Corresponding channel is in make-busy state (outgoing/incoming). 512 milliseconds ON/1536 milliseconds OFF 	BUSY lamp is not controlled only when the channel is placed in make-busy state. Flashes when other channels in the same group are used.
Flash (60 IPM)	Corresponding channel is in make-busy state (outgoing). 512 milliseconds ON/512 milliseconds OFF 	
OFF	Corresponding channel is in idle state.	OFF also when D channels are registered.

(c) ALM - BL Lamp Control (While Detecting a Line Alarm)

The table below shows descriptions of BL0 to BL7 lamps while ALM lamp lights.

LAMP NAME	COLOR	DESCRIPTION	
BL7	Green	Light	Input signal down (PCM LOSS) is detected.
		OFF	Input signal down (PCM LOSS) is not detected.
BL6	Green	Light	Frame alignment loss is detected.
		OFF	Frame alignment loss is not detected.
BL5	Green	OFF	Not used
BL4	Green	Light	Remote Alarm is received.
		OFF	Remote Alarm is not received.
BL3	Green	Light	Main Signal ALL1 is received.
		OFF	Main Signal ALL1 is not received.
BL2	Green	Light	Alarm Information Signal (AIS) is received.
		OFF	Alarm Information Signal (AIS) is not received.
BL1	Green	Light	Frequent CRC error (24 multiframe)/Bit error is detected (12 multiframe).
		OFF	Frequent CRC error (24 multiframe)/Bit error is not detected (12 multiframe).
BL0	Green	OFF	Not used

<Reference>

Check the following when ALM lamp lights on during the startup of the card.

- BL7

  Check the cable connection between the card and the connected device (especially the direction from the connected device to the card)

- BL6

  Different types of multiframe (12-multiframe/24-multiframe) are set between the card and the connected device. Check the switch setting of SW12-2 again.

- BL4

  Check the cable connection between the card and the connected device (especially the direction from the card to the connected device)

  or

  Different types of multiframe (12-multiframe/24-multiframe) are set between the card and the connected device. Check the switch setting of SW12-2 again.

- BL2

  There is a problem with the connected device (network side).

5. Switch Settings

Standard settings of switches on this card are shown in the tables below.

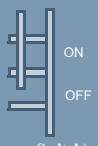
Hardware Switch

Note: For switch settings of SW80 and SW81, refer to Starting up the Card.

SW00 (MB)

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy
	DOWN	×	Card: make-busy cancel

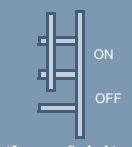
SW82

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	UP (ON)	×	Fixed to ON

SW83

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	DOWN (OFF)	×	Fixed to OFF

SW84

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	UP (ON)	×	Middle point of reception transformer: Open
	DOWN (OFF)		Middle point of reception transformer: Ground

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection.

Note: When initializing software switch settings, they are initialized to a predefined template value selected by settings of hardware switches SW80 and SW81. For further details, refer to Switch Settings of Template.

SW01

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Local Loopback: Set (Internal)
	OFF	×	Local Loopback: Cancel (Internal)
2	ON		Line Loopback: Set (External)
	OFF	×	Line Loopback: Cancel (External)
3	ON		Payload Loopback: Set
	OFF	×	Payload Loopback: Cancel
4	ON		All channel make-busy: Set
	OFF	×	All channel make-busy: Cancel
5	ON		DCH make-busy: Set
	OFF	×	DCH make-busy: Cancel
6	ON		DCH Loopback: Set
	OFF	×	DCH Loopback: Cancel
7	OFF	×	Fixed to OFF
8	OFF	×	Fixed to OFF (For maintenance)

<Reference>

(a) Local Loopback (Internal Loopback)

All the 24 Channels sent from TSW are sent back to TSW by the Line Interface. AIS will be sent to the opposite node while 24 Channels are sent back. The opposite node will detect AIS.

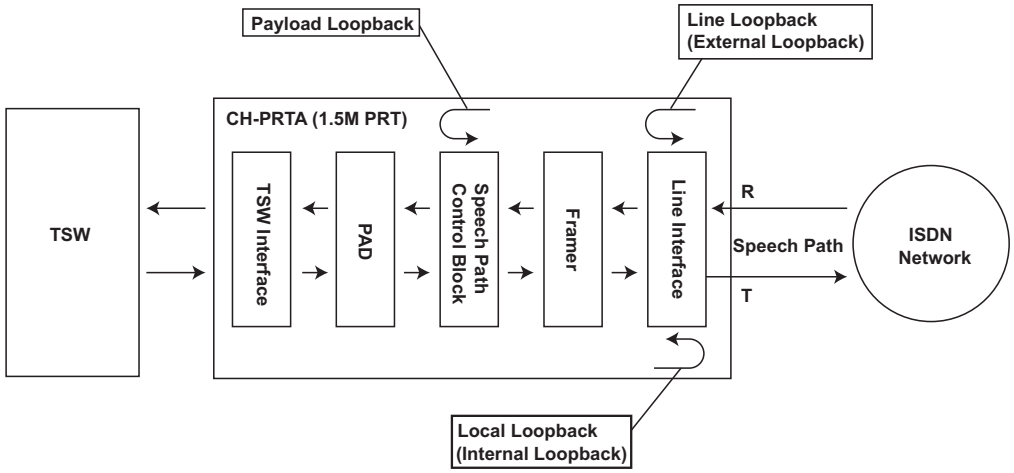
(b) Line Loopback (External Loopback)

All the 24 Channels sent from the Line are sent back to the Line by the Line Interface.

(c) Payload Loopback

All the 24 Channels sent from the Line are sent back to the Line by the Speech Path Control Block.

Available Locations for Loopback Testing



Note: A difference between Line Loopback and Payload Loopback:

Line Loopback operates by the timing of line side, and Payload Loopback operates partially by the timing of the system. Therefore, the Payload Loopback will have a bit error if the system is not synchronized with the Line. The Line Loopback will not have this error.

SW10

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Remote Alarm Send Out Restricted
	OFF	×	Remote Alarm Send Out Unrestricted
2	ON		Remote Alarm In Channel **Note 1**
	OFF	×	Remote Alarm Data Link **Note 1**
3	ON	×	Remote Alarm is not sent when AIS was detected. (US)
	OFF		Remote Alarm is sent when AIS was detected. (JP)
4	ON		Alarm Release Time: (Long)
	OFF	×	Alarm Release Time: (Short)
5	ON		Alarm Detect/Release Type (AT&T)
	OFF		Alarm Detect/Release Type (Normal)
6	ON		PLO is controlled when main signal ALL1.
	OFF	×	PLO is not controlled when main signal ALL1.
7	ON		PLO Clock Supply Control: No
	OFF	×	PLO Clock Supply Control: Yes
8	ON		DCH Layer 1 Alarm Release: Yes
	OFF	×	DCH Layer 1 Alarm Release: No

Note 1: ON when using 12 multiframe, OFF when using 24 multiframe.

SW11

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission Equalizer Settings See Transmission Equalizer Settings.
2			
3			
4-7	OFF	×	Fixed to OFF
8	ON		TTC JT-G704 mode (only 1st edition and 2nd edition)
	OFF	×	ITU-T G.704 mode

Transmission Equalizer Settings

SW11-1	SW11-2	SW11-3	TRANSMISSION DISTANCE Note 2
OFF	OFF	OFF	0-40 m
ON	OFF	OFF	40-80 m
OFF	ON	OFF	80-120 m
ON	ON	OFF	120-160 m
OFF	OFF	ON	160-200 m
ON	OFF	ON	0-40 m
OFF	ON	ON	0-40 m
ON	ON	ON	0-40 m

Note 2: The transmission distance indicates the half point between the card and DSU/Opposite Device. If the distance is 100m, the half point is 50m. In this case, the transmission distance is "40-80 m".

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Line Signal: AMI/ZCS **Note 3**
	OFF	×	Line Signal: B8ZS
2	ON		Multiframe: 12 multiframe
	OFF	×	Multiframe: 24 multiframe
3	ON	**Note 4**	4k Data Link: MOS
	OFF	**Note 4**	4k Data Link: BOM
4		**Note 4**	MOS/BOM Operation Mode See MOS/BOM Operation Mode.
5		**Note 4**	
6-8	OFF	×	Fixed to OFF

Note 3: AMI is used when “Bit Steal Inhibited” is selected with the switch setting of SW24-1/2.

Note 4: Available only when 24 multiframe is selected (SW12-2=OFF).

MOS/BOM Operation Mode

MOS/BOM	SW12-4	SW12-5	STANDARD SETTING	MOS/BOM OPERATION MODE
When BOM is used (SW11-8: OFF)	OFF	OFF	×	7E7EH data are sent/BOM message is received (Standard Setting) (MODE0)
	ON	OFF		7E7EH data are sent/BOM message is not received (MODE1)
	OFF	ON		FFFFH data are sent/BOM message is received (MODE2)
	ON	ON		FFFFH data are sent/BOM message is not received (MODE3)
When BOM is used (SW11-8: ON)	OFF	OFF	×	7E7EH data are sent/BOM message is received (Standard Setting) (MODE0)
	ON	OFF		7E7EH data are sent/BOM message is not received (MODE1)
	OFF	ON		0000H data are sent/BOM message is received (MODE2)
	ON	ON		0000H data are sent/BOM message is not received (MODE3)

MOS/BOM	SW12-4	SW12-5	STANDARD SETTING	MOS/BOM OPERATION MODE
When MOS is used	OFF	OFF	×	PPR data are sent/MOS message is received (Standard Setting) (MODE0)
	ON	OFF		PPR data are sent/MOS message is not received (MODE1)
	OFF	ON		Flag (7EH) data are sent/MOS message is received (MODE2)
	ON	ON		Flag (7EH) data are sent/MOS message is not received (MODE3)

SW13

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Main Signal ALL1 is detected (when using HSD Line).
	OFF	×	Main Signal ALL1 is not detected.
2	ON		Idle Code is sent.
	OFF	×	Idle Code is not sent.
3	ON		DP relay function is used for FCCS.
	OFF	×	DP relay function is not used for FCCS.
4	ON		Simultaneous Seizure Detection (SSD): Disabled
	OFF	×	Simultaneous Seizure Detection (SSD): Enabled
5	ON		Not activate counter node when detecting Simultaneous Seizure.
	OFF	×	Activate counter node when detecting Simultaneous Seizure.
6	ON		Layer 1 Alarm is not notified to CPU.
	OFF	×	Layer 1 Alarm is notified to CPU.
7	ON		CAS is not effective when DCH is used.
	OFF	×	CAS is effective when DCH is used.
8	ON		Incoming/Outgoing call collision processing is used. **Note 5**
	OFF	×	Incoming/Outgoing call collision processing is not used.

Note 5: When incoming/outgoing call collision processing is used (SW13-8=ON), assign ASYD, SYS1, Index 7, Bit 3=1.

SW14

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF (For production test)
7	ON		PAD Control Method (Using Both Flexible/Standard PAD) See PAD Control Method.
	OFF	×	
8	ON		
	OFF	×	

Flexible PAD Level Setting of SW14-SW21

SWITCH NUMBER OF SW14-SW21					PAD LEVEL (dB)
1	2	3	4	5	
OFF	OFF	OFF	OFF	OFF	0
ON	OFF	OFF	OFF	OFF	1 (Loss)
OFF	ON	OFF	OFF	OFF	2 (Loss)
ON	ON	OFF	OFF	OFF	3 (Loss)
OFF	OFF	ON	OFF	OFF	4 (Loss)
ON	OFF	ON	OFF	OFF	5 (Loss)
OFF	ON	ON	OFF	OFF	6 (Loss)
ON	ON	ON	OFF	OFF	7 (Loss)
OFF	OFF	OFF	ON	OFF	8 (Loss)
ON	OFF	OFF	ON	OFF	9 (Loss)
OFF	ON	OFF	ON	OFF	10 (Loss)
ON	ON	OFF	ON	OFF	11 (Loss)
OFF	OFF	ON	ON	OFF	12 (Loss)
ON	OFF	ON	ON	OFF	13 (Loss)
OFF	ON	ON	ON	OFF	14 (Loss)
ON	ON	ON	ON	OFF	15 (Loss)
OFF	OFF	OFF	OFF	ON	16 (Loss)
ON	OFF	OFF	OFF	ON	17 (Loss)
OFF	ON	OFF	OFF	ON	-1 (Gain)
ON	ON	OFF	OFF	ON	-2 (Gain)
OFF	OFF	ON	OFF	ON	-3 (Gain)
ON	OFF	ON	OFF	ON	-4 (Gain)
OFF	ON	ON	OFF	ON	-5 (Gain)
ON	ON	ON	OFF	ON	-6 (Gain)
OFF	OFF	OFF	ON	ON	-7 (Gain)
ON	OFF	OFF	ON	ON	-8 (Gain)
Other settings					Not available

PAD Control Method

SW14-7	SW14-8	PAD CONTROL
OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB) (Standard Setting)
ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
OFF	ON	Fixed to ARTD (Transmission/Reception PAD Control)
ON	ON	Transmission/Reception PAD Control

SW15

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 2 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7			PAD Selection (Using Both Flexible/Standard PAD) See PAD Selection.
8			

PAD Selection

SW15-7	SW15-8	PAD SELECTION
OFF	OFF	μ-Law (Standard Setting)
ON	OFF	A-Law
OFF	ON	A-Law (TDSW) → μ-Law (line)
ON	ON	μ-Law (TDSW) → A-Law (line)

SW16

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 3 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7			PAD Pattern Selection See PAD Pattern Selection.
8			

PAD Pattern Selection

SW16-7	SW16-8	PAD SELECTION
OFF	OFF	PAD Pattern 1 (Standard Setting)
ON	OFF	PAD Pattern 2
OFF	ON	PAD Pattern 3
ON	ON	PAD Pattern 4

Note: PAD Patterns 1 - 4 correspond to Patterns 1 - 4 in <Standard PAD Level>.

SW17

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 4 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7			Data PAD Pattern Selection See Data PAD Pattern Selection.
8			

Data PAD Pattern Selection

SW17-7	SW17-8	Data PAD Selection
OFF	OFF	64k (Standard Setting)
ON	OFF	64k INV
OFF	ON	56k
ON	ON	48k

SW18

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7	ON		Flexible PAD (See <Flexible PAD Level>.)
	OFF	×	Standard PAD (See <Standard PAD Level>.)
8	OFF	×	Fixed to OFF

SW19

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

SW20

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

SW21

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

<Switch Setting for PAD Selection>

PAD Kind	SW18-7	SW15-8	SW15-7	SW16-8	SW16-7	PCM-Law: PAD Pattern
Standard PAD	OFF	OFF	OFF	OFF	OFF	μ-Law: Pattern 1
					ON	μ-Law: Pattern 2
				ON	OFF	μ-Law: Pattern 3
					ON	μ-Law: Pattern 4
			ON	OFF	OFF	A-Law: Pattern 1
					ON	A-Law: Pattern 2
				ON	OFF	A-Law: Pattern 3
					ON	A-Law: Pattern 4
		ON	OFF	OFF	OFF	A-Law → μ-Law: Pattern 1
					ON	A-Law → μ-Law: Pattern 2
				ON	OFF	A-Law → μ-Law: Pattern 3
					ON	A-Law → μ-Law: Pattern 4
			ON	OFF	OFF	μ-Law → A-Law: Pattern 1
					ON	μ-Law → A-Law: Pattern 2
				ON	OFF	μ-Law → A-Law: Pattern 3
					ON	μ-Law → A-Law: Pattern 4
Flexible PAD	ON	OFF	OFF	Not used		μ-Law
			ON	Not used		A-Law
		ON	OFF	OFF	Not used	A-Law → μ-Law: Pattern 5 **Note 6**
				ON	Not used	A-Law → μ-Law: Pattern 6 **Note 6**
			ON	OFF	Not used	μ-Law → A-Law: Pattern 5 **Note 6**
				ON	Not used	μ-Law → A-Law: Pattern 6 **Note 6**

Note 6: Refer to Flexible PAD Level of ARTD: 7 or APAD:15.

<Standard PAD Level>

μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	2dB	2dB	8dB	16dB	2dB	2dB	-3dB	3dB
2	4dB	4dB	8dB	4dB	4dB	4dB	3dB	3dB
3	12dB	12dB	4dB	12dB	6dB	6dB	0dB	6dB
4	8dB	8dB	0dB	8dB	8dB	8dB	3dB	9dB

A-law pattern Setting (Switch 15-7, 8 ON, OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	2dB	2dB	2dB	2dB	1dB	1dB	-3dB	3dB
2	4dB	4dB	4dB	4dB	3dB	3dB	3dB	3dB
3	6dB	6dB	12dB	12dB	5dB	5dB	0dB	6dB
4	8dB	8dB	8dB	8dB	7dB	7dB	3dB	9dB

From A-law to μ-law Conversion Setting (Switch 15-7, 8 OFF, ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	0dB	4dB	4dB	4dB	4dB	4dB
3	6dB	6dB	0dB	12dB	6dB	6dB	12dB	12dB
4	8dB	8dB	0dB	8dB	8dB	8dB	8dB	8dB

From μ-law to A-law Conversion Setting (Switch 15-7,8 ON, ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	0dB	4dB	4dB	4dB	4dB	4dB
3	6dB	6dB	0dB	12dB	6dB	6dB	12dB	12dB
4	8dB	8dB	0dB	8dB	8dB	8dB	8dB	8dB

<Flexible PAD Level>

Flexible PAD Level (SW18-7: OFF)

ARTD/APAD Setting Data	Transmission	Reception
ARTD: 7 APAD: 15	See Flexible PAD Level of ARTD: 7 or APAD:15.	
1	Set value of SW18-1, 2, 3, 4, 5	Set value of SW14-1, 2, 3, 4, 5
2	Set value of SW19-1, 2, 3, 4, 5	Set value of SW15-1, 2, 3, 4, 5
3	Set value of SW20-1, 2, 3, 4, 5	Set value of SW16-1, 2, 3, 4, 5
4	Set value of SW21-1, 2, 3, 4, 5	Set value of SW17-1, 2, 3, 4, 5

Flexible PAD Level of ARTD: 7 or APAD:15

PCM-Law:Pattern No.	Transmission	Reception
μ-Law	0dB	0dB
A-law	0dB	0dB
A-Law → μ-Law: Pattern 5	through	through
A-Law → μ-Law: Pattern 6	0dB	0dB
μ-Law → A-Law: Pattern 5	through	through
μ-Law → A-Law: Pattern 6	0dB	0dB

SW22

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Seizure Acknowledgement Guard Time See Seizure Acknowledgement Guard Time.
2			
3			
4			
5			Seizure Acknowledgement Detection Time See Seizure Acknowledgement Detection Time.
6			
7			
8			

Seizure Acknowledgement Guard Time

SW22-1	SW22-2	SW22-3	SW22-4	Seizure Acknowledgement Guard Time
OFF	OFF	OFF	OFF	48 milliseconds (Standard Setting)
ON	OFF	OFF	OFF	56 milliseconds
OFF	ON	OFF	OFF	64 milliseconds
ON	ON	OFF	OFF	72 milliseconds
OFF	OFF	ON	OFF	80 milliseconds
ON	OFF	ON	OFF	88 milliseconds
OFF	ON	ON	OFF	96 milliseconds
ON	ON	ON	OFF	104 milliseconds
OFF	OFF	OFF	ON	112 milliseconds
ON	OFF	OFF	ON	120 milliseconds
OFF	ON	OFF	ON	128 milliseconds
ON	ON	OFF	ON	136 milliseconds
OFF	OFF	ON	ON	144 milliseconds
ON	OFF	ON	ON	152 milliseconds
OFF	ON	ON	ON	160 milliseconds
ON	ON	ON	ON	168 milliseconds

Seizure Acknowledgement Detection Time

SW22-5	SW22-6	SW22-7	SW22-8	Seizure Acknowledgement Detection Time
OFF	OFF	OFF	OFF	56 milliseconds (Standard Setting)
ON	OFF	OFF	OFF	76 milliseconds
OFF	ON	OFF	OFF	96 milliseconds
ON	ON	OFF	OFF	116 milliseconds
OFF	OFF	ON	OFF	136 milliseconds
ON	OFF	ON	OFF	156 milliseconds
OFF	ON	ON	OFF	176 milliseconds
ON	ON	ON	OFF	196 milliseconds
OFF	OFF	OFF	ON	216 milliseconds
ON	OFF	OFF	ON	236 milliseconds
OFF	ON	OFF	ON	256 milliseconds
ON	ON	OFF	ON	276 milliseconds
OFF	OFF	ON	ON	296 milliseconds
ON	OFF	ON	ON	316 milliseconds
OFF	ON	ON	ON	336 milliseconds
ON	ON	ON	ON	356 milliseconds

SW23

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Seizure Acknowledgement Monitoring Time See Seizure Acknowledgement Monitoring Time.
2			
3			
4			Answer Detection Time See Answer Detection Time.
5			
6			
7			
8			

Seizure Acknowledgement Monitoring Time

SW23-1	SW23-2	SW23-3	Seizure Acknowledgement Monitoring Time
OFF	OFF	OFF	200 milliseconds
ON	OFF	OFF	360 milliseconds
OFF	ON	OFF	520 milliseconds
ON	ON	OFF	680 milliseconds
OFF	OFF	ON	840 milliseconds
ON	OFF	ON	1000 milliseconds
OFF	ON	ON	1160 milliseconds
ON	ON	ON	1320 milliseconds (Standard Setting)

Answer Detection Time

SW23-4	SW23-5	SW23-6	SW23-7	SW23-8	Answer Detection Time
OFF	OFF	OFF	OFF	OFF	100 milliseconds
ON	OFF	OFF	OFF	OFF	148 milliseconds
OFF	ON	OFF	OFF	OFF	200 milliseconds (Standard Setting)
ON	ON	OFF	OFF	OFF	248 milliseconds
OFF	OFF	ON	OFF	OFF	300 milliseconds
ON	OFF	ON	OFF	OFF	348 milliseconds
OFF	ON	ON	OFF	OFF	400 milliseconds
ON	ON	ON	OFF	OFF	448 milliseconds
OFF	OFF	OFF	ON	OFF	500 milliseconds
ON	OFF	OFF	ON	OFF	548 milliseconds
OFF	ON	OFF	ON	OFF	600 milliseconds
ON	ON	OFF	ON	OFF	648 milliseconds
OFF	OFF	ON	ON	OFF	700 milliseconds
ON	OFF	ON	ON	OFF	748 milliseconds
OFF	ON	ON	ON	OFF	800 milliseconds
ON	ON	ON	ON	OFF	848 milliseconds
OFF	OFF	OFF	OFF	ON	900 milliseconds
ON	OFF	OFF	OFF	ON	948 milliseconds
OFF	ON	OFF	OFF	ON	1000 milliseconds
ON	ON	OFF	OFF	ON	1048 milliseconds
OFF	OFF	ON	OFF	ON	1100 milliseconds
ON	OFF	ON	OFF	ON	1148 milliseconds
OFF	ON	ON	OFF	ON	1200 milliseconds
ON	ON	ON	OFF	ON	1248 milliseconds
OFF	OFF	OFF	ON	ON	1300 milliseconds
ON	OFF	OFF	ON	ON	1348 milliseconds
OFF	ON	OFF	ON	ON	1400 milliseconds
ON	ON	OFF	ON	ON	1448 milliseconds
OFF	OFF	ON	ON	ON	1500 milliseconds
ON	OFF	ON	ON	ON	1548 milliseconds
OFF	ON	ON	ON	ON	1600 milliseconds
ON	ON	ON	ON	ON	1648 milliseconds

SW24

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1		Note 7	Send Signaling Pattern Selection See Send Signaling Pattern Selection.
2		Note 7	
3		Note 7	Receive Signaling Pattern Selection See Receive Signaling Pattern Selection.
4		Note 7	
5	ON	Note 7	Send Signaling A Logic: Negative
	OFF	Note 7	Send Signaling A Logic: Positive
6	ON	Note 7	Receive Signaling A Logic: Negative
	OFF	Note 7	Receive Signaling A Logic: Positive
7	ON		Long haul mode
	OFF	×	Short haul mode
8	ON		DCH and 4k data link activation mode: Network side mode Note 8
	OFF		DCH and 4k data link activation mode: User side mode Note 8

Note 7: The settings of SW24-1 to 24-6 is used for the ACIS line mode. It needs to be set according to the specification of the opposite device. The following table shows an example of the settings.

PRT Standard (ISDN 1.5M, HSD ACIS line)	
SWITCH NUMBER	SWITCH SETTINGS
SW24-1	OFF
SW24-2	ON
SW24-3	OFF
SW24-4	ON
SW24-5	OFF
SW24-6	OFF
SW24-7	OFF
SW24-8	OFF

Note 8: Check connectivity for network in advance if you are going to use Network mode.

Send Signaling Pattern Selection

SW24-1	SW24-2	Signaling Pattern
OFF	OFF	AAAA
ON	OFF	ABAB
OFF	ON	Bit Steal Inhibited
ON	ON	ABCD

Receive Signaling Pattern Selection

SW24-3	SW24-4	Signaling Pattern
OFF	OFF	AAAA
ON	OFF	ABAB
OFF	ON	Bit Steal Inhibited
ON	ON	ABCD

SW25

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			DCH Operation Mode See DCH Operation Mode.
2			
3			
4	ON	×	SABME Wait Timer Enable (North America Standard Setting)
	OFF		SABME Wait Timer Disable
5			DCH Transfer Rate See DCH Transfer Rate.
6			
7			
8			

DCH Operation Mode

SW25-1	SW25-2	SW25-3	DCH Operation Mode
OFF	OFF	OFF	ITU-T mode (Standard Setting)
ON	OFF	OFF	TTC mode
OFF	ON	OFF	AT&T mode
ON	ON	OFF	Thai mode
Other settings			Prohibited

DCH Transfer Rate

SW25-5	SW25-6	SW25-7	SW25-8	DCH Transfer Rate
OFF	OFF	OFF	OFF	64kbps (Standard Setting)
ON	OFF	OFF	OFF	56kbps
OFF	ON	OFF	OFF	48kbps (Standard)
ON	ON	OFF	OFF	32kbps (Forward)
OFF	OFF	ON	OFF	32kbps (Backward)
ON	OFF	ON	OFF	16kbps (Forward)
OFF	ON	ON	OFF	16kbps (Backward)
ON	ON	ON	OFF	8kbps (Forward)
OFF	OFF	OFF	ON	8kbps (Backward)
ON	OFF	OFF	ON	48kbps (Option)
OFF	ON	OFF	ON	64kbps
ON	ON	OFF	ON	
OFF	OFF	ON	ON	
ON	OFF	ON	ON	
OFF	ON	ON	ON	
ON	ON	ON	ON	

SW26

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			DCH Time Slot Setting See DCH Time Slot Setting.
2			
3			
4			
5			
6-7	OFF	×	Fixed to OFF
8	ON		DCH Signaling Logic: Negative
	OFF	×	DCH Signaling Logic: Positive

DCH Time Slot Setting

SW26-1	SW26-2	SW26-3	SW26-4	SW26-5	Time Slot
OFF	OFF	OFF	OFF	OFF	TS 0
ON	OFF	OFF	OFF	OFF	TS 1
OFF	ON	OFF	OFF	OFF	TS 2
ON	ON	OFF	OFF	OFF	TS 3
OFF	OFF	ON	OFF	OFF	TS 4
ON	OFF	ON	OFF	OFF	TS 5
OFF	ON	ON	OFF	OFF	TS 6
ON	ON	ON	OFF	OFF	TS 7
OFF	OFF	OFF	ON	OFF	TS 8
ON	OFF	OFF	ON	OFF	TS 9
OFF	ON	OFF	ON	OFF	TS 10
ON	ON	OFF	ON	OFF	TS 11
OFF	OFF	ON	ON	OFF	TS 12
ON	OFF	ON	ON	OFF	TS 13
OFF	ON	ON	ON	OFF	TS 14
ON	ON	ON	ON	OFF	TS 15
OFF	OFF	OFF	OFF	ON	TS 16
ON	OFF	OFF	OFF	ON	TS 17
OFF	ON	OFF	OFF	ON	TS 18
ON	ON	OFF	OFF	ON	TS 19
OFF	OFF	ON	OFF	ON	TS 20
ON	OFF	ON	OFF	ON	TS 21
OFF	ON	ON	OFF	ON	TS 22
ON	ON	ON	OFF	ON	TS 23 (Standard Setting)
OFF	OFF	OFF	ON	ON	TS 23
ON	OFF	OFF	ON	ON	
OFF	ON	OFF	ON	ON	
ON	ON	OFF	ON	ON	
OFF	OFF	ON	ON	ON	
ON	OFF	ON	ON	ON	
OFF	ON	ON	ON	ON	
ON	ON	ON	ON	ON	

SW27

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Congestion Detection Threshold (QUE remainder ratio) See Congestion Detection Threshold (QUE remainder ratio).
2			
3			
4			
5-8	OFF	×	Fixed to OFF

Congestion Detection Threshold (QUE remainder ratio)

SW27-1	SW27-2	SW27-3	SW27-4	Detection (%)	Release (%)
OFF	OFF	OFF	OFF	75	90 (Standard Setting)
ON	OFF	OFF	OFF	15	35
OFF	ON	OFF	OFF	20	40
ON	ON	OFF	OFF	25	45
OFF	OFF	ON	OFF	30	50
ON	OFF	ON	OFF	40	60
OFF	ON	ON	OFF	50	65
ON	ON	ON	OFF	55	70
OFF	OFF	OFF	ON	60	75
ON	OFF	OFF	ON	65	80
OFF	ON	OFF	ON	70	85
ON	ON	OFF	ON	80	90
OFF	OFF	ON	ON	85	90
ON	OFF	ON	ON	90	95
OFF	ON	ON	ON	Always Congestion (for Maintenance)	
ON	ON	ON	ON	No detection	

6. Starting up the Card

CH-PRTA can be started up with the predefined template data. You can choose either one of the following modes (starting methods) through the switch settings of SW80 and SW81 when starting up the card.

- Normal Starting-up mode (SW80-7=OFF, SW80-8=OFF)

In this mode, the card starts up with settings of software switches. When software switches are not set or settings of hardware switches are changed after the software switch settings, the card starts up with the predefined template data (a setting pattern of the template is specified by the settings of SW80 and SW81).

- Switch setting initialization mode (SW80-7=OFF, SW80-8=ON)

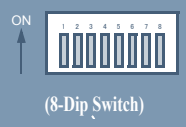
  In this mode, the card starts up with settings of hardware switches. The card is forcibly initialized and restarted with the predefined template data (a setting pattern of the template is specified by the settings of SW80 and SW81).

  If the card starts up successfully, the DOPE lamp flashes (120 IPM). If the car fails to start up, the ALM lamp flashes (120 IPM).

  Once the starting-up is completed, set to normal starting-up mode by putting SW80-8 to OFF.

Note: For contents (switch settings) of the template, refer to Switch Settings of Template.

SW80

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING	
 (8-Dip Switch)	1			DCH Operation Mode See DCH Operation Mode. This setting is reflected to SW25-1 to 3.	
	2				
	3				
	4	ON	×	SABME Wait Timer Enable	This setting is reflected to SW25-4.
		OFF		SABME Wait Timer Disable	
	5-6	OFF	×	Fixed to OFF	
	7			Switch Setting Mode See Switch Setting Mode.	
	8				

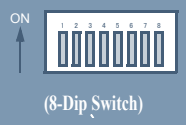
DCH Operation Mode

SW80-1	SW80-2	SW80-3	DCH Operation Mode
OFF	OFF	OFF	ITU-T mode (Standard Setting)
ON	OFF	OFF	TTC mode
OFF	ON	OFF	AT&T mode
ON	ON	OFF	Thai mode
Other settings			Prohibited

Switch Setting Mode

SW80-7	SW80-8	Switch Setting Mode
OFF	OFF	Normal starting-up mode (Standard Setting)
ON	OFF	Not used
OFF	ON	Switch setting initialization mode
ON	OFF	Not used

SW81

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
	1			Transmission Equalizer Settings See Transmission Equalizer Settings. This setting is reflected to SW11-1 to 3.
	2			
	3			
	4			ACIS operation Mode See ACIS Operation Mode.
	5			
	6	ON	×	North America
		OFF		Japan
	7-8	OFF	×	Fixed to OFF

Transmission Equalizer Settings

SW80-1	SW80-2	SW80-3	TRANSMISSION DISTANCE
OFF	OFF	OFF	0-40 m
ON	OFF	OFF	40-80 m
OFF	ON	OFF	80-120 m
ON	ON	OFF	120-160 m
OFF	OFF	ON	160-200 m
Other settings			0-40 m

ACIS Operation Mode

SW81-4	SW81-5	MEANING
OFF	OFF	24 multiframe (Tie Line)
ON	OFF	24 multiframe (C.O. line)
OFF	ON	12 multiframe (Tie Line)
ON	ON	12 multiframe (C.O. line)

Switch Settings of Template

The table below shows each switch setting when using the predefined template.To use an appropriate template, ensure that SW81-6 is set to ON.

Switch Name	Switch Number	ON/OFF		Meaning
		24 multiframe (SW81-5=OFF)	12 multiframe (SW81-5=ON)	
SW01	1	OFF	OFF	Local Loopback: Cancel (Internal)
	2	OFF	OFF	Line Loopback: Cancel (External)
	3	OFF	OFF	Payload Loopback: Cancel
	4	OFF	OFF	All channel make-busy: Cancel
	5	OFF	OFF	DCH make-busy: Cancel
	6	OFF	OFF	DCH Loopback: Cancel
	7-8	OFF	OFF	Fixed to OFF
SW10	1	OFF	OFF	Remote Alarm Send Out Unrestricted
	2	OFF	ON	<24 multiframe> Remote Alarm Data Link <12 multiframe> Remote Alarm In Channel
	3	ON	ON	Remote Alarm is not sent when AIS was detected.
	4	ON	ON	Alarm Release Time: (Long)
	5	ON	ON	Alarm Detect/Release Type (AT&T)
	6	OFF	OFF	PLO is not controlled when main signal ALL1.
	7	OFF	OFF	PLO Clock Supply Control: Yes
	8	OFF	OFF	DCH Layer1 Alarm Release: No
SW11	1-3	Sets by SW81-1 to SW81-3		Transmission Equalizer Settings
	4-7	OFF	OFF	Fixed to OFF
	8	OFF	OFF	ITU-T G.704 mode

Switch Name	Switch Number	ON/OFF		Meaning
		24 multiframe (SW81-5=OFF)	12 multiframe (SW81-5=ON)	
SW12	1	OFF	ON	<24 multiframe> Line Signal: B8ZS <12 multiframe> Line Signal: AMI/ZCS
	2	OFF	ON	OFF: 24 multiframe ON: 12 multiframe
	3	ON	OFF	<24 multiframe> 4k Data Link: MOS
	4-7	OFF	OFF	Fixed to OFF
	8	Sets by SW81-8=OFF		Fixed to OFF
SW13	1	OFF	OFF	Main Signal ALL1 is not detected.
	2	OFF	OFF	Idle Code is not sent.
	3	OFF	OFF	DP relay function is not used for FCCS.
	4	OFF	OFF	Simultaneous Seizure Detection (SSD): Enabled
	5	OFF	OFF	Activate counter node when detecting Simultaneous Seizure.
	6	OFF	OFF	Layer 1 Alarm is notified to CPU.
	7	OFF	OFF	CAS is effective when DCH is used.
	8	OFF	OFF	Incoming/Outgoing call collision processing is not used.
SW14	1	OFF	OFF	Reception PAD 1: 2 (Loss)
	2	ON	ON	
	3	OFF	OFF	
	4	OFF	OFF	
	5	OFF	OFF	
	6	OFF	OFF	Fixed to OFF
	7	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
	8	OFF	OFF	
SW15	1	OFF	OFF	Reception PAD 2: 4 (Loss)
	2	OFF	OFF	
	3	ON	ON	
	4	OFF	OFF	
	5	OFF	OFF	
	6	OFF	OFF	Fixed to OFF
	7	OFF	OFF	PAD Selection: μ-Law
	8	OFF	OFF	

Switch Name	Switch Number	ON/OFF		Meaning
		24 multiframe (SW81-5=OFF)	12 multiframe (SW81-5=ON)	
SW16	1	OFF	OFF	Reception PAD 3: 12 (Loss)
	2	OFF	OFF	
	3	ON	ON	
	4	ON	ON	
	5	OFF	OFF	
	6	OFF	OFF	Fixed to OFF
	7	OFF	OFF	PAD Pattern 1
	8	OFF	OFF	
SW17	1	OFF	OFF	Reception PAD 4: 8 (Loss)
	2	OFF	OFF	
	3	OFF	OFF	
	4	ON	ON	
	5	OFF	OFF	
	6	OFF	OFF	Fixed to OFF
	7	OFF	OFF	Data PAD Pattern Selection: 64k
	8	OFF	OFF	
SW18	1	OFF	OFF	Transmission PAD 1: 2 (Loss)
	2	ON	ON	
	3	OFF	OFF	
	4	OFF	OFF	
	5	OFF	OFF	
	6	OFF	OFF	Fixed to OFF
	7	OFF	OFF	Standard PAD
	8	OFF	OFF	Fixed to OFF
SW19	1	OFF	OFF	Transmission PAD 2: 4 (Loss)
	2	OFF	OFF	
	3	ON	ON	
	4	OFF	OFF	
	5	OFF	OFF	
	6-8	OFF	OFF	Fixed to OFF

Switch Name	Switch Number	ON/OFF		Meaning
		24 multiframe (SW81-5=OFF)	12 multiframe (SW81-5=ON)	
SW20	1	OFF	OFF	Transmission PAD 3: 12 (Loss)
	2	OFF	OFF	
	3	ON	ON	
	4	ON	ON	
	5	OFF	OFF	
	6-8	OFF	OFF	Fixed to OFF
SW21	1	OFF	OFF	Transmission PAD 4: 8 (Loss)
	2	OFF	OFF	
	3	OFF	OFF	
	4	ON	ON	
	5	OFF	OFF	
	6-8	OFF	OFF	Fixed to OFF
SW22	1	OFF	OFF	Seizure Acknowledgement Guard Time: 48 milli-seconds
	2	OFF	OFF	
	3	OFF	OFF	
	4	OFF	OFF	
	5	OFF	OFF	Seizure Acknowledgement Detection Time: 56 mil-liseconds
	6	OFF	OFF	
	7	OFF	OFF	
	8	OFF	OFF	
SW23	1	ON	ON	Seizure Acknowledgement Monitoring Time: 360 milliseconds
	2	OFF	OFF	
	3	OFF	OFF	
	4	OFF	OFF	Answer Detection Time: 200 milliseconds
	5	ON	ON	
	6	OFF	OFF	
	7	OFF	OFF	
	8	OFF	OFF	

Switch Name	Switch Number	ON/OFF		Meaning
		24 multiframe (SW81-5=OFF)	12 multiframe (SW81-5=ON)	
SW24	1	OFF	OFF	Send Signaling Pattern Selection: Bit Steal Inhibited
	2	ON	ON	
	3	OFF	OFF	Receive Signaling Pattern Selection: Bit Steal Inhibited
	4	ON	ON	
	5	OFF	OFF	Send Signaling A Logic: Positive
	6	OFF	OFF	Receive Signaling A Logic: Positive
	7	OFF	OFF	Short haul mode
	8	OFF	OFF	DCH and 4k data link activation mode: User side mode
SW25	1-3	Sets by SW80-1 to SW80-3		DCH Operation mode
	4	Sets by SW80-4		SABME Wait Timer: Enable/Disable
	5	OFF	OFF	DCH Transfer Rate 24 Multiframe : 64 kbps 12 Multiframe : 48 kbps
	6	OFF	ON	
	7	OFF	OFF	
	8	OFF	OFF	
SW26	1	ON	ON	DCH Time Slot Setting: TS 23
	2	ON	ON	
	3	ON	ON	
	4	OFF	OFF	
	5	ON	ON	
	6-7	OFF	OFF	Fixed to OFF
	8	OFF	OFF	DCH Signaling Logic: Positive
SW27	1	OFF	OFF	Congestion Detection Threshold (QUE remainder ratio): 75/90
	2	OFF	OFF	
	3	OFF	OFF	
	4	OFF	OFF	
	5-8	OFF	OFF	Fixed to OFF

7. External Interface

LT connector lead accommodation of this card is described below.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	PoutB	5	PoutA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	PoutB	13	PoutA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

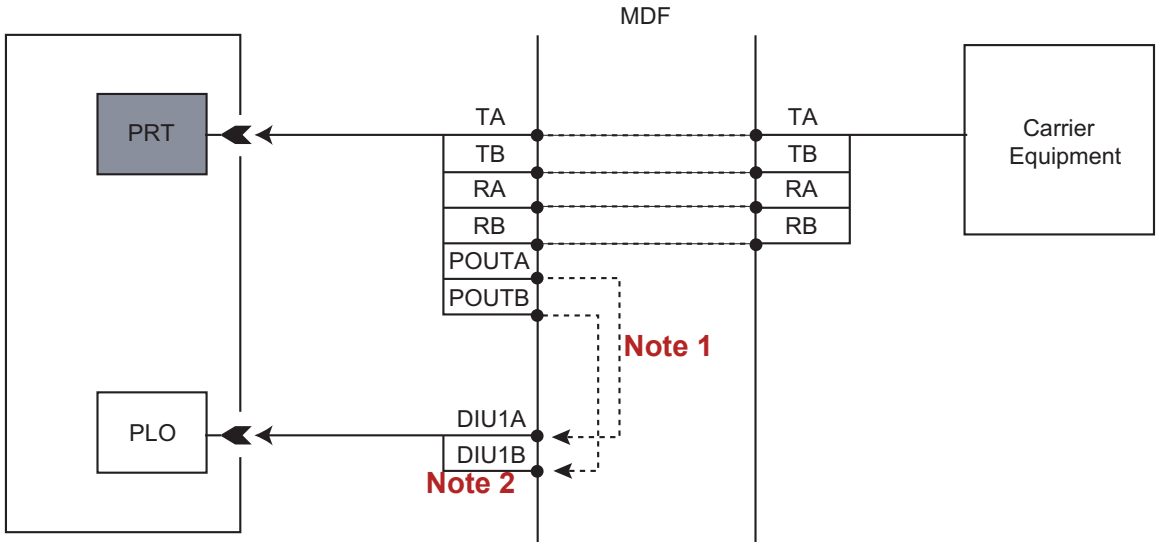
Accommodated in 3

LT3, 5, 9, 11 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	PoutB	21	PoutA
47		22	
48		23	
49	TB	24	TA
50		25	

LT Connector Name →	LT0	LT1	LT2	LT3	LT4	LT5		LT6	LT7	LT8	LT9	LT10	LT11
Slot Number →	04 05 06 07 08 09				10 11 12		13 14	15 16 17 18 19 20				21 22 23	
Group Number →	01 03 05 07 09 11				15 19 23 14 18 22			01 03 05 07 09 11				15 19 23 14 18 22	
	00 02 04 06 08 10				13 17 21 12 16 20			00 02 04 06 08 10				13 17 21 12 16 20	
7U-PIR	* 1		* 2		* 3	* 2	* 1 * 3	* 1		* 2		* 3	* 2 * 1 * 3

Connecting Route Diagram



Note 1: This cable connection is required when clock signals must be extracted from the network side.

Note 2: As an example, DIU1A and DIU1B leads are used in this diagram.

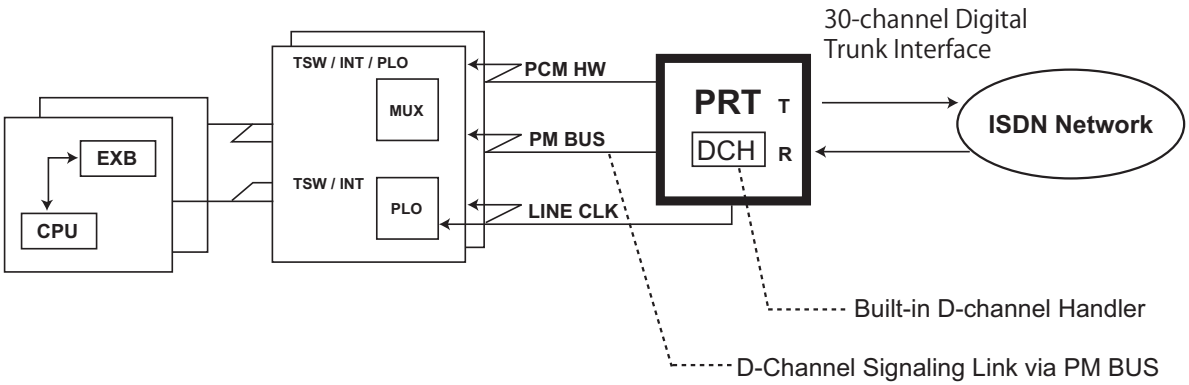
CH-PRTA (2M PRT)

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	-	X	X

1. General Functions

This card is a digital interface supporting voice and data communications at 2M bit/second. This card builds in the Dch handler accordance with ITU-T I/Q series and offers Primary Rate Access Interface (PRI) with the system. A built-in resonance circuit extracts clock signals that are supplied from the network, so that the system may be in exact synchronization with the network. To obtain an appropriate speech level, this card has a standard PAD and a flexible PAD. A flexible PAD can set a more detailed PAD value than a standard PAD. A flexible PAD can set values for the loss from 0 to 17 dB and the gain from -1 to -8 dB respectively in 1dB step. The loss and the gain values can also be set through the APAD or ARTD commands. Note that substitution of the Standard/Flexible PAD and level setting of Flexible PAD are performed with the switches.

Location of CH-PRTA (2M PRT) in the System

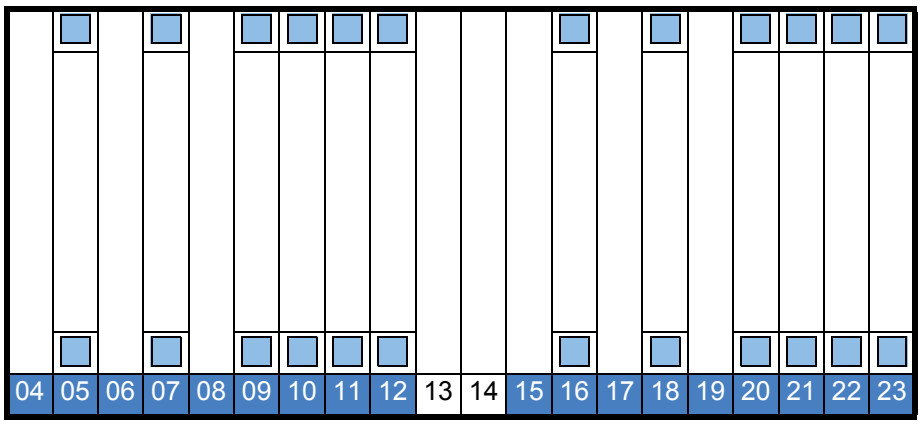


2. Mounting Locations/Conditions

Mounting Location <7U-PIR>

Twisted Pair Cable

Slots 05, 07, 09-12, 16, 18, 20-23



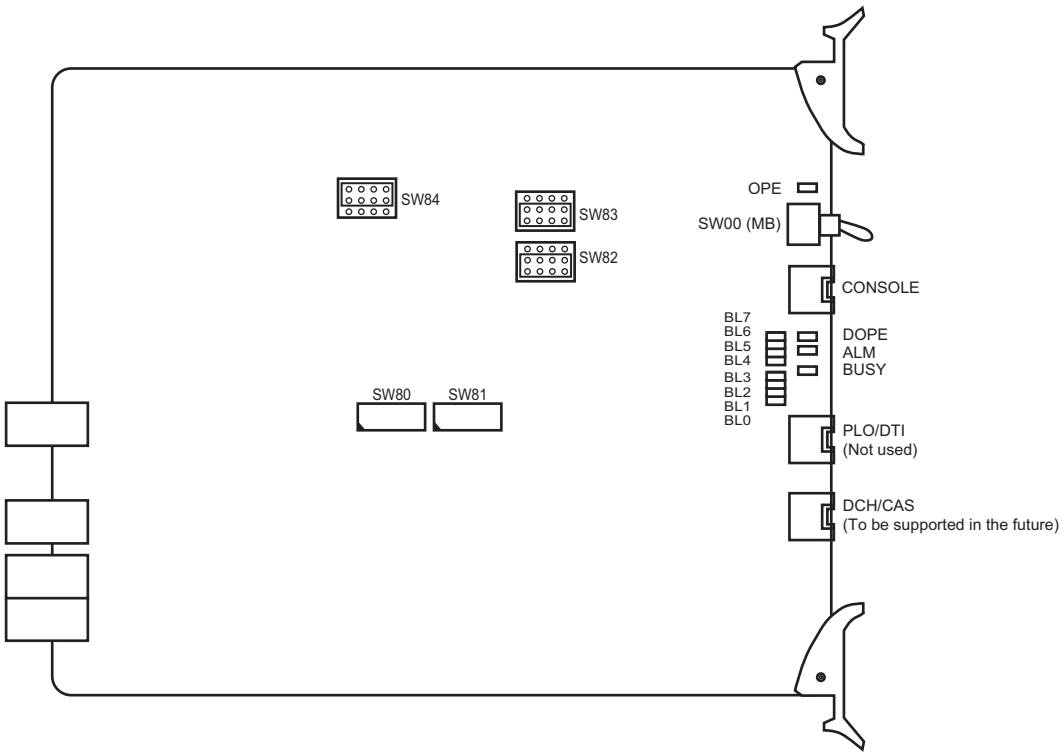
Mounting Conditions:

- When mounted in PIR of Unit 0 (U=0) of Module Group 0 (MG=00), this card cannot be mounted in the Slot 5.
- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot.
- Mount this circuit card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.

3. Face Layout of Lamps, Switches and Connectors

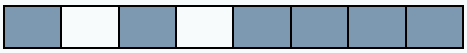
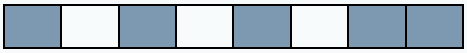
The face layout of lamps, switches, and connectors on this card is shown below.

Face Layout of CH-PRTA (2M PRT)



4. Lamp Indications

The contents of lamp indications on this card are shown in the table below.

LAMP NAME	COLOR	DESCRIPTION		
OPE	Green	Light	This card is operating normally.	
DOPE	Green	Flash	Refer to DOPE - BL Lamp Control (Card Status Display).	
BUSY	Green	Light	BL0 - BL7: Indicates the status of CH0 to CH7.	Refer to BUSY - BL Lamp Control (CH Status Display).
		Flash (flashes once)	256 milliseconds OFF/256 milliseconds ON: once/1536 milliseconds OFF BL0 - BL7: Indicates the status of CH8 to CH15. 	
		Flash (flashes twice)	256 milliseconds OFF/256 milliseconds ON: twice/1024 milliseconds OFF BL0 - BL7: Indicates the status of CH16 to CH23. 	
		Flash (flashes three times)	256 milliseconds OFF/256 milliseconds ON: three times/512 milliseconds OFF BL0 - BL7: Indicates the status of CH24 to CH31. 	
		OFF	Other than those above	
ALM	Red	Light	Refer to ALM - BL Lamp Control (While Detecting a Line Alarm).	
		OFF	No line alarm	
BL0 - BL7	Green	DOPE, BUSY and ALM lamps are used in combination with each other.		

LAMP NAME				STATUS	CONTROL PROGRAM
OPE	ALM	DOPE	BUSY		
OFF	OFF	Light	Light	BOOT program starting up.	BOOT
OFF	OFF	Flash(60 IPM)	OFF	Waiting for downloading the program.	
OFF	OFF	Light	OFF	Downloading the program.	
OFF	OFF	OFF	OFF	Program Download is completed.	
OFF	OFF	Flash(120 IPM)	OFF	Program Download has failed.	
OFF	OFF	Light	Light	Main program initialization is starting up.	
OFF	OFF	OFF	OFF	Initialization starting.	MAIN
OFF	OFF	Flash(60 IPM)	Flash(60 IPM)	Built-in RAM test starting.	
OFF	Flash(120 IPM)	Flash(120 IPM)	OFF	Built-in RAM test error.	
Light	Light	OFF	OFF	Detecting a line alarm.	
Light	OFF	Light	OFF	Indicates the status of the card (except ALM and BUSY).	
Light	OFF	OFF	Light	Indicates the BL status of CH0-7.	
Light	OFF	OFF	Flash(special)	Indicates the BL status of CH8-15 (BUSY: Flashes once every approximately two seconds).	
Light	OFF	OFF	Flash(special)	Indicates the BL status of CH16-23 (BUSY: Flashes twice every approximately two seconds).	
Light	OFF	OFF	Flash(special)	Indicates the BL status of CH24-31 (BUSY: Flashes three times every approximately two seconds).	

<Priorities for ALM, BUSY and DOPE lamps>

After the initialization is completed, the status of ALM (line alarm) is indicated. When no line alarm is detected, the status of DOPE is indicated.

The status of DOPE is indicated while configuring a link.

After the link is established, DOPE is indicated (Busy: Off) while all the lines are not used. BUSY is indicated (DOPE: Off) when making/receiving a call.

DOPE is indicated again when all the channels are in idle state.

(a) DOPE - BL Lamp Control (Card Status Display)

The table below shows descriptions of BL0 to BL7 lamps while DOPE lamp lights.

LAMP NAME	COLOR	DESCRIPTION	
BL7	Green	OFF	Operates with 2M.
BL5 - 6	Green	OFF	Not used
BL4	Green	Light	Loopback is being activated.
		OFF	In operation.
BL3	Green	OFF	Not used
BL2	Green	Light	Layer 2 is established.
		Flash(120 IPM)	Configuring Layer 2 link.
		OFF	Layer 2 is established.
BL1	Green	OFF	Not used
BL0	Green	Light	D-Channel Handler is on.
		OFF	D-Channel Handler is not activated.

(b) BUSY - BL Lamp Control (CH Status Display)

A status of channel is indicated by a combination of BUSY lamp and BL lamp indications.

BUSY lamp indicates a target group of channels (i.e., CH0-7, CH8-15, CH16-23 or CH24-31) by its lighting pattern. A status of each channel belonging to the target group is indicated by the lighting pattern of BL lamp.

To display statuses of multiple channels belonging to different groups, the lighting pattern of BUSY lamp changes with a period of approximately two seconds.

- Example 1 - When CH0 and CH7 (belonging to the same group) are busy.

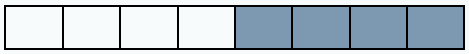
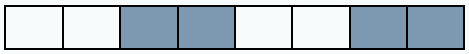
  BUSY lamp: Light
  BL0 lamp: Light
  BL7 lamp: Light

- Example 2 - When CH0 and CH15 (belonging to different groups) are busy.

  BUSY lamp: Light Flash once Light ...
  BL0 lamp: Light OFF Light ...
  BL7 lamp: OFF Light OFF ...

See the following tables for more details:

LAMP NAME	COLOR	CHANNELS INDICATED BY BUSY AND BL LAMP			
BUSY	Green	Light	Flash once/ approx. 2 seconds	Flash twice/ approx. 2 seconds	Flash three times/ approx. 2 seconds
BL7	Green	CH7	CH15	CH23	CH31
BL6	Green	CH6	CH14	CH22	CH30
BL5	Green	CH5	CH13	CH21	CH29
BL4	Green	CH4	CH12	CH20	CH28
BL3	Green	CH3	CH11	CH19	CH27
BL2	Green	CH2	CH10	CH18	CH26
BL1	Green	CH1	CH9	CH17	CH25
BL0	Green	CH0	CH8	CH16	CH24

STATUS OF BL LAMP	DESCRIPTION	REMARKS
Light	Corresponding channel is in use.	
Flash (Flash according to DP signal)	DP relaying	
Flash (30 IPM)	Corresponding channel is in make-busy state (outgoing/incoming). 512 milliseconds ON/1536 milliseconds OFF 	BUSY lamp is not controlled only when the channel is placed in make-busy state. Flashes when other channels in the same group are used.
Flash (30 IPM)	Corresponding channel is in make-busy state (blocking). 1024 milliseconds ON/1024 milliseconds OFF 	
Flash (60 IPM)	Corresponding channel is in make-busy state (outgoing). 512 milliseconds ON/512 milliseconds OFF 	
OFF	Corresponding channel is in idle state.	OFF also when D channels are registered.

(c) ALM - BL Lamp Control (While Detecting a Line Alarm)

The table below shows descriptions of BL0 to BL7 lamps while ALM lamp lights.

LAMP NAME	COLOR	DESCRIPTION	
BL7	Green	Light	Input signal down (PCM LOSS) is detected.
		OFF	Input signal down (PCM LOSS) is not detected.
BL6	Green	Light	Frame alignment loss is detected.
		OFF	Frame alignment loss is not detected.
BL5	Green	Light	Multiframe alignment loss is detected.
		OFF	Multiframe alignment loss is not detected.
BL4	Green	Light	Remote Alarm is received.
		OFF	Remote Alarm is not received.
BL3	Green	Light	Main Signal ALL1 is received.
		OFF	Main Signal ALL1 is not received.
BL2	Green	Light	Alarm Information Signal (AIS) is received.
		OFF	Alarm Information Signal (AIS) is not received.
BL1	Green	Light	Frequent CRC error /Bit error is detected.
		OFF	Frequent CRC error /Bit error is not detected.
BL0	Green	Light	Multiframe Remote Alarm is received.
		OFF	Multiframe Remote Alarm is not received.

<Reference>

Check the following when ALM lamp lights on during the startup of the card.

- BL7

  Check the cable connection between the card and the connected device (especially the direction from the connected device to the card)

- BL6, BL5

  Different types of multiframe (Basic Frame/CRC-4 Multiframe) are set between the card and the connected device. Check the switch setting of SW12-2/SW12-5 again.

- BL4

  Check the cable connection between the card and the connected device (especially the direction from the card to the connected device)

  or

  Different types of multiframe (Basic Frame/CRC-4 Multiframe) are set between the card and the connected device. Check the switch setting of SW12-2 again.

- BL2

  There is a problem with the connected device (network side).

5. Switch Settings

Standard settings of switches on this card are shown in the tables below.

Hardware Switch

Note: For switch settings of SW80 and SW81, refer to Starting up the Card.

SW00 (MB)

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy
	DOWN	×	Card: make-busy cancel

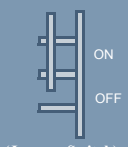
SW82

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	DOWN (OFF)	×	Fixed to OFF

SW83

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	UP (ON)		Receive Impedance 75 Ω
	DOWN (OFF)	×	Receive Impedance 120 Ω

SW84

SWITCH FORM	SETTING	STANDARD SETTING	MEANING
 (Jumper Switch)	UP (ON)	×	Middle point of reception transformer: Open
	DOWN (OFF)		Middle point of reception transformer: Ground

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection

Note: When initializing software switch settings, they are initialized to a predefined template value selected by settings of hardware switches SW80 and SW81. For further details, refer to Switch Settings of Template.

SW01

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Local Loopback: Set (Internal)
	OFF	×	Local Loopback: Cancel (Internal)
2	ON		Line Loopback: Set (External)
	OFF	×	Line Loopback: Cancel (External)
3	ON		Payload Loopback: Set
	OFF	×	Payload Loopback: Cancel
4	ON		All channel make-busy: Set
	OFF	×	All channel make-busy: Cancel
5	ON		DCH make-busy: Set
	OFF	×	DCH make-busy: Cancel
6	ON		DCH Loopback: Set
	OFF	×	DCH Loopback: Cancel
7	OFF	×	Fixed to OFF
8	OFF	×	Fixed to OFF (For maintenance)

<Reference>

(a) Local Loopback (Internal Loopback)

All the 32 Channels sent from TSW are sent back to TSW by the Line Interface. AIS will be sent to the opposite node while 32 Channels are sent back. The opposite node will detect AIS.

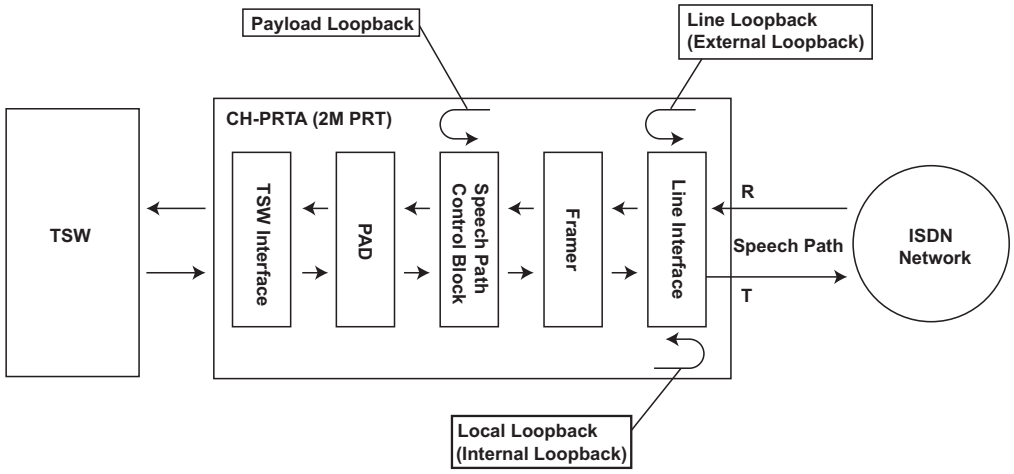
(b) Line Loopback (External Loopback)

All the 32 Channels sent from the Line are sent back to the Line by the Line Interface.

(c) Payload Loopback

All the 32 Channels sent from the Line are sent back to the Line by the Speech Path Control Block.

Available Locations for Loopback Testing



SW10

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Remote Alarm Send Out Restricted
	OFF	×	Remote Alarm Send Out Unrestricted
2	OFF	×	Fixed to OFF
3	ON		Multiframe Remote Alarm is not sent when AIS was detected.
	OFF	×	Multiframe Remote Alarm is sent when AIS was detected.
4	ON		Alarm Release Time: (Long)
	OFF	×	Alarm Release Time: (Short)
5	ON		Alarm Detect/Release Type (ETSI)
	OFF		Alarm Detect/Release Type (Normal)
6	ON		PLO is controlled when main signal ALL1.
	OFF	×	PLO is not controlled when main signal ALL1.
7	ON		PLO Clock Supply Control: No
	OFF	×	PLO Clock Supply Control: Yes
8	ON		DCH Layer 1 Alarm Release: Yes
	OFF	×	DCH Layer 1 Alarm Release: No

SW11

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1-3	OFF	×	Fixed to OFF
4-7	OFF	×	ACIS Operation Mode See ACIS Operation Mode.
8	OFF	×	Fixed to OFF

ACIS Operation Mode

SW11-4	SW11-5	SW11-6	SW11-7	ACIS Operation Mode
OFF	OFF	OFF	OFF	ITU-T Q. 421/Q. 422 (No Meter Pulse) (ITU-T STD)
ON	OFF	OFF	OFF	ITU-T Q. 421/Q. 422 (Pulse Clear Back) (ITU-T PLS CLB)
OFF	ON	OFF	OFF	ITU-T Q. 421/Q. 422 (Pulse Answer) (ITU-T PLS ANS)
ON	ON	OFF	OFF	Australia P2 Protocol
OFF	OFF	ON	OFF	China
ON	OFF	ON	OFF	Thailand
OFF	ON	ON	OFF	Brazil LME
ON	ON	ON	OFF	Brazil (Collect Call Blocking)
OFF	OFF	OFF	ON	Brazil (Continuous E&M Signal A Positive)
ON	OFF	OFF	ON	Brazil (Continuous E&M Signal A Negative)
OFF	ON	OFF	ON	Brazil (Continuous E&M Signal B Positive)
ON	ON	OFF	ON	Iran TCI Interface
OFF	OFF	ON	ON	Peru (Continuous E&M Signal A Positive)
ON	OFF	ON	ON	Peru (Continuous E&M Signal A Negative)
OFF	ON	ON	ON	ITU-T Q. 421/Q. 422 (UK:No Meter Pulse)
ON	ON	ON	ON	ITU-T Q. 421/Q. 422 (ETSI:No MeterPulse)

SW12

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Line Signal: AMI
	OFF	×	Line Signal: HDB3
2	ON		CRC-4 Control: Basic Frame (Double Frame)
	OFF	×	CRC-4 Control: CRC-4 Multiframe
3	ON		E-Bit Sending: Controlled by CPU
	OFF	×	E-Bit Sending: Automatic
4	ON		Signaling Format Setting: CEPT
	OFF		Signaling Format Setting: ITU-T
5	ON	×	TS16 Control: Data Through
	OFF		TS16 Control: Used for Signaling
6	ON		CRC-4 Multiframe Format: ITU-T G. 706 Annex-B type
	OFF	×	CRC-4 Multiframe Format: Normal
7-8	OFF	×	Fixed to OFF

SW13

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Main Signal ALL1 is detected (when using HSD Line).
	OFF	×	Main Signal ALL1 is not detected.
2	ON		Idle Code is sent.
	OFF	×	Idle Code is not sent.
3	ON		DP relay function is used for FCCS.
	OFF	×	DP relay function is not used for FCCS.
4	ON		Simultaneous Seizure Detection (SSD): Disabled
	OFF	×	Simultaneous Seizure Detection (SSD): Enabled
5	ON		Not activate counter node when detecting Simultaneous Seizure.
	OFF	×	Activate counter node when detecting Simultaneous Seizure.
6	ON		Layer 1 Alarm is not notified to CPU.
	OFF	×	Layer 1 Alarm is notified to CPU.
7	ON		CAS is not effective when DCH is used.
	OFF	×	CAS is effective when DCH is used.
8	ON	×	Incoming/Outgoing call collision processing is used. **Note 1**
	OFF		Incoming/Outgoing call collision processing is not used.

Note 1: When incoming/outgoing call collision processing is used (SW13-8=ON), assign ASYD, SYS1, Index7, Bit3=1.

SW14

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF (For production test)

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
7	ON		PAD Control Method (Using Both Flexible/Standard PAD) See PAD Control Method.
	OFF	×	
8	ON		
	OFF	×	

Flexible PAD Level Setting of SW14-SW21

SWITCH NUMBER OF SW14-SW21					PAD LEVEL (dB)
1	2	3	4	5	
OFF	OFF	OFF	OFF	OFF	0
ON	OFF	OFF	OFF	OFF	1 (Loss)
OFF	ON	OFF	OFF	OFF	2 (Loss)
ON	ON	OFF	OFF	OFF	3 (Loss)
OFF	OFF	ON	OFF	OFF	4 (Loss)
ON	OFF	ON	OFF	OFF	5 (Loss)
OFF	ON	ON	OFF	OFF	6 (Loss)
ON	ON	ON	OFF	OFF	7 (Loss)
OFF	OFF	OFF	ON	OFF	8 (Loss)
ON	OFF	OFF	ON	OFF	9 (Loss)
OFF	ON	OFF	ON	OFF	10 (Loss)
ON	ON	OFF	ON	OFF	11 (Loss)
OFF	OFF	ON	ON	OFF	12 (Loss)
ON	OFF	ON	ON	OFF	13 (Loss)
OFF	ON	ON	ON	OFF	14 (Loss)
ON	ON	ON	ON	OFF	15 (Loss)
OFF	OFF	OFF	OFF	ON	16 (Loss)
ON	OFF	OFF	OFF	ON	17 (Loss)
OFF	ON	OFF	OFF	ON	-1 (Gain)
ON	ON	OFF	OFF	ON	-2 (Gain)
OFF	OFF	ON	OFF	ON	-3 (Gain)
ON	OFF	ON	OFF	ON	-4 (Gain)
OFF	ON	ON	OFF	ON	-5 (Gain)
ON	ON	ON	OFF	ON	-6 (Gain)
OFF	OFF	OFF	ON	ON	-7 (Gain)
ON	OFF	OFF	ON	ON	-8 (Gain)
Other settings					Not available

PAD Control Method

SW14-7	SW14-8	PAD CONTROL
OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB) (Standard Setting)
ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
OFF	ON	Fixed to ARTD (Transmission/Reception PAD Control)
ON	ON	Transmission/Reception PAD Control

SW15

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 2 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7	ON	×	PAD Selection (Using Both Flexible/Standard PAD) See PAD Selection.
	OFF		
8	ON		
	OFF	×	

PAD Selection

SW15-7	SW15-8	PAD SELECTION
OFF	OFF	μ-Law
ON	OFF	A-Law (Standard Setting)
OFF	ON	A-Law (TDSW) → μ-Law (line)
ON	ON	μ-Law (TDSW) → A-Law (line)

SW16

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 3 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7	ON		PAD Pattern Selection See PAD Pattern Selection.
	OFF	×	
8	ON		
	OFF	×	

PAD Pattern Selection

SW16-7	SW16-8	PAD SELECTION
OFF	OFF	PAD Pattern 1 (Standard Setting)
ON	OFF	PAD Pattern 2
OFF	ON	PAD Pattern 3
ON	ON	PAD Pattern 4

Note: PAD Patterns 1 - 4 correspond to Patterns 1 - 4 in <Standard PAD Level>.

SW17

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 4 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7	ON		Data PAD Pattern Selection See Data PAD Pattern Selection.
	OFF	×	
8	ON		
	OFF	×	

Data PAD Pattern Selection

SW17-7	SW17-8	Data PAD Selection
OFF	OFF	64k (Standard Setting)
ON	OFF	64k INV
OFF	ON	56k
ON	ON	48k

SW18

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6	OFF	×	Fixed to OFF
7	ON		PAD Kind: Flexible PAD (See <Flexible PAD Level>.)
	OFF	×	PAD Kind: Standard PAD (See <Standard PAD Level>.)
8	ON		PAD Selection: UK PAD (See <UK PAD Level>.) **Note 2**
	OFF	×	PAD Selection: Standard PAD (See <Standard PAD Level>.)

Note 2: When UK PAD is used (SW18-8=ON), SW18-7 must be set to OFF.

.

SW19

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

SW20

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

SW21

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set with the ARTD/APAD command) See Flexible PAD Level Setting of SW14-SW21.
2			
3			
4			
5			
6-8	OFF	×	Fixed to OFF

<Switch Setting for PAD Selection>

PAD Kind	SW18-7	SW15-8	SW15-7	SW16-8	SW16-7	PCM-Law: PAD Pattern
Standard/UK PAD	OFF	OFF	OFF	OFF	OFF	μ-Law: Pattern 1
					ON	μ-Law: Pattern 2
				ON	OFF	μ-Law: Pattern 3
					ON	μ-Law: Pattern 4
			ON	OFF	OFF	A-Law: Pattern 1
					ON	A-Law: Pattern 2
				ON	OFF	A-Law: Pattern 3
					ON	A-Law: Pattern 4
		ON	OFF	OFF	OFF	A-Law → μ-Law: Pattern 1
					ON	A-Law → μ-Law: Pattern 2
				ON	OFF	A-Law → μ-Law: Pattern 3
					ON	A-Law → μ-Law: Pattern 4
			ON	OFF	OFF	μ-Law → A-Law: Pattern 1
					ON	μ-Law → A-Law: Pattern 2
				ON	OFF	μ-Law → A-Law: Pattern 3
					ON	μ-Law → A-Law: Pattern 4
Flexible PAD	ON	OFF	OFF	Not used		μ-Law
			ON	Not used		A-Law
		ON	OFF	OFF	Not used	A-Law → μ-Law: Pattern 5 **Note 3**
				ON	Not used	A-Law → μ-Law: Pattern 6 **Note 3**
			ON	OFF	Not used	μ-Law → A-Law: Pattern 5 **Note 3**
				ON	Not used	μ-Law → A-Law: Pattern 6 **Note 3**

Note 3: Refer to Flexible PAD Level of ARTD: 7 or APAD:15.

<Standard PAD Level>

μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	2dB	2dB	8dB	16dB	2dB	2dB	-3dB	3dB
2	4dB	4dB	8dB	4dB	4dB	4dB	3dB	3dB
3	12dB	12dB	4dB	12dB	6dB	6dB	0dB	6dB
4	8dB	8dB	0dB	8dB	8dB	8dB	3dB	9dB

A-law pattern Setting (Switch 15-7, 8 ON, OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	2dB	2dB	2dB	2dB	1dB	1dB	-3dB	3dB
2	4dB	4dB	4dB	4dB	3dB	3dB	3dB	3dB
3	6dB	6dB	12dB	12dB	5dB	5dB	0dB	6dB
4	8dB	8dB	8dB	8dB	7dB	7dB	3dB	9dB

From A-law to μ-law Conversion Setting (Switch 15-7, 8 OFF, ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	0dB	4dB	4dB	4dB	4dB	4dB
3	6dB	6dB	0dB	12dB	6dB	6dB	12dB	12dB
4	8dB	8dB	0dB	8dB	8dB	8dB	8dB	8dB

From μ-law to A-law Conversion Setting (Switch 15-7,8 ON, ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	0dB	4dB	4dB	4dB	4dB	4dB
3	6dB	6dB	0dB	12dB	6dB	6dB	12dB	12dB
4	8dB	8dB	0dB	8dB	8dB	8dB	8dB	8dB

<UK PAD Level>

μ-law Pattern Setting (SW15-7: OFF, SW15-8: OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	-3dB	3dB	-3dB	3dB	4dB	4dB	2dB	2dB
2	3dB	3dB	3dB	3dB	8dB	0dB	8dB	0dB
3	0dB	6dB	0dB	6dB	6dB	6dB	6dB	6dB
4	3dB	8dB	3dB	8dB	8dB	8dB	8dB	8dB

A-law pattern Setting (SW15-7: ON, SW15-8: OFF)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission	Reception	Transmission	Reception	Transmission	Reception	Transmission	Reception
ARTD: 7 APAD: 15	0dB	0dB	0dB	0dB	0dB	0dB	0dB	0dB
1	-3dB	3dB	-3dB	3dB	4dB	4dB	2dB	2dB
2	3dB	3dB	3dB	3dB	8dB	0dB	4dB	0dB
3	0dB	6dB	0dB	6dB	6dB	6dB	6dB	6dB
4	3dB	8dB	3dB	8dB	8dB	8dB	8dB	8dB

A-μ Conversion Setting (SW15-7: OFF, SW15-8: ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A	Transmission A→μ	Reception μ→A
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	-3dB	3dB	4dB	4dB	3dB	3dB
3	8dB	0dB	0dB	0dB	6dB	6dB	12dB	12dB
4	3dB	8dB	3dB	3dB	8dB	8dB	8dB	8dB

μ-A Conversion Setting (SW15-7: ON, SW15-8: ON)

ARTD/APAD Setting Data	Pattern 1		Pattern 2		Pattern 3		Pattern 4	
	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ	Transmission μ→A	Reception A→μ
ARTD: 7 APAD: 15	through	through	through	through	0dB	0dB	0dB	0dB
1	0dB	0dB	0dB	0dB	2dB	2dB	2dB	2dB
2	4dB	4dB	-3dB	3dB	4dB	4dB	3dB	3dB
3	8dB	0dB	0dB	6dB	6dB	6dB	12dB	12dB
4	3dB	8dB	3dB	8dB	8dB	8dB	8dB	8dB

<Flexible PAD Level>

Flexible PAD Level (SW18-7: OFF)

ARTD/APAD Setting Data	Transmission	Reception
ARTD: 7 APAD: 15	See Flexible PAD Level of ARTD: 7 or APAD:15.	
1	Set value of SW18-1, 2, 3, 4, 5	Set value of SW14-1, 2, 3, 4, 5
2	Set value of SW19-1, 2, 3, 4, 5	Set value of SW15-1, 2, 3, 4, 5
3	Set value of SW20-1, 2, 3, 4, 5	Set value of SW16-1, 2, 3, 4, 5
4	Set value of SW21-1, 2, 3, 4, 5	Set value of SW17-1, 2, 3, 4, 5

Flexible PAD Level of ARTD: 7 or APAD:15

PCM-Law:Pattern No.	Transmission	Reception
μ-Law	0dB	0dB
A-law	0dB	0dB
A-Law → μ-Law: Pattern 5	through	through
A-Law → μ-Law: Pattern 6	0dB	0dB
μ-Law → A-Law: Pattern 5	through	through
μ-Law → A-Law: Pattern 6	0dB	0dB

SW22

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Seizure Acknowledgement Guard Time See Seizure Acknowledgement Guard Time.
2			
3			
4			
5			Seizure Acknowledgement Detection Time See Seizure Acknowledgement Detection Time.
6			
7			
8			

Seizure Acknowledgement Guard Time

SW22-1	SW22-2	SW22-3	SW22-4	Seizure Acknowledgement Guard Time
OFF	OFF	OFF	OFF	48 milliseconds (Standard Setting)
ON	OFF	OFF	OFF	56 milliseconds
OFF	ON	OFF	OFF	64 milliseconds
ON	ON	OFF	OFF	72 milliseconds
OFF	OFF	ON	OFF	80 milliseconds
ON	OFF	ON	OFF	88 milliseconds
OFF	ON	ON	OFF	96 milliseconds
ON	ON	ON	OFF	104 milliseconds
OFF	OFF	OFF	ON	112 milliseconds
ON	OFF	OFF	ON	120 milliseconds
OFF	ON	OFF	ON	128 milliseconds
ON	ON	OFF	ON	136 milliseconds
OFF	OFF	ON	ON	144 milliseconds
ON	OFF	ON	ON	152 milliseconds
OFF	ON	ON	ON	160 milliseconds
ON	ON	ON	ON	168 milliseconds

Seizure Acknowledgement Detection Time

SW22-5	SW22-6	SW22-7	SW22-8	Seizure Acknowledgement Detection Time
OFF	OFF	OFF	OFF	56 milliseconds (Standard Setting)
ON	OFF	OFF	OFF	76 milliseconds
OFF	ON	OFF	OFF	96 milliseconds
ON	ON	OFF	OFF	116 milliseconds
OFF	OFF	ON	OFF	136 milliseconds
ON	OFF	ON	OFF	156 milliseconds
OFF	ON	ON	OFF	176 milliseconds
ON	ON	ON	OFF	196 milliseconds
OFF	OFF	OFF	ON	216 milliseconds
ON	OFF	OFF	ON	236 milliseconds
OFF	ON	OFF	ON	256 milliseconds
ON	ON	OFF	ON	276 milliseconds
OFF	OFF	ON	ON	296 milliseconds
ON	OFF	ON	ON	316 milliseconds
OFF	ON	ON	ON	336 milliseconds
ON	ON	ON	ON	356 milliseconds

SW23

SWITCH TYPE: IMMEDIATE SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Seizure Acknowledgement Monitoring Time See Seizure Acknowledgement Monitoring Time.
2			
3			
4			Answer Detection Time See Answer Detection Time.
5			
6			
7			
8			

Seizure Acknowledgement Monitoring Time

SW23-1	SW23-2	SW23-3	Seizure Acknowledgement Monitoring Time
OFF	OFF	OFF	200 milliseconds
ON	OFF	OFF	360 milliseconds
OFF	ON	OFF	520 milliseconds
ON	ON	OFF	680 milliseconds
OFF	OFF	ON	840 milliseconds
ON	OFF	ON	1000 milliseconds
OFF	ON	ON	1160 milliseconds
ON	ON	ON	1320 milliseconds (Standard Setting)

Answer Detection Time

SW23-4	SW23-5	SW23-6	SW23-7	SW23-8	Answer Detection Time
OFF	OFF	OFF	OFF	OFF	100 milliseconds
ON	OFF	OFF	OFF	OFF	148 milliseconds
OFF	ON	OFF	OFF	OFF	200 milliseconds (Standard Setting)
ON	ON	OFF	OFF	OFF	248 milliseconds
OFF	OFF	ON	OFF	OFF	300 milliseconds
ON	OFF	ON	OFF	OFF	348 milliseconds
OFF	ON	ON	OFF	OFF	400 milliseconds
ON	ON	ON	OFF	OFF	448 milliseconds
OFF	OFF	OFF	ON	OFF	500 milliseconds
ON	OFF	OFF	ON	OFF	548 milliseconds
OFF	ON	OFF	ON	OFF	600 milliseconds
ON	ON	OFF	ON	OFF	648 milliseconds
OFF	OFF	ON	ON	OFF	700 milliseconds
ON	OFF	ON	ON	OFF	748 milliseconds
OFF	ON	ON	ON	OFF	800 milliseconds
ON	ON	ON	ON	OFF	848 milliseconds
OFF	OFF	OFF	OFF	ON	900 milliseconds
ON	OFF	OFF	OFF	ON	948 milliseconds
OFF	ON	OFF	OFF	ON	1000 milliseconds
ON	ON	OFF	OFF	ON	1048 milliseconds
OFF	OFF	ON	OFF	ON	1100 milliseconds
ON	OFF	ON	OFF	ON	1148 milliseconds
OFF	ON	ON	OFF	ON	1200 milliseconds
ON	ON	ON	OFF	ON	1248 milliseconds
OFF	OFF	OFF	ON	ON	1300 milliseconds
ON	OFF	OFF	ON	ON	1348 milliseconds
OFF	ON	OFF	ON	ON	1400 milliseconds
ON	ON	OFF	ON	ON	1448 milliseconds
OFF	OFF	ON	ON	ON	1500 milliseconds
ON	OFF	ON	ON	ON	1548 milliseconds
OFF	ON	ON	ON	ON	1600 milliseconds
ON	ON	ON	ON	ON	1648 milliseconds

SW24

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1-6	OFF	×	Fixed to OFF
7	ON		Long haul mode
	OFF	×	Short haul mode
8	ON		DCH activation mode: Network side mode **Note 4**
	OFF	×	DCH activation mode: User side mode **Note 4**

Note 4: Check connectivity for network in advance if you are going to use Network mode.

SW25

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			DCH Operation Mode See DCH Operation Mode.
2			
3			
4	ON		SABME Wait Timer Enable
	OFF	×	SABME Wait Timer Disable
5			DCH Transfer Rate See DCH Transfer Rate.
6			
7			
8			

DCH Operation Mode

SW25-1	SW25-2	SW25-3	DCH Operation Mode
OFF	OFF	OFF	ITU-T mode (Standard Setting)
ON	OFF	OFF	TTC mode
OFF	ON	OFF	AT&T mode
ON	ON	OFF	Thai mode
Other settings			Prohibited

DCH Transfer Rate

SW25-5	SW25-6	SW25-7	SW25-8	DCH Transfer Rate
OFF	OFF	OFF	OFF	64kbps (Standard Setting)
ON	OFF	OFF	OFF	56kbps
OFF	ON	OFF	OFF	48kbps (Standard)
ON	ON	OFF	OFF	32kbps (Forward)
OFF	OFF	ON	OFF	32kbps (Backward)
ON	OFF	ON	OFF	16kbps (Forward)
OFF	ON	ON	OFF	16kbps (Backward)
ON	ON	ON	OFF	8kbps (Forward)
OFF	OFF	OFF	ON	8kbps (Backward)
ON	OFF	OFF	ON	48kbps (Option)
OFF	ON	OFF	ON	64kbps
ON	ON	OFF	ON	
OFF	OFF	ON	ON	
ON	OFF	ON	ON	
OFF	ON	ON	ON	
ON	ON	ON	ON	

SW26

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			DCH Time Slot Setting See DCH Time Slot Setting.
2			
3			
4			
5			
6-7	OFF	×	Fixed to OFF
8	ON		DCH Signaling Logic: Negative
	OFF	×	DCH Signaling Logic: Positive

DCH Time Slot Setting

SW26-1	SW26-2	SW26-3	SW26-4	SW26-5	Time Slot
OFF	OFF	OFF	OFF	OFF	TS 0
ON	OFF	OFF	OFF	OFF	TS 1
OFF	ON	OFF	OFF	OFF	TS 2
ON	ON	OFF	OFF	OFF	TS 3
OFF	OFF	ON	OFF	OFF	TS 4
ON	OFF	ON	OFF	OFF	TS 5
OFF	ON	ON	OFF	OFF	TS 6
ON	ON	ON	OFF	OFF	TS 7
OFF	OFF	OFF	ON	OFF	TS 8
ON	OFF	OFF	ON	OFF	TS 9
OFF	ON	OFF	ON	OFF	TS 10
ON	ON	OFF	ON	OFF	TS 11
OFF	OFF	ON	ON	OFF	TS 12
ON	OFF	ON	ON	OFF	TS 13
OFF	ON	ON	ON	OFF	TS 14
ON	ON	ON	ON	OFF	TS 15
OFF	OFF	OFF	OFF	ON	TS 16 (Standard Setting)
ON	OFF	OFF	OFF	ON	TS 17
OFF	ON	OFF	OFF	ON	TS 18
ON	ON	OFF	OFF	ON	TS 19
OFF	OFF	ON	OFF	ON	TS 20
ON	OFF	ON	OFF	ON	TS 21
OFF	ON	ON	OFF	ON	TS 22
ON	ON	ON	OFF	ON	TS 23
OFF	OFF	OFF	ON	ON	TS 24
ON	OFF	OFF	ON	ON	TS 25
OFF	ON	OFF	ON	ON	TS 26
ON	ON	OFF	ON	ON	TS 27
OFF	OFF	ON	ON	ON	TS 28
ON	OFF	ON	ON	ON	TS 29
OFF	ON	ON	ON	ON	TS 30
ON	ON	ON	ON	ON	TS 31

SW27

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1			Congestion Detection Threshold (QUE remainder ratio) See Congestion Detection Threshold (QUE remainder ratio).
2			
3			
4			
5-8	OFF	×	Fixed to OFF

Congestion Detection Threshold (QUE remainder ratio)

SW27-1	SW27-2	SW27-3	SW27-4	Detection (%)	Release (%)
OFF	OFF	OFF	OFF	75	90 (Standard Setting)
ON	OFF	OFF	OFF	15	35
OFF	ON	OFF	OFF	20	40
ON	ON	OFF	OFF	25	45
OFF	OFF	ON	OFF	30	50
ON	OFF	ON	OFF	40	60
OFF	ON	ON	OFF	50	65
ON	ON	ON	OFF	55	70
OFF	OFF	OFF	ON	60	75
ON	OFF	OFF	ON	65	80
OFF	ON	OFF	ON	70	85
ON	ON	OFF	ON	80	90
OFF	OFF	ON	ON	85	90
ON	OFF	ON	ON	90	95
OFF	ON	ON	ON	Always Congestion (for Maintenance)	
ON	ON	ON	ON	No detection	

6. Starting up the Card

CH-PRTA can be started up with the predefined template data. You can choose either one of the following modes (starting methods) through the switch settings of SW80 and SW81 when starting up the card.

- Normal Starting-up mode (SW80-7=OFF, SW80-8=OFF)

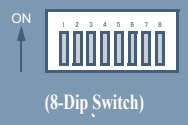
  In this mode, the card starts up with the settings of the software switches. When the software switches are not set or settings of the hardware switches are changed after the software switch settings, the card starts up with the predefined template data (a setting pattern of the template is specified by the settings of SW80 and SW81).

- Switch setting initialization mode (SW80-7=OFF, SW80-8=ON)

  In this mode, the card starts up with the settings of the hardware switches. The card is forcibly initialized and restarted with the predefined template data (a setting pattern of the template is specified by the settings of SW80 and SW81).

Note: For contents (switch settings) of the template, refer to Switch Settings of Template.

SW80

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING	
 (8-Dip Switch)	1			DCH Operation Mode See DCH Operation Mode. This setting is reflected to SW25-1 to 3.	
	2				
	3				
	4	ON		SABME Wait Timer Enable	This setting is reflected to SW25-4.
		OFF	×	SABME Wait Timer Disable	
	5-6	OFF	×	Fixed to OFF	
	7			Switch Setting Mode See Switch Setting Mode.	
	8				

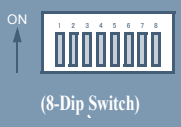
DCH Operation Mode

SW80-1	SW80-2	SW80-3	DCH Operation Mode
OFF	OFF	OFF	ITU-T mode (Standard Setting)
ON	OFF	OFF	TTC mode
OFF	ON	OFF	AT&T mode
ON	ON	OFF	Thai mode
Other settings			Prohibited

Switch Setting Mode

SW80-7	SW80-8	Switch Setting Mode
OFF	OFF	Normal starting-up mode (Standard Setting)
ON	OFF	Not used
OFF	ON	Switch setting initialization mode
ON	OFF	Not used

SW81

SWITCH FORM	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING	
 (8-Dip Switch)	1	ON		Alarm Detect Type: ETSI	This setting is reflected to SW10-5.
		OFF		Alarm Detect Type: ITU-T	
	2	ON		CRC-4 Control: Disabled (Basic Frame)	This setting is reflected to SW12-2.
		OFF	×	CRC-4 Control: Enabled (CRC-4 multiframe)	
	3			ACIS Operation Mode See ACIS Operation Mode. This setting is reflected to SW11-4 to 7.	
	4				
	5				
	6				
	7-8	OFF	×	Fixed to OFF	

ACIS Operation Mode

SW81-3	SW81-4	SW81-5	SW81-6	ACIS Operation Mode
OFF	OFF	OFF	OFF	ITU-T Q. 421/Q. 422 (No Meter Pulse) (ITU-T STD)
ON	OFF	OFF	OFF	ITU-T Q. 421/Q. 422 (Pulse Clear Back) (ITU-T PLS CLB)
OFF	ON	OFF	OFF	ITU-T Q. 421/Q. 422 (Pulse Answer) (ITU-T PLS ANS)
ON	ON	OFF	OFF	Australia P2 Protocol
OFF	OFF	ON	OFF	China
ON	OFF	ON	OFF	Thailand
OFF	ON	ON	OFF	Brazil LME Interface
ON	ON	ON	OFF	Brazil Collect Call Blocking
OFF	OFF	OFF	ON	Brazil Continuous E&M Signal A Positive
ON	OFF	OFF	ON	Brazil Continuous E&M Signal A Negative
OFF	ON	OFF	ON	Brazil Continuous E&M Signal B Positive
ON	ON	OFF	ON	Iran TCI Interface
OFF	OFF	ON	ON	Peru Continuous E&M Signal A Positive
ON	OFF	ON	ON	Peru Continuous E&M Signal A Negative
OFF	ON	ON	ON	ITU-T UK Q. 421/Q. 422 (No Meter Pulse)
ON	ON	ON	ON	ITU-T ETSI Q. 421/Q. 422 (No Meter Pulse)

Note: The setting of SW81-3 to 6 is reflected to SW11-4 to 7.

Switch Settings of Template

The table below shows each switch setting when using the predefined template.

Note: Mode 1 to Mode 4 refer to the following country/recommendation specifications respectively.

ACIS Operation Mode List (Sets by SW81-3 to SW81-6)

Mode 1	Mode 2	Mode 3	Mode 4
ITU-T STD ITU-T PLS CLB AUST CHINA THAI BRAZIL CCB BRAZIL(A/P) BRAZIL(A/N) PERU(A/P) PERU(A/N) ETSI	ITU-T PLS ANS BRAZIL LME BRAZIL(B/P)	IRAN TCI	UK

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW01	1	OFF	OFF	OFF	OFF	Local Loopback: Cancel (Internal)
	2	OFF	OFF	OFF	OFF	Line Loopback: Cancel (External)
	3	OFF	OFF	OFF	OFF	Payload Loopback: Cancel
	4	OFF	OFF	OFF	OFF	All channel make-busy: Cancel
	5	OFF	OFF	OFF	OFF	DCH make-busy: Cancel
	6	OFF	OFF	OFF	OFF	DCH Loopback: Cancel
	7-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW10	1	OFF	OFF	OFF	OFF	Remote Alarm Send Out: Unrestricted
	2	OFF	OFF	OFF	OFF	Fixed to OFF
	3	OFF	OFF	OFF	OFF	Multiframe Remote Alarm Sending: Allowed
	4	OFF	OFF	OFF	OFF	Alarm Release Time: Short
	5	Sets by SW81-1				Alarm Detect/Release Type
	6	OFF	OFF	OFF	OFF	PLO is not controlled when main signal ALL1.
	7	OFF	OFF	OFF	OFF	PLO Clock Supply Control: Yes
	8	OFF	OFF	OFF	OFF	DCH Layer 1 Alarm Release: No
SW11	1-3	OFF	OFF	OFF	OFF	Fixed to OFF
	4-7	Sets by SW81-3 to 81-6				ACIS Operation Mode
	8	OFF	OFF	OFF	OFF	Fixed to OFF

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW12	1	OFF	OFF	OFF	OFF	Line Signal: HDB3
	2	Sets by SW81-2				CRC-4 Control
	3	OFF	OFF	OFF	OFF	E-Bit Sending: Automatic
	4	OFF	OFF	OFF	OFF	Signaling Format Setting: ITU-T
	5	ON	ON	ON	ON	TS16 Control: Data Through
	6	OFF	OFF	OFF	OFF	CRC-4 Multiframe Format: Normal
	7	OFF	OFF	OFF	OFF	Fixed to OFF
	8	Sets by SW81-8=OFF				Fixed to OFF
SW13	1	OFF	OFF	OFF	OFF	Main Signal ALL1 is not received.
	2	OFF	OFF	OFF	OFF	Idle Code is not sent.
	3	OFF	OFF	OFF	OFF	DP relay function is not used for FCCS.
	4	OFF	OFF	OFF	OFF	Simultaneous Seizure Detection (SSD): Enabled
	5	OFF	OFF	OFF	OFF	Activate counter node when detecting Simultaneous Seizure.
	6	OFF	OFF	OFF	OFF	Layer 1 Alarm is notified to CPU.
	7	OFF	OFF	OFF	OFF	CAS is effective when DCH is used.
	8	ON	ON	ON	ON	Incoming/Outgoing call collision processing is used.
SW14	1	OFF	OFF	OFF	ON	Reception PAD 1: Mode 1, 2, 3 : 2 (Loss) Mode 4 : 3 (Loss)
	2	ON	ON	ON	ON	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
	8	OFF	OFF	OFF	OFF	
SW15	1	OFF	OFF	OFF	ON	Reception PAD 2: Mode 1, 2, 3 : 4 (Loss) Mode 4 : 3 (Loss)
	2	OFF	OFF	OFF	ON	
	3	ON	ON	ON	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	ON	ON	ON	ON	PAD Selection: A-Law
	8	OFF	OFF	OFF	OFF	

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW16	1	OFF	OFF	OFF	OFF	Reception PAD 3: 6 (Loss)
	2	ON	ON	ON	ON	
	3	ON	ON	ON	ON	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	PAD Pattern 1
	8	OFF	OFF	OFF	OFF	
SW17	1	OFF	OFF	OFF	OFF	Reception PAD 4: 8 (Loss)
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	ON	ON	ON	ON	
	5	OFF	OFF	OFF	OFF	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Data PAD Pattern Selection: 64k
	8	OFF	OFF	OFF	OFF	
SW18	1	OFF	OFF	OFF	OFF	Transmission PAD 1: Mode 1, 2, 3 : 2 (Loss) Mode 4 : -3 (Gain)
	2	ON	ON	ON	OFF	
	3	OFF	OFF	OFF	ON	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	ON	
	6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	PAD Kind : Standard PAD
	8	OFF	OFF	OFF	ON	PAD Selection: Mode 1, 2, 3 : Standard PAD, Mode 4 : UK
SW19	1	OFF	OFF	OFF	ON	Transmission PAD 2: Mode 1, 2, 3 : 4 (Loss) Mode 4 : 3 (Loss)
	2	OFF	OFF	OFF	ON	
	3	ON	ON	ON	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW20	1	OFF	OFF	OFF	OFF	Transmission PAD 3: Mode 1, 2, 3 : 6 (Loss) Mode 4 : 0
	2	ON	ON	ON	OFF	
	3	ON	ON	ON	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW21	1	OFF	OFF	OFF	ON	Transmission PAD 4: Mode 1, 2, 3 : 8 (Loss) Mode 4 : 3 (Loss)
	2	OFF	OFF	OFF	ON	
	3	OFF	OFF	OFF	OFF	
	4	ON	ON	ON	OFF	
	5	OFF	OFF	OFF	OFF	
	6-8	OFF	OFF	OFF	OFF	Fixed to OFF
SW22	1	OFF	OFF	OFF	OFF	Seizure Acknowledgement Guard Time: 48 milli-seconds
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	OFF	OFF	OFF	OFF	Seizure Acknowledgement Detection Time: 56 mil-liseconds
	6	OFF	OFF	OFF	OFF	
	7	OFF	OFF	OFF	OFF	
	8	OFF	OFF	OFF	OFF	
SW23	1	ON	ON	ON	ON	Seizure Acknowledgement Monitoring Time: 1320 milliseconds
	2	ON	ON	ON	ON	
	3	ON	ON	ON	ON	
	4	OFF	OFF	OFF	OFF	Answer Detection Time: Mode 1, 4: 200 milliseconds Mode 2: 100 milliseconds Mode 3: 800 milliseconds
	5	ON	OFF	ON	ON	
	6	OFF	OFF	ON	OFF	
	7	OFF	OFF	ON	OFF	
	8	OFF	OFF	OFF	OFF	
SW24	1-6	OFF	OFF	OFF	OFF	Fixed to OFF
	7	OFF	OFF	OFF	OFF	Short haul mode
	8	OFF	OFF	OFF	OFF	DCH activation mode: User side mode
SW25	1-3	Sets by SW80-1 to SW80-3				DCH Operation Mode
	4	Sets by SW80-4				SABME Wait Timer
	5	OFF	OFF	OFF	OFF	DCH Transfer Rate: 64kbps
	6	OFF	OFF	OFF	OFF	
	7	OFF	OFF	OFF	OFF	
	8	OFF	OFF	OFF	OFF	

Switch Name	Switch Number	ON/OFF				Meaning
		Mode 1	Mode 2	Mode 3	Mode 4	
SW26	1	OFF	OFF	OFF	OFF	DCH Time Slot Setting: TS 16
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5	ON	ON	ON	ON	
	6-7	OFF	OFF	OFF	OFF	Fixed to OFF
	8	OFF	OFF	OFF	OFF	DCH Signaling Logic: Positive
SW27	1	OFF	OFF	OFF	OFF	Congestion Detection Threshold (QUE remainder ratio): 75/90
	2	OFF	OFF	OFF	OFF	
	3	OFF	OFF	OFF	OFF	
	4	OFF	OFF	OFF	OFF	
	5-8	OFF	OFF	OFF	OFF	Fixed to OFF

7. External Interface

External Interface

LT connector lead accommodation of this card is described below.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	PoutB	5	PoutA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

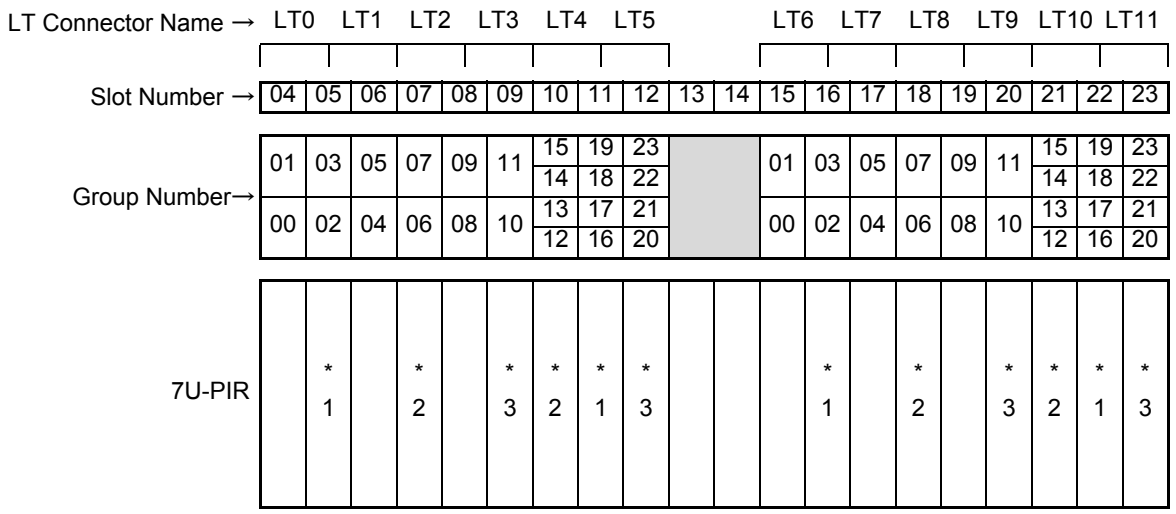
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	PoutB	13	PoutA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

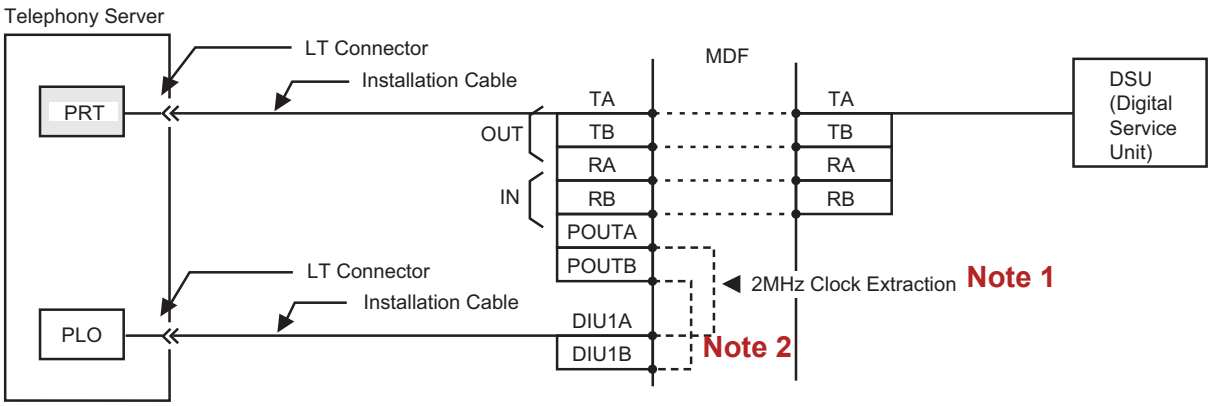
Accommodated in 3

LT3, 5, 9, 11 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	PoutB	21	PoutA
47		22	
48		23	
49	TB	24	TA
50		25	



Connecting Route Diagram



Note 1: This cable connection is required when clock signals must be extracted from the network side.

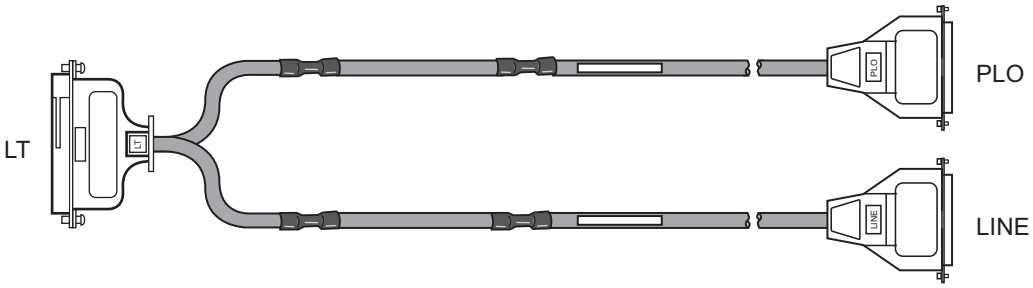
Note 2: As an example, DIU1A and DIU1B leads are used in this diagram.

External Interface when CH-PRTA with PZ-M736 (PA Adapter) is mounted on 8U-PIR (for EMEA)

(a) Overview of DTI CA-G Cable

When this card is used with PZ-M736 (PA Adapter) and mounted on 8U-PIR, a DTI CA-G cable is required.

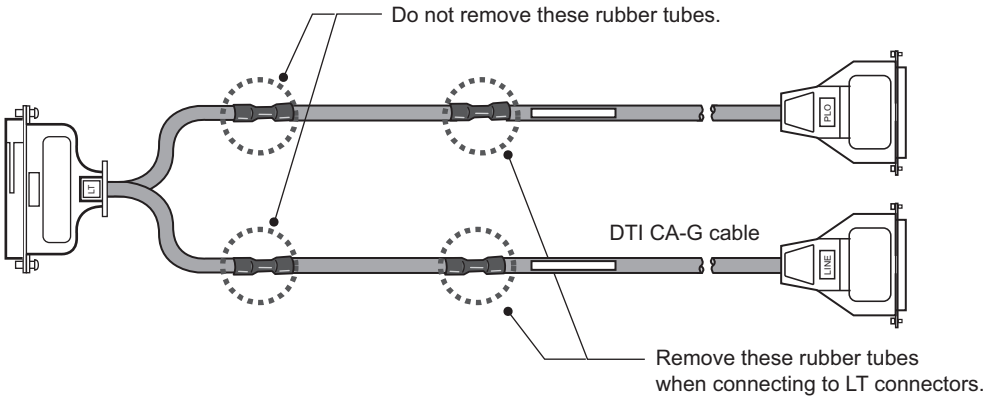
Overview of DTI CA-G



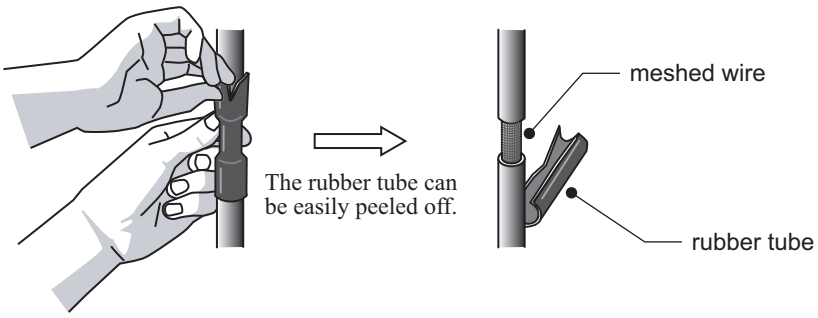
(b) How to connect DTI CA-G Cable

The following shows the procedure how to connect a DTI CA-G cable.

Step1: Make sure which rubber tubes should be removed to expose meshed wire.



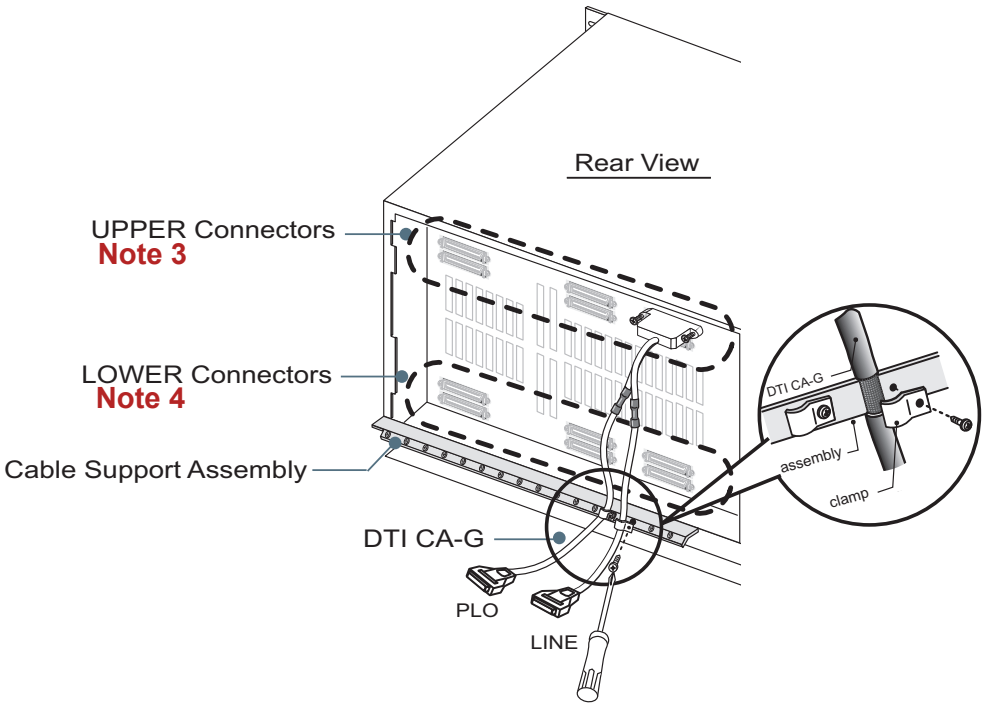
Step2: Remove the rubber tubes from the cable as shown below.



Step3: Remove the associated clamp from the cable support assembly.

Step4: Connect the cable to appropriate LT connector and then tighten the screws to secure the connector onto B.W.B of PIR.

Step5: Secure the cable onto the assembly using the removed clamp as shown below.



Note 3: When connecting to upper connectors, remove the rubber tubes that are near to LINE, PLO connectors.

Note 4: When connecting to lower connectors, remove the rubber tubes that are near to LT connectors.

(c) LT Connector Lead Accommodation

The leads appear as follows on the LT connectors.

LT Connector Lead Accommodation (PLO)

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29		4	
30	PoutB	5	PoutA
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38	PoutB	13	PoutA
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 3

LT3, 5, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46	PoutB	21	PoutA
47		22	
48		23	
49		24	
50		25	

LT Connector Lead Accommodation (LINE)

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30		5	
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

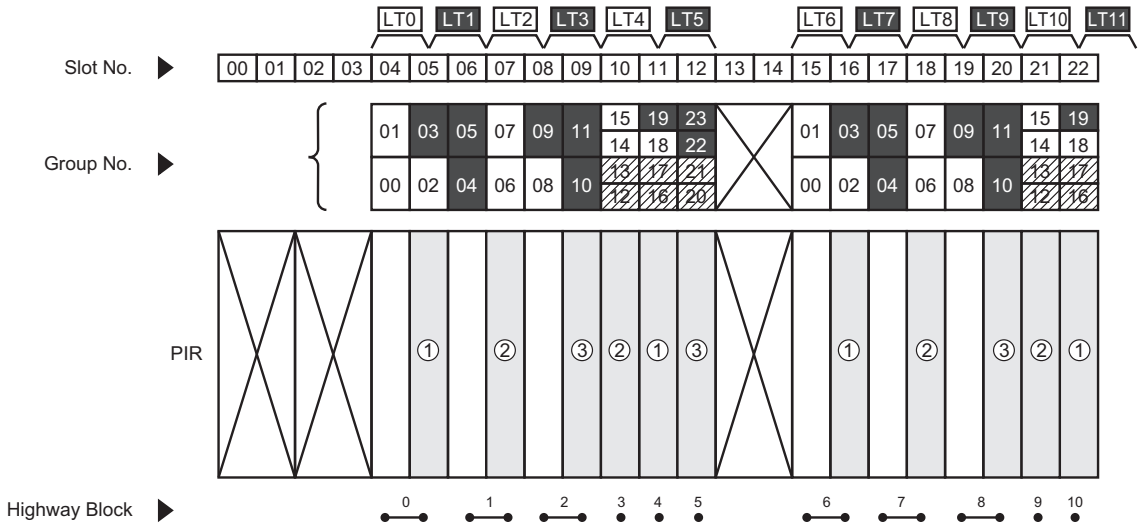
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38		13	
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 3

LT3, 5, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46		21	
47		22	
48		23	
49	TB	24	TA
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

(d) Card Mounting Position and Condition for Using DTI CA-G Cable

The following table shows the card mounting positions and conditions for using the DTI CA-G cable.

Card Mounting Position and Condition for Using DTI CA-G

CARD SLOT NO.	LT CONNECTOR NO.	UNAVAILABLE CARD SLOT (2W-LINE*16/4W-LINE*8) Note 5	UNAVAILABLE CARD SLOT (2W-LINE*8/4W-LINE*4) Note 6
05	1	6	6
07	2	8	-
09	3	-	-
10	4	11 Note 7	-
11	5	12 Note 7	12 Note 7
12	5	11 Note 7	11 Note 7
16	7	17	17
18	8	19	-
20	9	-	-
21	10	22 Note 7	-
22	11	-	23 Note 7

Note 5: When using 16 lines of 2-wires interface card or 8 lines of 4-wires interface card.

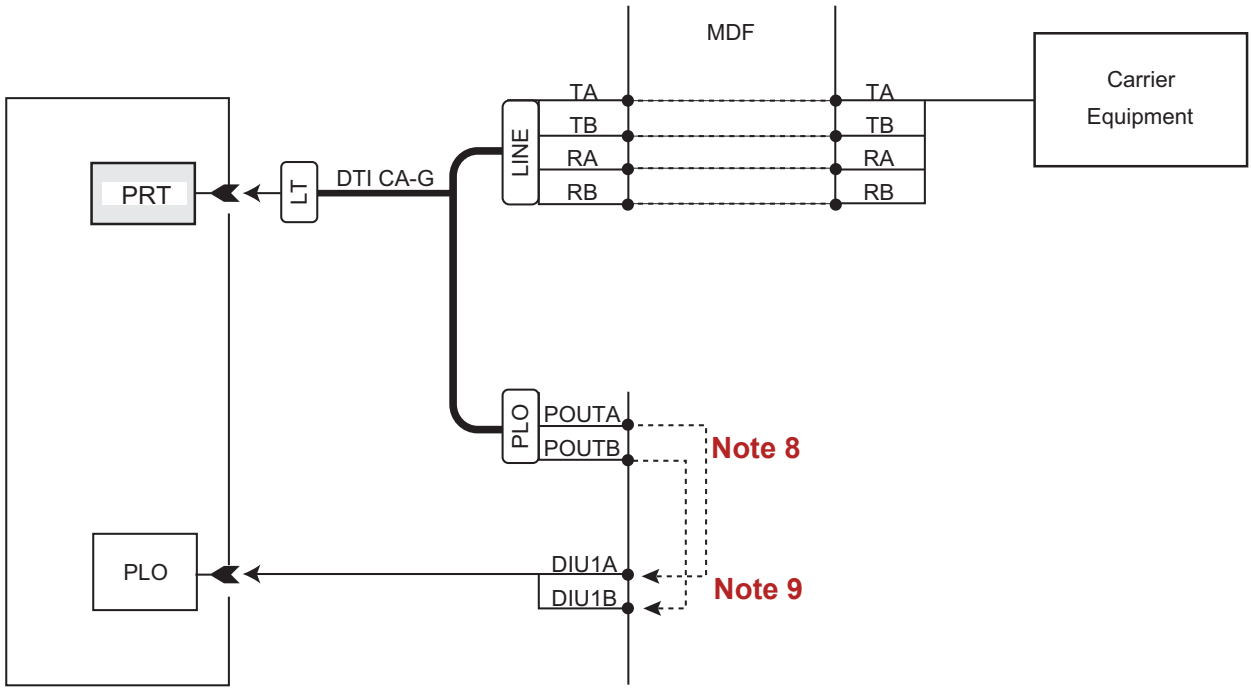
Note 6: When using 8 lines of 2-wires interface card or 4 lines of 4-wires interface card.

Note 7: In this slot, CH-PRTA with PZ-M736 card or PA-PRTC card can be accommodated.

(e) Connecting Route Diagram

The following shows the connecting route diagram for the CH-PRTA (2M) with PZ-M736 card with the DTI CA-G cable.

Connecting Route Diagram



Note 8: This cable connection is required when clock signals need to be extracted from the network side.

Note 9: As an example, DIU1A and DIU1B leads are used in this diagram.

SN1769 PWR-MAD (AC PWR)
Power Supply Circuit for Modules (AC Input type)

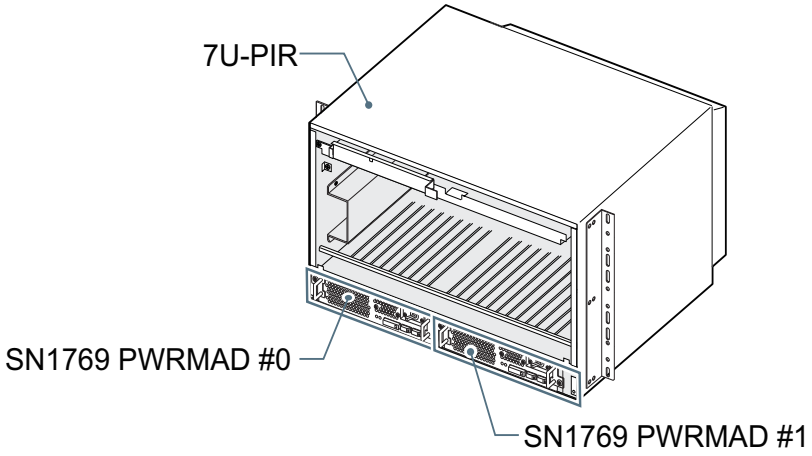
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

The SN1769 PWRMAD (AC PWR) card is a power supply unit, which converts the incoming AC voltage into two separate DC voltages, +5 VDC and -48 VDC, and generates a ringing signal (output voltage and frequency: 90 VAC/75 VAC at 20 Hz/25 Hz). An alarm function is also available.

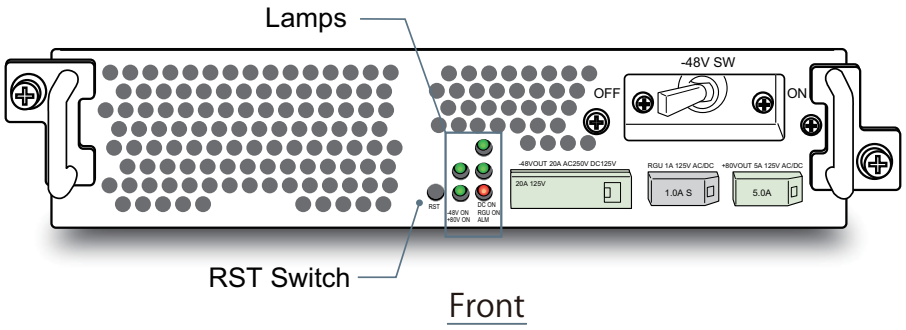
2. Mounting Locations/Conditions

The mounting location of this card is shown below.



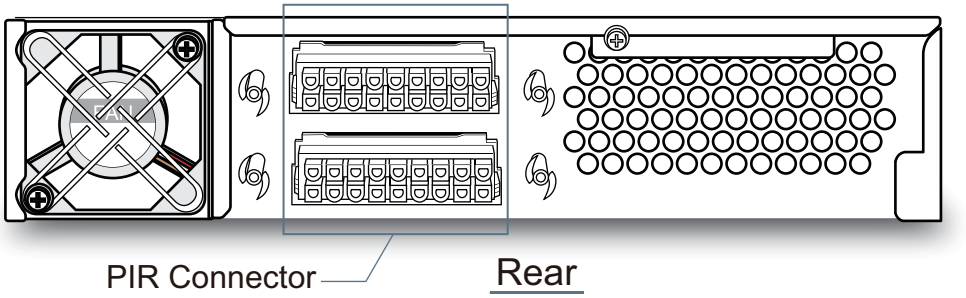
3. Face Layout of Lamps, Switches and Connectors

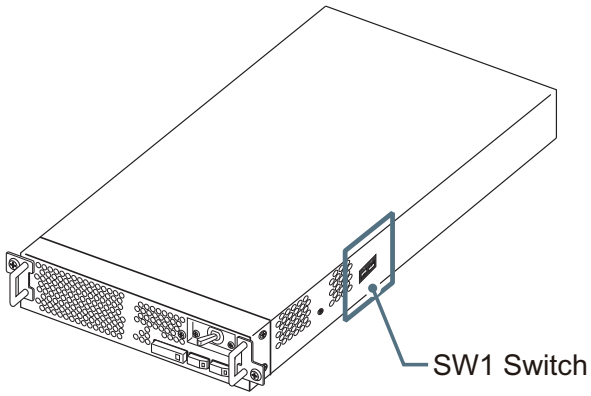
The face layout of lamps, switches and connectors on this card is shown below.



FUSE NAME	DESCRIPTION	RATING
-48VOUT	-48V Output	20A, 125V
RGU	Ringer Output	1A, 125V (slow-blow)
+80VOUT	-80V Output	5A, 125V

Note: For replacement, make sure to use a spare fuse that is specified by NEC.

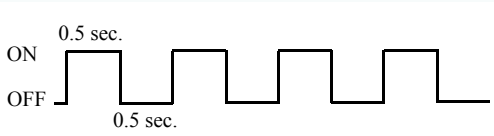
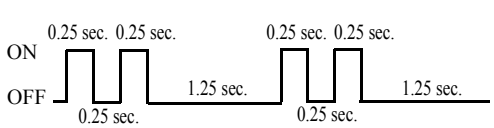
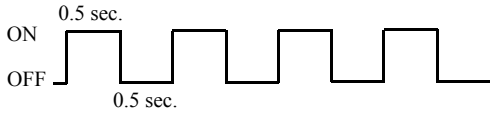
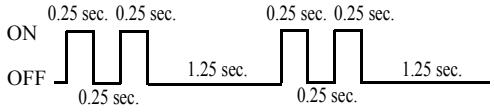




NAME	DESCRIPTION	REMARKS
PIR connector	For supplying power from AC power supply to PIR	

4. Lamp Indications

The contents of lamp indications on this card are shown in the table below.

NAME	COLOR	STATE	DESCRIPTION	REMARKS
DC ON	Green	Light	DC +5V Power is output normally.	
RGU ON	Green	Light	Ringer output is in progress.	• For single power configuration • For ACT-side of dual power configuration
		Flash (60 INT)	Ringer output is stopped. 	• Synchronizing with MUX • For STBY-side of dual power supply configuration
		Flash (120 INT-2)	Ringer output is stopped. 	Not synchronizing with MUX
ALM	Red	Light	+5V power error/Ringer alarm is generated.	
		Flash (60 INT)	FAN alarm occurs. 	
		Flash (120 INT-2)	Internal AC/DC error occurs. 	
-48V ON	Green	Light	-48V is being supplied.	
+80V ON	Green	Light	+80V is being supplied.	

5. Switch Settings

Standard settings of a switch on this card are shown in the table below.

Hardware Switch

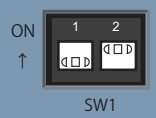
-48V SW

SWITCH FORM	SWITCH NAME	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)		ON	-	Power ON
		OFF	-	Power OFF

RST

SWITCH FORM	SWITCH NAME	SETTING	STANDARD SETTING	MEANING
 (Push Button Switch)	-	PUSH	-	Hardware reset of the card

SW1

SWITCH FORM	SWITCH NAME	SETTING	STANDARD SETTING	MEANING
 SW1	1	ON		Frequency of Ringing Signal: 25 Hz
		OFF	×	Frequency of Ringing Signal: 20 Hz
	2	ON	×	Voltage of Ringing Signal: 90 Vrms
		OFF		Voltage of Ringing Signal: 75 Vrms

6. External Interface

No cable connection is necessary

SN1770 PWR-MAE (DC PWR) Power Supply Circuit for Modules (DC Input type)

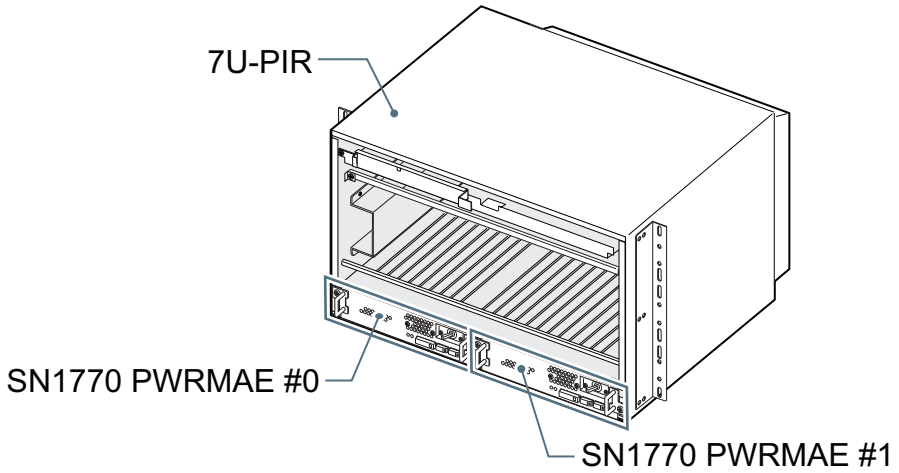
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

The SN1770 PWRMAE (DC PWR) card is a power supply unit, which has an input voltage of -48VDC. It includes an EMI filter for -48 VDC and DC-DC converter with an output voltage of +5 VDC, and generates a ringing signal (output voltage and frequency: 90 VAC/75 VAC at 20 Hz/25 Hz). An alarm function is also available.

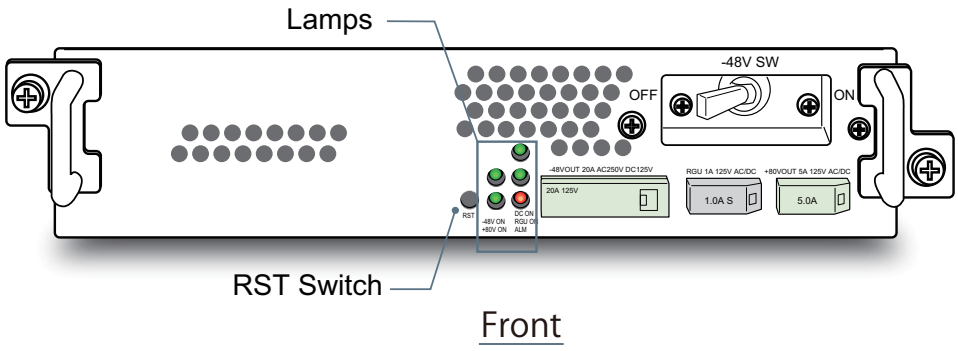
2. Mounting Locations/Conditions

The mounting location of this card is shown below.



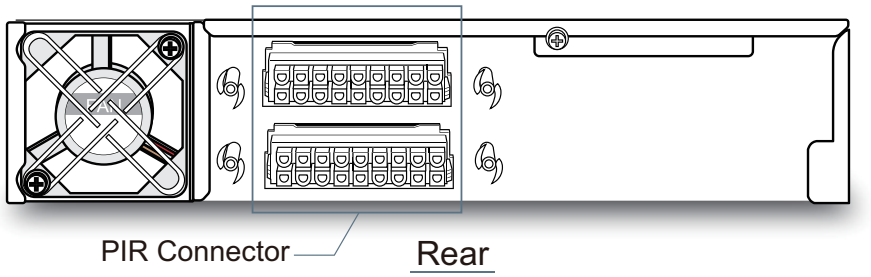
3. Face Layout of Lamps, Switches and Connectors

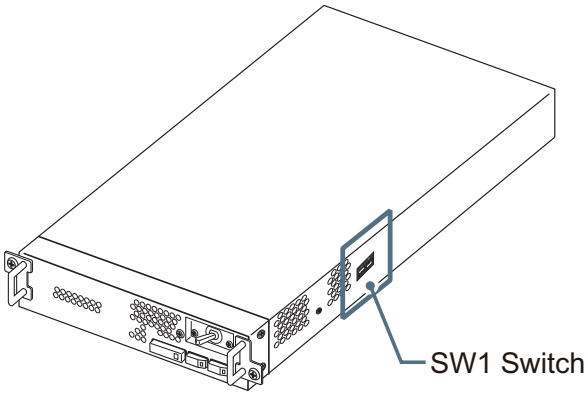
The face layout of lamps, switches and connectors on this card is shown below.



FUSE NAME	DESCRIPTION	RATING
-48VOUT	-48V Output	20A, 125V
RGU	Ringer Output	1A, 125V (slow-blow)
+80VOUT	-80V Output	5A, 125V

Note: For replacement, make sure to use a spare fuse that is specified by NEC.

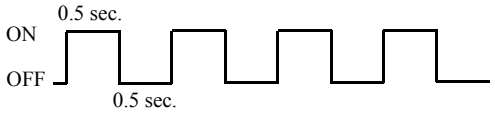
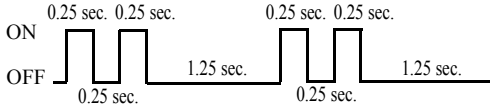
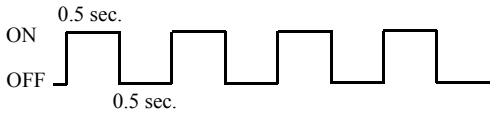




NAME	DESCRIPTION	REMARKS
PIR connector	For supplying power from DC power supply to PIR	

4. Lamp Indications

The contents of lamp indications on this card are shown in the table below.

NAME	COLOR	STATE	DESCRIPTION	REMARKS
DC ON	Green	Light	DC +5V Power is output normally.	
RGU ON	Green	Light	Ringer output is in progress.	• For single power configuration • For ACT-side of dual power configuration
		Flash (60 INT)	Ringer output is stopped. 	• Synchronizing with MUX • For STBY-side of dual power supply configuration
		Flash (120 INT-2)	Ringer output is stopped. 	Not synchronizing with MUX
ALM	Red	Light	+5V power error/Ringer alarm is generated.	
		Flash (60 INT)	FAN alarm occurs. 	
-48V ON	Green	Light	-48V is being supplied.	
+80V ON	Green	Light	+80V is being supplied.	

5. Switch Settings

Standard settings of a switch on this card are shown in the table below.

Hardware Switch

-48V SW

SWITCH FORM	SWITCH NAME	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	-	ON	-	Power ON
	-	OFF	-	Power OFF

RST

SWITCH FORM	SWITCH NAME	SETTING	STANDARD SETTING	MEANING
 (Push Button Switch)	-	PUSH	-	Hardware reset of the card

SWITCH FORM	SWITCH NAME	SETTING	STANDARD SETTING	MEANING
 SW1	1	ON		Frequency of Ringing Signal: 25 Hz
		OFF	×	Frequency of Ringing Signal: 20 Hz
	2	ON	×	Voltage of Ringing Signal: 90 Vrms
		OFF		Voltage of Ringing Signal: 75 Vrms

6. External Interface

No cable connection is necessary.

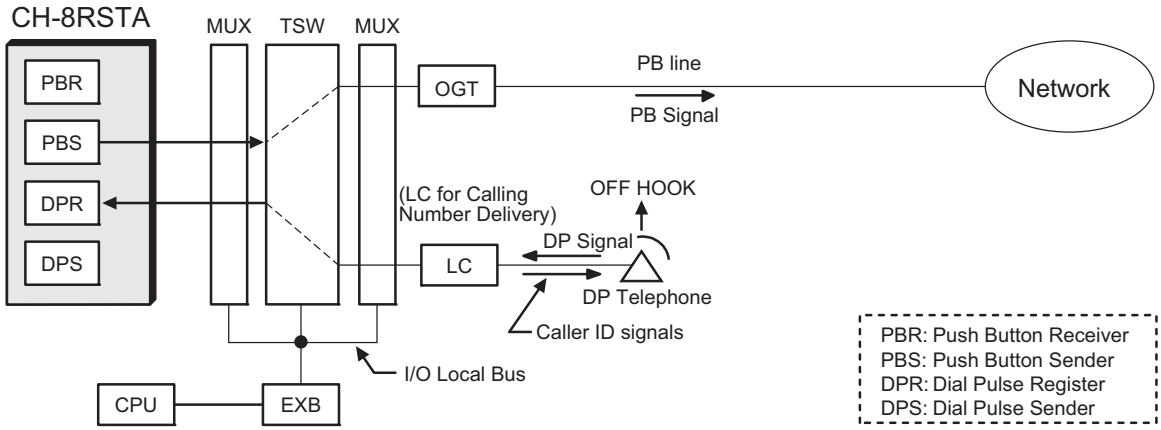
CH-8RSTA (RST)
Register Sender Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Functions

The CH-8RSTA circuit card is equipped with eight circuits of registers and senders. More specifically, this card contains Dial Pulse Register (DPR), Push Button Receiver (PBR) for receiving digits from extensions and/or the associated incoming trunks and Dial Pulse Sender (DPS), PB Signal Sender (PBS) for sending digits to a distant switching system. In addition, this card has Register Sender function, by which inter-digit pause can be changed and PB signals may be converted to DP signals and vice versa without intervention of the CPU. The card can be used for Caller ID service and caller ID on Call Waiting service.

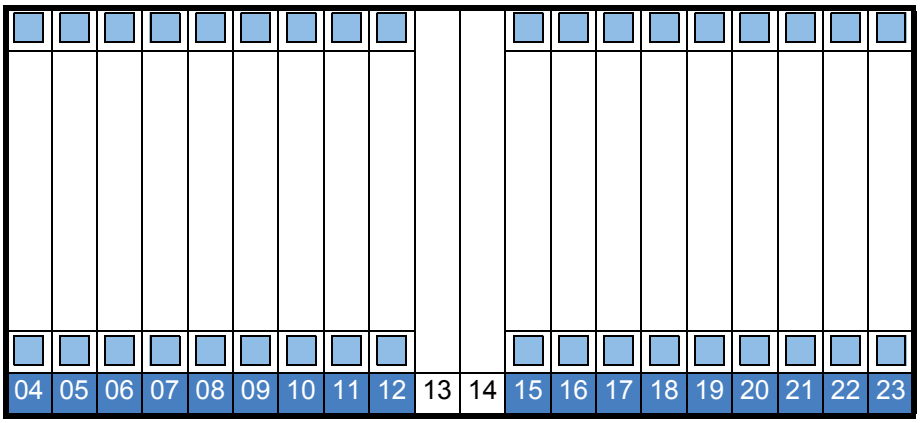
Location of CH-8RSTA (RST) Card in the System



2. Mounting Locations/Conditions

Mounting Module <7U-PIR>

Universal Slot

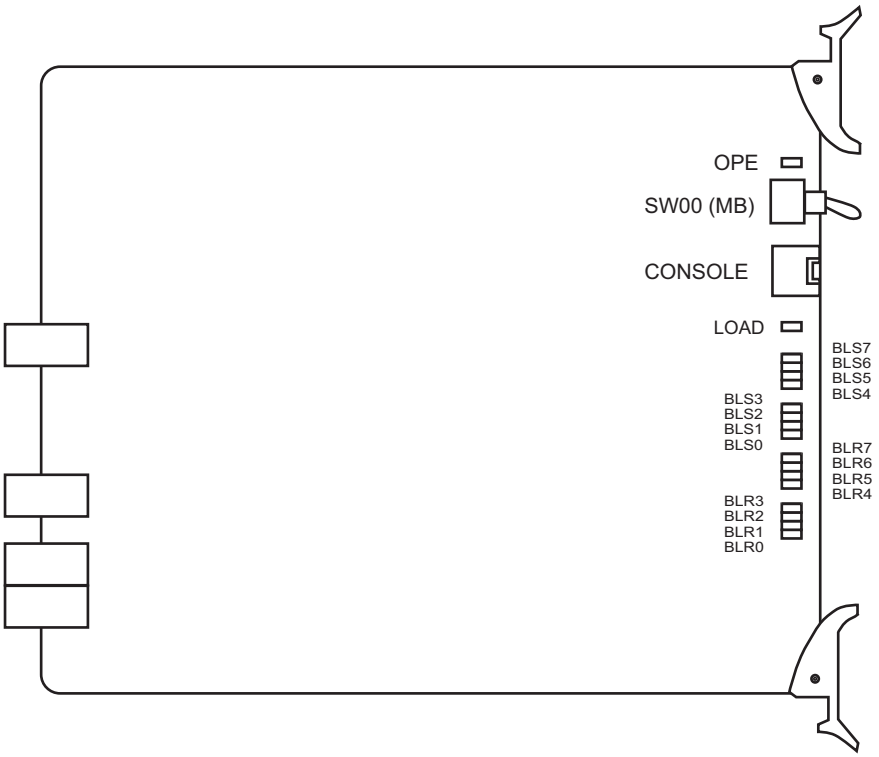


Mounting Conditions:

When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps and switches on this card is shown below.



4. Lamp Indications

The content of the lamp indications of this card is shown in the table below.

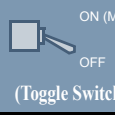
LAMP NAME	COLOR	STATE	DESCRIPTION
OPE	Green	Light	The card is operating normally.
LOAD	Green	Light	The program download is in process. The card initialization starts.
		Flash (60 IPM)	Waiting for the program download.
		Flash (120 IPM)	The program download has failed.
		OFF	The program download is completed. The card is operating normally.
BLR0 - BLR7	Green	Light	The corresponding line is in use. • Flashes or goes off depending on the current dial pulse (DP)/ push button (PB)/multi frequency (MF) signal reception. (Flashes to indicate that DP signals are being received, and goes off to indicate that PB/MF digits are being received)
		Flash (60 IPM)	The corresponding line is in a make-busy state.
		OFF	The corresponding line is in an idle state.
BLS0 - BLS7	Green	Light	The corresponding line is in use. • Goes off to indicate that DP/PB/MF digits are being transmitted. • Lights up while modem signals are being transmitted.
		Flash (60 IPM)	The corresponding line is in a make-busy state.
		OFF	The corresponding line is in an idle state.

5. Switch Settings

The switches on the CH-8RSTA (RST) card have the following meanings.

Hardware Switch

SW00 (MB)

SWITCH SHAPE	SETTING	STANDARD SETTING	MEANING
 (Toggle Switch)	UP		Card: make-busy (the card is hot-pluggable)
	DOWN	×	Card: make-busy cancel (the card is operating)

Software Switch

Software switches can be set with the following methods. For details, refer to Software Switch Setting in Chapter 6.

- Switch Setting with the CPSW command (using PCPro)
- Switch Setting via a serial connection

SW10

SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Country Selection See Table 1
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4-7	OFF	×	Fixed to OFF
8	ON	×	PB Transmission Level: (H: -7.0 dBm, L: -9.0 dBm) MF Transmission Level: (S1: -12.0 dBm, S2: -12.0 dBm)
	OFF		PB Transmission Level: (H: -4.5 dBm, L: -5.5 dBm) MF Transmission Level: (S1: -8.0 dBm, S2: -8.0 dBm)

Table 1

SW10-1	SW10-2	SW10-3	COUNTRY
OFF	OFF	OFF	Countries other than Australia
ON	OFF	OFF	Australia
Other Settings			Not used

SW11

SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON	×	Fixed to ON
2	ON		Multi Frequency Receiver (MFR) Threshold Value See Table 2
	OFF	×	
3	ON	×	
	OFF		
4	ON		
	OFF	×	
5	ON	×	AT&T MFR
	OFF		ITU-T No.5 MFR
6	ON	×	Fixed to ON
7	ON		Register Selection: REG 0,1,2,3 of MFR
	OFF	×	Register Selection: REG 0,1,2,3 of PBR
8	ON		Register Selection: REG 4,5,6,7 of MFR
	OFF	×	Register Selection: REG 4,5,6,7 of PBR

Table 2

SW11-2	SW11-3	SW11-4	Threshold Value
ON	ON	ON	-17.0dBm
OFF	ON	ON	-19.0dBm
ON	OFF	ON	-21.0dBm
OFF	OFF	ON	-23.0dBm
ON	ON	OFF	-25.0dBm
OFF	ON	OFF	-27.0dBm (Standard Setting)
ON	OFF	OFF	-29.0dBm
OFF	OFF	OFF	-31.0dBm

SW12

SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON	×	Fixed to ON
2	ON		PBR Threshold Value See Table 3
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON	×	PBR Pulse Timer (Momentary Signal Shut Down Protect Timer) SHORT (10 milliseconds or less)
	OFF		PBR Pulse Timer (Momentary Signal Shut Down Protect Timer) LONG (20 milliseconds or less)
6-8	OFF	×	Fixed to OFF

Table 3

SW12-2	SW12-3	SW12-4	Threshold Value
ON	ON	ON	-21.0 dBm
OFF	ON	ON	-23.0 dBm
ON	OFF	ON	-25.0 dBm
OFF	OFF	ON	-27.0 dBm
ON	ON	OFF	-29.0 dBm
OFF	ON	OFF	-31.0 dBm
ON	OFF	OFF	-33.0 dBm
OFF	OFF	OFF	-35.0 dBm (Standard Setting)

SW13

SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON	×	Fixed to ON
2-8	OFF	×	Fixed to OFF

SW14

SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1 - 8	OFF	×	Fixed to OFF

SW15

SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON	×	CAS Transmission Level of "Caller ID on Call Waiting" See Table 4
	OFF		
2	ON	×	
	OFF		
3	ON	×	
	OFF		
4	ON	×	
	OFF		
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		Caller ID Type See Table 5
	OFF	×	
8	ON		
	OFF	×	

Table 4

SW15-1	SW15-2	SW15-3	SW15-4	SW15-5	SW15-6	CAS LEVEL
OFF	OFF	OFF	OFF	OFF	OFF	0 dBm
ON	OFF	OFF	OFF	OFF	OFF	-1 dBm
OFF	ON	OFF	OFF	OFF	OFF	-2 dBm
ON	ON	OFF	OFF	OFF	OFF	-3 dBm
OFF	OFF	ON	OFF	OFF	OFF	-4 dBm
ON	OFF	ON	OFF	OFF	OFF	-5 dBm
OFF	ON	ON	OFF	OFF	OFF	-6 dBm
ON	ON	ON	OFF	OFF	OFF	-7 dBm
OFF	OFF	OFF	ON	OFF	OFF	-8 dBm
ON	OFF	OFF	ON	OFF	OFF	-9 dBm
OFF	ON	OFF	ON	OFF	OFF	-10 dBm
ON	ON	OFF	ON	OFF	OFF	-11 dBm
OFF	OFF	ON	ON	OFF	OFF	-12 dBm
ON	OFF	ON	ON	OFF	OFF	-13 dBm
OFF	ON	ON	ON	OFF	OFF	-14 dBm
ON	ON	ON	ON	OFF	OFF	-15 dBm (Standard Setting)
OFF	OFF	OFF	OFF	ON	OFF	-16 dBm
ON	OFF	OFF	OFF	ON	OFF	-17 dBm
OFF	ON	OFF	OFF	ON	OFF	-18 dBm
ON	ON	OFF	OFF	ON	OFF	-19 dBm
OFF	OFF	ON	OFF	ON	OFF	-20 dBm
ON	OFF	ON	OFF	ON	OFF	-21 dBm
OFF	ON	ON	OFF	ON	OFF	-22 dBm
ON	ON	ON	OFF	ON	OFF	-23 dBm
OFF	OFF	OFF	ON	ON	OFF	-24 dBm
ON	OFF	OFF	ON	ON	OFF	-25 dBm
OFF	ON	OFF	ON	ON	OFF	-26 dBm
ON	ON	OFF	ON	ON	OFF	-27 dBm
OFF	OFF	ON	ON	ON	OFF	-28 dBm
ON	OFF	ON	ON	ON	OFF	-29 dBm
OFF	ON	ON	ON	ON	OFF	-30 dBm
ON	ON	ON	ON	ON	OFF	-31 dBm
OFF	OFF	OFF	OFF	OFF	ON	-32 dBm
ON	OFF	OFF	OFF	OFF	ON	-33 dBm
OFF	ON	OFF	OFF	OFF	ON	-34 dBm

Table 4

SW15-1	SW15-2	SW15-3	SW15-4	SW15-5	SW15-6	CAS LEVEL
ON	ON	OFF	OFF	OFF	ON	-35 dBm
OFF	OFF	ON	OFF	OFF	ON	-36 dBm
ON	OFF	ON	OFF	OFF	ON	-37 dBm
OFF	ON	ON	OFF	OFF	ON	-38 dBm
ON	ON	ON	OFF	OFF	ON	-39 dBm
OFF	OFF	OFF	ON	OFF	ON	-40 dBm

Table 5

SW15-7	SW15-8	TYPE
OFF	OFF	FSK (Japan only)
ON	OFF	Bellcore
OFF	ON	ETSI
ON	ON	Not used

SW16

SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON	×	SAS Transmission Level of "Caller ID on Call Waiting" See Table 6
	OFF		
2	ON		
	OFF	×	
3	ON	×	
	OFF		
4	ON	×	
	OFF		
5	OFF	×	Fixed to OFF
6	ON	×	Fixed to ON
7	ON	×	Fixed to ON
8	OFF	×	Fixed to OFF

Table 6

SW16-1	SW16-2	SW16-3	SW16-4	SAS LEVEL
OFF	OFF	OFF	OFF	0 dBm
ON	OFF	OFF	OFF	-1 dBm
OFF	ON	OFF	OFF	-2 dBm
ON	ON	OFF	OFF	-3 dBm
OFF	OFF	ON	OFF	-4 dBm
ON	OFF	ON	OFF	-5 dBm
OFF	ON	ON	OFF	-6 dBm
ON	ON	ON	OFF	-7 dBm
OFF	OFF	OFF	ON	-8 dBm
ON	OFF	OFF	ON	-9 dBm
OFF	ON	OFF	ON	-10 dBm
ON	ON	OFF	ON	-11 dBm
OFF	OFF	ON	ON	-12 dBm
ON	OFF	ON	ON	-13 dBm (Standard Setting)
OFF	ON	ON	ON	-14 dBm
ON	ON	ON	ON	-15 dBm

SW17

SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1 - 8	OFF	×	Fixed to OFF

6. External Interface

This card has no external interface.

CHAPTER 4
CARDS IN 8U-PIR

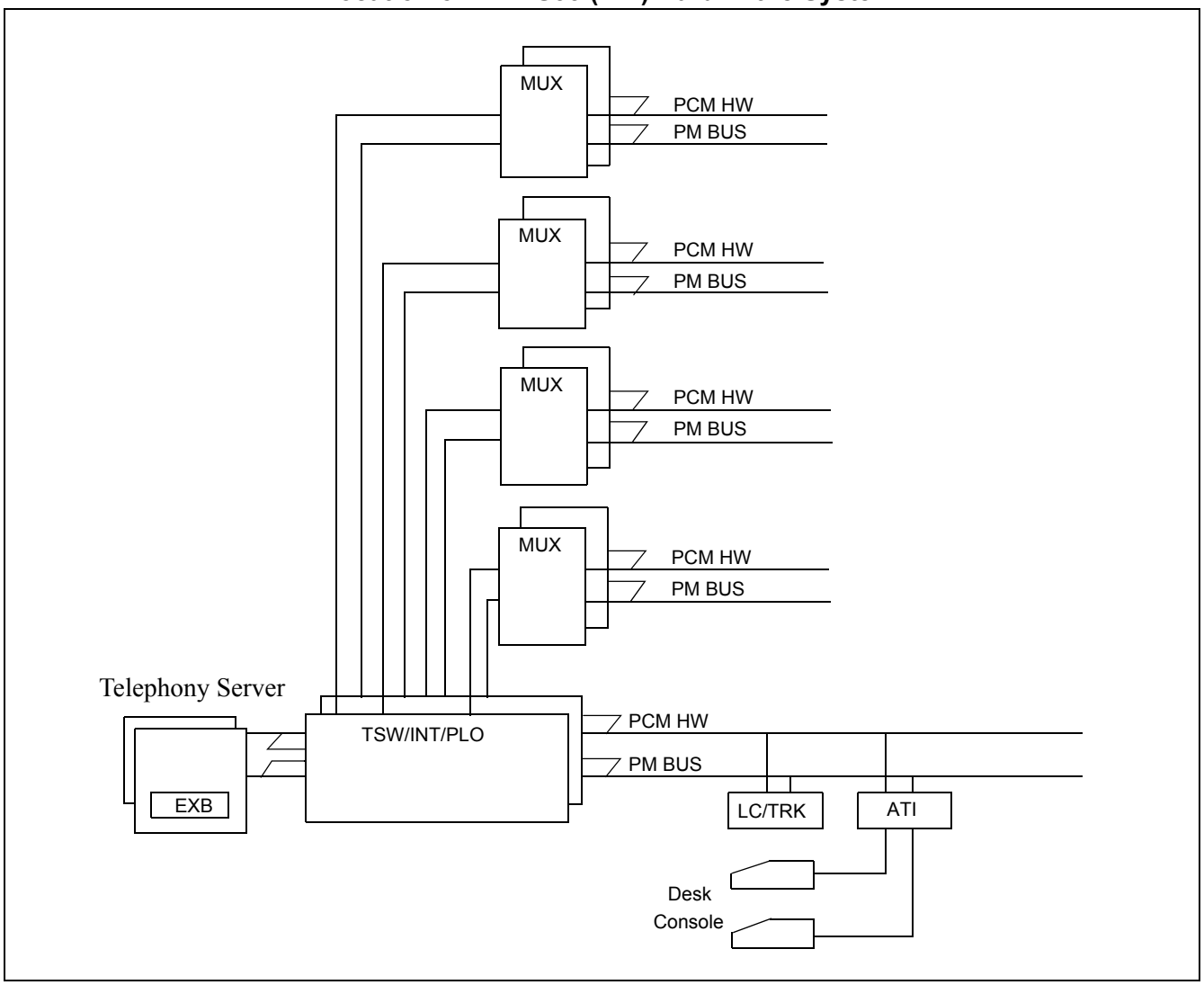
PA-CS33
Attendant Interface

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	-	X	X	-

1. General Function

This circuit card is a Desk Console interface that supports the interface function for accommodating two sets of Desk Consoles, PB/DP sender function and Trunk Answer from any Station (TAS) function.

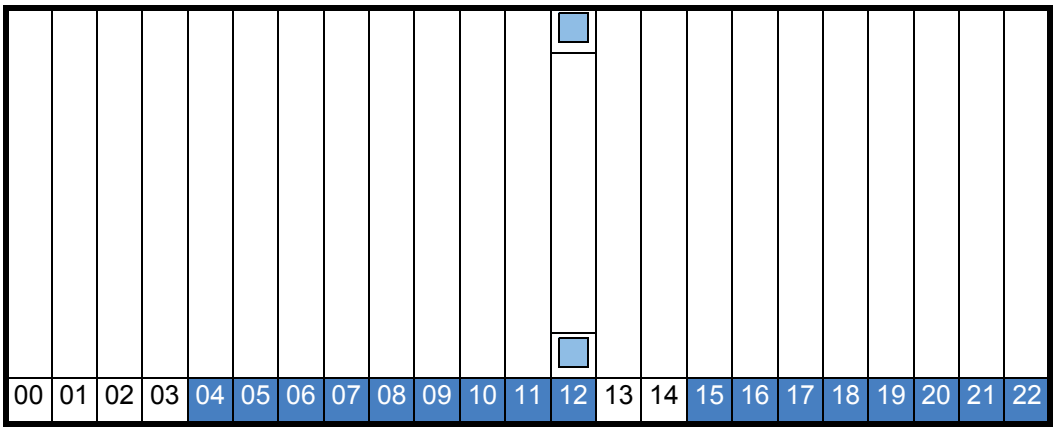
Location of PA-CS33 (ATI) Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

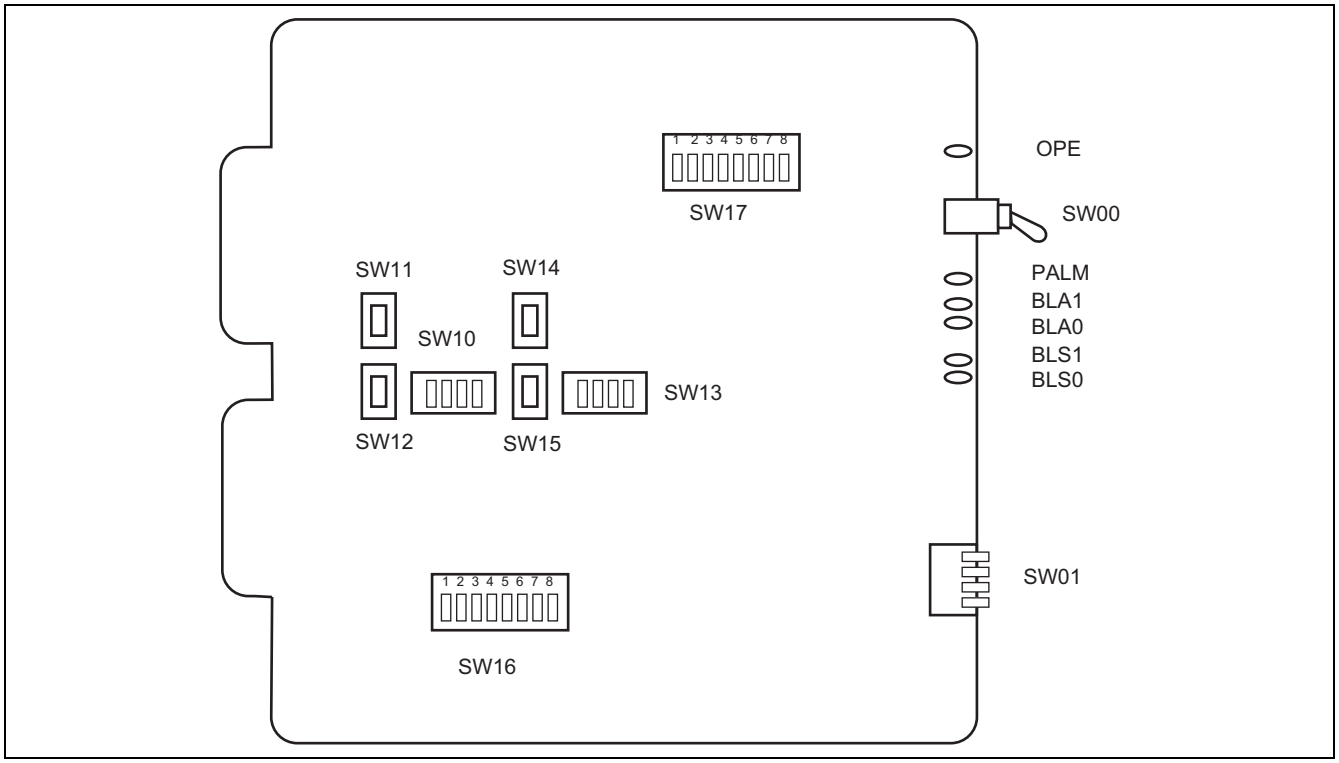
Slot 12



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches and connectors is shown below.

Face Layout of PA-CS33 (ATI)



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while circuit card is operating normally.
	Off	Off when circuit card is not operating.
PALM	Red	Lights when the power feeding circuit failure has occurred.
	Off	Off when the power feeding circuit operates normally.
BLA0 BLA1	Red	Lights when the corresponding circuit is busy (At the same time, turns off PA Lamp on the Desk Console).
	Flash (60 IPM)	Flashes when the corresponding circuit is in Make-Busy state.
	Off	Off when the corresponding circuit is in idle (At the same time, turns on PA Lamp on the Desk console).
BLS0 BLS1	Red	Lights when the corresponding sender circuit is in use.
	Flash (60 IPM)	Flashes when the corresponding sender circuit is in Make-Busy state or when select signals are being transmitted.
	Off	Off when the corresponding sender circuit is idle.

5. Switch Setting

Standard settings for switches on this circuit card are shown in the table below.

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
SW00	UP		Circuit card: Make-Busy.
	DOWN	×	Circuit card: Make-Busy cancel

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW01	0	ON		Make-Busy request for Desk Console 0 and Add-On Console 0
		OFF	×	Make-Busy cancel for Desk Console 0 and Add-On Console 0
	1	ON		Make-Busy request for Desk Console 1 and Add-On Console 1
		OFF	×	Make-Busy cancel for Desk Console 1 and Add-On Console 1
	2	ON		Make-Busy request for Add-On Console 0
		OFF	×	Make-Busy cancel for Add-On Console 0
	3	ON		Make-Busy request for Add-On Console 1
		OFF	×	Make-Busy cancel for Add-On Console 1
SW10 (TAS 0) SW13 (TAS 1)	1 2 3	SW10 and SW13 designate the current limit resistance for TAS 0 and TAS 1 respectively.		
	4	This switch designates the TAS signaling system in conjunction with SW11/12 and SW14/15.		

SW10-3/ SW13-3	SW10-2/ SW13-2	SW10-1/ SW13-1	STANDARD SETTING	RESISTANCE
ON	ON	ON		0 Ω
ON	ON	OFF		220 Ω
ON	OFF	ON		398 Ω
ON	OFF	OFF		618 Ω
OFF	ON	ON		800 Ω
OFF	ON	OFF		1020 Ω
OFF	OFF	ON		1198 Ω
OFF	OFF	OFF	×	1418 Ω

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING

SW11/12 and SW14/15 designate the TAS 0 and TAS 1 signaling system (in conjunction with SW10-4 (TAS 0)/SW13-4 (TAS 1).

SW11/ SW12 (TAS 0)

SW14/ SW15 (TAS 1)

SW12/ SW15	SW11/ SW14	SW10-4/ SW13-4	STANDARD SETTING	SIGNAL WHEN SEIZED	
				TAS 0A/ TAS 1A	TAS 0B/ TAS 1B
ON	ON	ON		CR	G
OFF	ON	ON		-48V	G
OFF	OFF	OFF	×	LOOP	LOOP
OFF	OFF	ON		G	G

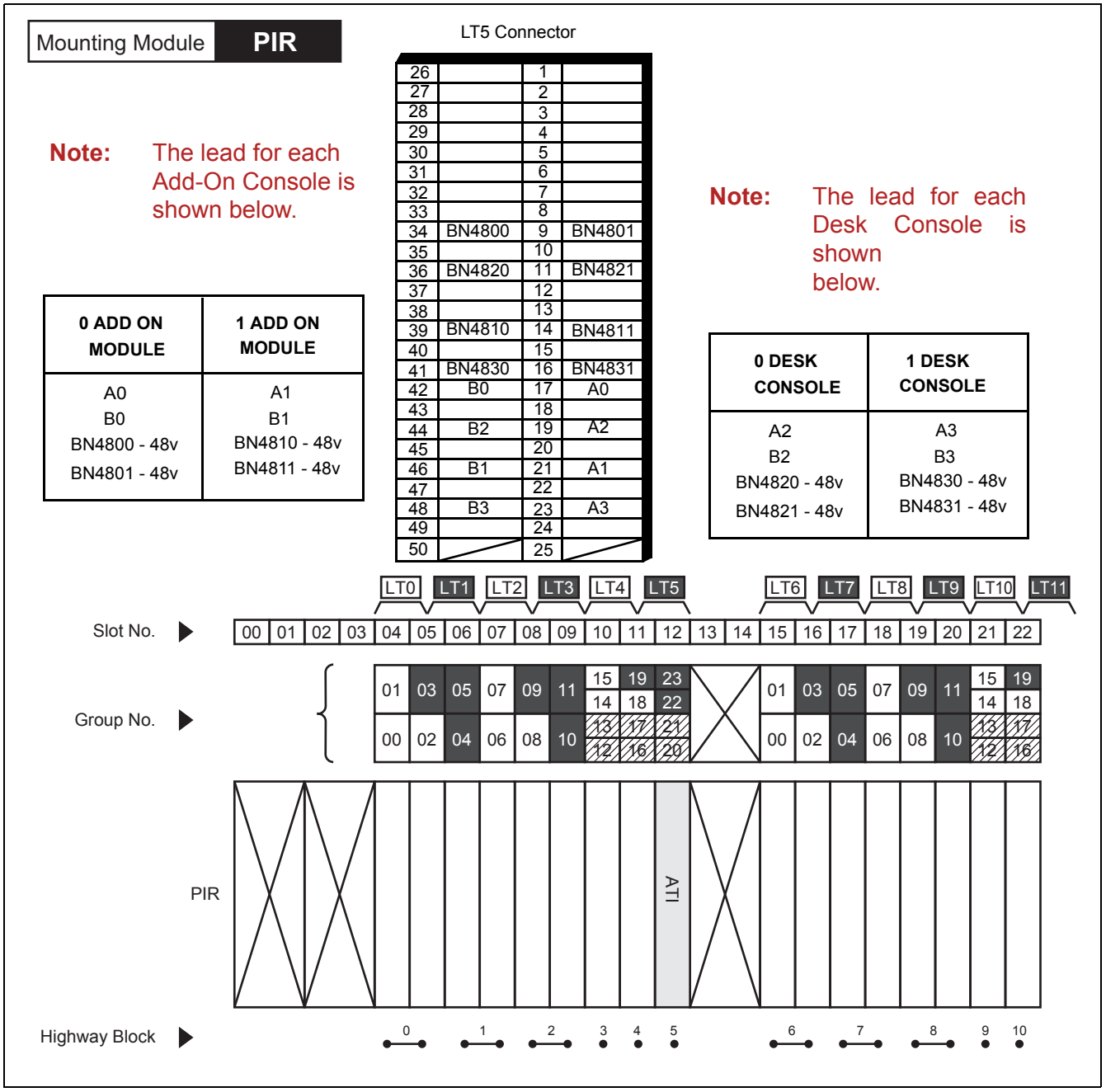
<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="9">SW16</td><td rowspan="2">1</td><td>ON</td><td></td><td>Operation Mode Setting (for Hotel system)</td></tr>
<tr><td>OFF</td><td></td><td>Operation Mode Setting (for Business system)</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td>Desk Console Expanded LCD Display available</td></tr>
<tr><td>OFF</td><td></td><td>Desk Console Expanded LCD Display not available</td></tr>
<tr><td>3</td><td colspan="3" rowspan="3">SW16-3/4/5 designates the nation code as shown below.
<table>
<tr><th>SW16-5</th><th>SW16-4</th><th>SW16-3</th><th>COUNTRY</th></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>North America and other μ-law countries</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>Australia and other A-law countries</td></tr>
<tr><td colspan="3">Other combinations</td><td>Not used</td></tr>
</table></td></tr>
<tr><td>4</td></tr>
<tr><td>5</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td>A-law PCM coding</td></tr>
<tr><td>OFF</td><td></td><td>μ-law PCM coding</td></tr>
<tr><td>7</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="8">SW17</td><td rowspan="2">1</td><td>ON</td><td></td><td>Denial of PCM receiving while transmitting PB signals</td></tr>
<tr><td>OFF</td><td>×</td><td>PCM receives irrespective of PB signals transmission</td></tr>
<tr><td>2</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>3</td><td colspan="3" rowspan="2">Desk Console Key Pattern. Set SW17-3 and SW17-4 according to SYS 1, Index 6.
<table>
<tr><th rowspan="2">SW17-3</th><th rowspan="2">SW17-4</th><th colspan="3">SYS 1 INDEX 6</th></tr>
<tr><th>Bit 6</th><th>Bit 5</th><th>Bit 4</th></tr>
<tr><td>OFF</td><td>OFF</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>ON</td><td>OFF</td><td>0</td><td>0</td><td>1</td></tr>
<tr><td>OFF</td><td>ON</td><td>0</td><td>1</td><td>0</td></tr>
<tr><td>ON</td><td>ON</td><td>1</td><td>0</td><td>0</td></tr>
</table></td></tr>
<tr><td>4</td></tr>
<tr><td>5~7</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">8
Note 1</td><td>ON</td><td></td><td>Start-up in Night mode after circuit card initialization</td></tr>
<tr><td>OFF</td><td>×</td><td>Start-up in Day mode after circuit card initialization</td></tr>
</table>

Note 1: Desk Console starts up in Day or Night mode according to this setting after the circuit card initialization, regardless of the mode before the initialization.

6. External Interface

Location of the LT connector leads for the Desk Console interface is as shown below.

LT Connector Lead Location (PIR)

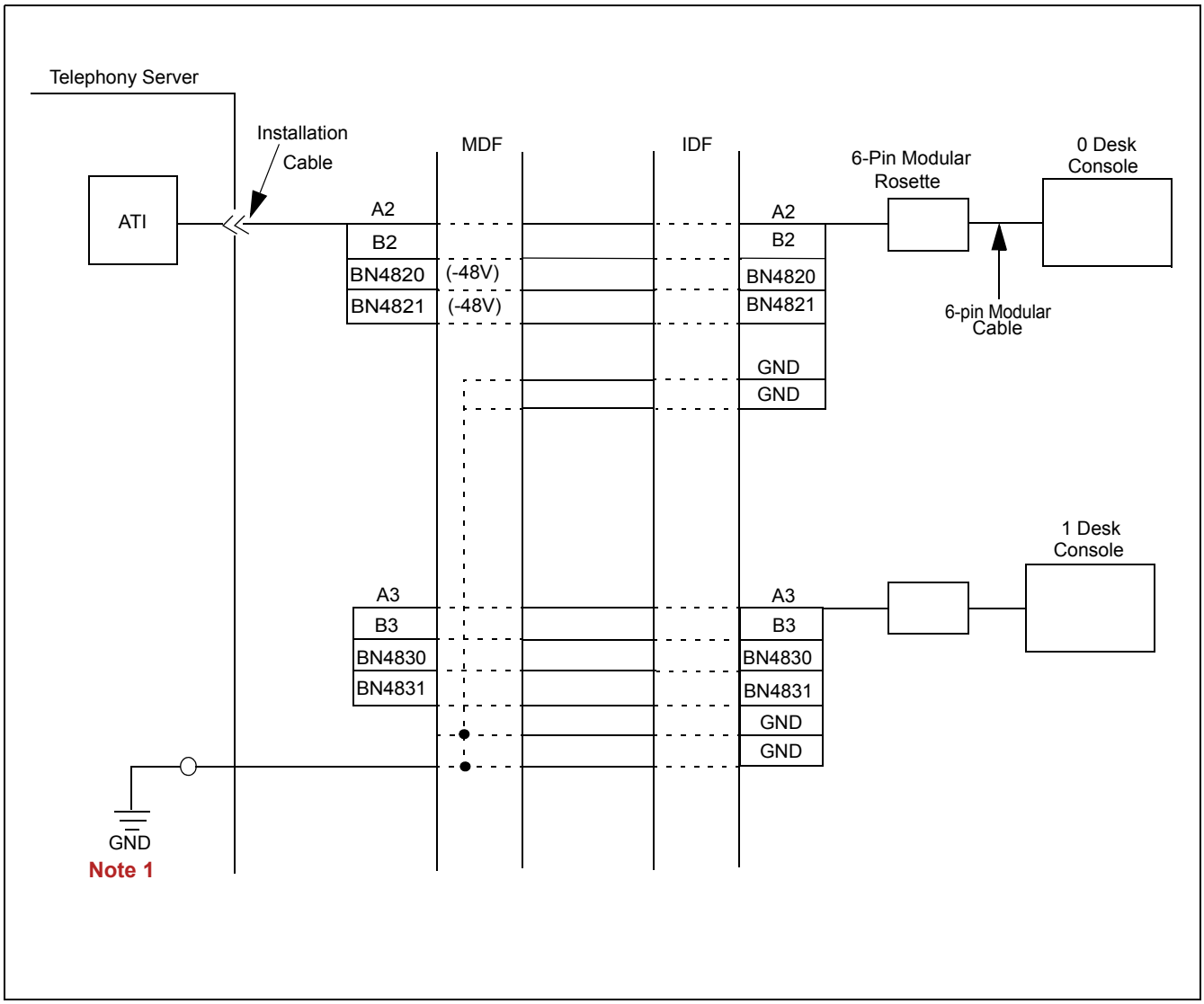


26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	BN4800	9	BN4801
35		10	
36	BN4820	11	BN4821
37		12	
38		13	
39	BN4810	14	BN4811
40		15	
41	BN4830	16	BN4831
42	B0	17	A0
43		18	
44	B2	19	A2
45		20	
46	B1	21	A1
47		22	
48	B3	23	A3
49		24	
50		25	

Slot No.	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22
Group No.	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22
													23	22	21	20	19	18	17	16	15	14	13
Highway Block		0		1		2		3	4		5					6		7		8		9	10

Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram



Note: The power feeding wires (BN4820/BN4821/BN4830/BN4831/GND) are not required when the power is supplied to the Desk Console locally.

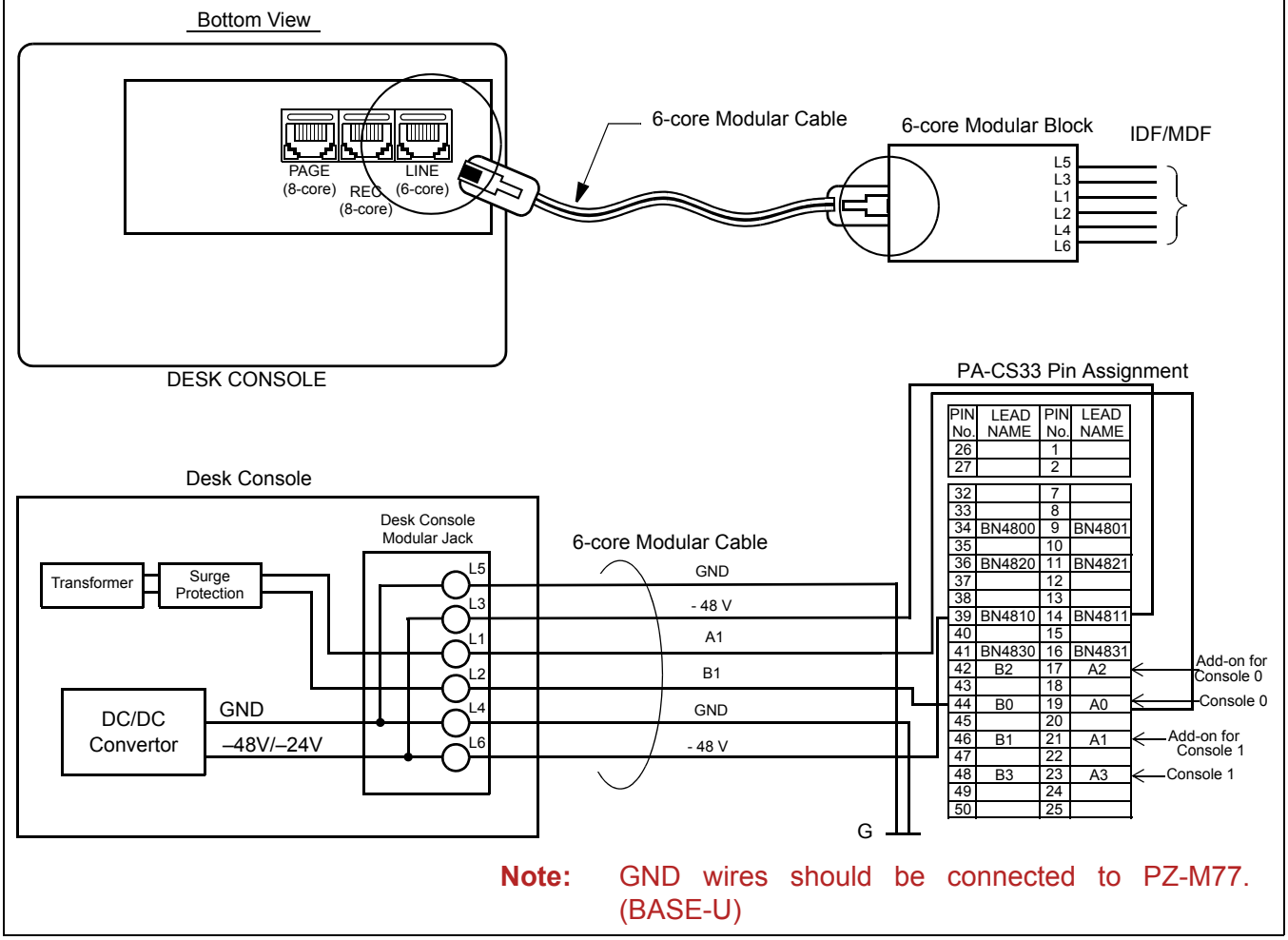
Note 1: GND is connected to the following:

- As for AC-Powered Model, to the AC-DC Power Unit.
- As for DC-Powered Model, to the BASEU.

This figure shows how to connect Desk Console.

Desk Console Connection

Wire the cables to the Modular Block as shown below.



PIN No.	LEAD NAME	PIN No.	LEAD NAME
26		1	
27		2	
32		7	
33		8	
34	BN4800	9	BN4801
35		10	
36	BN4820	11	BN4821
37		12	
38		13	
39	BN4810	14	BN4811
40		15	
41	BN4830	16	BN4831
42	B2	17	A2
43		18	
44	B0	19	A0
45		20	
46	B1	21	A1
47		22	
48	B3	23	A3
49		24	
50		25	

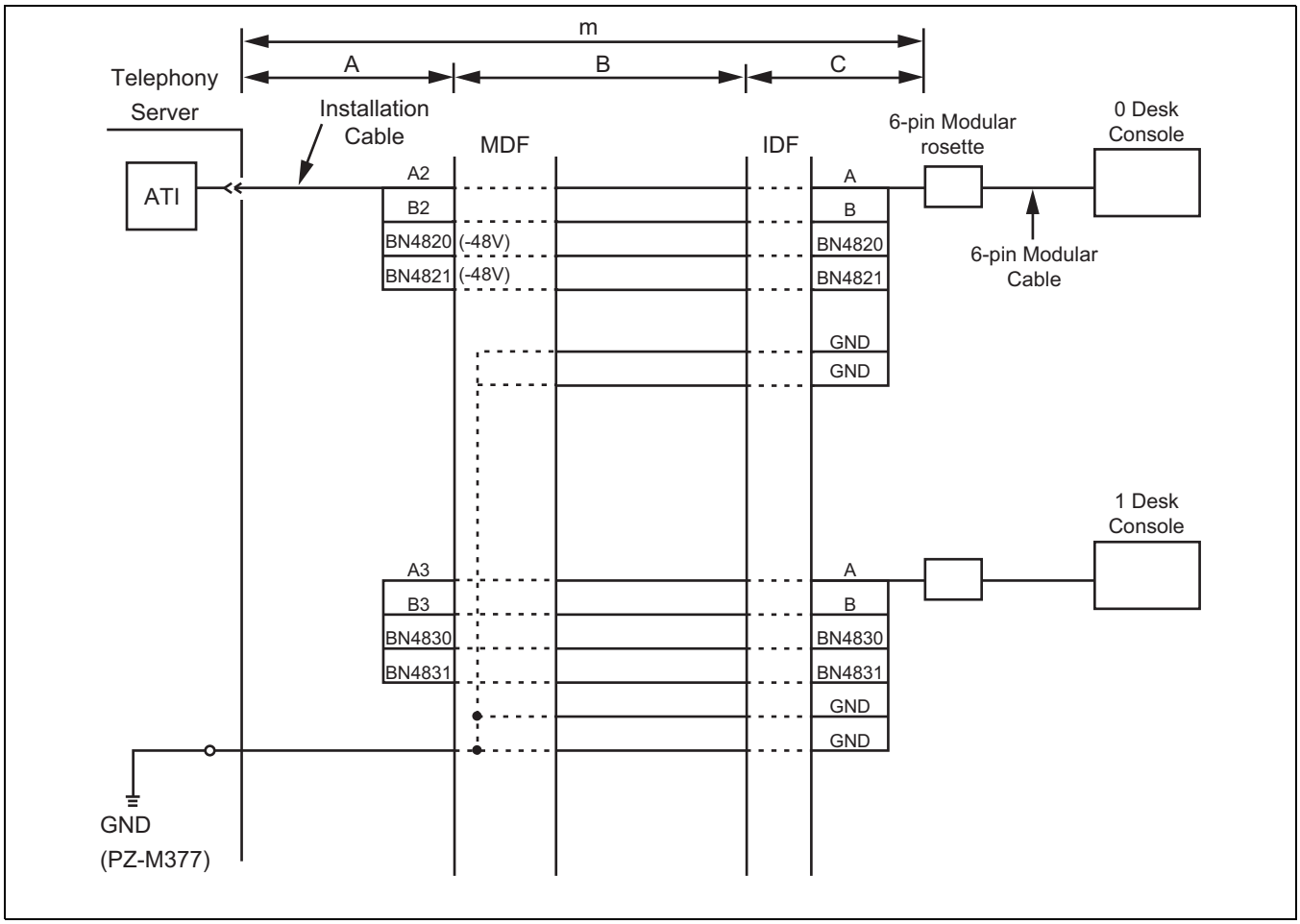
Note: GND wires should be connected to PZ-M77. (BASE-U)

The maximum distance between the ATI circuit card and Desk Console is as shown below.

Power	0.5 ϕ Cable	0.65 ϕ Cable
Telephony Server	1,148 ft. (350 m)	1,640 ft. (500 m)
Local Power Supply	3,937 ft. (1,200 m)	4,921 ft. (1,500 m)

If the distance exceeds the above, estimate it according to the calculation after the figure on the next page.

Distance between the Telephony Server and Modular Rosette of Desk Console



Note: Calculation of the distance between the ATI circuit card and Modular Rosette
The distance M in the figure above is determined according to the Direct-Current resistance of power supply cables (-48 V and GND). Note that the maximum resistance is 26 Ω as shown in the following formula:

$m = a + b + c \leqq 26\ \Omega$

m: Maximum Direct-Current resistance between the ATI circuit card and Modular Rosette
a: Direct-Current resistance of power supply cables (-48V and GND) in the range of A
b: Direct-Current resistance of power supply cables (-48V and GND) in the range of B
c: Direct-Current resistance of power supply cables (-48V and GND) in the range of C

Example of Calculation

a, b, and c are calculated by the following formulae:

$$a = \frac{u\ (\Omega/m) \times x\ (m)}{2} + \frac{u\ (\Omega/m) \times x\ (m)}{1}$$

(u (Ω/m): Cable resistance of DC -48 V cables; 2: Number of DC -48 V cables; u (Ω/m): Cable resistance on GND cables; 1: Number of GND cables)

$$b = \frac{v\ (\Omega/m) \times y\ (m)}{2} + \frac{v\ (\Omega/m) \times y\ (m)}{2}$$

(v (Ω/m): Cable resistance of DC -48 V cables; 2: Number of DC -48 V cables; v (Ω/m): Cable resistance on GND cables; 2: Number of GND cables)

$$c = \frac{w\ (\Omega/m) \times z\ (m)}{2} + \frac{w\ (\Omega/m) \times z\ (m)}{2}$$

(w (Ω/m): Cable resistance of DC -48 V cables; 2: Number of DC -48 V cables; w (Ω/m): Cable resistance on GND cables; 2: Number of GND cables)

u: DC resistance per meter in the range of A (Ω/m)

v: DC resistance per meter in the range of B (Ω/m)

w: DC resistance per meter in the range of C (Ω/m)

x: Cable length (m) in the range of A

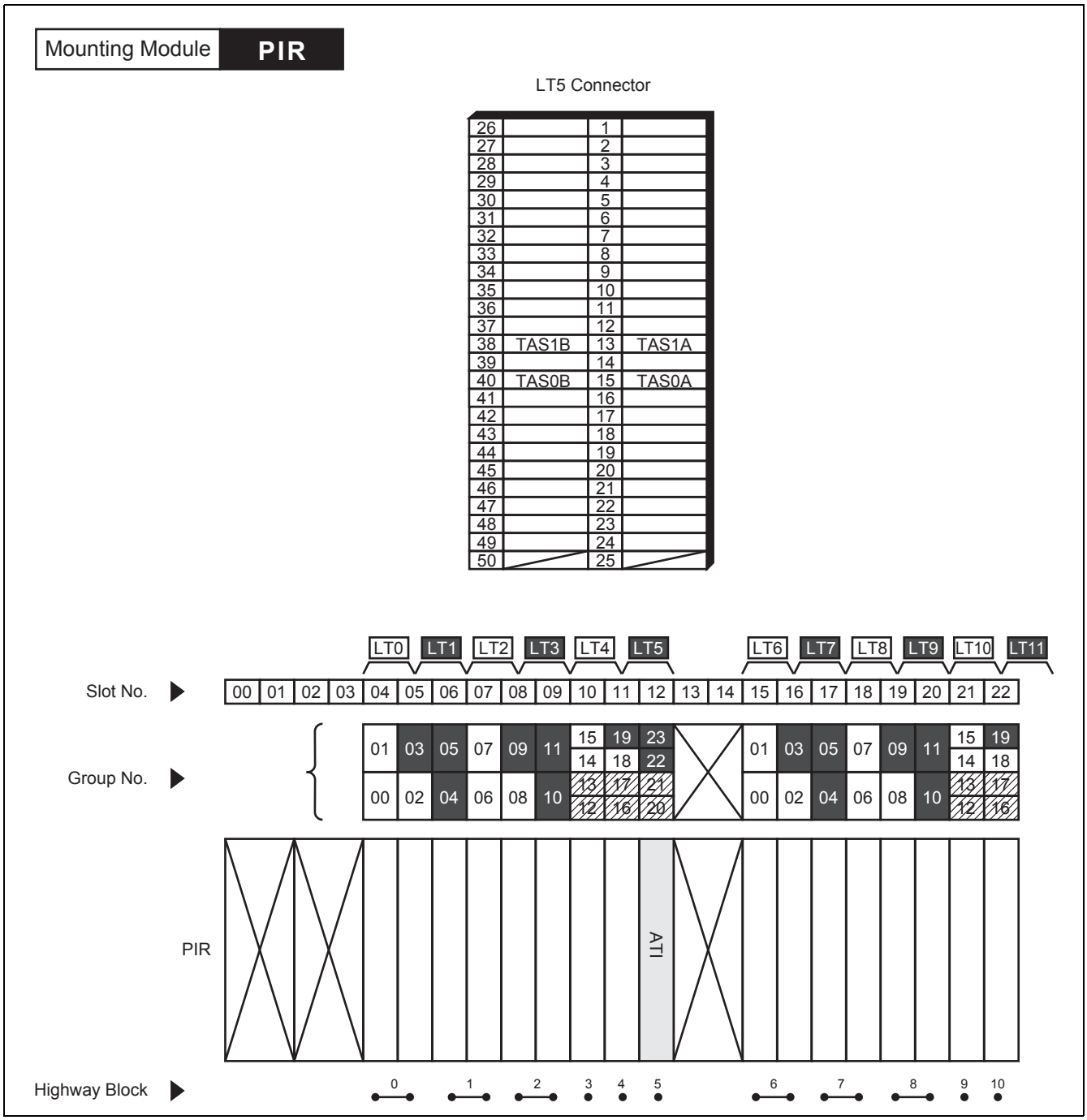
y: Cable length (m) in the range of B

z: Cable length (m) in the range of C

Note: It is not required to use cable lengths in meters in the following formula. Cable lengths may be used in feet, yards, or whatever units you are preferred. However, the units of resistance used must match the units of length used. For example, if distance in feet is used, then DC resistance per foot must be used.

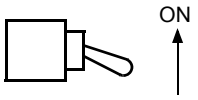
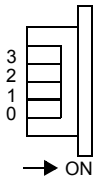
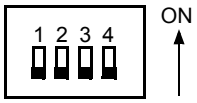
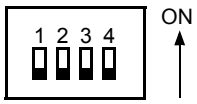
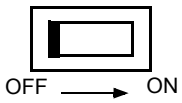
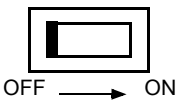
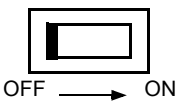
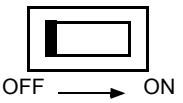
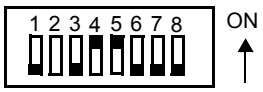
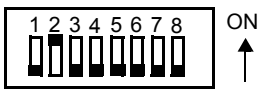
The location of the LT connector leads for the TAS interface is as shown below.

LT Connector Lead Location (PIR)



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
SW00		
SW01		
SW10 (TAS #0)		
SW13 (TAS #1)		
SW11 (TAS #0)		
SW12 (TAS #0)		
SW14 (TAS #1)		
SW15 (TAS #1)		
SW16		
SW17		

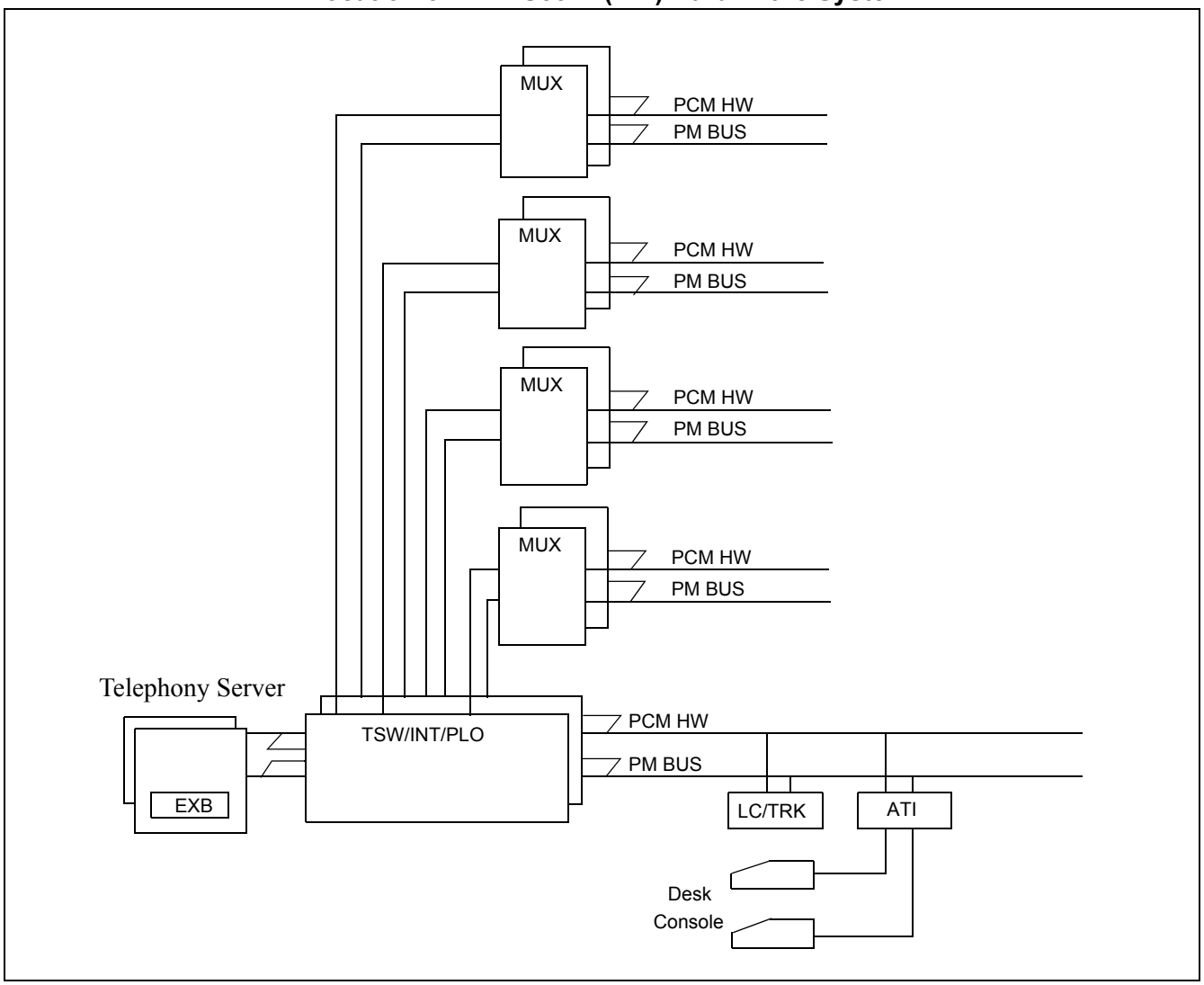
PA-CS33-C
Attendant Interface

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

This circuit card is a Desk Console interface that supports the interface function for accommodating two sets of Desk Consoles, PB/DP sender function and Trunk Answer from any Station (TAS) function.

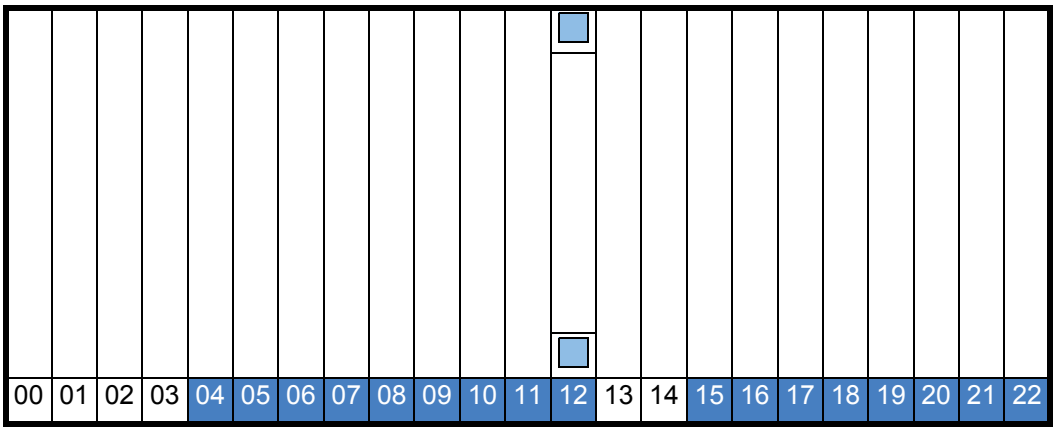
Location of PA-CS33-C (ATI) Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Slot 12



Firmware Conditions:

- Following shows the condition of mounting firmware to Desk Console/Add-On Console.

Type	Product Name	Firmware	Firmware Version
Desk Console	SN716 DESKCON-C SN716 DESKCON(CH) SN716 DESKCON(EUR)	SC-3077 D-CON(SH1) PROG-A	Issue 7A or later **Note 2**
		SC-2913 DESK-CON PROG **Note 1**	Available since first version
Add-On Console	SN718 H/M ADD-ON CON-A SN718 H/M ADD-ON CON(CH)	SC-3289 A-CON(SH1) PROG-A	Issue 2A or later Note2
		SC-2620 ADD-CON PROG-A **Note 1**	Available since first version

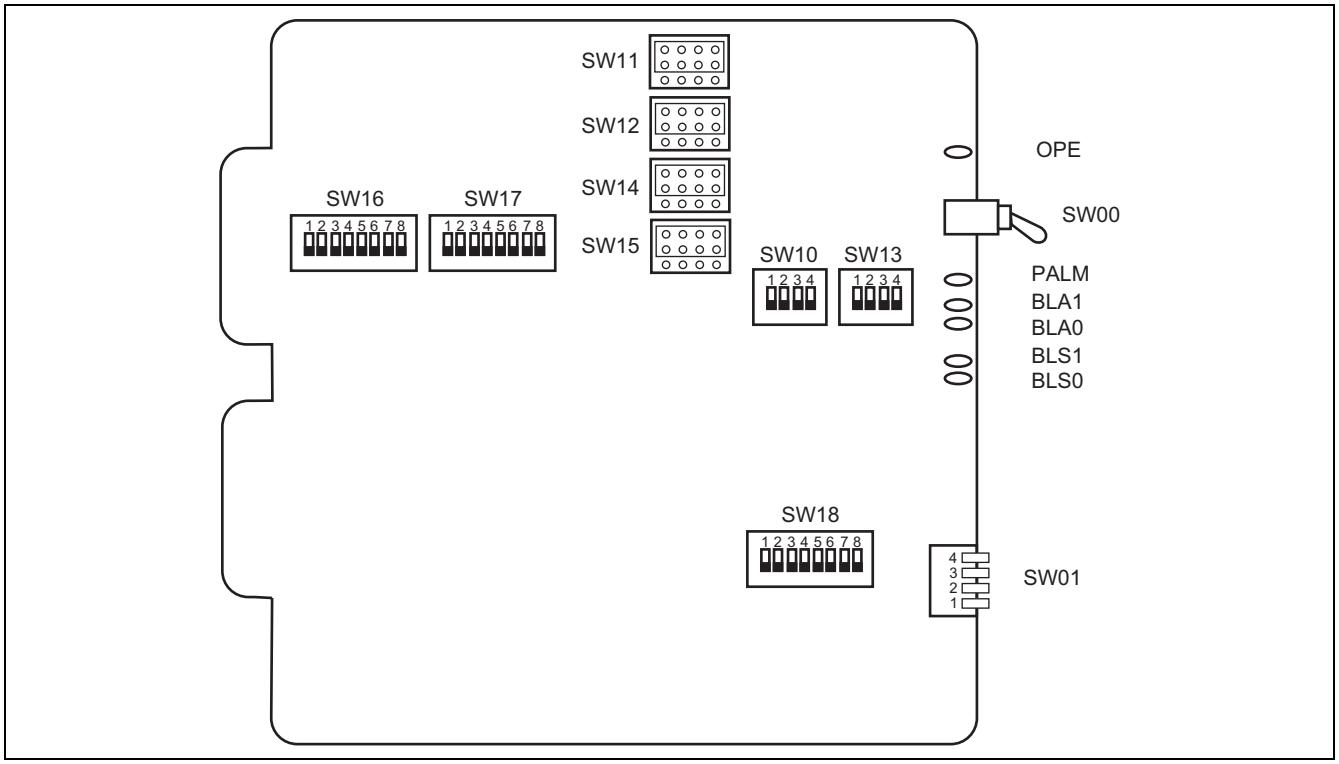
Note 1: All the versions of this firmware are available.

Note 2: If the firmware installed in PA-CS33-C (ATI) is not version in the above table, you must update the firmware.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches and connectors is shown below.

Face Layout of PA-CS33-C (ATI)



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while circuit card is operating normally.
	Off	Off when circuit card is not operating.
PALM	Red	Lights when the power feeding circuit failure has occurred.
	Off	Off when the power feeding circuit operates normally.
BLA0 BLA1	Green	Lights when the corresponding circuit is busy (At the same time, turns off PA Lamp on the Desk Console).
	Flash (60 IPM)	Flashes when the corresponding circuit is in Make-Busy state.
	Off	Off when the corresponding circuit is in idle (At the same time, turns on PA Lamp on the Desk console).

LAMP NAME	COLOR	STATE
BLS0 BLS1	Green	Lights when the corresponding sender circuit is in use.
	Flash (60 IPM)	Flashes when the corresponding sender circuit is in Make-Busy state or when select signals are being transmitted.
	Off	Off when the corresponding sender circuit is idle.

5. Switch Setting

Standard settings for switches on this circuit card are shown in the table below.

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
SW00	UP		Circuit card: Make-Busy
	DOWN	×	Circuit card: Make-Busy cancel

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW01	0	ON		Make-Busy request for Desk Console 0 and Add-On Console 0
		OFF	×	Make-Busy cancel for Desk Console 0 and Add-On Console 0
	1	ON		Make-Busy request for Desk Console 1 and Add-On Console 1
		OFF	×	Make-Busy cancel for Desk Console 1 and Add-On Console 1
	2	ON		Make-Busy request for Add-On Console 0
		OFF	×	Make-Busy cancel for Add-On Console 0
	3	ON		Make-Busy request for Add-On Console 1
		OFF	×	Make-Busy cancel for Add-On Console 1

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="4">SW10
(TAS 0)

SW13
(TAS 1)</td><td rowspan="3">1

2

3</td><td colspan="3">SW10 and SW13 designate the current limit resistance for TAS 0 and TAS 1 respectively.
<table>
<tr><th>SW10-3/
SW13-3</th><th>SW10-2/
SW13-2</th><th>SW10-1/
SW13-1</th><th>STANDARD SETTING</th><th>RESISTANCE</th></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td></td><td>0 Ω</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td></td><td>220 Ω</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td></td><td>398 Ω</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td></td><td>618 Ω</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td></td><td>800 Ω</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td></td><td>1020 Ω</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td></td><td>1198 Ω</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>×</td><td>1418 Ω</td></tr>
</table></td></tr>
<tr><td>4</td><td colspan="3">This switch designates the TAS signaling system in conjunction with SW11/12 and SW14/15.</td></tr>
<tr><td>SW11/
SW12
(TAS 0)

SW14/
SW15
(TAS 1)</td><td colspan="4">SW11/12 and SW14/15 designate the TAS 0 and TAS 1 signaling system (in conjunction with SW10-4 (TAS 0)/SW13-4 (TAS 1).
<table>
<tr><th rowspan="2">SW12/
SW15</th><th rowspan="2">SW11/
SW14</th><th rowspan="2">SW10-4/
SW13-4</th><th rowspan="2">STANDARD SETTING</th><th colspan="2">SIGNAL WHEN SEIZED</th></tr>
<tr><th>TAS 0A/
TAS 1A</th><th>TAS 0B/
TAS 1B</th></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td></td><td>CR</td><td>G</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td></td><td>-48V</td><td>G</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>×</td><td>LOOP</td><td>LOOP</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td></td><td>G</td><td>G</td></tr>
</table></td></tr>
<tr><td rowspan="4">SW16</td><td rowspan="2">1</td><td>ON</td><td></td><td>Operation Mode Setting (for Hotel system)</td></tr>
<tr><td>OFF</td><td></td><td>Operation Mode Setting (for Business system)</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td>Desk Console Expanded LCD Display available</td></tr>
<tr><td>OFF</td><td></td><td>Desk Console Expanded LCD Display not available</td></tr>
</table>

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="5">SW16</td><td>3</td><td colspan="3" rowspan="3">SW16-3/4/5 designates the nation code as shown below.
<table>
<tr><th>SW16-5</th><th>SW16-4</th><th>SW16-3</th><th>COUNTRY</th></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>North America and other μ-law countries</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>Australia and other A-law countries</td></tr>
<tr><td colspan="3">Other combinations</td><td>Not used</td></tr>
</table></td></tr>
<tr><td>4</td></tr>
<tr><td>5</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td>A-law PCM coding</td></tr>
<tr><td>OFF</td><td></td><td>μ-law PCM coding</td></tr>
<tr><td>7</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="6">SW17</td><td rowspan="2">1</td><td>ON</td><td></td><td>Denial of PCM receiving while transmitting PB signals</td></tr>
<tr><td>OFF</td><td>×</td><td>PCM receives irrespective of PB signals transmission</td></tr>
<tr><td>2</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>3</td><td colspan="3" rowspan="2">Desk Console Key Pattern. Set SW17-3 and SW17-4 according to SYS 1, Index 6.
<table>
<tr><th rowspan="2">SW17-3</th><th rowspan="2">SW17-4</th><th colspan="3">SYS 1 INDEX 6</th></tr>
<tr><th>Bit 6</th><th>Bit 5</th><th>Bit 4</th></tr>
<tr><td>OFF</td><td>OFF</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>ON</td><td>OFF</td><td>0</td><td>0</td><td>1</td></tr>
<tr><td>OFF</td><td>ON</td><td>0</td><td>1</td><td>0</td></tr>
<tr><td>ON</td><td>ON</td><td>1</td><td>0</td><td>0</td></tr>
</table></td></tr>
<tr><td>4</td></tr>
<tr><td>5~7</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">8
Note 1</td><td>ON</td><td></td><td>Start-up in Night mode after circuit card initialization</td></tr>
<tr><td>OFF</td><td>×</td><td>Start-up in Day mode after circuit card initialization</td></tr>
<tr><td rowspan="8">SW18</td><td>1</td><td>OFF</td><td>×</td><td rowspan="8">Fixed to OFF</td></tr>
<tr><td>2</td><td>OFF</td><td>×</td></tr>
<tr><td>3</td><td>OFF</td><td>×</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td></tr>
<tr><td>5</td><td>OFF</td><td>×</td></tr>
<tr><td>6</td><td>OFF</td><td>×</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td></tr>
</table>

Note 1: Desk Console starts up in Day or Night mode according to this setting after the circuit card initialization, regardless of the mode before the initialization.

6. External Interface

Location of the LT connector leads for the Desk Console interface is as shown below.

LT Connector Lead Location (PIR)

Mounting Module **PIR**

LT5 Connector

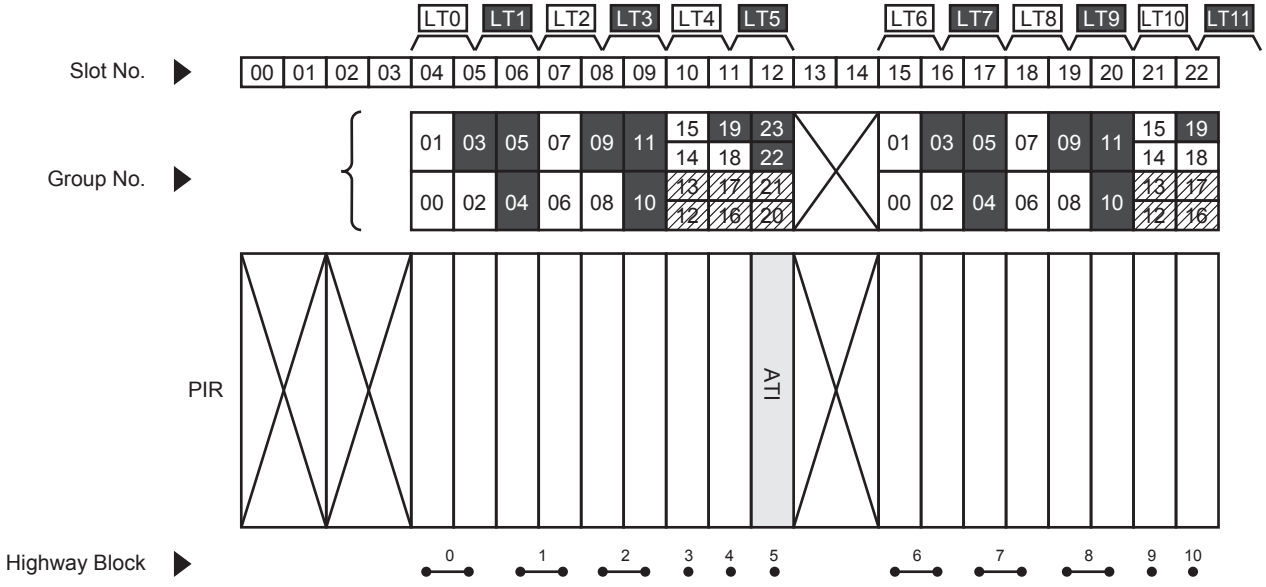
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	BN4800	9	BN4801
35		10	
36	BN4820	11	BN4821
37		12	
38		13	
39	BN4810	14	BN4811
40		15	
41	BN4830	16	BN4831
42	B0	17	A0
43		18	
44	B2	19	A2
45		20	
46	B1	21	A1
47		22	
48	B3	23	A3
49		24	
50		25	

Note: The lead for each Add-On Console is shown below.

0 ADD ON MODULE	1 ADD ON MODULE
A0 B0 BN4800 - 48v BN4801 - 48v	A1 B1 BN4810 - 48v BN4811 - 48v

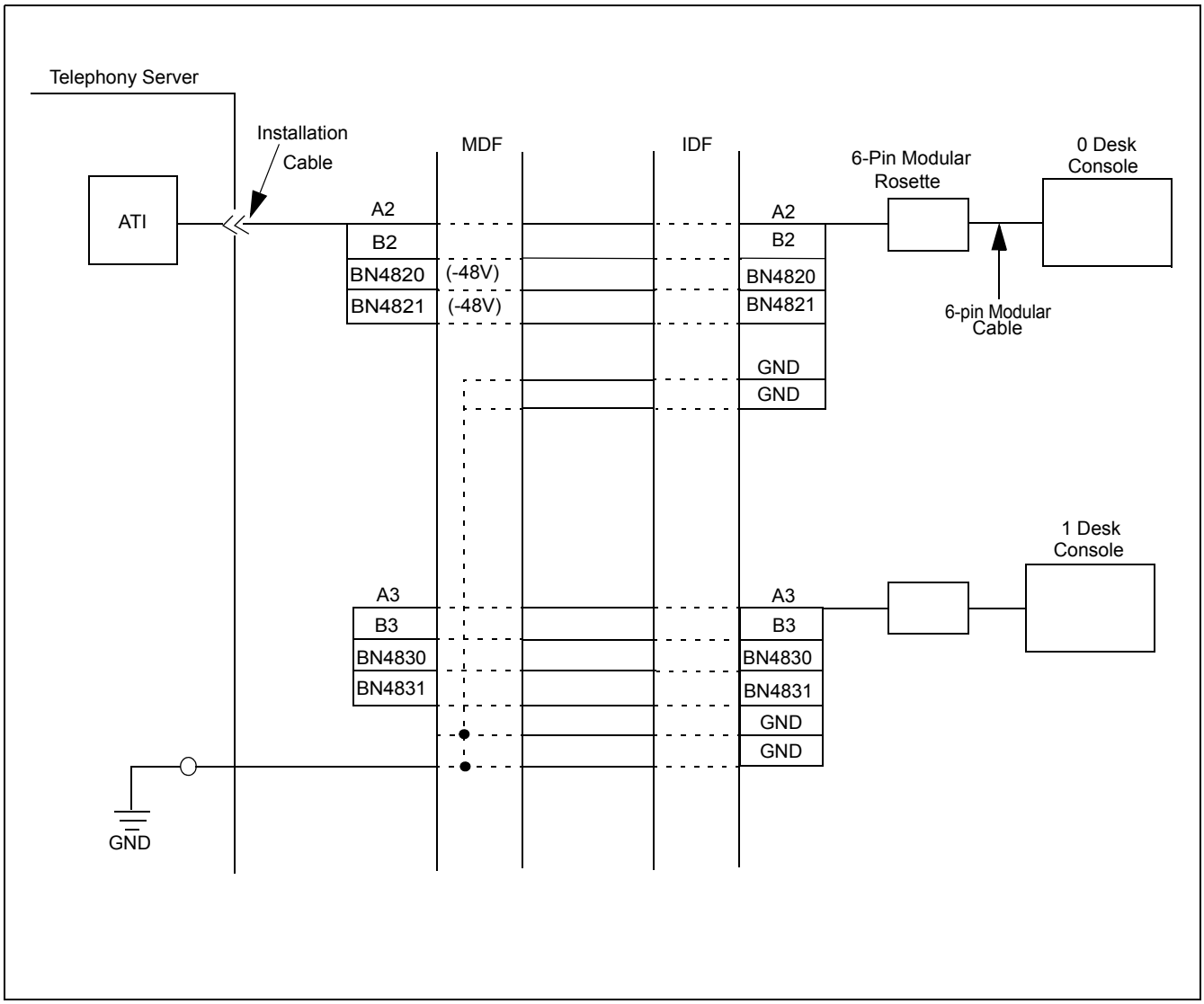
Note: The lead for each Desk Console is shown below.

0 DESK CONSOLE	1 DESK CONSOLE
A2 B2 BN4820 - 48v BN4821 - 48v	A3 B3 BN4830 - 48v BN4831 - 48v



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram

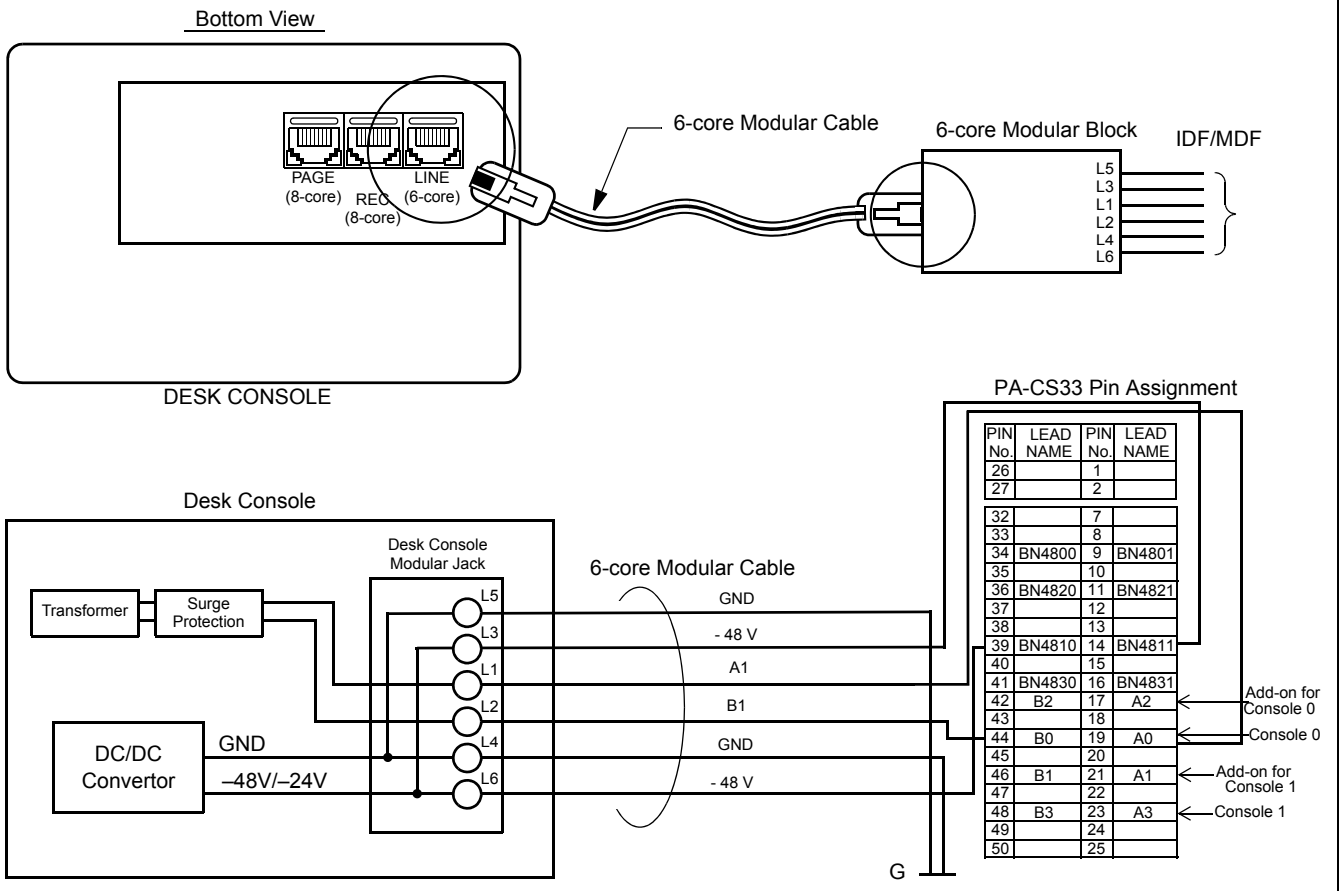


Note: The power feeding wires (BN4820/BN4821/BN4830/BN4831/GND) are not required when the power is supplied to the Desk Console locally.

This figure shows how to connect Desk Console.

Desk Console Connection

Wire the cables to the Modular Block as shown below.



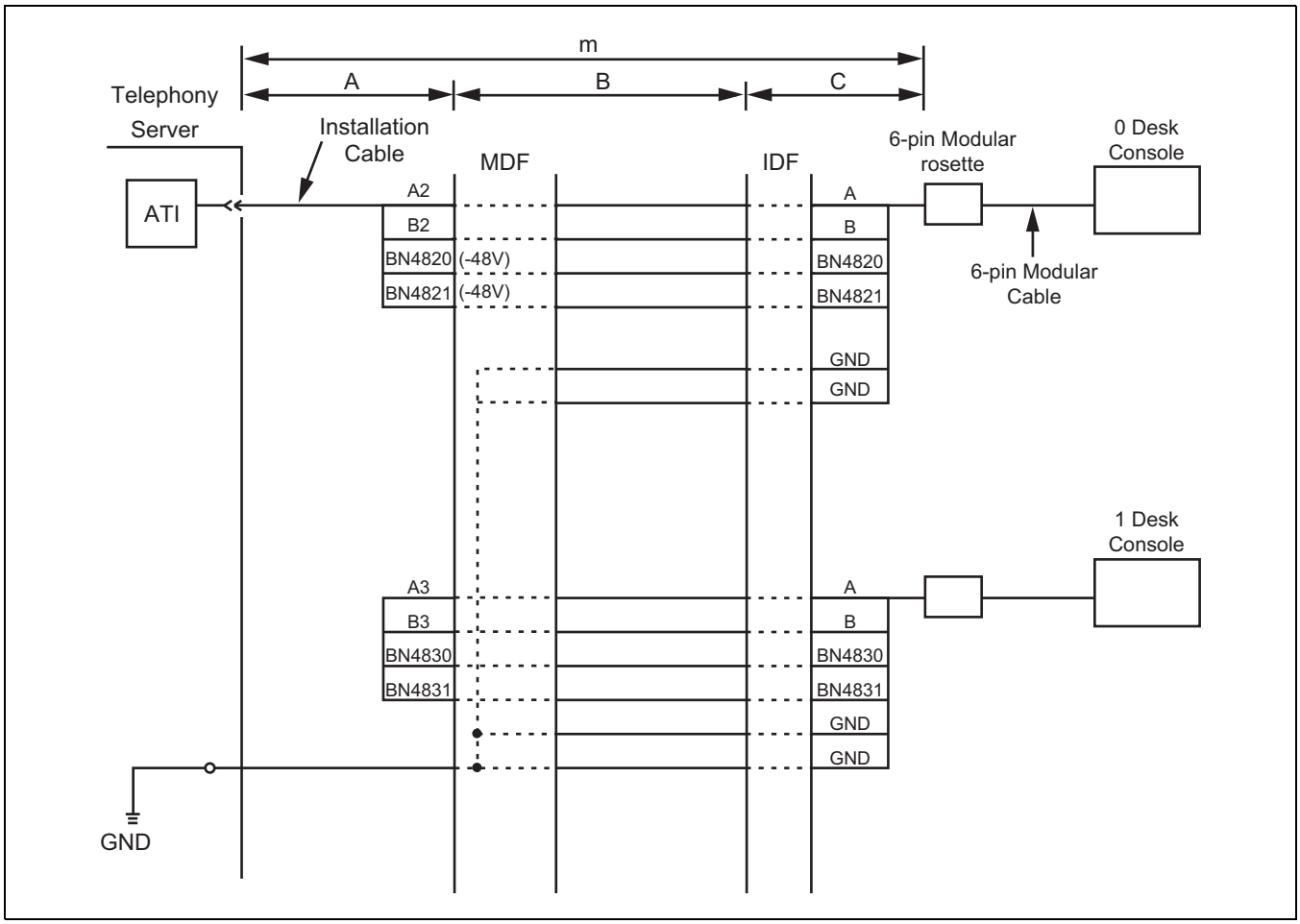
PIN No.	LEAD NAME	PIN No.	LEAD NAME
26		1	
27		2	
32		7	
33		8	
34	BN4800	9	BN4801
35		10	
36	BN4820	11	BN4821
37		12	
38		13	
39	BN4810	14	BN4811
40		15	
41	BN4830	16	BN4831
42	B2	17	A2
43		18	
44	B0	19	A0
45		20	
46	B1	21	A1
47		22	
48	B3	23	A3
49		24	
50		25	

The maximum distance between the ATI circuit card and Desk Console is as shown below.

Power	0.5 ϕ Cable	0.65 ϕ Cable
Telephony Server	1,148 ft. (350 m)	1,640 ft. (500 m)
Local Power Supply	3,937 ft. (1,200 m)	4,921 ft. (1,500 m)

If the distance exceeds the above, estimate it according to the calculation after the figure on the next page.

Distance between the Telephony Server and Modular Rosette of Desk Console



Note: Calculation of the distance between the ATI circuit card and Modular Rosette
The distance M in the figure above is determined according to the Direct-Current resistance of power supply cables (-48 V and GND). Note that the maximum resistance is 26 Ω as shown in the following formula:

$m = a + b + c \leqq 26\ \Omega$

m: Maximum Direct-Current resistance between the ATI circuit card and Modular Rosette
a: Direct-Current resistance of power supply cables (-48V and GND) in the range of A
b: Direct-Current resistance of power supply cables (-48V and GND) in the range of B
c: Direct-Current resistance of power supply cables (-48V and GND) in the range of C

Example of Calculation

a, b, and c are calculated by the following formulae:

$$a = \frac{u\ (\Omega/m) \times x\ (m)}{2} + \frac{u\ (\Omega/m) \times x\ (m)}{1}$$

(u (Ω/m): Cable resistance of DC -48 V cables; 2: Number of DC -48 V cables; u (Ω/m): Cable resistance on GND cables; 1: Number of GND cables)

$$b = \frac{v\ (\Omega/m) \times y\ (m)}{2} + \frac{v\ (\Omega/m) \times y\ (m)}{2}$$

(v (Ω/m): Cable resistance of DC -48 V cables; 2: Number of DC -48 V cables; v (Ω/m): Cable resistance on GND cables; 2: Number of GND cables)

$$c = \frac{w\ (\Omega/m) \times z\ (m)}{2} + \frac{w\ (\Omega/m) \times z\ (m)}{2}$$

(w (Ω/m): Cable resistance of DC -48 V cables; 2: Number of DC -48 V cables; w (Ω/m): Cable resistance on GND cables; 2: Number of GND cables)

u: DC resistance per meter in the range of A (Ω/m)

v: DC resistance per meter in the range of B (Ω/m)

w: DC resistance per meter in the range of C (Ω/m)

x: Cable length (m) in the range of A

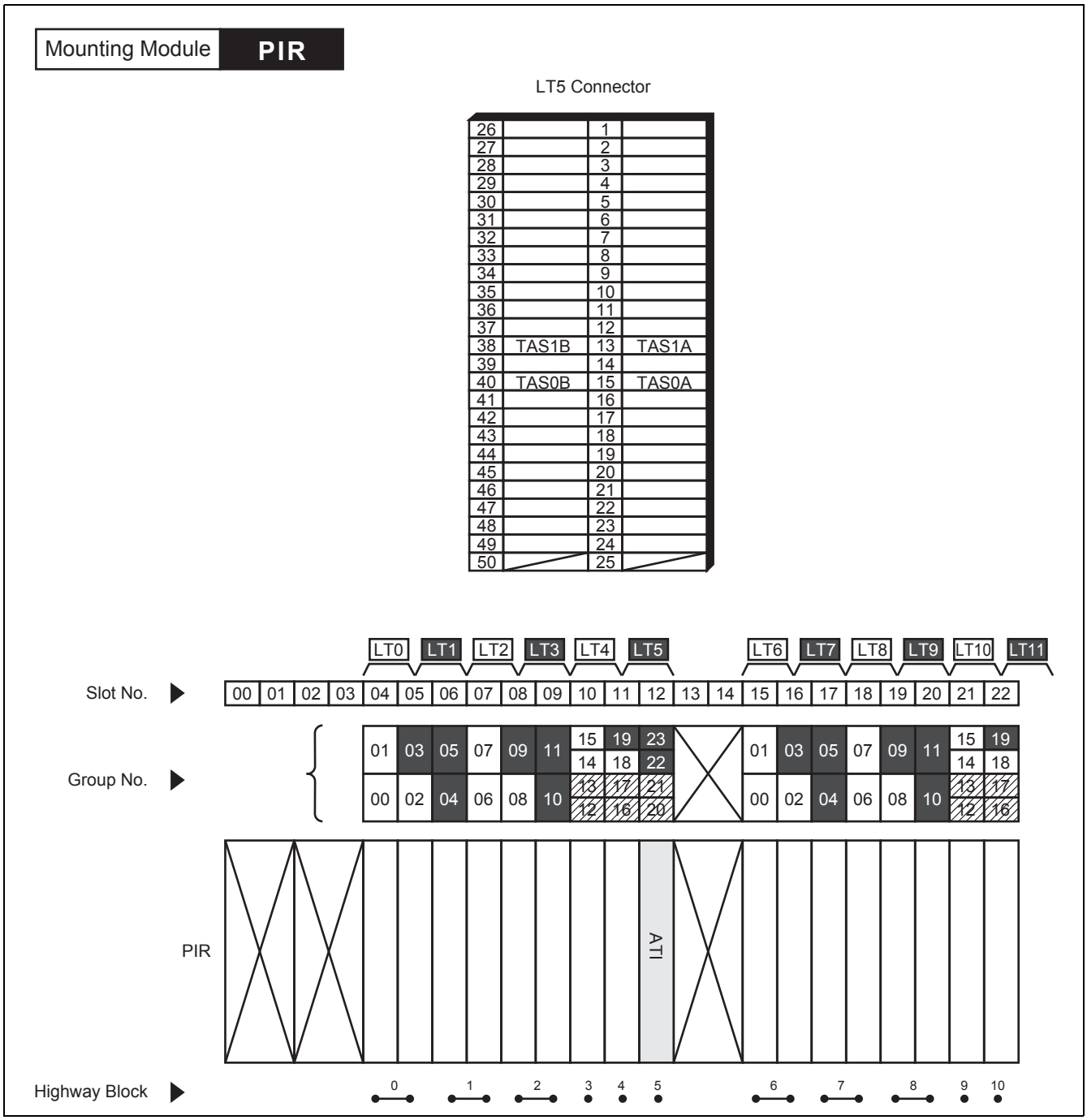
y: Cable length (m) in the range of B

z: Cable length (m) in the range of C

Note: It is not required to use cable lengths in meters in the following formula. Cable lengths may be used in feet, yards, or whatever units you are preferred. However, the units of resistance used must match the units of length used. For example, if distance in feet is used, then DC resistance per foot must be used.

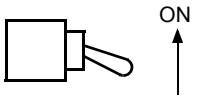
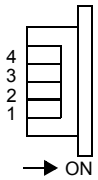
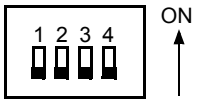
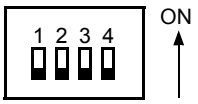
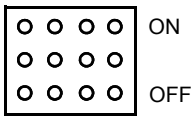
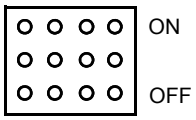
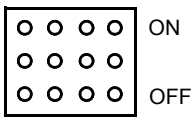
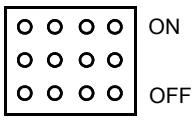
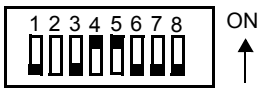
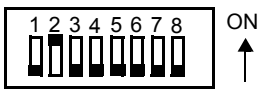
The location of the LT connector leads for the TAS interface is as shown below.

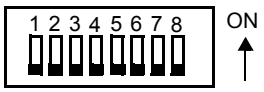
LT Connector Lead Location (PIR)



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
SW00		
SW01		
SW10 (TAS #0)		
SW13 (TAS #1)		
SW11 (TAS #0)		
SW12 (TAS #0)		
SW14 (TAS #1)		
SW15 (TAS #1)		
SW16		
SW17		

SWITCH NAME	SWITCH SHAPE	REMARKS
SW18		

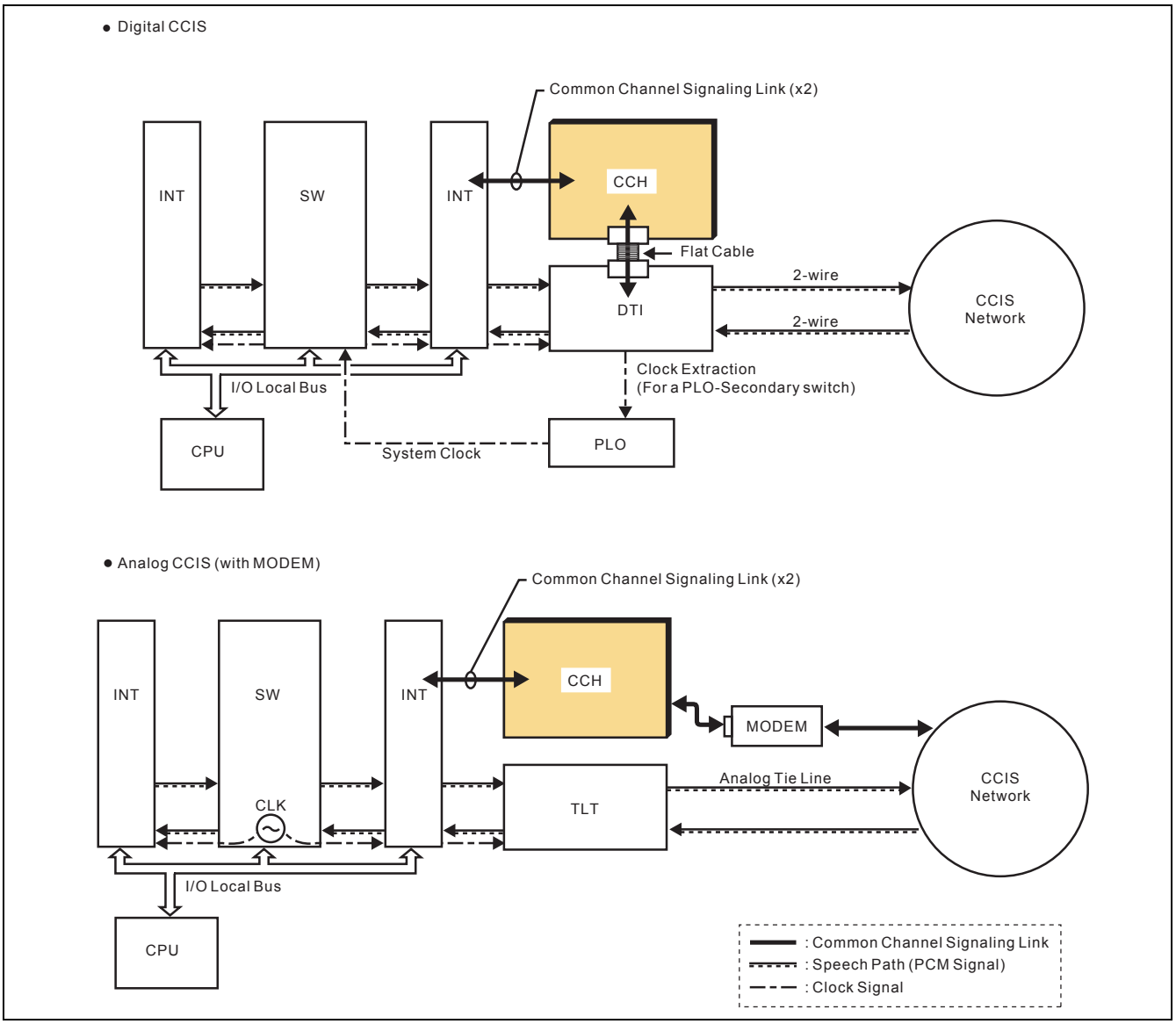
PA-2CCHA
Common Channel Handler

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

Equipped with two circuits of Common Channel Handlers (CCHs), the PA-2CCHA circuit card provides two signaling links for a digital/analog Common Channel Interoffice Signaling (CCIS) system, that can be selected by key settings on this card. If a digital CCIS system, this card is connected to a Digital Trunk Interface (DTI) card with a flat cable to exchange common channel signals as shown below. To support an analog CCIS system, this card also has an RS-232C interface for Modem(s).

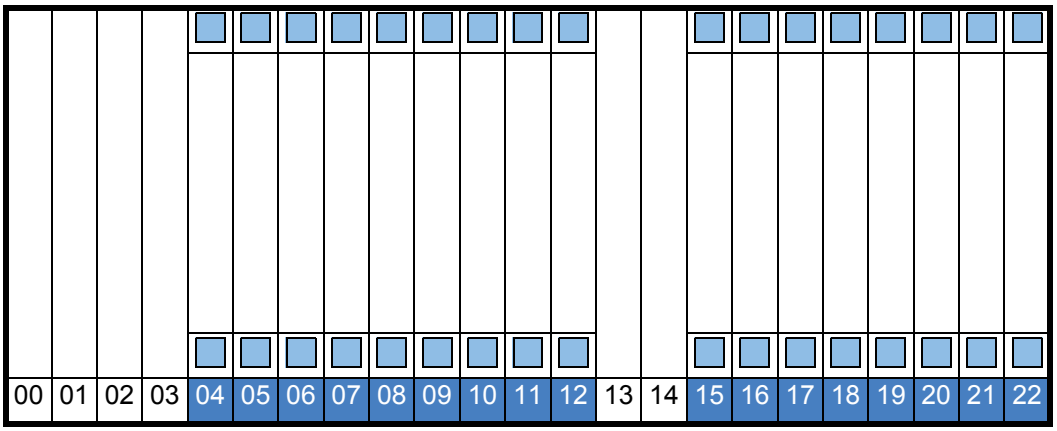
Location of PA-2CCHA (CCH) in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



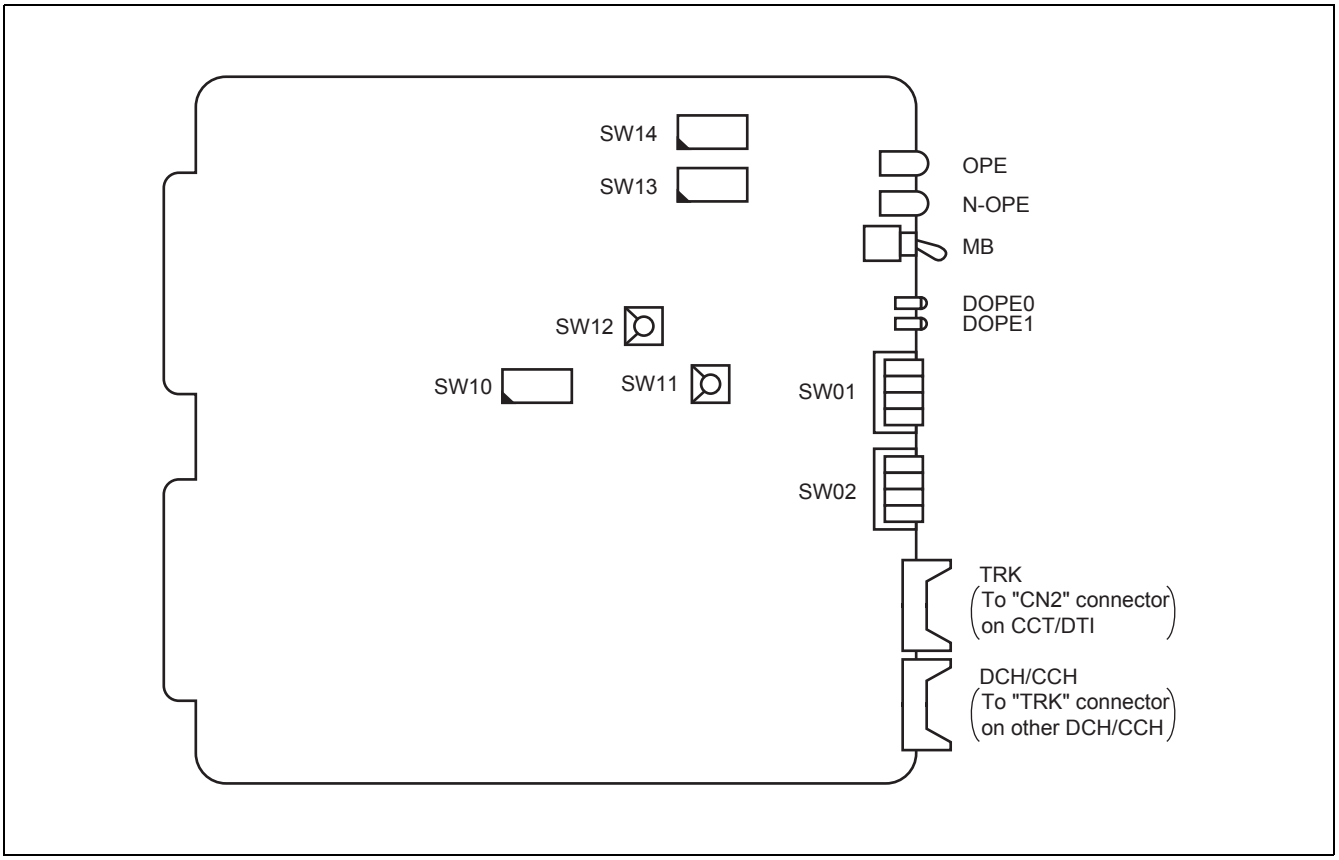
Mounting Conditions:

- The PA-2CCHA (CCH) card can be mounted in any universal slot as shown above. The DTI and CCH card, however, cannot coexist in the same Highway Block.
- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-2CCHA (CCH)



4. Lamp Indications

The contents of lamp indications of this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating.
N-OPE	Red	Remains lit while this circuit card is in Make-Busy state.
DOPE0 DOPE1	Red	Lights when the common channel signaling link is set up.
	Flash	Flashes when CCH is started up.

5. Switch Settings

Standard settings of various switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB		ON		Circuit card: Make-Busy
		OFF	×	Circuit card: Make-Busy cancel
SW01	0	ON		Circuit 0 Make-Busy request
		OFF	×	Circuit 0 Make-Busy request cancel
	1	ON		Circuit 1 Make-Busy request
		OFF	×	Circuit 1 Make-Busy request cancel
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
SW02	0	ON		Loop back of Circuit 0 is performed
		OFF	×	Loop back of Circuit 0 is not performed
	1	ON		Loop back of Circuit 1 is performed
		OFF	×	Loop back of Circuit 1 is not performed
	2	ON		Drop/Insert of Circuit 0 is performed
		OFF		Drop/Insert of Circuit 0 is not performed
	3	ON		Drop/Insert of Circuit 1 is performed
		OFF		Drop/Insert of Circuit 1 is not performed
SW10	1			
	2			
	3			

SETTING OF TRANSFER SPEED OF DROP/INSERT IN NO.0 CIRCUIT

SW10-1	SW10-2	SW10-3	TRANSFER SPEED	
ON	ON	ON	64	kbps
OFF	ON	ON	32	kbps (Forward)
ON	OFF	ON	16	kbps (Forward)
OFF	OFF	ON	8	kbps (Forward)
ON	ON	OFF	64	kbps
OFF	ON	OFF	32	kbps (Backward)
ON	OFF	OFF	16	kbps (Backward)
OFF	OFF	OFF	8	kbps (Backward)

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="8">SW10</td><td rowspan="2">4</td><td>ON</td><td></td><td>Modem is used in Circuit 0.</td></tr>
<tr><td>OFF</td><td></td><td>Modem is not used in Circuit 0.</td></tr>
<tr><td>5</td><td></td><td colspan="2" rowspan="3">
<table>
<tr><th colspan="4">SETTING OF TRANSFER SPEED OF DROP/INSERT IN NO.1 CIRCUIT</th></tr>
<tr><th>SW10-5</th><th>SW10-6</th><th>SW10-7</th><th>TRANSFER SPEED</th></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>64 kbps</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>32 kbps (Forward)</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>16 kbps (Forward)</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>8 kbps (Forward)</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>64 kbps</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>32 kbps (Backward)</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>16 kbps (Backward)</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>8 kbps (Backward)</td></tr>
</table>
</td></tr>
<tr><td>6</td><td></td></tr>
<tr><td>7</td><td></td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Modem is used in Circuit 1.</td></tr>
<tr><td>OFF</td><td></td><td>Modem is not used in Circuit 1.</td></tr>
<tr><td>SW11 (MODE0)</td><td></td><td>0</td><td>×</td><td>Standard setting.</td></tr>
<tr><td>SW12 (MODE1)</td><td></td><td>0</td><td>×</td><td>Standard setting.</td></tr>
</table>

Note: When SW10-4 is set ON, SW10-1, SW10-2 and 10-3 should be set ON.
When SW10-8 is set ON, SW10-5, 10-6 and 10-7 should be set ON.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="8">SW13 (for No. 0 circuit)

SW14 (for No. 1 circuit)</td><td>1</td><td></td><td colspan="2" rowspan="5">
<table>
<tr><th colspan="7">SETTING OF TIME SLOT NUMBER OF DROP/INSERT</th></tr>
<tr><th>SW13-1/ SW14-1</th><th>SW13-2/ SW14-2</th><th>SW13-3/ SW14-3</th><th>SW13-4/ SW14-4</th><th>SW13-5/ SW14-5</th><th>TIME SLOT NUMBER</th></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>CH0</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>CH1</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>CH2</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>CH3</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>CH4</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>CH5</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>CH6</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>CH7</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>CH8</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>CH9</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>CH10</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>CH11</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>CH12</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>CH13</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>CH14</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>CH15</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>CH16</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>CH17</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>CH18</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>CH19</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>CH20</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>CH21</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>CH22</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>CH23</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>CH24</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>CH25</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>CH26</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>CH27</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>CH28</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>CH29</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>CH30</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>CH31</td></tr>
</table>
</td></tr>
<tr><td>2</td><td></td></tr>
<tr><td>3</td><td></td></tr>
<tr><td>4</td><td></td></tr>
<tr><td>5</td><td></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td colspan="2">Mode setting; Preventive Cyclic Retransmission (PCR) method.</td></tr>
<tr><td>OFF</td><td colspan="2">Mode setting; CCIS.</td></tr>
<tr><td rowspan="2">7</td><td rowspan="2"></td><td colspan="2" rowspan="2">
<table>
<tr><th colspan="3">SETTING OF SPEED OF MODE</th></tr>
<tr><th>SW13-7/ SW14-7</th><th>SW13-8/ SW14-8</th><th>SPEED</th></tr>
<tr><td>OFF</td><td>OFF</td><td>2400 bps</td></tr>
<tr><td>OFF</td><td>ON</td><td>4800 bps</td></tr>
<tr><td>ON</td><td>OFF</td><td>9600 bps</td></tr>
<tr><td>ON</td><td>ON</td><td>Inhibit</td></tr>
</table>
</td></tr>
<tr><td>8</td></tr>
</table>

6. External Interface

In analog CCIS, necessary leads for Modems appear on LT connectors as follows.

See also Connecting Route Diagram for Digital/Analog CCIS.

LT Connector Lead Accommodation (1/2)

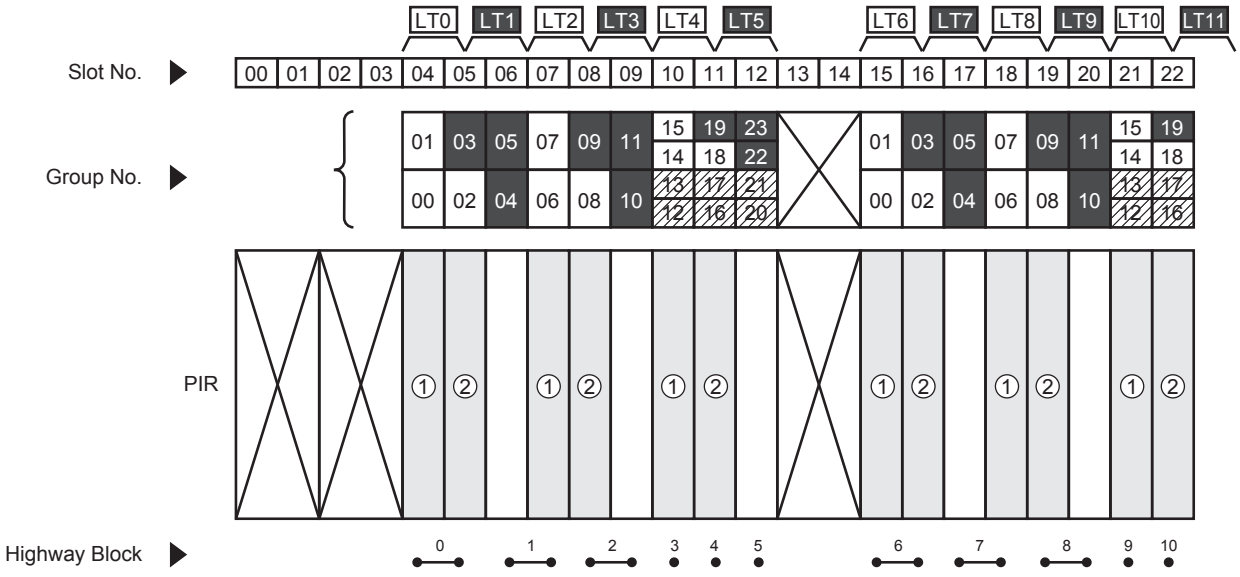
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26		1	RD 0
27	SG 0	2	ER 0
28	RT 0	3	ST2 0
29	RS 0	4	SD 0
30		5	RD 1
31	SG 1	6	ER 1
32	RT 1	7	ST2 1
33	RS 1	8	SD 1
34	SCKB 0	9	SCKA 0
35	TDB 0	10	TDA 0
36	RDB 0	11	RDA 0
37		12	
38	SCKB 1	13	SCKA 1
39	TDB 1	14	TDA 1
40	RDB 1	15	RDA 1
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②

LT 0, 2, 4, 6, 8, 10 Connector				LT 1, 3, 5, 7, 9 Connector			
26		1		26	SCKB 0	1	SCKA 0
27		2		27	TDB 0	2	TDA 0
28		3		28	RDB 0	3	RDA 0
29		4		29		4	
30		5		30	SCKB 1	5	SCKA 1
31		6		31	TDB 1	6	TDA 1
32		7		32	RDB 1	7	RDA 1
33		8		33		8	
34		9		34		9	
35		10		35		10	
36		11		36		11	
37		12		37		12	
38		13		38		13	
39		14		39		14	
40		15		40		15	
41		16		41		16	
42		17	RD 0	42		17	
43	SG 0	18	ER 0	43		18	
44	RT 0	19	ST2 0	44		19	
45	RS 0	20	SD 0	45		20	
46		21	RD 1	46		21	
47	SG 1	22	ER 1	47		22	
48	RT 1	23	ST2 1	48		23	
49	RS 1	24	SD 1	49		24	
50		25		50		25	



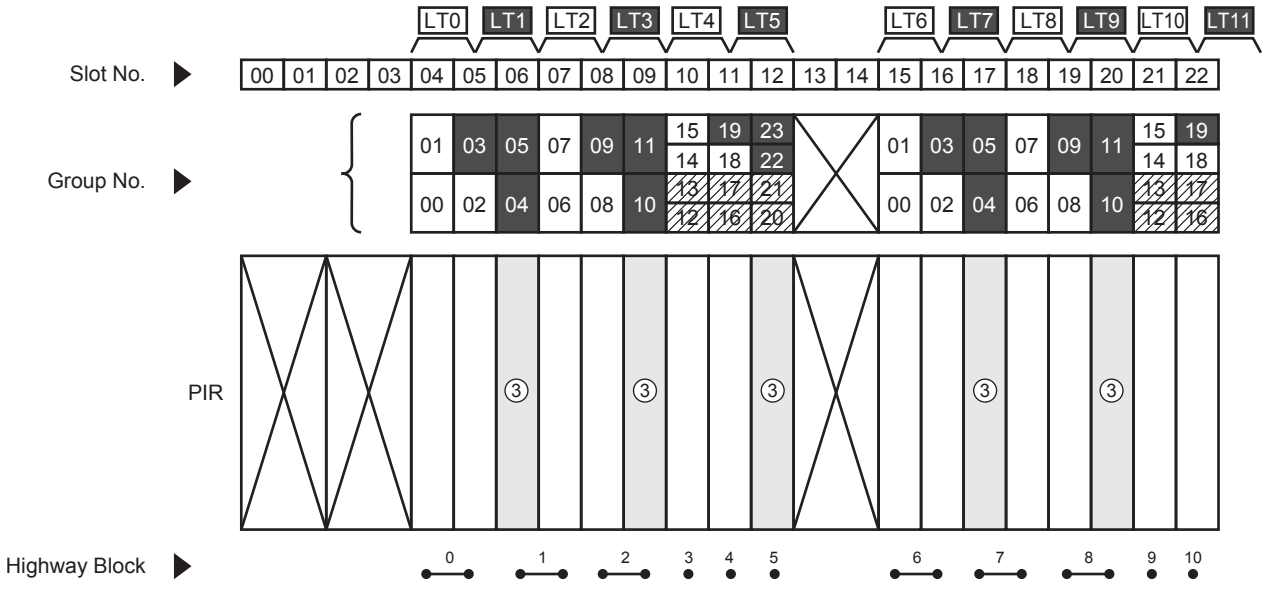
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (2/2)

Mounting Module **PIR**

Accommodated in ③
LT 1, 3, 5, 9 Connector

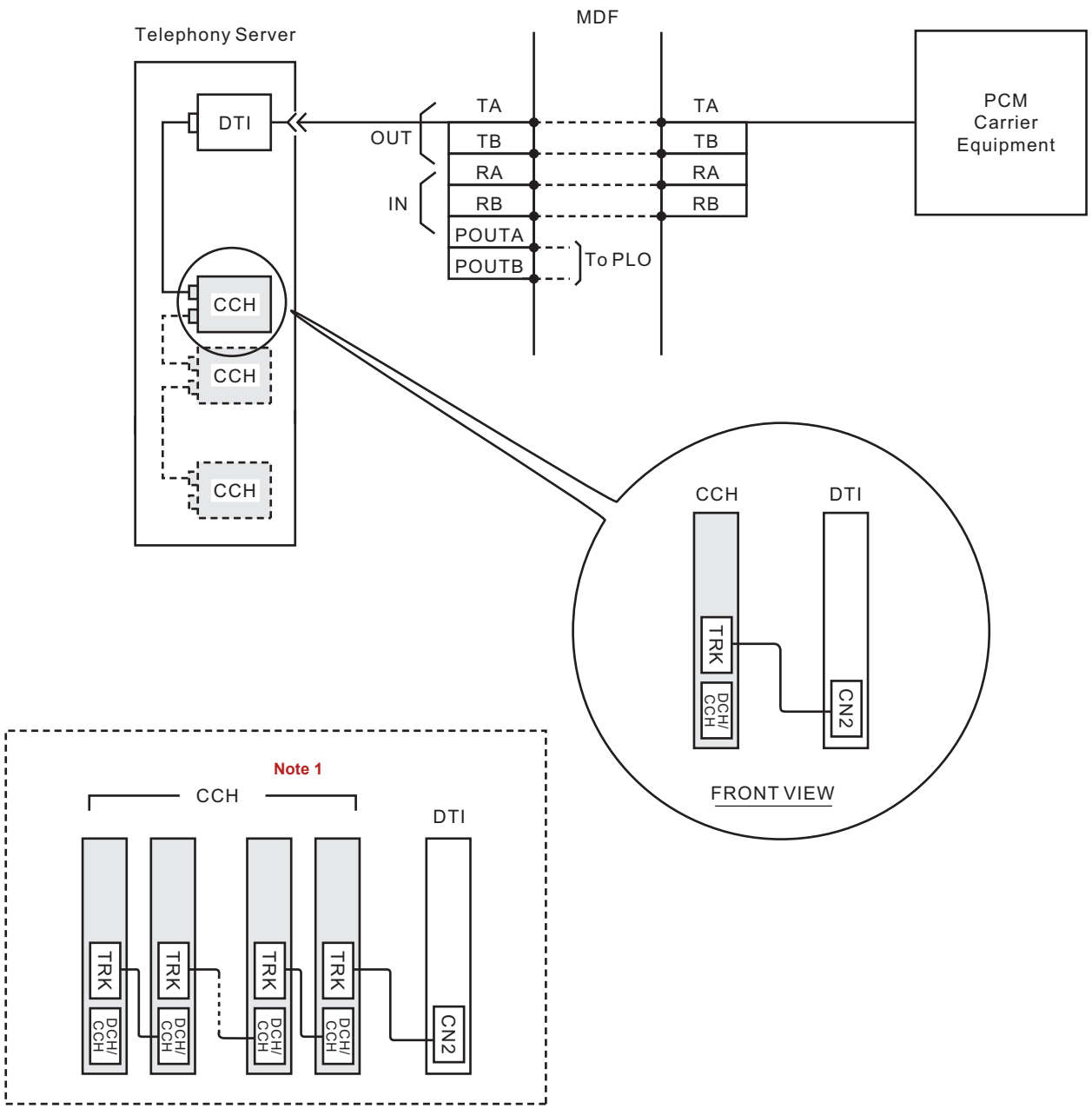
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	RD 0
35	SG 0	10	ER 0
36	RT 0	11	ST2 0
37	RS 0	12	SD 0
38		13	RD 1
39	SG 1	14	ER 1
40	RT 1	15	ST2 1
41	RS 1	16	SD 1
42	SCKB 0	17	SCKA 0
43	TDB 0	18	TDA 0
44	RDB 0	19	RDA 0
45		20	
46	SCKB 1	21	SCKA 1
47	TDB 1	22	TDA 1
48	RDB 1	23	RDA 1
49		24	
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram (Digital CCIS)

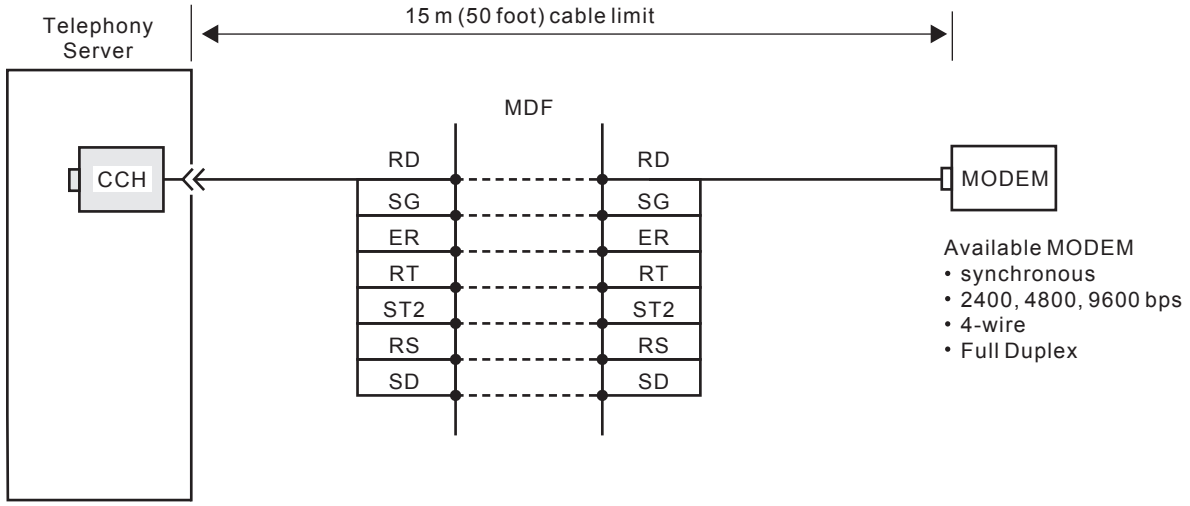
●Digital CCIS



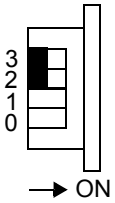
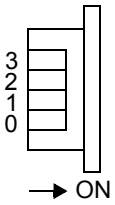
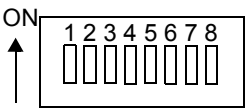
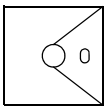
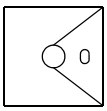
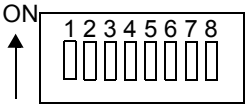
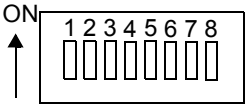
Note 1: A maximum of 7CCH cards can be connected to a DTI card.

Connecting Route Diagram (Analog CCIS)

- Analog CCIS (with MODEM)



7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW01		SW01-2 and 3: Not used
		SW02		
		SW10		
		SW11		Standard Setting.
		SW12		Standard Setting.
		SW13		
		SW14		
		MB	DOWN	Circuit card: Make-Busy cancel

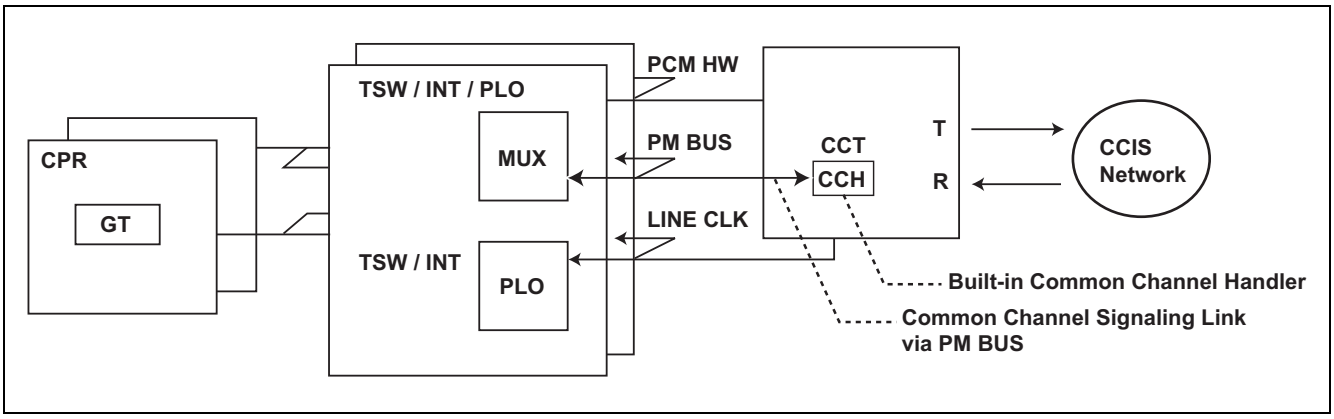
PA-PRTC (1.5M CCT) Common Channel Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	-	-	X	-	-

1. General Function

The PA-PRTC (1.5M CCT) circuit card is a digital interface (24 channels) supporting voice and data communications at 1.5 M bit/second. This card builds in the Common Channel Handler (CCH) accordance with ITU-T Q series and offers Common Channel Interoffice Signaling (CCIS) with the system. A built-in resonance circuit extracts clock signals that are supplied from the network, so that the system may be in exact synchronization with the network. To obtain appropriate speech level, this card has standard PAD and flexible PAD. A flexible PAD can set more detailed PAD value than a standard PAD. A flexible PAD value can set the loss from 0 to 20 dB and the gain can be set from -1 to -16 dB respectively in 1dB step.

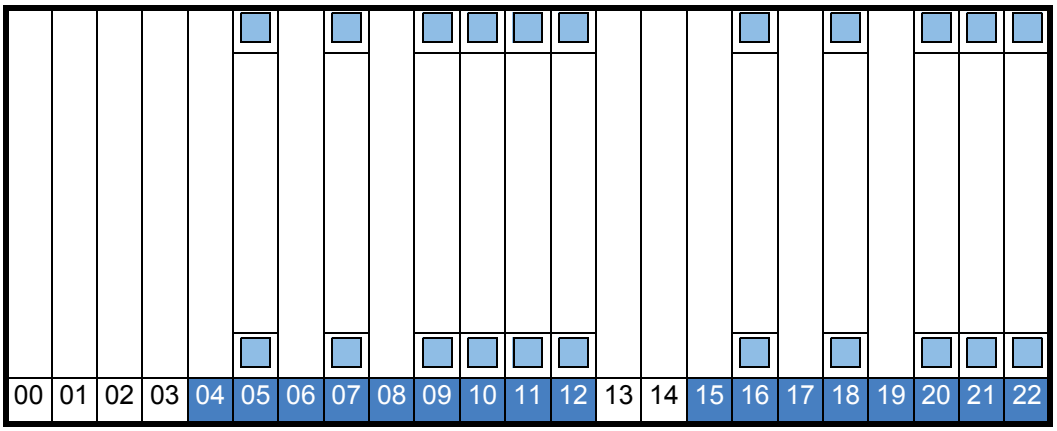
Location of PA-PRTC (1.5M CCT) in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-22



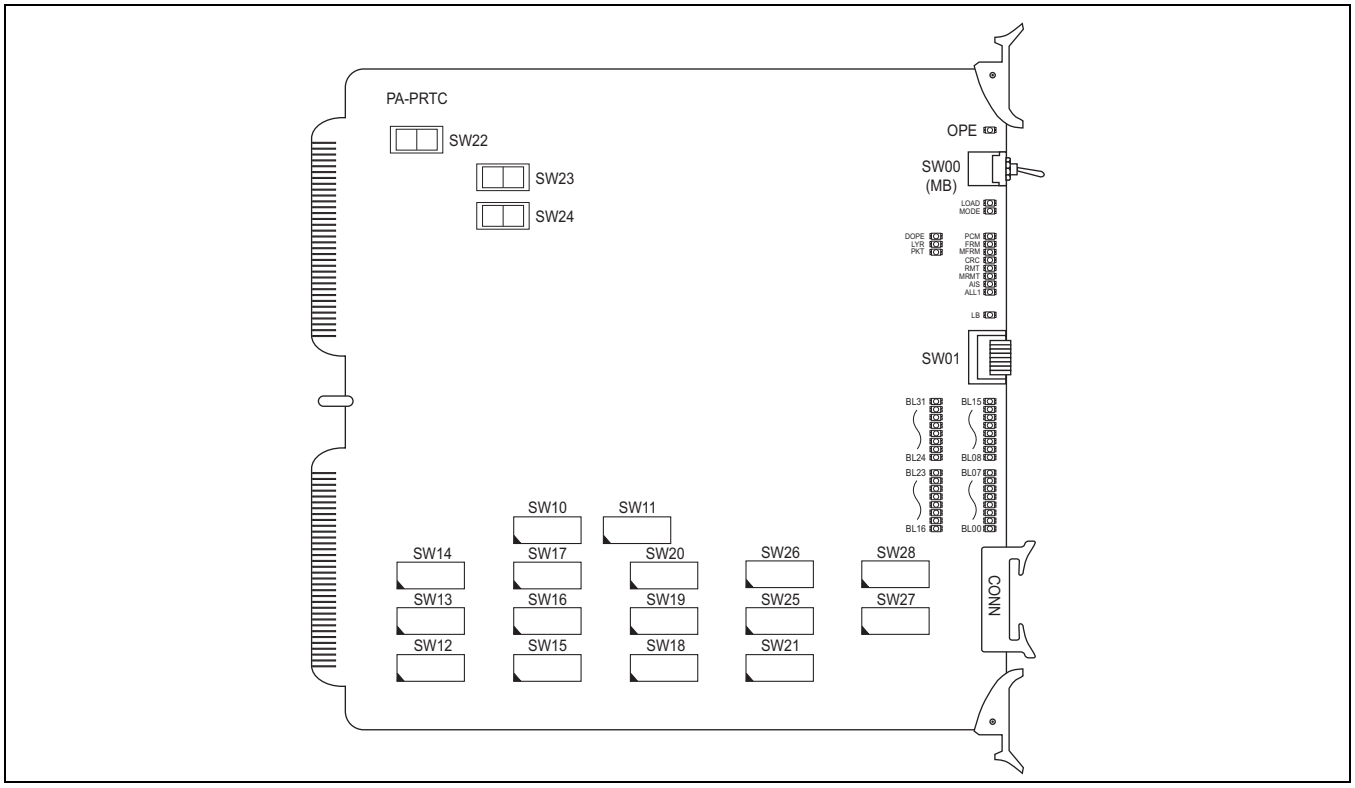
Mounting Conditions:

- Mount this circuit card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.
- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot.
- This card cannot be mounted in Slot 5, when mounted in PIR of Unit 0 (U=0) of Module Group 0 (MG=00). This card cannot use Group 0 (G=00) of Unit 0 (U=0) of Module Group 0 (MG=00). LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-PRTC (1.5M CCT)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	COLOR	DESCRIPTION		
OPE	Green	Lights when this circuit card is operating normally.		
LOAD	Green	Lights when loading program.		
MODE	Green	This lamp is consistently lit.		
PCM	Red	Light		Lights when input signal down is detected (PCM LOSS).
		Flash (240 IPM)		Flashes when system recovered from PCM LOSS and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
FRM	Red	Light		Lights when frame alignment loss is detected.
		Flash (240 IPM)		Flashes when system recovered from frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
MFRM	Red	Not Used (This lamp is fixed to OFF).		
CRC	Red	24 Multi-frame	Light	Lights when frequent CRC error is detected.
			Flash (240 IPM)	Flashes when system has recovered from frequent CRC error and is being supervised.
		12 Multi-frame	Light	Lights when frequent Bit error is detected continuously for more than 1000 seconds.
			Flash (240 IPM)	Flashes when system has recovered from frequent Bit error and is being supervised. Length of time for recovery supervision: 85 seconds

LAMP NAME	COLOR	DESCRIPTION	
RMT	Red	Light	Lights when remote alarm is detected.
		Flash (240 IPM)	Flashes when system has recovered from remote alarm detection and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 1 seconds
MRMT	Red	Not Used (This lamp is fixed to OFF).	
AIS	Yellow	Lights on receipt of Alarm Information Signal (AIS).	
ALL1 (Effective only when SW13-1 is ON)	Red	Light	Lights when main signal ALL1 is detected.
		Flash (240 IPM)	Flashes when system has recovered from main signal ALL1 and is being supervised. Length of time for recovery supervision: 2 seconds
LB	Red	Light	Lights when loopback is being activated.
		Flash (240 IPM)	Flashes when the line-loopback request (inband) signal or the DL message under payload loopback of distant office is detected. (This state indicates the circuit card is in outgoing/incoming Make-Busy state.)
BL00	Green	Light	Lights when assigned the route data for CCIS signal.
BL08 ' BL31	Green	BL08~BL31 effective (BL01~BL07 are not used) **Note 1**	
		Light	Lights when corresponding circuit is busy.
		Flash	Flashes while DP signal is being sent out or received (Flashes to dial pulses), the corresponding circuit (outgoing) is in Make-Busy state (60 IPM) or the corresponding circuit (Bothway) is in Make-Busy state (30 IPM).
		OFF	Remains OFF when Idle.
DOPE	Green	ON	Remains lit while the Common Channel Handler is on.
		OFF	When internal CCH is not used (SW27-6: ON). When Time Slot setting (SW27-1 to 5) and the trunk accommodation location of CCIS signal are not matched.
LYR	Green	Light	Lights when the link of the Common Channel is set up.
		Flash (120 IPM)	Flashes when the link of the Common Channel is started up.
		OFF	CCIS link has been stopped.
PKT	Green	Not used.	

Note 1: BL08 means Channel 0, BL31 means Channel 23.

[Reference]

If the each lamps are lit when started up, check the following.

(a) PCM

Check the cable connection of DSU/Opposite Device connected to this circuit card. Especially the direction (DSU/Opposite Device→CCT).

(b) FRM

DSU/Opposite Device and multi frame type (12/24) are not matched. Check again SW12-2.

(c) RMT

Check the cable connection of DSU/Opposite Device connected to this circuit card. Especially the direction (CCT→DSU/Opposite Device).

DSU/Opposite Device and multi frame type (12/24) are not matched. Check again SW12-2.

(d) AIS

DSU/Opposite Device has a problem.

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
SW01	1	ON		Local Loopback: Set (Internal)
		OFF	×	Local Loopback: Cancel (Internal)
	2	ON		Line Loopback: Set (External)
		OFF	×	Line Loopback: Cancel (External)
	3	ON		Payload Loopback: Set
		OFF	×	Payload Loopback: Cancel
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		All channel make-busy: Set
		OFF	×	All channel make-busy: Cancel
	6	ON		CCH make-busy: Set
		OFF	×	CCH make-busy: Cancel
	7	ON		CCH Remote Loopback: Set
		OFF	×	CCH Remote Loopback: Cancel
	8	ON		
		OFF	×	Fixed to OFF. (For Maintenance)

[Reference]

(a) Local Loopback (Internal Loopback)

All the 24 Channels sent from TSW are sent back to TSW by the Line Interface. The opposite node will detect AIS.

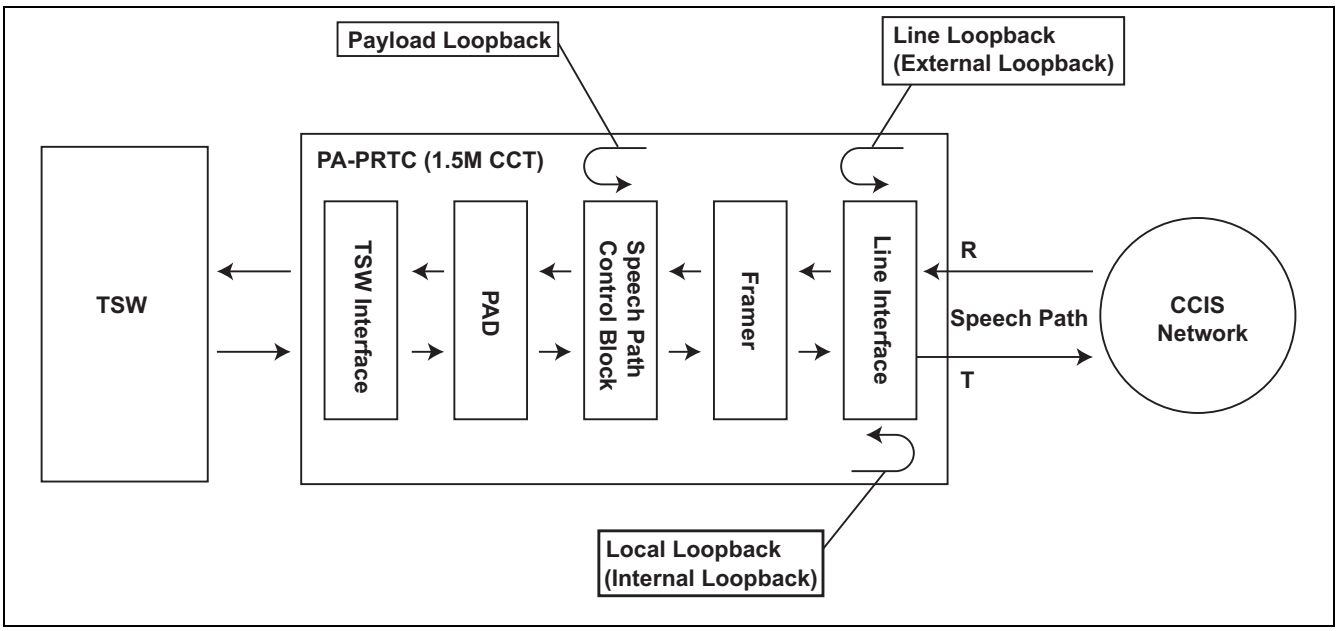
(b) Line Loopback (External Loopback)

All the 24 Channels sent from the Line are sent back to the Line by the Line Interface.

(c) Payload Loopback

All the 24 Channels sent from the Line are sent back to the Line by the Speech Path Control Block.

Available Locations for Loopback Testing



Note: A difference between Line Loopback and Payload Loopback:
Line Loopback operates by the timing of line side, and Payload Loopback operates partially by the timing of the system. Therefore, the Payload Loopback will have a bit error if the system is not synchronized with the Line. The Line Loopback will not have this error.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="16">SW10</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="8"><table><tr><th colspan="4">Equalizer Settings</th></tr><tr><td>10-1</td><td>10-2</td><td>10-3</td><td>Transmission distance Note 1</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>0~40m</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>40~80 m</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>80~120 m</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>120~160 m</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>160~200 m</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td rowspan="3">Unavailable</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td></tr><tr><td>ON</td><td>ON</td><td>ON</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>TTC JT-G704 Mode (only 1st edition and 2nd edition)</td></tr>
<tr><td>OFF</td><td>×</td><td>ITU-T G.704 Mode</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td>Earlier than NEAX2400 ICS/NEAX7400 ICS</td></tr>
<tr><td>OFF</td><td>×</td><td>NEAX2400 ICS/NEAX7400 ICS or later</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

Note 1: The transmission distance indicates the half point between the circuit card and DSU/ Opposite Device. If the distance is 100m, the half point is 50m. In this case, the transmission distance is "40~80 m".

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW11	1	ON		Remote Alarm Send Out Restricted
		OFF	×	Remote Alarm Send Out Unrestricted
	2	ON		Remote Alarm In Channel **Note 2**
		OFF		Remote Alarm (Data Link or FS Bit) **Note 2**
	3	ON	×	Remote Alarm is not sent when AIS was detected.
		OFF		Remote Alarm is sent when AIS was detected.
	4	ON	×	Alarm Release Time: (Long)
		OFF		Alarm Release Time: (Short)
	5	ON		Alarm Detect/Release Type (AT&T)
		OFF		Alarm Detect/Release Type (Normal)
	6	ON		PLO is controlled when main signal ALL1.
		OFF	×	PLO is not controlled when main signal ALL1.
	7	ON		
		OFF	×	Fixed to OFF.
	8	ON		
		OFF	×	Fixed to OFF.

Note 2: ON when using 12 multiframe, OFF when using 24 multiframe.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th colspan="3">MEANING</th></tr>
<tr><td rowspan="15">SW12</td><td rowspan="2">1</td><td>ON</td><td></td><td colspan="3">Line Signal: AMI/ZCS Note 3</td></tr>
<tr><td>OFF</td><td>×</td><td colspan="3">Line Signal: B8ZS</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td colspan="3">Multiframe: 12 Multiframe</td></tr>
<tr><td>OFF</td><td></td><td colspan="3">Multiframe: 24 Multiframe</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td colspan="3">4k Data Link: MOS</td></tr>
<tr><td>OFF</td><td></td><td colspan="3">4k Data Link: BOM</td></tr>
<tr><td rowspan="3">4, 5</td><td rowspan="3"></td><td colspan="4">4k Data Link Operation Mode
When BOM is used (SW12-3: OFF, SW10-4: OFF)
<table>
<tr><th>STANDARD SETTING</th><th>SW12-4</th><th>SW12-5</th><th>Transmission</th><th>Reception</th></tr>
<tr><td>×</td><td>OFF</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is not received</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>FFFFH data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>FFFFH data are sent</td><td>BOM message is not received</td></tr>
</table></td></tr>
<tr><td colspan="4">When BOM is used (SW12-3: OFF, SW10-4: ON)
<table>
<tr><th>STANDARD SETTING</th><th>SW12-4</th><th>SW12-5</th><th>Transmission</th><th>Reception</th></tr>
<tr><td>×</td><td>OFF</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is not received</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>0000H data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>0000H data are sent</td><td>BOM message is not received</td></tr>
</table></td></tr>
<tr><td colspan="4">When MOS is used (SW12-3: ON)
<table>
<tr><th>STANDARD SETTING</th><th>SW12-4</th><th>SW12-5</th><th>Transmission</th><th>Reception</th></tr>
<tr><td>×</td><td>OFF</td><td>OFF</td><td>PPR data are sent</td><td>MOS message is received</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>PPR data are sent</td><td>MOS message is not received</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>Flag (7EH) data are sent</td><td>MOS message is received</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>Flag (7EH) data are sent</td><td>MOS message is not received</td></tr>
</table></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td colspan="3"></td></tr>
<tr><td>OFF</td><td>×</td><td colspan="3">Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td colspan="3">Long haul mode</td></tr>
<tr><td>OFF</td><td>×</td><td colspan="3">Short haul mode</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td rowspan="2">4k data link activation mode</td><td>Network side mode</td></tr>
<tr><td>OFF</td><td>×</td><td>User side mode</td></tr>
</table>

Note 3: AMI is used only if Bit Steal is inhibited by the setting of SW25-1/2.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW13	1	ON		Main Signal ALL1 is detected (When using HSD Line).
		OFF	×	Main Signal ALL1 is not detected.
	2	ON		Idle Code is sent.
		OFF	×	Idle Code is not sent.
	3	ON		DP relay function is used for FCCS.
		OFF	×	DP relay function is not used for FCCS.
	4	ON		Simultaneous Seizure Supervision: Not controlled
		OFF	×	Simultaneous Seizure Supervision: Controlled
	5	ON		Not activate counter node when detecting Simultaneous Seizure.
		OFF	×	Activate counter node when detecting Simultaneous Seizure.
	6	ON		Level 1 Alarm is not notified to CPU.
		OFF	×	Level 1 Alarm is notified to CPU.
	7	ON		CAS is not effective when CCH is used.
		OFF	×	CAS is effective when CCH is used.
	8	ON		Incoming / Outgoing call collision processing is used.
		OFF	×	Incoming / Outgoing call collision processing is not used.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW14	1	ON OFF		Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set by ARTD/APAD command.) Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data		
	2	ON OFF				
	3	ON OFF				
	4	ON OFF				
	5	ON OFF				
	6	ON OFF				
	7, 8			PAD Control Method (Using Both Flexible/Standard PAD)		
				7	8	
			×	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
				ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
				OFF	ON	Fixed to ARTD (Transmission/Reception PAD Control)
				ON	ON	Transmission/Reception PAD Control

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW15	1	ON OFF		Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 2 is set by ARTD/APAD command.) Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data		
	2	ON OFF				
	3	ON OFF				
	4	ON OFF				
	5	ON OFF				
	6	ON OFF				
	7, 8			PAD Selection (Using Both Flexible/Standard PAD)		
				7	8	
			×	OFF	OFF	μ- Law
				ON	OFF	A - Law
				OFF	ON	A - Law → μ - Law
				ON	ON	μ - Law →A - Law

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW16	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 3 is set by ARTD/APAD command.) Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Pattern Selection Refer to Standard Setting PAD Level (1/4) ~ Standard Setting PAD Level (4/4)		
				7	8	
			×	OFF	OFF	PAD Pattern 1
				ON	OFF	PAD Pattern 2
				OFF	ON	PAD Pattern 3
				ON	ON	PAD Pattern 4

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW17	1	ON		Reception PAD Value Setting (Flexible PAD) : (PAD Data 4) (Reception PAD value when 4 is set by ARTD/APAD command.) Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Data PAD Pattern Selection		
				7	8	
			×	OFF	OFF	64 k
				ON	OFF	64 k Inversion
				OFF	ON	56 k
				ON	ON	48 k

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW18	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set by ARTD/APAD command.) Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data
		OFF		
	2	ON		
		OFF		
	3	ON		
		OFF		
	4	ON		
		OFF		
	5	ON		
		OFF		
	6	ON		
		OFF		
	7	ON		Flexible PAD (Refer to No. 1 - 6 of SW14 - SW21)
		OFF	×	Standard PAD (Refer to No.7-8 of SW16)
	8	ON		CCH Signaling Logic: Negative
		OFF	×	CCH Signaling Logic: Positive

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW19	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set by ARTD/APAD command.) Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Seizure Acknowledgement Guard Time		
				7	8	
			×	OFF	OFF	48 milliseconds
				ON	OFF	64 milliseconds
				OFF	ON	80 milliseconds
				ON	ON	96 milliseconds
			Acknowledge Signal Detection Guard timer when sending out Wink/Delay.			

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW20	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set by ARTD/APAD command.) Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Seizure Acknowledgement Detection Time		
				7	8	
			×	OFF	OFF	56 milliseconds
				ON	OFF	96 milliseconds
				OFF	ON	136 milliseconds
				ON	ON	176 milliseconds
			Acknowledge Signal Detection timer when sending out Wink/Delay.			

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW21	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set by ARTD/APAD command.) Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Answer Detection Time		
				7	8	
			×	OFF	OFF	200 milliseconds
				ON	OFF	100 milliseconds
				OFF	ON	400 milliseconds
				ON	ON	700 milliseconds

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
SW22	ON	×	Fixed to ON
	OFF		
SW23	ON		
	OFF	×	Fixed to OFF
SW24	ON	×	Middle point of reception transformer: Open
	OFF		Middle point of reception transformer: Ground

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW25 Note 6	1, 2		Note 4	Send Signaling Pattern Selection		
				1	**2**	Signaling Pattern
				OFF	OFF	AAAA
				ON	OFF	ABAB
			×	OFF	ON	Bit Steal Inhibited
				ON	ON	ABCD
	3, 4		Note 4	Receive Signaling Pattern Selection		
				3	**4**	Signaling Pattern
				OFF	OFF	AAAA
				ON	OFF	ABAB
			×	OFF	ON	Bit Steal Inhibited
				ON	ON	ABCD
	5 Note 5	ON		Send Signaling A Logic: Negative		
		OFF	×	Send Signaling A Logic: Positive		
	6 Note 5	ON		Receive Signaling A Logic: Negative		
		OFF	×	Receive Signaling A Logic: Positive		
	7,8			ISDN-BUS Location Select (valid when SW27-8=ON)		
				7	8	LG
				OFF	OFF	0,4,8,12,16,20
				ON	OFF	1,5,9,13,17,21
				OFF	ON	2,6,10,14,18,22
				ON	ON	3,7,11,15,19,23

Note 4: CCT Standard (when CCH is used): Bit Steal Inhibited Setting (SW25-1, 2/3, 4: OFF, ON)

Note 5: These switch settings are invalid when "Bit Steal Inhibited" was chosen for the Signaling Pattern.

Note 6: The setting of SW25 is used for ACIS line. Therefore, it needs to be assigned according to the specification of the opposite device.

CCT Standard
(CCIS/ACIS Coexistence)



SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING				
SW26	1, 2, 3		Note 7	CCH Operation Mode				
				1	2	3		
				OFF	OFF	OFF	ITU-T mode (Emergency) Note 8	
				ON	OFF	OFF	ITU-T mode (Normal) Note 8	
				OFF	ON	OFF	NTT mode Note 9	
				ON	ON	OFF	TTC mode Note 10	
				OFF	OFF	ON	Corresponding to PA-24CCTA + TTC error detection. Note 10, Note 11	
				ON	OFF	ON	Corresponding to PA-2CCHA. Note 9	
				OFF	ON	ON	Corresponding to PA-24CCTA. Note 12	
				ON	ON	ON	ITU-T mode (Emergency) Note 13	
	4	ON		When CCH MBR (SW01-6=ON) is set, SIOS signal will stop after being output for three seconds.				
		OFF	×	When CCH MBR (SW01-6=ON) is set, SIOS will be output consecutively.				
	5, 6, 7, 8			CCH Transfer Rate				
				5	6	7	8	
			×	OFF	OFF	OFF	OFF	64kbps
				ON	OFF	OFF	OFF	56kbps
				OFF	ON	OFF	OFF	48kbps (Standard)
				ON	ON	OFF	OFF	32kbps (Forward)
				OFF	OFF	ON	OFF	32kbps (Backward)
				ON	OFF	ON	OFF	16kbps (Forward)
				OFF	ON	ON	OFF	16kbps (Backward)
				ON	ON	ON	OFF	8kbps (Forward)
				OFF	OFF	OFF	ON	8kbps (Backward)
				ON	OFF	OFF	ON	48kbps (Option)
				OFF	ON	OFF	ON	64kbps
				ON	ON	OFF	ON	
				OFF	OFF	ON	ON	
				ON	OFF	ON	ON	
				OFF	ON	ON	ON	
				ON	ON	ON	ON	

Note 7: Adjust the switch settings to specifications of the connected system.

Note 8: LSSU/FISU consecutive transmission and the threshold of SU error detection is ITU-T Q.703.

Note 9: LSSU/FISU periodical transmission and the threshold of SU error detection is NTT-Q.703a.

Note 10: LSSU/FISU periodical transmission and the threshold of SU error detection is TTCJT-Q 703.

Note 11: When the connected system is SV8300/NEAX2000 IPS, OFF/OFF/ON (corresponding to PA-24CCTA + TTC error detection.) must be applied.

Note 12: LSSU/FISU periodical transmission and the threshold of SU error detection correspond to PA-24CCTA.

Note 13: LSSU/FISU periodical transmission and the threshold of SU error detection is ITU-T Q.703.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING					
				CCH Time Slot Setting					
				1	2	3	4	5	Time Slot
				OFF	OFF	OFF	OFF	OFF	TS0
				ON	OFF	OFF	OFF	OFF	TS1
				OFF	ON	OFF	OFF	OFF	TS2
				ON	ON	OFF	OFF	OFF	TS3
				OFF	OFF	ON	OFF	OFF	TS4
				ON	OFF	ON	OFF	OFF	TS5
				OFF	ON	ON	OFF	OFF	TS6
				ON	ON	ON	OFF	OFF	TS7
				OFF	OFF	OFF	ON	OFF	TS8
				ON	OFF	OFF	ON	OFF	TS9
				OFF	ON	OFF	ON	OFF	TS10
				ON	ON	OFF	ON	OFF	TS11
				OFF	OFF	ON	ON	OFF	TS12
				ON	OFF	ON	ON	OFF	TS13
				OFF	ON	ON	ON	OFF	TS14
	1, 2, 3, 4, 5			ON	ON	ON	ON	OFF	TS15
				OFF	OFF	OFF	OFF	ON	TS16
				ON	OFF	OFF	OFF	ON	TS17
SW27				OFF	ON	OFF	OFF	ON	TS18
				ON	ON	OFF	OFF	ON	TS19
				OFF	OFF	ON	OFF	ON	TS20
				ON	OFF	ON	OFF	ON	TS21
				OFF	ON	ON	OFF	ON	TS22
				ON	ON	ON	OFF	ON	
				OFF	OFF	OFF	ON	ON	
				ON	OFF	OFF	ON	ON	
				OFF	ON	OFF	ON	ON	
				ON	ON	OFF	ON	ON	TS23
				OFF	OFF	ON	ON	ON	
				ON	OFF	ON	ON	ON	
				OFF	ON	ON	ON	ON	
				ON	ON	ON	ON	ON	
	6	ON		Internal CCH is not used.					
		OFF	×	Internal CCH is used.					
	7	ON		CCIS PCR					
		OFF	×	CCIS					
	8	ON		ISDN Bus Used					
		OFF	×	ISDN Bus Not Used (Fixed to OFF)					

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING					
				Congestion Detection Threshold (QUE remainder ratio)					
				1	2	3	4	Detection (%)	Release (%)
SW28	1, 2, 3, 4		×	OFF	OFF	OFF	OFF	75	90
				ON	OFF	OFF	OFF	15	35
				OFF	ON	OFF	OFF	20	40
				ON	ON	OFF	OFF	25	45
				OFF	OFF	ON	OFF	30	50
				ON	OFF	ON	OFF	40	60
				OFF	ON	ON	OFF	50	65
				ON	ON	ON	OFF	55	70
				OFF	OFF	OFF	ON	60	75
				ON	OFF	OFF	ON	65	80
				OFF	ON	OFF	ON	70	85
				ON	ON	OFF	ON	80	90
				OFF	OFF	ON	ON	85	90
				ON	OFF	ON	ON	90	95
				OFF	ON	ON	ON	Always Congestion (for Maintenance)	
				ON	ON	ON	ON	No detection	
	5	OFF	×	Fixed to OFF.					
	6	OFF	×	Fixed to OFF.					
	7	OFF	×	Fixed to OFF.					
	8	ON		When NTT mode/ITU-T mode is selected, CCH Octet Counting Mode is used.					
		OFF		When NTT mode/ITU-T mode is selected, CCH Octet Counting Mode is not used.					

Key Setting for PAD selection

PAD Selection	SW15-7	SW15-8	SW16-7	SW16-8	SW18-7	PCM-Law: Pattern No.
Standard PAD	OFF	OFF	OFF	OFF	OFF	μ-law: Pattern 1
			ON			μ-law: Pattern 2
			OFF	ON		μ-law: Pattern 3
			ON			μ-law: Pattern 4
	ON		OFF	OFF		A-law: Pattern 1
			ON			A-law: Pattern 2
			OFF	ON		A-law: Pattern 3
			ON			A-law: Pattern 4
	OFF	ON	OFF	OFF		A-μ: Pattern 1
			ON			A-μ: Pattern 2
			OFF	ON		A-μ: Pattern 3
			ON			A-μ: Pattern 4
	ON		OFF	OFF		μ-A: Pattern 1
			ON			μ-A: Pattern 2
			OFF	ON		μ-A: Pattern 3
			ON			μ-A: Pattern 4
Flexible PAD	OFF	OFF	Not used		ON	μ-law
	ON		Not used			A-law
	OFF	ON	Not used	OFF		A-μ: Pattern 5 **Note 14**
			Not used	ON		A-μ: Pattern 6 **Note 14**
	ON		Not used	OFF		μ-A: Pattern 5 **Note 14**
			Not used	ON		μ-A: Pattern 6 **Note 14**

Note 14: Refer to Flexible PAD Level.

Standard Setting PAD Level (1/4)

a. μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

Pattern 1		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	8dB	16dB
2	8dB	4dB
3	4dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	9dB

Standard Setting PAD Level (2/4)

b. A-law pattern Setting (Switch 15-7, 8 ON, OFF)

Pattern 1		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	1dB	1dB
2	3dB	3dB
3	5dB	5dB
4	7dB	7dB

Pattern 4		
ARTD/ APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	9dB

Standard Setting PAD Level (3/4)

c. A-μ Conversion Setting (Switch 15-7, 8 OFF, ON)

Pattern 1		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	0dB	4dB
3	0dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Standard Setting PAD Level (4/4)

d. μ-A Conversion Setting (Switch 15-7,8 ON, ON)

Pattern 1		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	0dB	4dB
3	0dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Flexible PAD Level

ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD: 15	See **Flexible PAD Level of ARTD: 7 or APAD: 15**	See **Flexible PAD Level of ARTD: 7 or APAD: 15**
1	Set value of SW18-1, 2, 3, 4, 5, 6	Set value of SW14-1, 2, 3, 4, 5, 6
2	Set value of SW19-1, 2, 3, 4, 5, 6	Set value of SW15-1, 2, 3, 4, 5, 6
3	Set value of SW20-1, 2, 3, 4, 5, 6	Set value of SW16-1, 2, 3, 4, 5, 6
4	Set value of SW21-1, 2, 3, 4, 5, 6	Set value of SW17-1, 2, 3, 4, 5, 6

Flexible PAD Level of ARTD: 7 or APAD: 15

PCM-Law: Pattern No.	Transmission	Reception
μ-law	0dB	0dB
A-law	0dB	0dB
A-μ: Pattern 5	through	through
A-μ: Pattern 6	0dB	0dB
μ-A: Pattern 5	through	through
μ-A: Pattern 6	0dB	0dB

Flexible PAD Level Setting of SW14-SW21

NO.	-1	-2	-3	-4	-5	-6	Setting Level Value [dB]
0	OFF	OFF	OFF	OFF	OFF	OFF	0
1	ON	OFF	OFF	OFF	OFF	OFF	1
2	OFF	ON	OFF	OFF	OFF	OFF	2
3	ON	ON	OFF	OFF	OFF	OFF	3
4	OFF	OFF	ON	OFF	OFF	OFF	4
5	ON	OFF	ON	OFF	OFF	OFF	5
6	OFF	ON	ON	OFF	OFF	OFF	6
7	ON	ON	ON	OFF	OFF	OFF	7
8	OFF	OFF	OFF	ON	OFF	OFF	8
9	ON	OFF	OFF	ON	OFF	OFF	9
10	OFF	ON	OFF	ON	OFF	OFF	10
11	ON	ON	OFF	ON	OFF	OFF	11
12	OFF	OFF	ON	ON	OFF	OFF	12
13	ON	OFF	ON	ON	OFF	OFF	13
14	OFF	ON	ON	ON	OFF	OFF	14
15	ON	ON	ON	ON	OFF	OFF	15
16	OFF	OFF	OFF	OFF	ON	OFF	16
17	ON	OFF	OFF	OFF	ON	OFF	17
18	OFF	ON	OFF	OFF	ON	OFF	18
19	ON	ON	OFF	OFF	ON	OFF	19
20	OFF	OFF	ON	OFF	ON	OFF	20
21	ON	OFF	ON	OFF	ON	OFF	-1 (Gain)
22	OFF	ON	ON	OFF	ON	OFF	-2 (Gain)
23	ON	ON	ON	OFF	ON	OFF	-3 (Gain)
24	OFF	OFF	OFF	ON	ON	OFF	-4 (Gain)
25	ON	OFF	OFF	ON	ON	OFF	-5 (Gain)
26	OFF	ON	OFF	ON	ON	OFF	-6 (Gain)
27	ON	ON	OFF	ON	ON	OFF	-7 (Gain)
28	OFF	OFF	ON	ON	ON	OFF	-8 (Gain)
29	ON	OFF	ON	ON	ON	OFF	-9 (Gain)
30	OFF	ON	ON	ON	ON	OFF	-10 (Gain)
31	ON	ON	ON	ON	ON	OFF	-11 (Gain)
32	OFF	OFF	OFF	OFF	OFF	ON	-12 (Gain)
33	ON	OFF	OFF	OFF	OFF	ON	-13 (Gain)
34	OFF	ON	OFF	OFF	OFF	ON	-14 (Gain)
35	ON	ON	OFF	OFF	OFF	ON	-15 (Gain)
36	OFF	OFF	ON	OFF	OFF	ON	-16 (Gain)
37	OFF	ON	OFF	ON	OFF	ON	through
Other Setting							Setting Inhibited

6. External Interface

a. The leads appear as follows on the LT connectors.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	POUTB	5	POUTA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

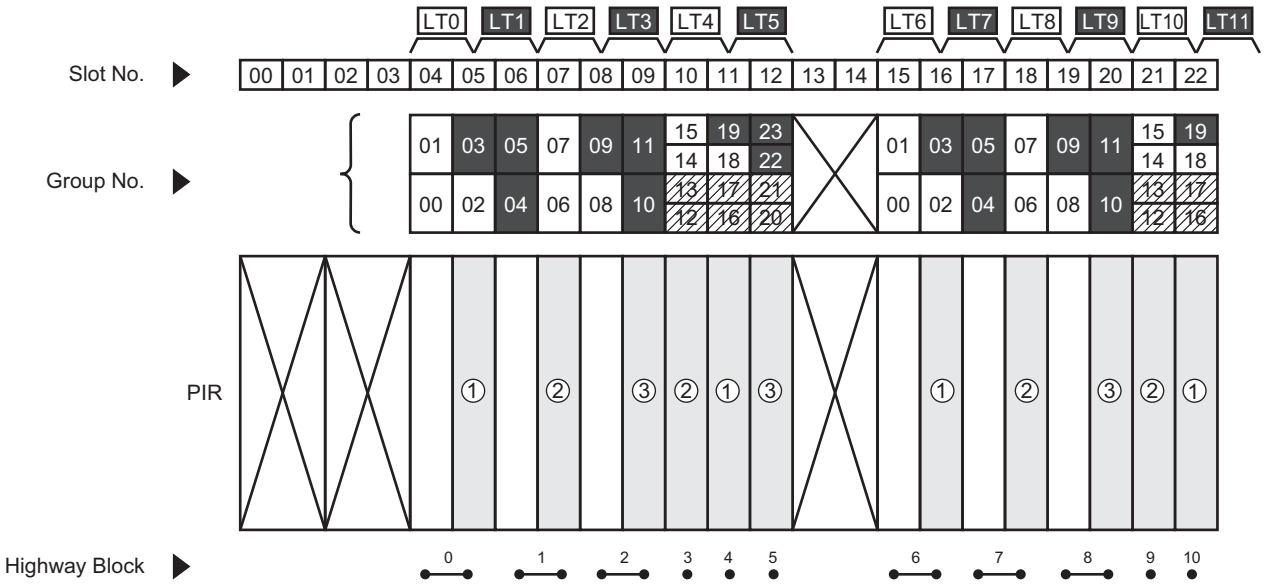
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	POUTB	13	POUTA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 3

LT3, 5, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	POUTB	21	POUTA
47		22	
48		23	
49	TB	24	TA
50		25	

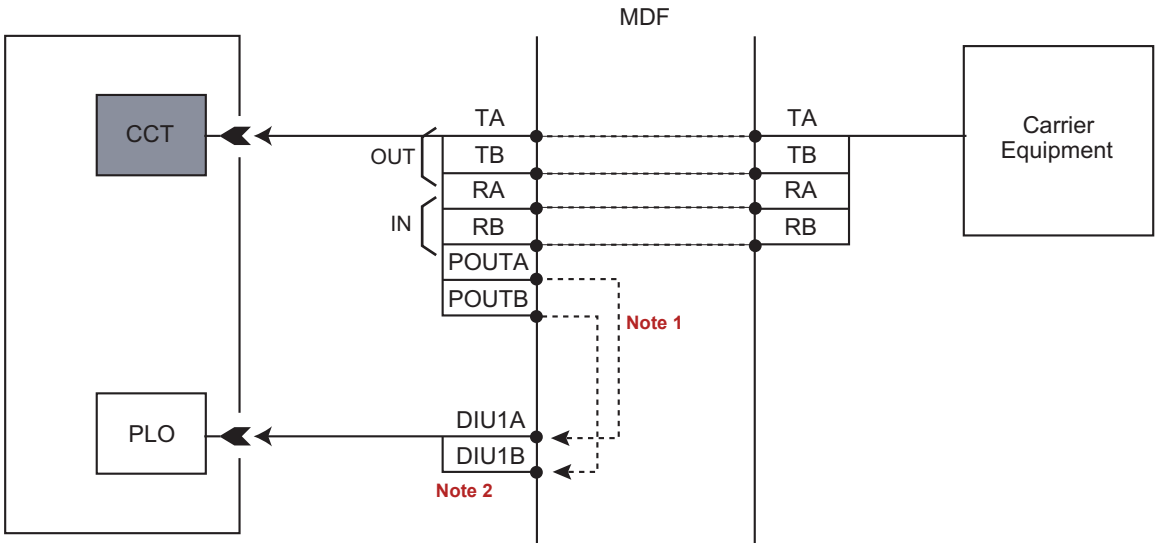


Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

b. Connecting Route Diagram

Connecting Route Diagram

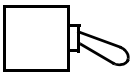
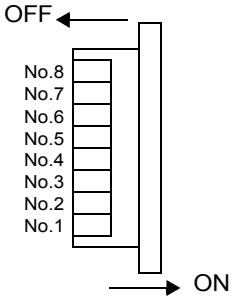
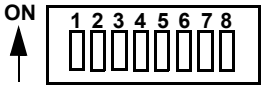
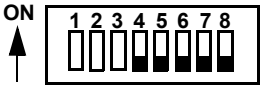
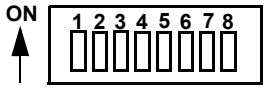
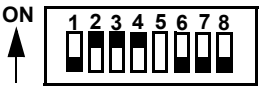
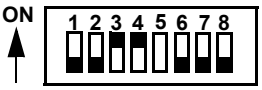
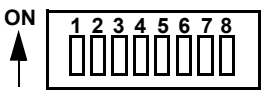
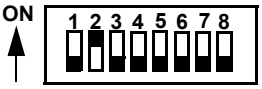
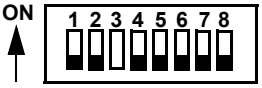
Connecting Route Diagram for the PA-PRTC (1.5M CCT) circuit card is as follows.

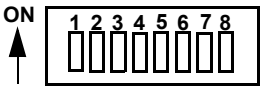
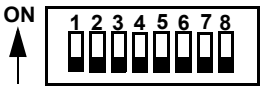
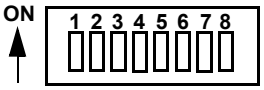
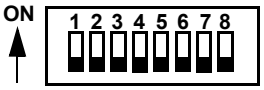
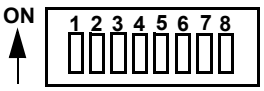
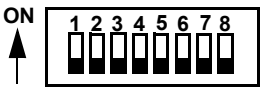
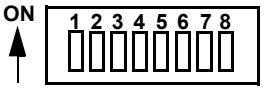
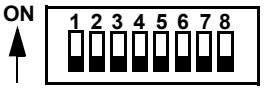
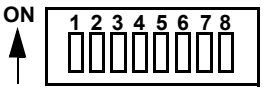
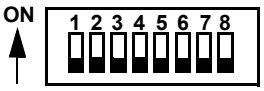
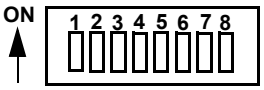
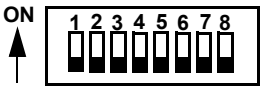
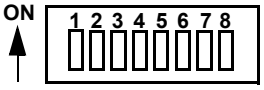
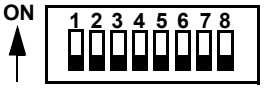
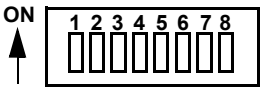
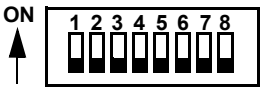


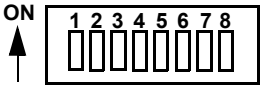
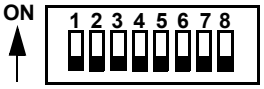
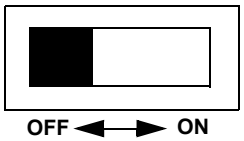
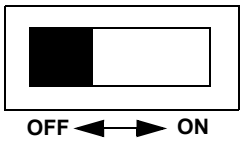
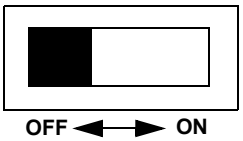
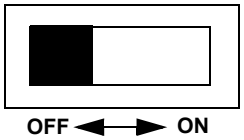
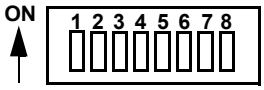
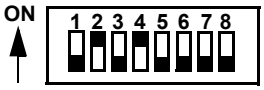
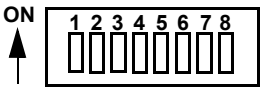
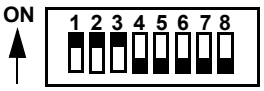
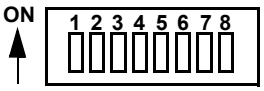
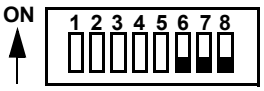
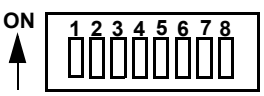
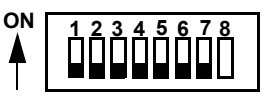
Note 1: This cable connection is required when clock signals must be extracted from the network side.

Note 2: As an example, DIU1A and DIU1B leads are used in this diagram.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW00		
SW01		
SW10		
SW11		**North America 12 Multi Frame Standard**  **North America 24 Multi Frame Standard** 
SW12		**North America 12 Multi Frame Standard**  **North America 24 Multi Frame Standard** 

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW13		
SW14		
SW15		
SW16		
SW17		
SW18		
SW19		
SW20		

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW21		
SW22		
SW23		
SW24		
SW25		
SW26		
SW27		
SW28		

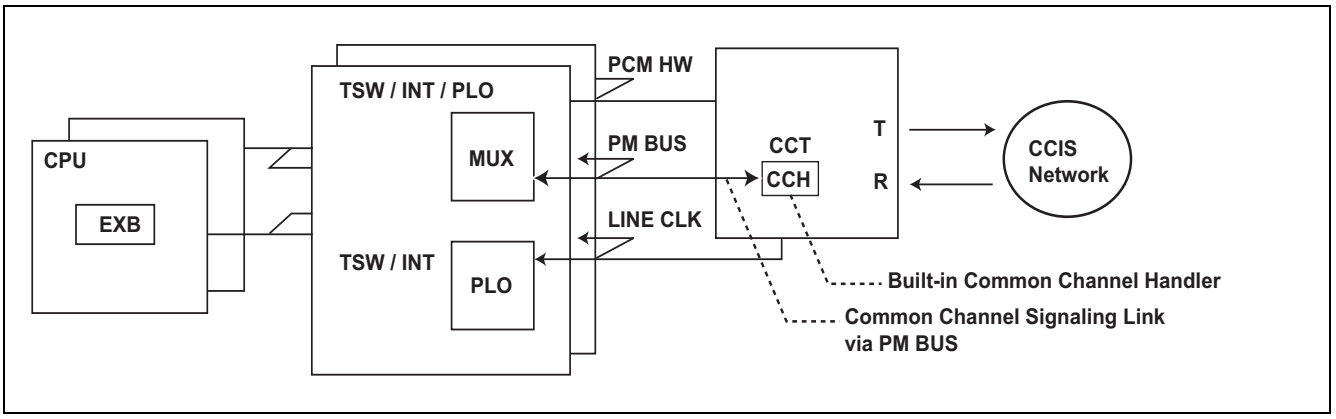
PA-PRTC (2M CCT)
Common Channel Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	-	X	-

1. General Function

The PA-PRTC (2M CCT) circuit card is a digital interface (30 channels) supporting voice and data communications at 2M bit/second. This card builds in the Common Channel Handler (CCH) accordance with ITU-T Q series and offers Common Channel Interoffice Signaling (CCIS) with the system. A built-in resonance circuit extracts clock signals that are supplied from the network, so that the system may be in exact synchronization with the network. To obtain appropriate speech level, this card has standard PAD and flexible PAD. A flexible PAD can set more detailed PAD value than a standard PAD. A flexible PAD value can set the loss from 0 to 20 dB and the gain can be set from -1 to -16 dB respectively in 1dB step.

Location of PA-PRTC (2M CCT) in the System



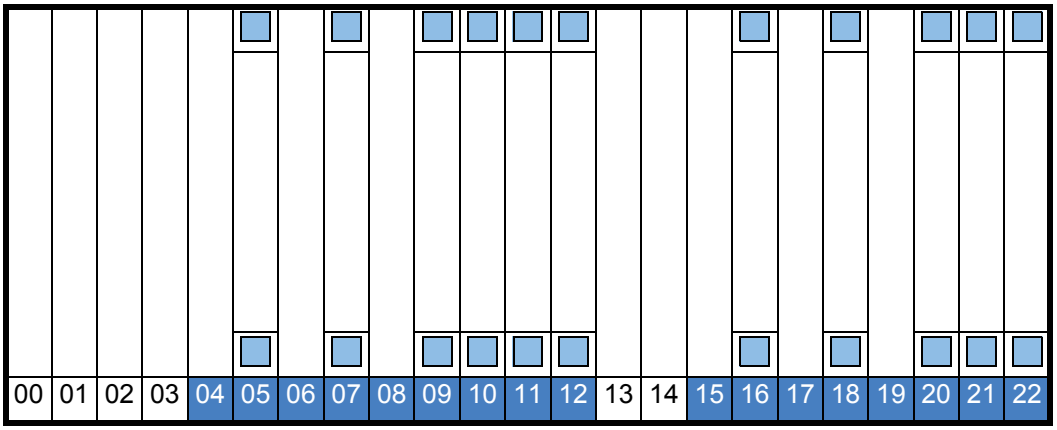
2. Mounting Location/Condition

Since allowable mounting location of this card can vary depending upon the type of cables [Twisted Pair, Co-axial (Next Page)], be sure to observe instructions described below.

[Twisted Pair Cable]

Mounting Location <8U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-22



Mounting Conditions:

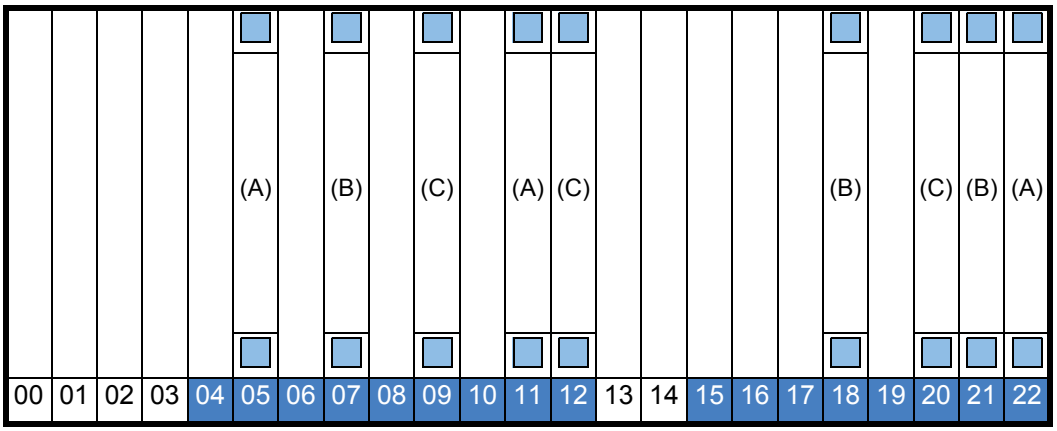
- Mount this circuit card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.
- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot.
- This card cannot be mounted in Slot 05, when mounted in PIR of Unit 0 (U=0) of Module Group 0 (MG=00). This card cannot use Group 0 (G=00) of Unit 0 (U=0) of Module Group 0 (MG=00). LENS:000000 is not available for the users.

[Coaxial Cable]

Using coaxial cables reduces available mounting slots for this card as shown below. In addition, COAX TERM card, that is equipped with jumper switches, must be installed for connecting the coaxial cables to the system (Next Page). Prior to installing the card, set the jumpers to the correct positions that can vary depending on the mounting slot of the PA-PRTC (2M CCT).

Mounting Location <8U-PIR>

Slots 05, 07, 09, 11-12, 18, 20-22



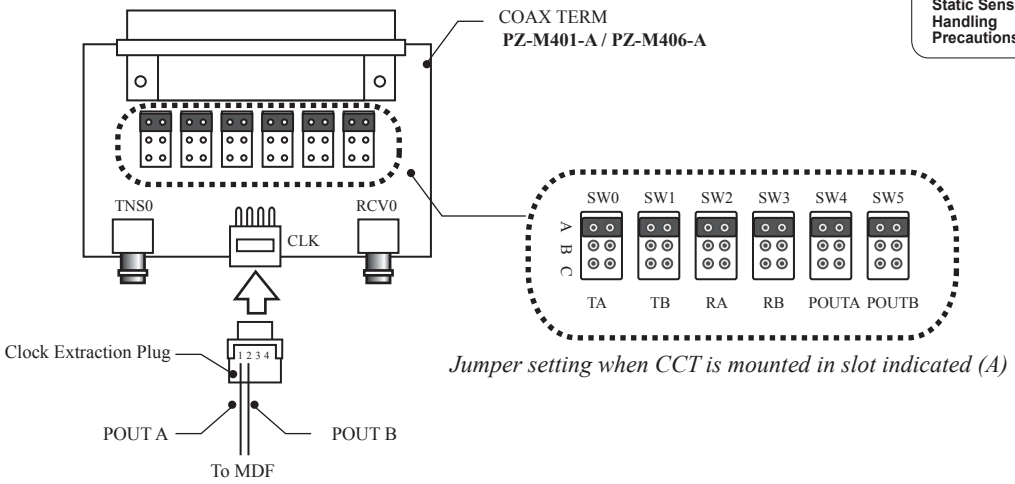
Mounting Conditions:

- This card cannot be mounted in Slot 05 when mounted in PIR of Unit 0 (U=0) of Module Group 0 (MG=00).
  This card cannot use Group 0 (G=00) of Unit 0 (U=0) of Module Group 0 (MG=00).
- When mounting PA-PRTC card in one of the following combination of slots; (Slots 7, 9) (Slots 11, 12) (Slots 18, 22) (Slots 20, 21), available slot for mounting this card is one of slots in each combination of slots.
- When slots indicated (A)/(B) accommodate this card, Line/Trunk cards that have external leads cannot be mounted in the subsequent slot of (A)/(B). Slots indicated (C) are also subject to the same restriction for the proceeding slot of (C).

How to Set Jumpers on COAX TERM (PZ-401-A / PZ-406-A)

This figure shows an example when a CCT card is mounted in one of slots indicated (A) .

ATTENTION
Contents
Static Sensitive
Handling
Precautions Required



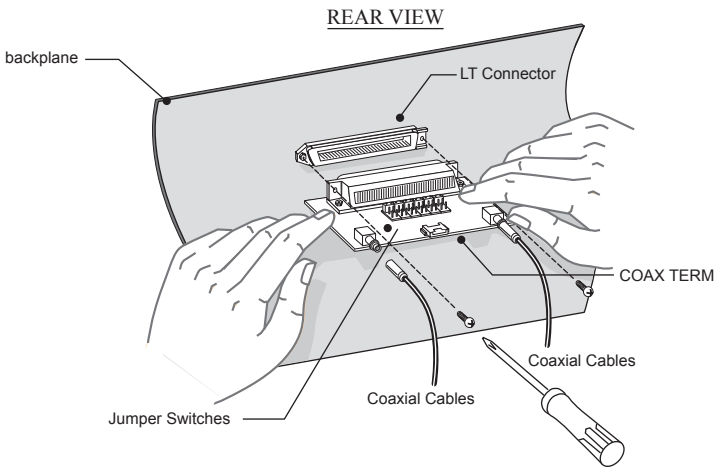
Jumper setting when CCT is mounted in slot indicated (A)

Note 1: Set the jumpers to (A), (B) or (C) depending on the mounting slot of CCT card.
Note 2: Leads 3 and 4 are not used.

How to Install COAX TERM

Insert COAX TERM to a proper LT connector referring to 6 "External Interface" and secure it with screws on the backplane.

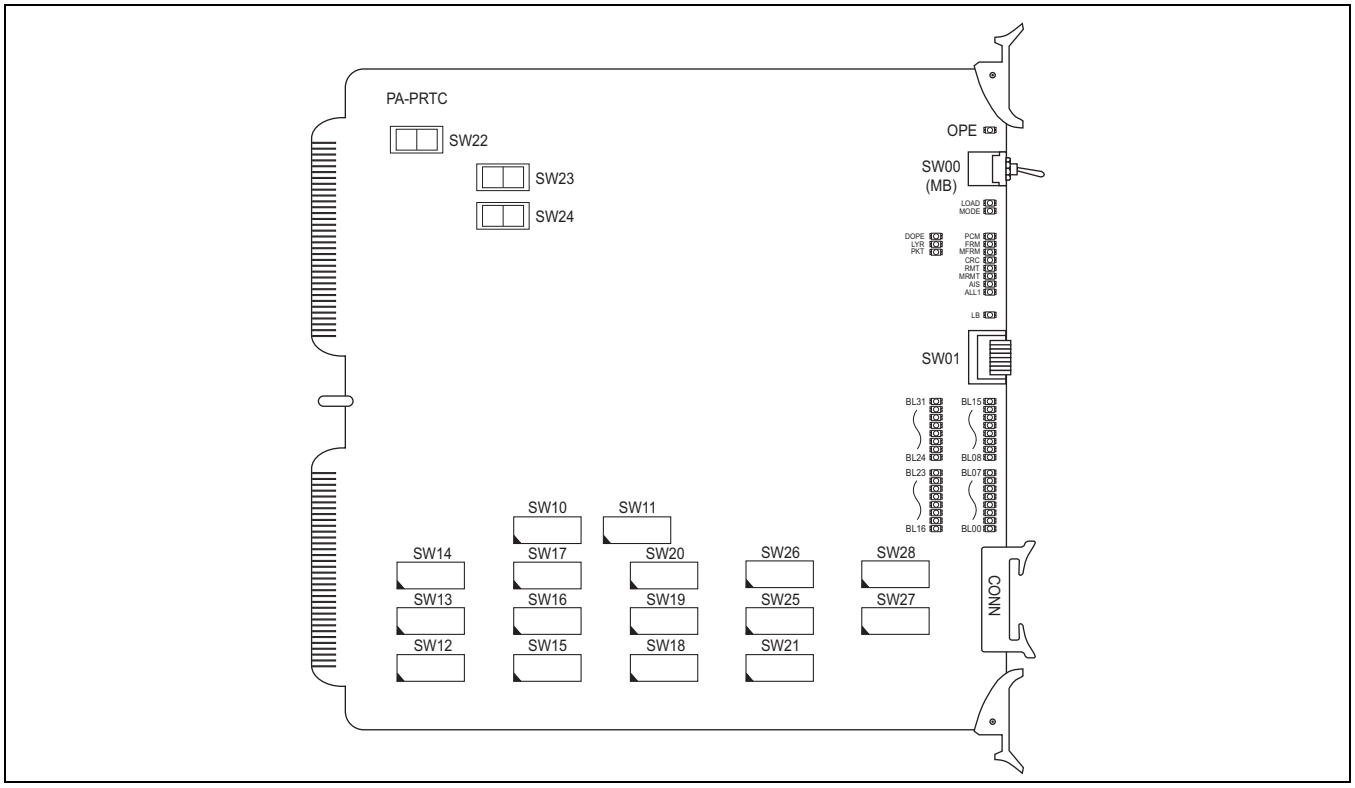
ATTENTION
Contents
Static Sensitive
Handling
Precautions Required



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-PRTC (2M CCT)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	COLOR	DESCRIPTION	
OPE	Green	Lights when this circuit card is operating normally.	
LOAD	Green	Lights when loading program.	
MODE	Green	This lamp is fixed to OFF.	
PCM	Red	Light	Lights when input signal down is detected (PCM LOSS).
		Flash (240 IPM) (Effective only when SW11-5 is OFF.)	Flashes when system recovered from PCM LOSS and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
FRM	Red	Light	Lights when basic frame alignment loss is detected.
		Flash (240 IPM) (Effective only when SW11-5 is OFF.)	Flashes when system recovered from basic frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
MFRM	Red	Light	Lights when CRC-4 multi frame alignment loss is detected. Lights when TS16 multi frame alignment loss is detected.
		Flash (240 IPM)	Flashes when system recovered from Multi frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
CRC	Red	Light (Effective only when SW12-2 is OFF.)	Lights when CRC errors are detected 915 times or more per second.
		Light (Effective only when SW12-2 is ON.)	Lights when Framing errors are detected 28 times or more per second, and it continues for five seconds.
		Light (240IPM) (Effective only when SW12-2 is ON.)	Flashes when system has recovered from Framing error and is being supervised. (Flashes for 5 seconds after recovery)

LAMP NAME	COLOR	DESCRIPTION	
RMT	Red	Light	Lights when remote alarm is detected.
		Flash (240IPM) (Effective only when SW11-5 is OFF)	Flashes when system has recovered from remote alarm detection and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
MRMT (Effective only when SW12-5 is OFF)	Red	Light	Lights when TS16 remote alarm is detected.
		Flash (240IPM) (Effective only when SW11-5 is OFF)	Flashes when system has recovered from TS16 remote alarm detection and is being supervised. (Flashes for 2 seconds after recovery)
AIS	Yellow	Lights on receipt of Alarm Information Signal (AIS).	
ALL1 (Effective only when SW13-1 is ON)	Red	Light	Lights when main signal ALL1 is detected.
		Flash (240 IPM)	Flashes when system has recovered from main signal ALL1 and is being supervised. Length of time for recovery supervision: 2 seconds
LB	Green	Light	Lights when loopback is being activated.
BL00	Green	Light	Lights when assigned the route data for CCIS.
BL01 ' BL31	Green	Light	Lights when corresponding circuit is busy.
		Flash	Flashes while DP signal are being sent out or received (Flashes to dial pulses), the corresponding circuit (outgoing) is in Make-Busy state (60 IPM) or the corresponding circuit (Bothway and Blocking Signal Detect) is in Make-Busy state (30 IPM).
		OFF	Remains OFF when Idle.
DOPE	Green	ON	Remains lit while the Common Channel Handler is on.
		OFF	When internal CCH is not used (SW27-6: ON). When Time Slot setting (SW27-1 to 5) and the trunk accommodation location of CCIS signal are not matched.
LYR	Green	Light	Lights when the link of the Common Channel is set up.
		Flash (120 IPM)	Flashes when the link of the Common Channel is started up.
		OFF	CCIS link has been stopped.
PKT	Green	Not used.	

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
SW01	1	ON		Local Loopback: Set (Internal)
		OFF	×	Local Loopback: Cancel (Internal)
	2	ON		Line Loopback: Set (External)
		OFF	×	Line Loopback: Cancel (External)
	3	ON		Payload Loopback: Set
		OFF	×	Payload Loopback: Cancel
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		Circuit make-busy: Set
		OFF	×	Circuit make-busy: Cancel
	6	ON		CCH make-busy: Set
		OFF	×	CCH make-busy: Cancel
	7	ON		CCH Remote Loopback: Set
		OFF	×	CCH Remote Loopback: Cancel
	8	ON		
		OFF	×	Fixed to OFF. (For Maintenance)

[Reference]

(a) Local Loopback (Internal Loopback)

All the 32 Channels sent from TSW are sent back to TSW by the Line Interface. The opposite node will detect AIS.

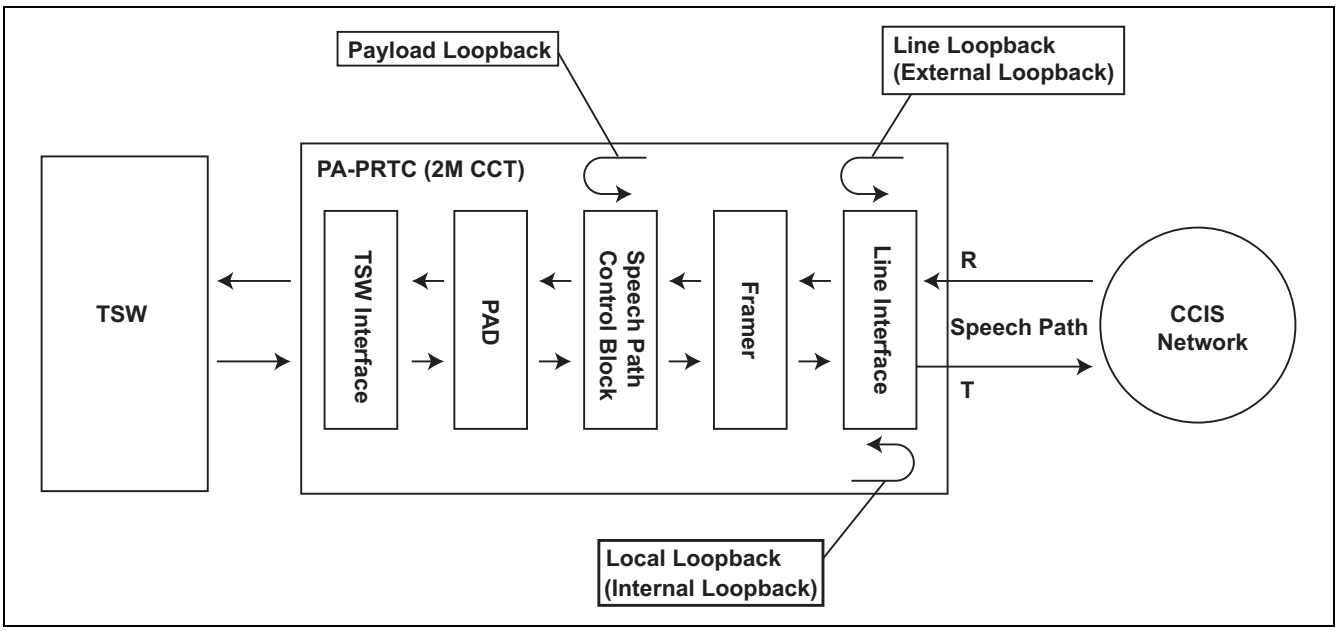
(b) Line Loopback (External Loopback)

All the 32 Channels sent from the Line are sent back to the Line by the Line Interface.

(c) Payload Loopback

All the 32 Channels sent from the Line are sent back to the Line by the Speech Path Control Block.

Available Locations for Loopback Testing



Note: A difference between Line Loopback and Payload Loopback:
Line Loopback operates by the timing of line side, and Payload Loopback operates partially by the timing of the system. Therefore, the Payload Loopback will have a bit error if the system is not synchronized with the Line. The Line Loopback will not have this error.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="15">SW10</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="11">Country/Recommendation specification of ACIS

<table><tr><th colspan="7">Country/Recommendation Spec. Settings</th></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>Country/Recommendation</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ITU-T Q. 421, Q. 422</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ITU-T Q. 421, Q. 422
Fascicle VI. 4 - Suppl. No. 6
(Pulse Clear Back)</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ITU-T Q. 421, Q. 422
Fascicle VI. 4 - Suppl. No. 6
(Pulse Answer)</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>Australia P2 Protocol</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>China</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>Thailand</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>Brazil LME Interface</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>Brazil Collect Call Blocking</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>Brazil Continuous E&M Signal A Positive</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>Brazil Continuous E&M Signal A Negative</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>Brazil Continuous E&M Signal B Positive</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>Iran TCI Interface</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>Peru Continuous E&M Signal A Positive</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>Peru Continuous E&M Signal A Negative</td></tr><tr><td colspan="5">Other Setting</td><td>ITU-T Q. 421, Q. 422</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td>Earlier than NEAX2400 ICS/NEAX7400 ICS</td></tr>
<tr><td>OFF</td><td>×</td><td>NEAX2400 ICS/NEAX7400 ICS or later</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

SWITCH NAME	SWITCH NO.	SETTING	STANDARD-SETTING	MEANING
SW11	1	ON		Remote Alarm Send Out Restricted
		OFF	×	Remote Alarm Send Out Unrestricted
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		Multi Remote Alarm Send Out Restricted (TS16) **Note 1**
		OFF	×	Multi Remote Alarm Send Out Unrestricted (TS16) **Note 1**
	4	ON		Alarm Release Time: (Long)
		OFF		Alarm Release Time: (Short)
	5	ON		Alarm Detect/Release Type (ETSI)
		OFF		Alarm Detect/Release Type (Normal)
	6	ON		PLO is controlled when main signal ALL1.
		OFF	×	PLO is not controlled when main signal ALL1.
	7	ON		
		OFF	×	Fixed to OFF.
	8	ON		
		OFF	×	Fixed to OFF.

Note 1: Effective when the TS16 signaling (SW12 5=OFF) is selected.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW12	1	ON		Line Signal: AMI
		OFF	×	Line Signal: HDB3
	2	ON		CRC-4 Processing Control: Not to be controlled
		OFF	×	CRC-4 Processing Control: to be controlled
	3	ON		E-Bit Sending: Controlled by CPU
		OFF	×	E-Bit Sending: Automatic
	4	ON		Signaling Format Setting: CEPT
		OFF		Signaling Format Setting: ITU-T
	5	ON		TS16 Control: Data Through **Note 2**
		OFF		TS16 Control: Used for Signaling
	6	ON		CRC Multiframe Format: ITU-T G. 706 Annex-B type
		OFF	×	CRC Multiframe Format: Normal
	7	ON		Long haul mode
		OFF	×	Short haul mode
	8	ON		
		OFF	×	Fixed to OFF.

Note 2: Fixed to ON if registered as CCIS signal by TS16.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW13	1	ON		Main Signal ALL1 is detected.
		OFF	×	Main Signal ALL1 is not detected.
	2	ON		Idle Code is sent.
		OFF	×	Idle Code is not sent.
	3	ON		DP relay function is used for FCCS.
		OFF	×	DP relay function is not used for FCCS.
	4	ON		Simultaneous Seizure Supervision: Not controlled
		OFF	×	Simultaneous Seizure Supervision: Controlled
	5	ON		Not activate counter node when detecting Simultaneous Seizure.
		OFF	×	Activate counter node when detecting Simultaneous Seizure.
	6	ON		Level 1 Alarm is not notified to CPU.
		OFF	×	Level 1 Alarm is notified to CPU.
	7	ON		CAS is not effective when CCH is used.
		OFF	×	CAS is effective when CCH is used.
	8	ON	×	Incoming / Outgoing call collision processing is used. **Note 3**
		OFF		Incoming / Outgoing call collision processing is not used.

Note 3: Assign ASYD SYS=1 Index=7 bit 3=1.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW14	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Control Method (Using Both Flexible/Standard PAD)		
				7	8	
			×	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
				ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
				OFF	ON	Fixed to ARTD (Transmission/Reception PAD Control)
				ON	ON	Transmission/Reception PAD Control

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW15	1	ON OFF		Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 2 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
	2	ON OFF				
	3	ON OFF				
	4	ON OFF				
	5	ON OFF				
	6	ON OFF				
	7, 8			PAD Selection (Using Both Flexible/Standard PAD)		
				7	8	
				OFF	OFF	μ- Law
			×	ON	OFF	A - Law
				OFF	ON	A - Law → μ - Law
				ON	ON	μ - Law →A - Law

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW16	1	ON OFF		Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 3 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
	2	ON OFF				
	3	ON OFF				
	4	ON OFF				
	5	ON OFF				
	6	ON OFF				
	7, 8			PAD Pattern Selection **Refer to Standard PAD Setting PAD Level (1/4) ~ UK PAD Setting PAD Level (4/4)**		
				7	8	
			×	OFF	OFF	PAD Pattern 1
				ON	OFF	PAD Pattern 2
				OFF	ON	PAD Pattern 3
				ON	ON	PAD Pattern 4

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW17	1	ON		Reception PAD Value Setting (Flexible PAD): (PAD Data 4) (Reception PAD value when 4 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Data PAD Pattern Selection		
				7	8	
			×	OFF	OFF	64 k
				ON	OFF	64 k Inversion
				OFF	ON	56 k
				ON	ON	48 k

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW18	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**
		OFF		
	2	ON		
		OFF		
	3	ON		
		OFF		
	4	ON		
		OFF		
	5	ON		
		OFF		
	6	ON		
		OFF		
	7	ON		Flexible PAD (Refer to No. 1 - 6 of SW14 - SW21)
		OFF	×	Standard PAD (Refer to No.7-8 of SW16)
	8	ON		CCH Signaling Logic: Negative
		OFF	×	CCH Signaling Logic: Positive

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW19	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Seizure Acknowledgement Guard Time		
				7	8	
			×	OFF	OFF	48 milliseconds
				ON	OFF	64 milliseconds
				OFF	ON	80 milliseconds
				ON	ON	96 milliseconds
			Acknowledge Signal Detection Guard timer when sending out Wink/Delay.			

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW20	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Seizure Acknowledgement Detection Time		
				7	8	
			×	OFF	OFF	56 milliseconds
				ON	OFF	96 milliseconds
				OFF	ON	136 milliseconds
				ON	ON	176 milliseconds
			Acknowledge Signal Detection timer when sending out Wink/Delay.			

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th colspan="4">MEANING</th></tr>
<tr><td rowspan="15">SW21</td><td rowspan="2">1</td><td>ON</td><td rowspan="12"></td><td colspan="4" rowspan="2">Transmission PAD Value Setting (Flexible PAD)
(Transmission PAD value when 4 is set by ARTD/APAD command.)</td></tr>
<tr><td>OFF</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td colspan="4" rowspan="2"></td></tr>
<tr><td>OFF</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td colspan="4" rowspan="2">Refer to Flexible PAD Level Setting of SW14-SW21 for more details in
PAD value of Flexible PAD Data</td></tr>
<tr><td>OFF</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td colspan="4" rowspan="2"></td></tr>
<tr><td>OFF</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td colspan="4" rowspan="2"></td></tr>
<tr><td>OFF</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td colspan="4" rowspan="2"></td></tr>
<tr><td>OFF</td></tr>
<tr><td rowspan="5">7, 8</td><td rowspan="5"></td><td rowspan="5"></td><td colspan="4">Answer Detection Time</td></tr>
<tr><td>7</td><td>8</td><td colspan="2"></td></tr>
<tr><td>×</td><td>OFF</td><td>OFF</td><td colspan="2">200 milliseconds</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td colspan="2">100 milliseconds</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td colspan="2">400 milliseconds</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td colspan="2">700 milliseconds</td></tr>
</table>

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
SW22	ON		
	OFF	×	Fixed to OFF
SW23	ON		Impedance Setting 75Ω (Coaxial Cable)
	OFF		Impedance Setting 120Ω (Pair Cable)
SW24	ON	×	Middle point of reception transformer: Open
	OFF		Middle point of reception transformer: Ground

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW25	1	ON		Sa4-Sa8 Bit Operation Select (Reserve)		
		OFF				
	2	ON		Fixed to all OFF.		
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON		PAD Select: UK PAD Select		
		OFF		PAD Select: Standard PAD Select		
	6	ON				
		OFF	×	Fixed to OFF		
	7,8			ISDN-BUS Location Select (valid when SW27-8=ON)		
				7	8	LG
				OFF	OFF	0,4,8,12,16,20
				ON	OFF	1,5,9,13,17,21
				OFF	ON	2,6,10,14,18,22
				ON	ON	3,7,11,15,19,23

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th colspan="6">MEANING</th></tr>
<tr><td rowspan="25">SW26</td><td rowspan="9">1, 2, 3</td><td rowspan="9"></td><td rowspan="9">Note 4</td><td colspan="6">CCH Level 2 Operation Mode</td></tr>
<tr><td>1</td><td>2</td><td>3</td><td colspan="3"></td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td colspan="3">ITU-T mode (Emergency) Note 5</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td colspan="3">ITU-T mode (Normal) Note 5</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td colspan="3">NTT mode Note 6</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td colspan="3">TTC mode Note 7</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td colspan="3">Corresponding to PA-30CCTB + TTC error detection. Note 7, Note 8</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td colspan="3">Corresponding to PA-2CCHA. Note 6</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td colspan="3">Corresponding to PA-30CCTB. Note 9</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td colspan="3">ITU-T mode (Emergency) Note 10</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td colspan="6">When CCH MBR (SW01-6=ON) is set, SIOS signal will stop after being output for three seconds.</td></tr>
<tr><td>OFF</td><td>×</td><td colspan="6">When CCH MBR (SW01-6=ON) is set, SIOS will be output consecutively.</td></tr>
<tr><td rowspan="15">5, 6, 7, 8</td><td rowspan="15"></td><td></td><td colspan="6">CCH Transfer Rate</td></tr>
<tr><td>×</td><td>5</td><td>6</td><td>7</td><td>8</td><td></td></tr>
<tr><td></td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>64kbps</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>56kbps</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>48kbps (Standard)</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>32kbps (Forward)</td></tr>
<tr><td></td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>32kbps (Backward)</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>16kbps (Forward)</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>16kbps (Backward)</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>8kbps (Forward)</td></tr>
<tr><td></td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>8kbps (Backward)</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>48kbps (Option)</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td rowspan="6">64kbps</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>OFF</td><td>ON</td></tr>
<tr><td></td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>ON</td><td>ON</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr>
</table>

Note 4: Adjust the switch settings to specifications of the connected system.

Note 5: LSSU/FISU consecutive transmission and the threshold of SU error detection is ITU-T Q.703.

Note 6: LSSU/FISU periodical transmission and the threshold of SU error detection is NTT-Q.703a.

Note 7: LSSU/FISU periodical transmission and the threshold of SU error detection is TTCJT-Q 703.

Note 8: When the connected system is SV8300/NEAX2000 IPS, OFF/OFF/ON (corresponding to PA-30CCTB + TTC error detection.) must be applied.

Note 9: LSSU/FISU periodical transmission and the threshold of SU error detection correspond to PA-30CCTB.

Note 10: LSSU/FISU periodical transmission and the threshold of SU error detection is ITU-T Q.703.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING					
				CCH Time Slot Setting					
				1	2	3	4	5	Time Slot
				OFF	OFF	OFF	OFF	OFF	Setting Inhibit
				ON	OFF	OFF	OFF	OFF	TS1
				OFF	ON	OFF	OFF	OFF	TS2
				ON	ON	OFF	OFF	OFF	TS3
				OFF	OFF	ON	OFF	OFF	TS4
				ON	OFF	ON	OFF	OFF	TS5
				OFF	ON	ON	OFF	OFF	TS6
				ON	ON	ON	OFF	OFF	TS7
				OFF	OFF	OFF	ON	OFF	TS8
				ON	OFF	OFF	ON	OFF	TS9
				OFF	ON	OFF	ON	OFF	TS10
				ON	ON	OFF	ON	OFF	TS11
				OFF	OFF	ON	ON	OFF	TS12
				ON	OFF	ON	ON	OFF	TS13
				OFF	ON	ON	ON	OFF	TS14
	1, 2, 3, 4, 5			ON	ON	ON	ON	OFF	TS15
				OFF	OFF	OFF	OFF	ON	TS16
				ON	OFF	OFF	OFF	ON	TS17
SW27				OFF	ON	OFF	OFF	ON	TS18
				ON	ON	OFF	OFF	ON	TS19
				OFF	OFF	ON	OFF	ON	TS20
				ON	OFF	ON	OFF	ON	TS21
				OFF	ON	ON	OFF	ON	TS22
				ON	ON	ON	OFF	ON	TS23
				OFF	OFF	OFF	ON	ON	TS24
				ON	OFF	OFF	ON	ON	TS25
				OFF	ON	OFF	ON	ON	TS26
				ON	ON	OFF	ON	ON	TS27
				OFF	OFF	ON	ON	ON	TS28
				ON	OFF	ON	ON	ON	TS29
				OFF	ON	ON	ON	ON	TS30
				ON	ON	ON	ON	ON	TS31
	6	ON		Internal CCH is not used.					
		OFF	×	Internal CCH is used.					
	7	ON		CCIS PCR					
		OFF	×	CCIS					
	8	ON		ISDN Bus Used					
		OFF	×	ISDN Bus Not Used (Fixed to OFF)					

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING					
				Congestion Detection Threshold (QUE remainder ratio)					
				1	2	3	4	Detection (%)	Release (%)
SW28	1, 2, 3, 4		×	OFF	OFF	OFF	OFF	75	90
				ON	OFF	OFF	OFF	15	35
				OFF	ON	OFF	OFF	20	40
				ON	ON	OFF	OFF	25	45
				OFF	OFF	ON	OFF	30	50
				ON	OFF	ON	OFF	40	60
				OFF	ON	ON	OFF	50	65
				ON	ON	ON	OFF	55	70
				OFF	OFF	OFF	ON	60	75
				ON	OFF	OFF	ON	65	80
				OFF	ON	OFF	ON	70	85
				ON	ON	OFF	ON	80	90
				OFF	OFF	ON	ON	85	90
				ON	OFF	ON	ON	90	95
				OFF	ON	ON	ON	Always Congestion (for Maintenance)	
				ON	ON	ON	ON	No detection	
	5	OFF	×	Fixed to OFF.					
	6	OFF	×	Fixed to OFF.					
	7	OFF	×	Fixed to OFF.					
	8	ON		When NTT mode/ITU-T mode is selected, CCH Octet Counting Mode is used.					
		OFF		When NTT mode/ITU-T mode is selected, CCH Octet Counting Mode is not used.					

Key Setting for PAD selection

PAD Selection	SW15-7	SW15-8	SW16-7	SW16-8	SW18-7	PCM-Law: Pattern No.
Standard/UK PAD	OFF	OFF	OFF	OFF	OFF	μ-law: Pattern 1
			ON			μ-law: Pattern 2
			OFF	ON		μ-law: Pattern 3
			ON			μ-law: Pattern 4
	ON		OFF	OFF		A-law: Pattern 1
			ON			A-law: Pattern 2
			OFF	ON		A-law: Pattern 3
			ON			A-law: Pattern 4
	OFF	ON	OFF	OFF		A-μ: Pattern 1
			ON			A-μ: Pattern 2
			OFF	ON		A-μ: Pattern 3
			ON			A-μ: Pattern 4
	ON		OFF	OFF		μ-A: Pattern 1
			ON			μ-A: Pattern 2
			OFF	ON		μ-A: Pattern 3
			ON			μ-A: Pattern 4
Flexible PAD	OFF	OFF	Not used		ON	μ-law
	ON		Not used			A-law
	OFF	ON	Not used	OFF		A-μ: Pattern 5 **Note 11**
			Not used	ON		A-μ: Pattern 6 **Note 11**
	ON		Not used	OFF		μ-A: Pattern 5 **Note 11**
			Not used	ON		μ-A: Pattern 6 **Note 11**

Note 11: Refer to **Flexible PAD Level**.

Standard PAD Setting PAD Level (1/4)

a μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

Pattern 1		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	8dB	16dB
2	8dB	4dB
3	4dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	9dB

Standard PAD Setting PAD Level (2/4)

b A-law pattern Setting (Switch 15-7, 8 ON, OFF)

Pattern 1		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	1dB	1dB
2	3dB	3dB
3	5dB	5dB
4	7dB	7dB

Pattern 4		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	9dB

Standard PAD Setting PAD Level (3/4)

c A-μ Conversion Setting (Switch 15-7, 8 OFF, ON)

Pattern 1		
ARTD/APAD Setting Data	Transmission A→μ	Reception μ→A
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission A→μ	Reception μ→A
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	0dB	4dB
3	0dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission A→μ	Reception μ→A
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission A→μ	Reception μ→A
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Standard PAD Setting PAD Level (4/4)

d μ-A Conversion Setting (Switch 15-7,8 ON, ON)

Pattern 1		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	0dB	4dB
3	0dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

UK PAD Setting PAD Level (1/4)

a μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

Pattern 1		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	4dB	4dB
2	8dB	0dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	8dB	0dB
3	6dB	6dB
4	8dB	8dB

UK PAD Setting PAD Level (2/4)

b A-law pattern Setting (Switch 15-7, 8 ON, OFF)

Pattern 1		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	4dB	4dB
2	8dB	0dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	0dB
3	6dB	6dB
4	8dB	8dB

UK PAD Setting PAD Level (3/4)

c A-μ Conversion Setting (Switch 15-7, 8 OFF, ON)

Pattern 1		
ARTD/APAD Setting Data	Transmission A→μ	Reception μ→A
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	8dB	0dB
4	3dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission A→μ	Reception μ→A
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	-3dB	3dB
3	0dB	0dB
4	3dB	3dB

Pattern 3		
ARTD/APAD Setting Data	Transmission A→μ	Reception μ→A
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission A→μ	Reception μ→A
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	3dB	3dB
3	12dB	12dB
4	8dB	8dB

UK PAD Setting PAD Level (4/4)

d μ-A Conversion Setting (Switch 15-7,8 ON, ON)

Pattern 1		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	8dB	0dB
4	3dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	-3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	3dB	3dB
3	12dB	12dB
4	8dB	8dB

Flexible PAD Level

ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD: 15	See **Flexible PAD Level of ARTD: 7 or APAD: 15**	See **Flexible PAD Level of ARTD: 7 or APAD: 15**
1	Set value of SW18-1, 2, 3, 4, 5, 6	Set value of SW14-1, 2, 3, 4, 5, 6
2	Set value of SW19-1, 2, 3, 4, 5, 6	Set value of SW15-1, 2, 3, 4, 5, 6
3	Set value of SW20-1, 2, 3, 4, 5, 6	Set value of SW16-1, 2, 3, 4, 5, 6
4	Set value of SW21-1, 2, 3, 4, 5, 6	Set value of SW17-1, 2, 3, 4, 5, 6

Flexible PAD Level of ARTD: 7 or APAD: 15

PCM-Law: Pattern No.	Transmission	Reception
μ-law	0dB	0dB
A-law	0dB	0dB
A-μ: Pattern 5	through	through
A-μ: Pattern 6	0dB	0dB
μ-A: Pattern 5	through	through
μ-A: Pattern 6	0dB	0dB

Flexible PAD Level Setting of SW14-SW21

NO.	-1	-2	-3	-4	-5	-6	Setting Level Value [dB]
0	OFF	OFF	OFF	OFF	OFF	OFF	0
1	ON	OFF	OFF	OFF	OFF	OFF	1
2	OFF	ON	OFF	OFF	OFF	OFF	2
3	ON	ON	OFF	OFF	OFF	OFF	3
4	OFF	OFF	ON	OFF	OFF	OFF	4
5	ON	OFF	ON	OFF	OFF	OFF	5
6	OFF	ON	ON	OFF	OFF	OFF	6
7	ON	ON	ON	OFF	OFF	OFF	7
8	OFF	OFF	OFF	ON	OFF	OFF	8
9	ON	OFF	OFF	ON	OFF	OFF	9
10	OFF	ON	OFF	ON	OFF	OFF	10
11	ON	ON	OFF	ON	OFF	OFF	11
12	OFF	OFF	ON	ON	OFF	OFF	12
13	ON	OFF	ON	ON	OFF	OFF	13
14	OFF	ON	ON	ON	OFF	OFF	14
15	ON	ON	ON	ON	OFF	OFF	15
16	OFF	OFF	OFF	OFF	ON	OFF	16
17	ON	OFF	OFF	OFF	ON	OFF	17
18	OFF	ON	OFF	OFF	ON	OFF	18
19	ON	ON	OFF	OFF	ON	OFF	19
20	OFF	OFF	ON	OFF	ON	OFF	20
21	ON	OFF	ON	OFF	ON	OFF	-1 (Gain)
22	OFF	ON	ON	OFF	ON	OFF	-2 (Gain)
23	ON	ON	ON	OFF	ON	OFF	-3 (Gain)
24	OFF	OFF	OFF	ON	ON	OFF	-4 (Gain)
25	ON	OFF	OFF	ON	ON	OFF	-5 (Gain)
26	OFF	ON	OFF	ON	ON	OFF	-6 (Gain)
27	ON	ON	OFF	ON	ON	OFF	-7 (Gain)
28	OFF	OFF	ON	ON	ON	OFF	-8 (Gain)
29	ON	OFF	ON	ON	ON	OFF	-9 (Gain)
30	OFF	ON	ON	ON	ON	OFF	-10 (Gain)
31	ON	ON	ON	ON	ON	OFF	-11 (Gain)
32	OFF	OFF	OFF	OFF	OFF	ON	-12 (Gain)
33	ON	OFF	OFF	OFF	OFF	ON	-13 (Gain)
34	OFF	ON	OFF	OFF	OFF	ON	-14 (Gain)
35	ON	ON	OFF	OFF	OFF	ON	-15 (Gain)
36	OFF	OFF	ON	OFF	OFF	ON	-16 (Gain)
37	OFF	ON	OFF	ON	OFF	ON	through
Other Setting							Setting Inhibited

6. External Interface

a. The leads appear as follows on the LT connectors.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	POUTB	5	POUTA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

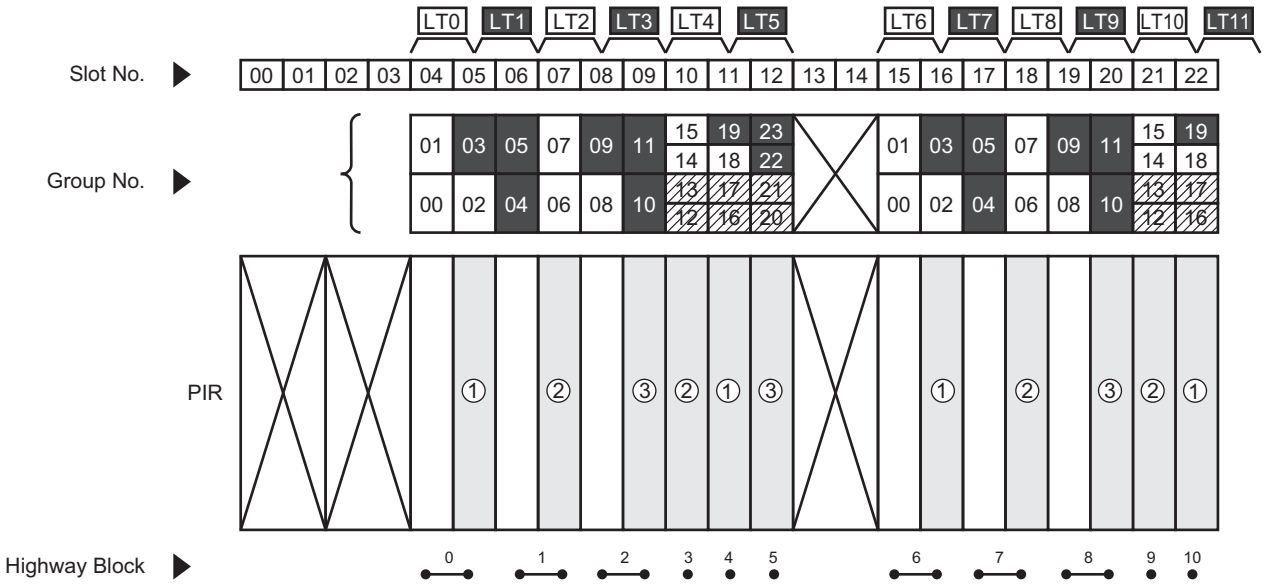
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	POUTB	13	POUTA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 3

LT3, 5, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	POUTB	21	POUTA
47		22	
48		23	
49	TB	24	TA
50		25	



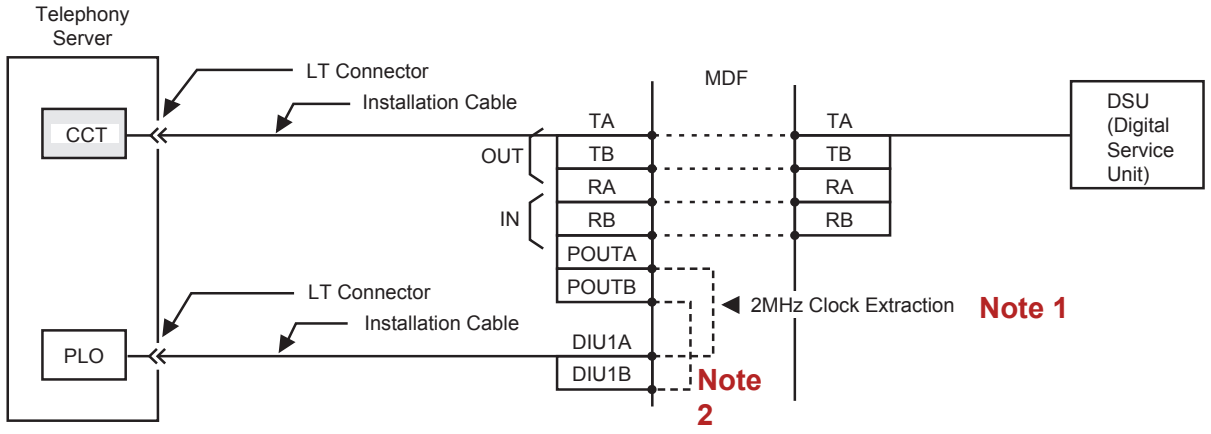
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

b. Connecting Route Diagram

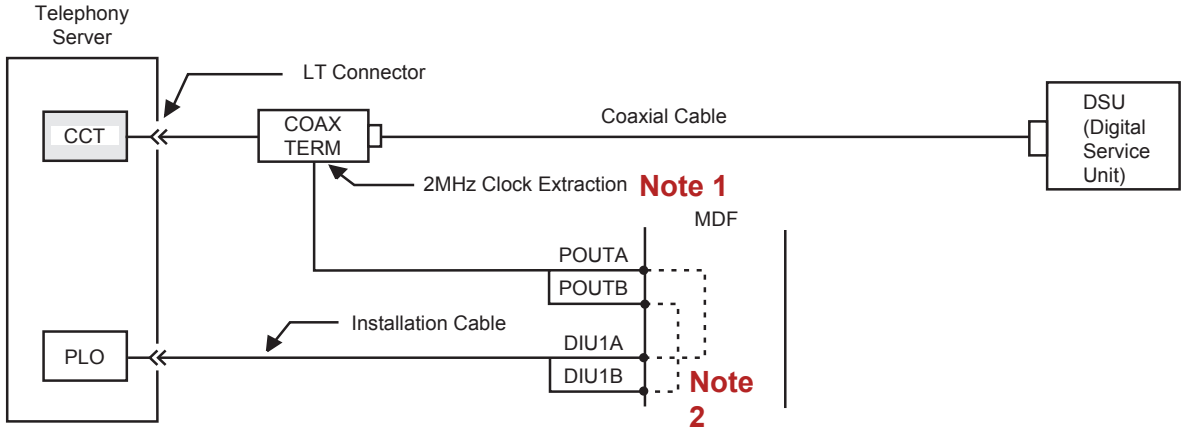
Connecting Route Diagram

Connecting Route Diagram is as follows depending on the cable type.

・Twisted Pair Cable



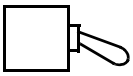
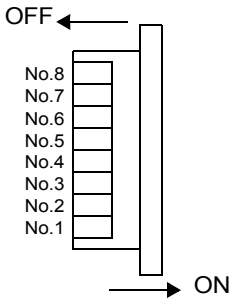
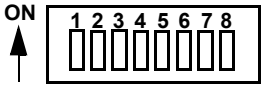
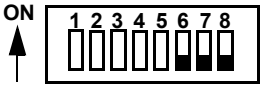
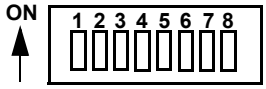
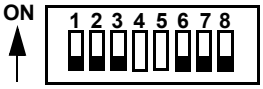
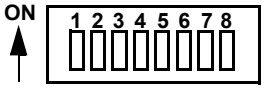
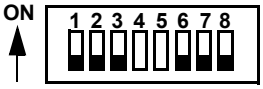
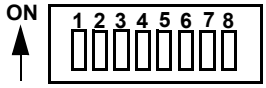
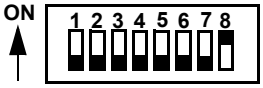
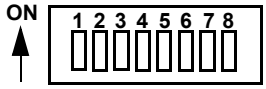
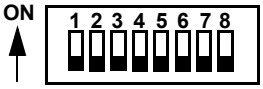
・Coaxial Cable

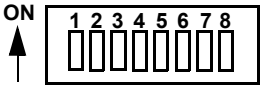
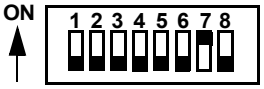
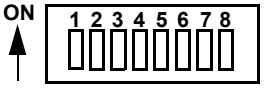
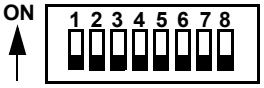
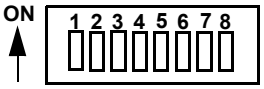
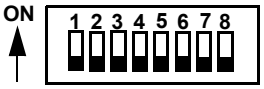
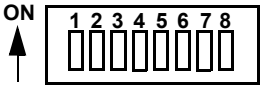
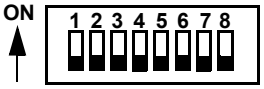
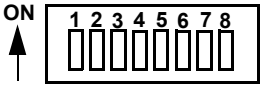
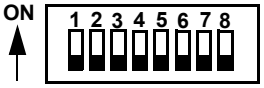
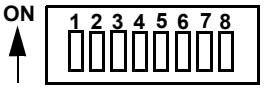
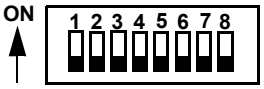
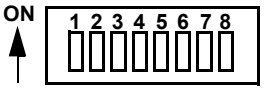
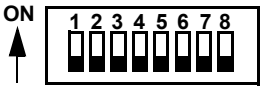
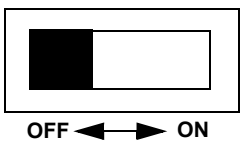
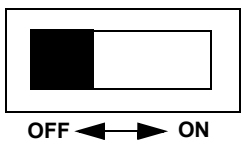


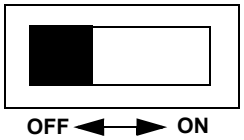
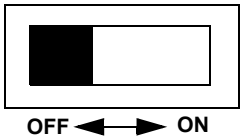
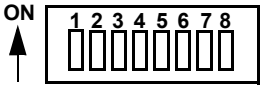
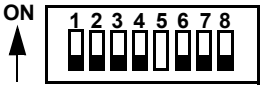
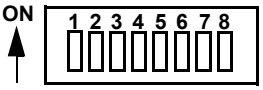
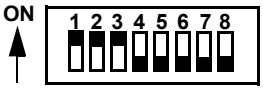
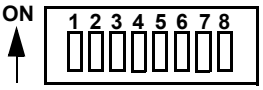
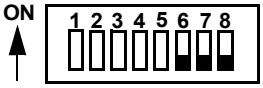
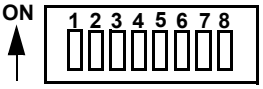
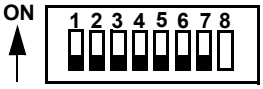
Note 1: This cable connection is required when clock signals must be extracted from the network side.

Note 2: As an example, DIU1A and DIU1B leads are used in this diagram. For more information on the PLO card, see Chapter 2.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW00		
SW01		
SW10		
SW11		
SW12		
SW13		
SW14		

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW15		
SW16		
SW17		
SW18		
SW19		
SW20		
SW21		
SW22		

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW23		
SW24		
SW25		
SW26		
SW27		
SW28		

PA-CFTV
8-party, 16-party, 32-party Conference Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

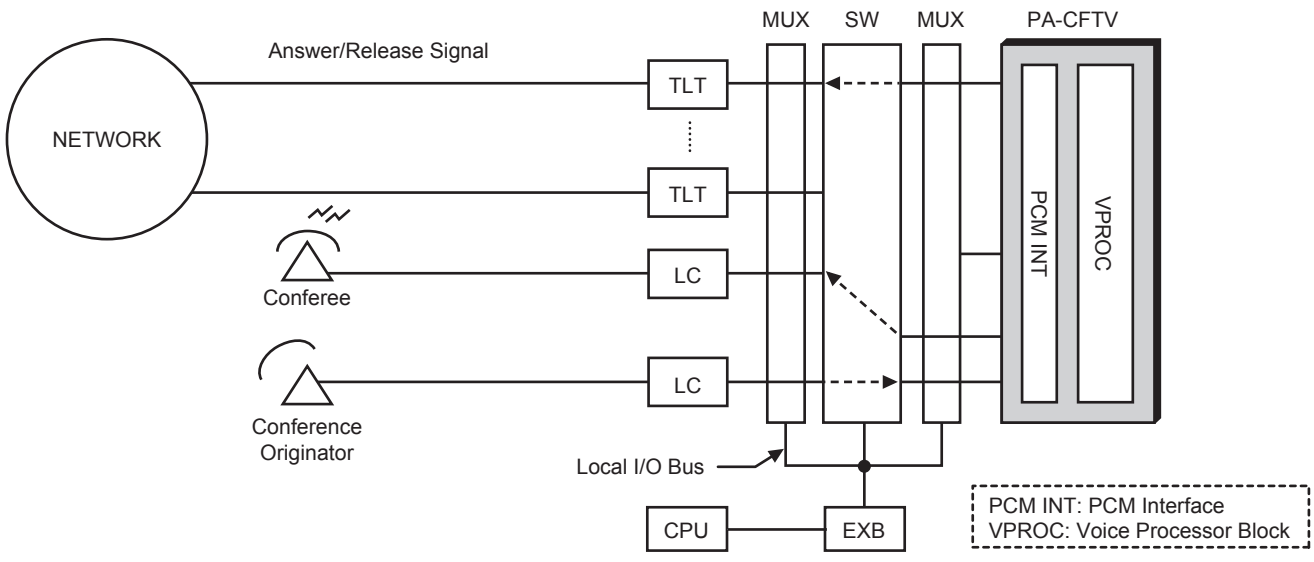
The PA-CFTV (CFT) circuit card provides an interface for establishing conference call, that is made up of a maximum of 8 parties, 16 parties, or 32 parties.
The number of conferences is determined by the switch settings. 4 groups of 8-party conference, 2 group of 16-party conference, or 1 group of 32 conference can be managed per card. Set to 4 groups of 8-party when [A-121] Add On Conference-8 Party or [G-23] Group Call-Automatic Conference (20-Party) feature is used.
Tie lines and C.O. lines can participate in conference when the associated trunks can receive answer signal and release signal from the distant switching system.
In addition to the conference call, this card supports two parties call, hooking, and PB signal detecting functions.

Note: When turning the Telephony Server power on, move the MB switch of this card from up (ON) to down (OFF) position and then initialize this card. If not, the switch settings may not be configured correctly.

Note: This circuit card is used in the following service features:
- Attendant-Controlled Conference (Refer to the Data Programming Manual - Business [A-2])
- Add On Conference-8 Party (Refer to the Data Programming Manual - Business [A-121])
- Preset Conference (Refer to the Data Programming Manual - Business [P-24])
- Station-Controlled Conference (Refer to the Data Programming Manual - Business [S-6])
- Group Call-Automatic Conference (20-party) (Refer to the Data Programming Manual - PHS/PCS [G-23])

Location of PA-CFTV (CFT) in the System

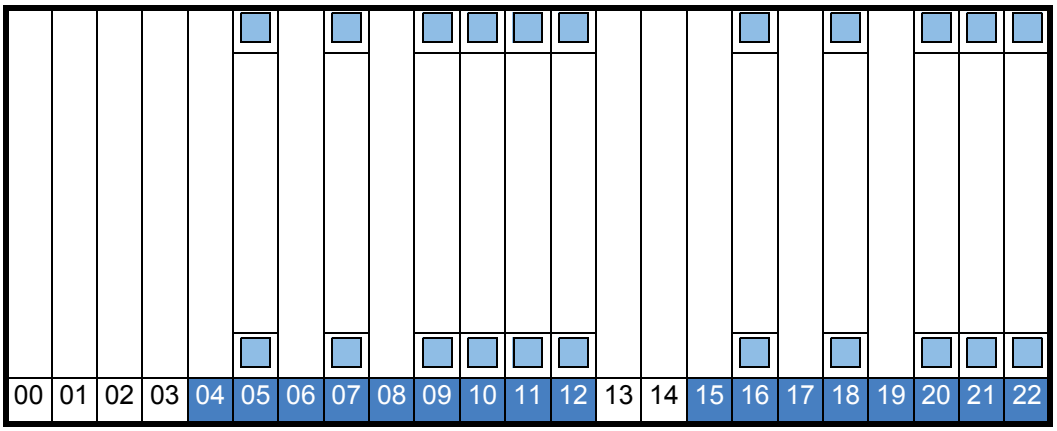
This diagram shows an example of a Preset conference involving Tie Line connections.



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-22



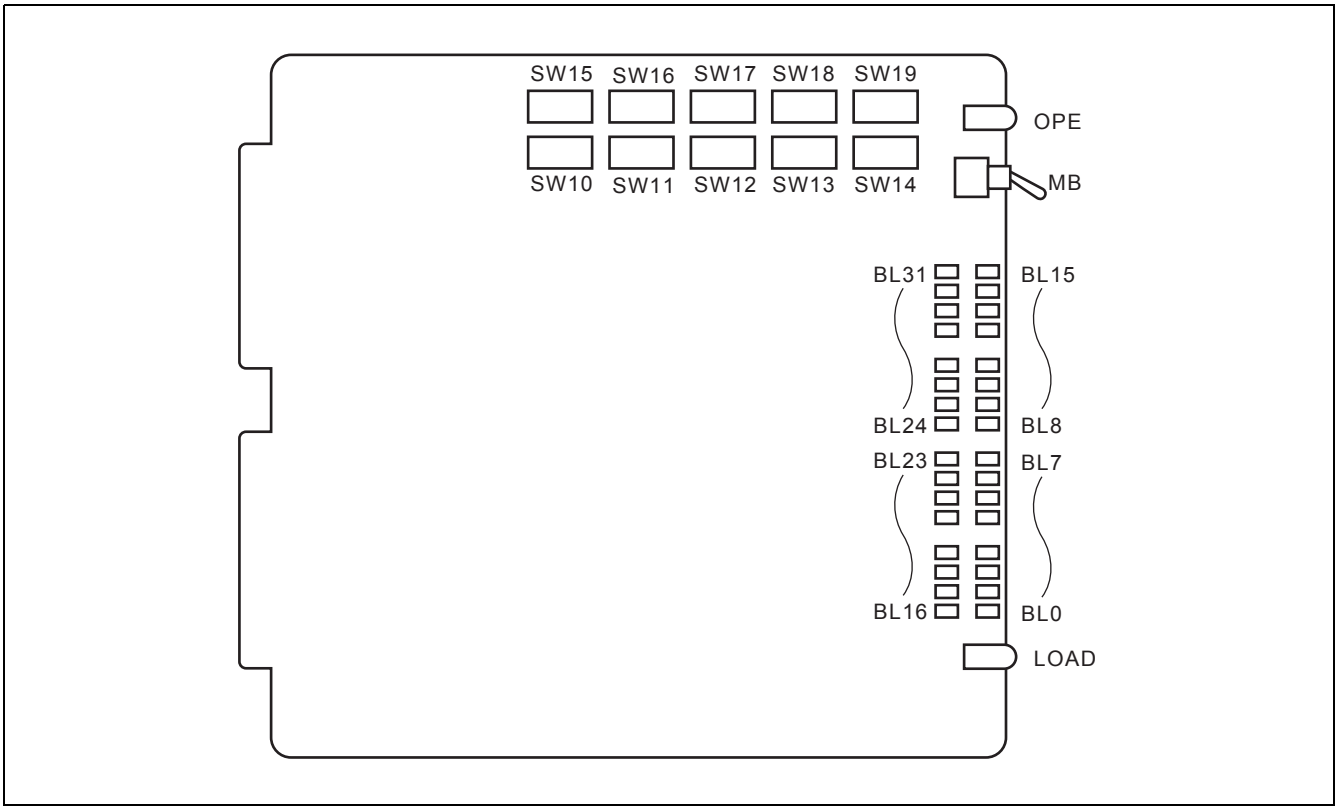
Mounting Conditions:

- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot.
- Port 0 (LV=0) of Group 0 (G=00) in PIR0 cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-CFTV (CFT)



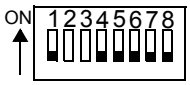
4. Lamp Indications

The contents of lamp indications of this circuit card are shown in the table below.

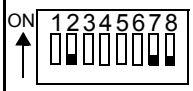
LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating normally.
BL0 ' BL31	Green	Remains lit while the corresponding circuit is busy.
	Flash	Flashes when the corresponding circuit is in make-busy state.
	OFF	Remains OFF when the corresponding circuit is idle.
LOAD	Yellow	Remains lit while this circuit card is loading program (internal processing).

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">MB</td><td rowspan="2">-</td><td>UP</td><td></td><td>Circuit card make busy</td></tr>
<tr><td>DOWN</td><td>×</td><td>Circuit card make busy cancel</td></tr>
<tr><td rowspan="9">SW10
 
</td><td>1</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td colspan="3" rowspan="3">Selects the configuration of the conference
<table><tr><th>SW10-2</th><th>SW10-3</th><th>MEANING</th></tr><tr><td>OFF</td><td>OFF</td><td>8-party conference × 4 groups Note 1</td></tr><tr><td>OFF</td><td>ON</td><td>16-party conference × 2 groups</td></tr><tr><td>ON</td><td>OFF</td><td>32-party conference × 1 group</td></tr><tr><td>ON</td><td>ON</td><td>Prohibited</td></tr></table></td></tr>
<tr><td>OFF</td></tr>
<tr><td rowspan="2">3</td><td>ON</td></tr>
<tr><td>OFF</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>6</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

Note 1: Select 8-party conference × 4 groups for the following service features:
- [A-121] Add On Conference-8 Party
- [G-23] Group Call Automatic Conference (20 Party)

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW11 	1	ON		PCM coding: A-law
		OFF		PCM coding: μ-law
	2	OFF	×	Fixed to OFF
	3	Select conference type. See the table below for the SW11-3 through SW11-6, and SW12-6 combination.		
	4			
	5			
	6			
	7	OFF	×	Fixed to OFF
	8	OFF	×	Fixed to OFF

SW11-3 through SW11-6, and SW12-6 Combination

SW11-3	SW11-4	SW11-5	SW11-6	SW12-6	CONFERENCE TYPE	SERVICE FEATURE	PA-CFTB COMPATIBILITY
OFF	OFF	OFF	OFF	ON	Meet Me	Station/Attendant Controlled Conference	NEAX2400 CFTB-D (SP-457) answer time = 6 seconds **Note 3** SPA-CFTB-D (SP-990) answer time = 1 second **Note 3**
						OAI Application	SPA-CFTB-H (SP-863) answer time = 0 second, Immediate Answer **Note 3**
		ON	OFF	OFF		Add On Conference-8 Party **Note 2**	SPA-CFTB-L (SP-1114) answer time = 1 second **Note 3**
ON	OFF	OFF	OFF	OFF	Preset **Note 5**	Preset Conference **Note 2**	SPA-CFTB-B (SP-388) member PSs are called in 64 milliseconds interval **Note 4**
		ON	OFF	ON		Preset Conference (Group Call-Automatic Conference for PCS/PHS (20-party))**Note 2**	SPA-CFTB-C (SP-1141) member PSs are called in 2 seconds interval **Note 4**, **Note 6**
OFF	ON	ON	ON	ON	Progressive	Station/Attendant Controlled Conference	SPA-CFTB (SP-519)
Other settings					Prohibited		

Note 2: Select 8-party conference × 4 groups by SW10-2 and SW10-3 for the following service features:
- [A-121] Add On Conference-8 Party
- [G-23] Group Call Automatic Conference (20 Party)

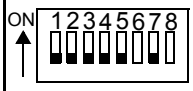
Note 3: Answer time for Meet-Me Conference is set in SW13-1 through SW13-4.

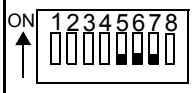
Note 4: Calling interval for Preset Conference is set in SW12-1 through SW12-4.

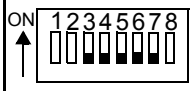
Note 5: When using [G-23] Group Call-Automatic Conference (20-Party) feature, the following switch setting on the circuit card is required.

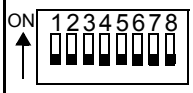
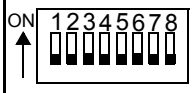
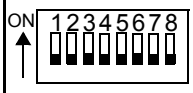
SW11-3	SW11-4	SW11-5	SW11-6	SW12-6
ON	OFF	ON	OFF	ON

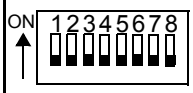
Note 6: If the called parties (conferees) include PS, be sure to set more than two seconds for the calling interval timer in SW12-1 through SW12-4.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="11">SW12
  </td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="10">Preset conference calling interval
<table><tr><th>SW12-1</th><th>SW12-2</th><th>SW12-3</th><th>SW12-4</th><th>INTERVAL</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>64 milliseconds</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>0.5 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>0.75 seconds</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>1 second</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>1.25 seconds</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>1.5 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>1.75 seconds</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>2 seconds</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>2.25 seconds</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>2.5 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>2.75 seconds</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>3 seconds</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>3.25 seconds</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>3.5 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>3.75 seconds</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>4 seconds</td></tr></table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td rowspan="2">See the table “SW11-3 through SW11-6, and SW12-6 Combination” on the previous page.</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td>7</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Conference control with PB signal: Disable</td></tr>
<tr><td>OFF</td><td>×</td><td>Conference control with PB signal: Enable</td></tr>
</table>

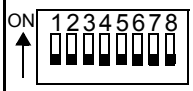
<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="13">SW13
  </td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="13">Meet-Me conference answer time
<table><tr><th>SW13-1</th><th>SW13-2</th><th>SW13-3</th><th>SW13-4</th><th>INTERVAL</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>6 seconds (standard)</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>0 seconds (immediate answer)</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>0.5 seconds</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>1 second</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>1.5 seconds</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>2 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>2.5 seconds</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>3 seconds</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>3.5 seconds</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>4 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>4.5 seconds</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>5 seconds</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>5.5 seconds</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>6 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>6.5 seconds</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>7 seconds</td></tr></table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>6</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Echo Canceller: OFF</td></tr>
<tr><td>OFF</td><td>×</td><td>Echo Canceller: ON</td></tr>
</table>

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="9">SW14
  </td><td rowspan="2">1</td><td>ON</td><td>×</td><td rowspan="3">Select the PAD value for the whole conference.
<table><tr><th>SW14-1</th><th>SW14-2</th><th>MEANING</th></tr><tr><td>OFF</td><td>OFF</td><td>6 dB</td></tr><tr><td>ON</td><td>OFF</td><td>3 dB</td></tr><tr><td>OFF</td><td>ON</td><td>9 dB</td></tr><tr><td>ON</td><td>ON</td><td>0 dB (standard)</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td>×</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>6</td><td>OFF</td><td>×</td><td rowspan="2">Setting for the time to wait when beginning to talk.
<table><tr><th>SW14-6</th><th>SW14-7</th><th>MEANING</th></tr><tr><td>OFF</td><td>OFF</td><td>1s (standard)</td></tr><tr><td>ON</td><td>OFF</td><td>2s</td></tr><tr><td>OFF</td><td>ON</td><td>3s</td></tr><tr><td>ON</td><td>ON</td><td>0s</td></tr></table>
Note: This setting is available for Meet-Me mode only.</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Notice tone: Enable
Note: This setting is available for Meet-Me mode only.</td></tr>
<tr><td>OFF</td><td>×</td><td>Notice tone: Disable</td></tr>
</table>

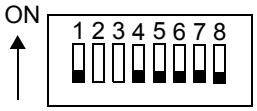
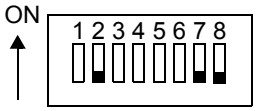
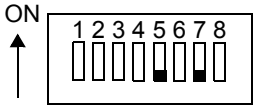
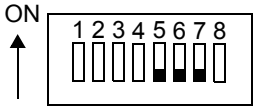
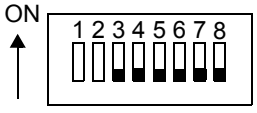
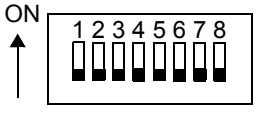
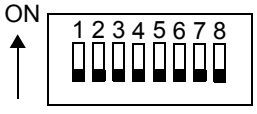
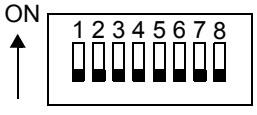
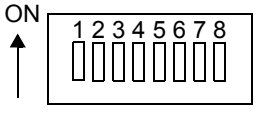
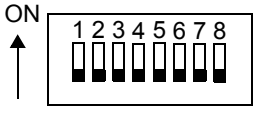
SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW15 	1	OFF	×	Fixed to OFF
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	
SW16 	1	OFF	×	Fixed to OFF
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	
SW17 	1	OFF	×	Fixed to OFF
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="16">SW18
  </td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="2">Select the threshold value to recognize whether the conferee is speaking.
<table><tr><th>SW18-1</th><th>SW18-2</th><th>SW18-3</th><th>SW18-4</th><th>SW18-5</th><th>THRESHOLD VALUE</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>-38 dBm (standard setting)</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>-30 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>-31 dBm</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>-32 dBm</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>-33 dBm</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>-34 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>-35 dBm</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>-36 dBm</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>-37 dBm</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>-38 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>-39 dBm</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>-40 dBm</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>-41 dBm</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>-42 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>-43 dBm</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>-44 dBm</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>-45 dBm</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>-46 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>-47 dBm</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>-48 dBm</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>-49 dBm</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>-50 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>-51 dBm</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>-52 dBm</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>-53 dBm</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>-54 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>-55 dBm</td></tr><tr><td colspan="5">Other settings</td><td>Prohibited</td></tr></table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td rowspan="2">Select the available number of speakers at the same time. Note 7
<table><tr><th>SW18-6</th><th>SW18-7</th><th>SW18-8</th><th>MEANING</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>5 speakers (standard setting)</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>6 speakers</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>7 speakers</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>8 speakers</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>3 speakers</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>4 speakers</td></tr><tr><td colspan="3">Other settings</td><td>Prohibited</td></tr></table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
</table>

Note 7: For example, if set to 3, the conference trunk mixes and plays the 3 people's voices with highest voice level (volume) in the conferees. It is controlled dynamically. When person A, B, C, D and E (in order of the volume) are speaking, the conference trunk mixes the voice of A, B and C. When person A stops talking, the conference trunk mixes the voice of B, C and D.

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW19 	1	OFF	×	Fixed to OFF
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	

6. Switch Setting Sheet

MODULE	SLOT NO.	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		MB	DOWN	Circuit card make busy cancel
		SW10		
		SW11		
		SW12		
		SW13		
		SW14		
		SW15		
		SW16		
		SW17		
		SW18		
		SW19		

PA-CFTW
8-party Conference Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	-	X	X	-

1. General Function

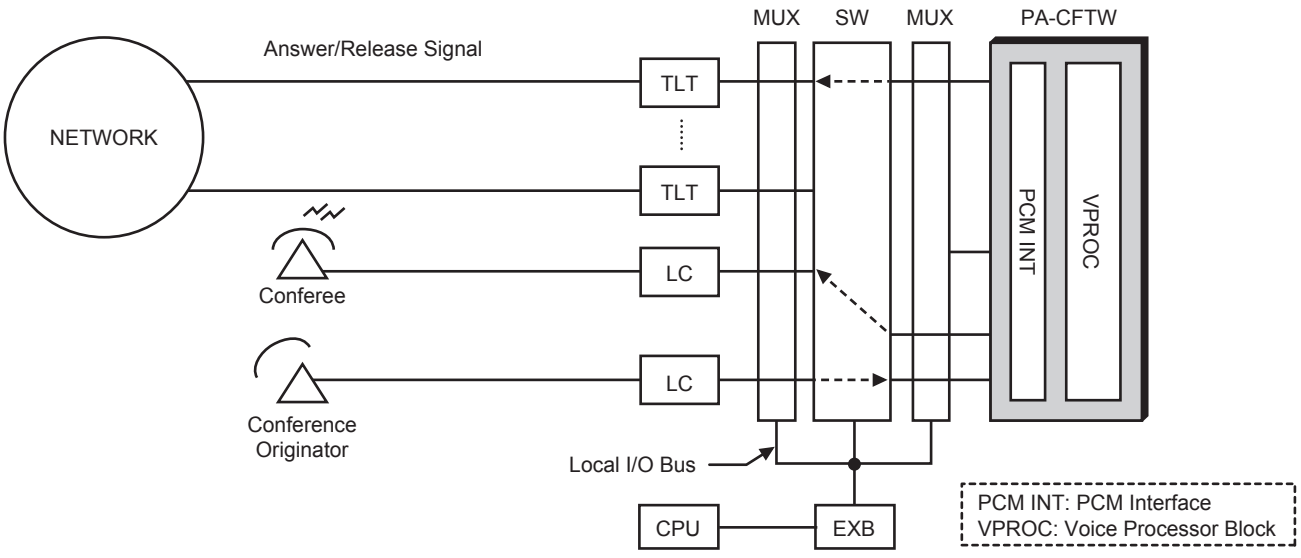
The PA-CFTW (CFT) circuit card provides an interface for establishing conference call, that is made up of a maximum of 8 parties.
The number of conferences managed per card is 2 groups of 8-party conference.
Tie lines and C.O. lines can participate in conference when the associated trunks can receive answer signal and release signal from the distant switching system.
In addition to the conference call, this card supports two parties call, hooking, and PB signal detecting functions.

Note: When turning the Telephony Server power on, move the MB switch of this card from up (ON) to down (OFF) position and then initialize this card. If not, the switch settings may not be configured correctly.

Note: This circuit card is used in the following service features:
- Attendant-Controlled Conference (Refer to the Data Programming Manual - Business [A-2])
- Add On Conference-8 Party (Refer to the Data Programming Manual - Business [A-121])
- Preset Conference (Refer to the Data Programming Manual - Business [P-24])
- Station-Controlled Conference (Refer to the Data Programming Manual - Business [S-6])
- Group Call-Automatic Conference (20-party) (Refer to the Data Programming Manual - PHS/PCS [G-23])

Location of PA-CFTW (CFT) in the System

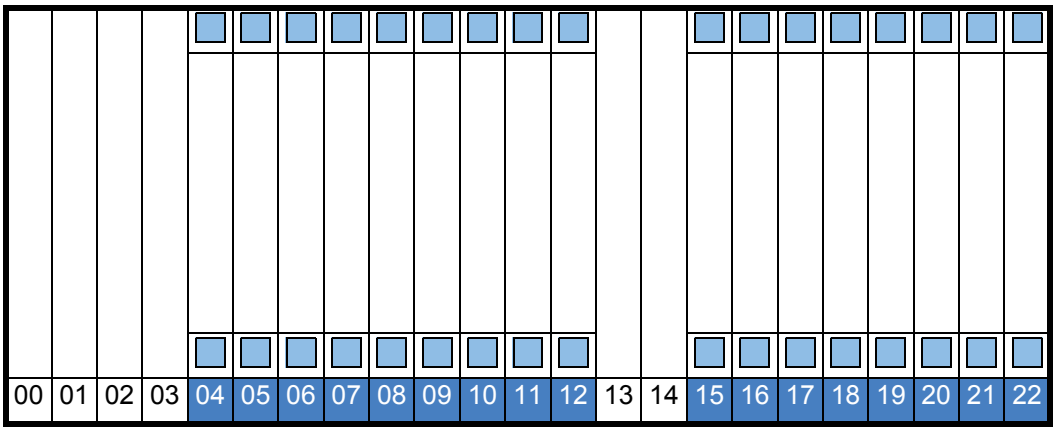
This diagram shows an example of a Preset conference involving Tie Line connections.



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



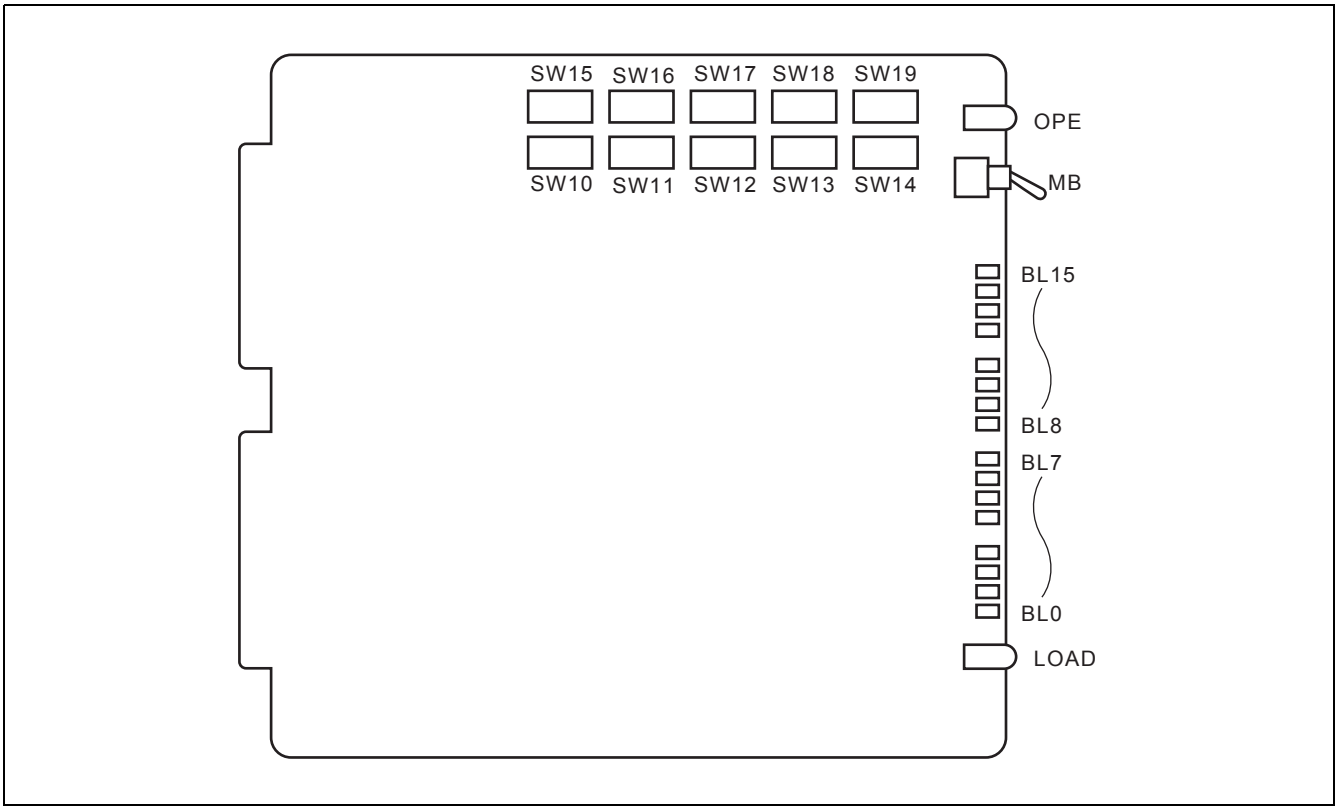
Mounting Conditions:

- This card seizes 16 ports (Two logical Groups). This card occupies the latter half, when mounting on 32-port slots (Slot 10, 11, 12, 21, 22).
- Port 0 (LV=0) of Group 0 (G=00) in PIR0 cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-CFTW (CFT)



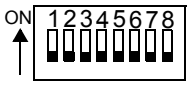
4. Lamp Indications

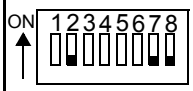
The contents of lamp indications of this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating normally.
BL0 ' BL15	Green	Remains lit while the corresponding circuit is busy.
	Flash	Flashes when the corresponding circuit is in make-busy state.
	OFF	Remains OFF when the corresponding circuit is idle.
LOAD	Yellow	Remains lit while this circuit card is loading program (internal processing).

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
MB	-	UP		Circuit card make busy
		DOWN	×	Circuit card make busy cancel
SW10 	1	OFF	×	Fixed to OFF
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW11 	1	ON		PCM coding: A-law
		OFF		PCM coding: μ-law
	2	OFF	×	Fixed to OFF
	3	Select conference type for this circuit card. **Note 1** See the table below for SW11-3 through SW11-6, and SW12-6 combination.		
	4			
	5			
	6			
	7	OFF	×	Fixed to OFF
	8	OFF	×	Fixed to OFF

Note 1: Conference type can be specified on a circuit card basis only. A different conference type cannot be applied for each group.

SW11-3 through SW11-6, and SW12-6 Combination

SW11-3	SW11-4	SW11-5	SW11-6	SW12-6	CONF TYPE	SERVICE FEATURE	PA-CFTB COMPATIBILITY
OFF	OFF	OFF	OFF	ON	Meet Me	Station/Attendant Controlled Conference	NEAX2400 CFTB-D (SP-457) answer time = 6 seconds **Note 3** SPA-CFTB-D (SP-990) answer time = 1 second **Note 3**
						OAI Application	SPA-CFTB-H (SP-863) answer time = 0 second, Immediate Answer **Note 3**
		ON	OFF	OFF		Add On Conference-8 Party **Note 2**	SPA-CFTB-L (SP-1114) answer time = 1 second **Note 3**
ON	OFF	OFF	OFF	OFF	Preset **Note 5**	Preset Conference **Note 2**	SPA-CFTB-B (SP-388) member PSs are called in 64 milliseconds interval **Note 4**
		ON	OFF	ON		Preset Conference (Group Call-Automatic Conference for PCS/PHS (20-party)) **Note 2**	SPA-CFTB-C (SP-1141) member PSs are called in 2 seconds interval **Note 4**, **Note 6**
OFF	ON	ON	ON	ON	Progressive	Station/Attendant Controlled Conference	SPA-CFTB (SP-519)
Other settings					Prohibited		

Note 2: Select 8-party conference × 4 groups by SW10-2 and SW10-3 for the following service features:
- [A-121] Add On Conference-8 Party
- [G-23] Group Call Automatic Conference (20 Party)

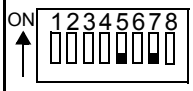
Note 3: Answer time for Meet-Me Conference is set in SW13-1 through SW13-4.

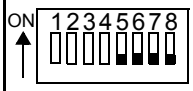
Note 4: Calling interval for Preset Conference is set in SW12-1 through SW12-4.

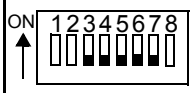
Note 5: When using [G-23] Group Call-Automatic Conference (20-Party) feature, the following switch setting on the circuit card is required.

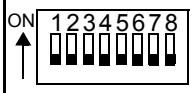
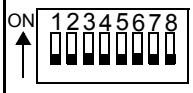
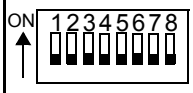
SW11-3	SW11-4	SW11-5	SW11-6	SW12-6
ON	OFF	ON	OFF	ON

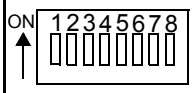
Note 6: If the called parties (conferees) include PS, be sure to set more than two seconds for the calling interval timer in SW12-1 through SW12-4.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="12">SW12
 
</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="10">Preset conference calling interval
<table><tr><th>SW12-1</th><th>SW12-2</th><th>SW12-3</th><th>SW12-4</th><th>INTERVAL</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>64 milliseconds</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>0.5 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>0.75 seconds</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>1 second</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>1.25 seconds</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>1.5 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>1.75 seconds</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>2 seconds</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>2.25 seconds</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>2.5 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>2.75 seconds</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>3 seconds</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>3.25 seconds</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>3.5 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>3.75 seconds</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>4 seconds</td></tr></table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td rowspan="2">See the table “SW11-3 through SW11-6, and SW12-6 Combination” on the previous page.</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td>7</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Conference control with PB signal: Disable</td></tr>
<tr><td>OFF</td><td>×</td><td>Conference control with PB signal: Enable</td></tr>
</table>

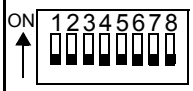
<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="10">SW13
  </td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="10">Meet-Me conference answer time
<table><tr><th>SW13-1</th><th>SW13-2</th><th>SW13-3</th><th>SW13-4</th><th>INTERVAL</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>6 seconds (standard)</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>0 seconds (immediate answer)</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>0.5 seconds</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>1 second</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>1.5 seconds</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>2 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>2.5 seconds</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>3 seconds</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>3.5 seconds</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>4 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>4.5 seconds</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>5 seconds</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>5.5 seconds</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>6 seconds</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>6.5 seconds</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>7 seconds</td></tr></table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>6</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="10">SW14
  </td><td rowspan="2">1</td><td>ON</td><td>×</td><td rowspan="3">Select the PAD value for the whole conference.
<table><tr><th>SW14-1</th><th>SW14-2</th><th>MEANING</th></tr><tr><td>OFF</td><td>OFF</td><td>6 dB</td></tr><tr><td>ON</td><td>OFF</td><td>3 dB</td></tr><tr><td>OFF</td><td>ON</td><td>9 dB</td></tr><tr><td>ON</td><td>ON</td><td>0 dB (standard)</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td>×</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>6</td><td>OFF</td><td>×</td><td rowspan="2">Setting for the time to wait when beginning to talk.
<table><tr><th>SW14-6</th><th>SW14-7</th><th>MEANING</th></tr><tr><td>OFF</td><td>OFF</td><td>1s (standard)</td></tr><tr><td>ON</td><td>OFF</td><td>2s</td></tr><tr><td>OFF</td><td>ON</td><td>3s</td></tr><tr><td>ON</td><td>ON</td><td>0s</td></tr></table>Note: This setting is available for Meet-Me mode only.</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">8</td><td rowspan="2">ON</td><td rowspan="2"></td><td>Notice tone: Enable
Note: This setting is available for Meet-Me mode only.</td></tr>
<tr><td>OFF</td><td>×</td><td>Notice tone: Disable</td></tr>
</table>

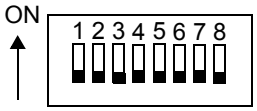
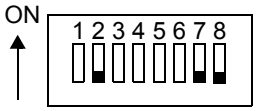
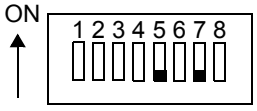
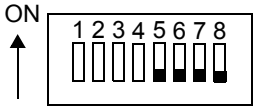
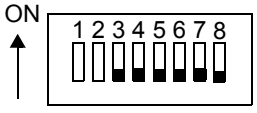
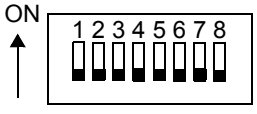
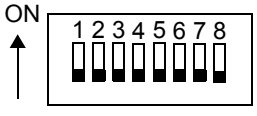
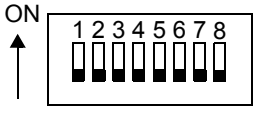
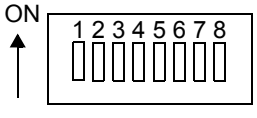
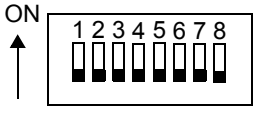
SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW15 	1	OFF	×	Fixed to OFF
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	
SW16 	1	OFF	×	Fixed to OFF
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	
SW17 	1	OFF	×	Fixed to OFF
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="16">SW18
  </td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="8">Select the threshold value to recognize whether the conferee is speaking.
<table><tr><th>SW18-1</th><th>SW18-2</th><th>SW18-3</th><th>SW18-4</th><th>SW18-5</th><th>THRESHOLD VALUE</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>-38 dBm (standard setting)</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>-30 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>-31 dBm</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>-32 dBm</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>-33 dBm</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>-34 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>-35 dBm</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>-36 dBm</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>-37 dBm</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>-38 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>-39 dBm</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>-40 dBm</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>-41 dBm</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>-42 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>-43 dBm</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>-44 dBm</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>-45 dBm</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>-46 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>-47 dBm</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>-48 dBm</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>-49 dBm</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>-50 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>-51 dBm</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>-52 dBm</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>-53 dBm</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>-54 dBm</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>-55 dBm</td></tr><tr><td colspan="5">Other settings</td><td>Prohibited</td></tr></table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td rowspan="8">Select the available number of speakers at the same time. Note 7
<table><tr><th>SW18-6</th><th>SW18-7</th><th>SW18-8</th><th>MEANING</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>5 speakers (standard setting)</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>6 speakers</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>7 speakers</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>8 speakers</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>3 speakers</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>4 speakers</td></tr><tr><td colspan="3">Other settings</td><td>Prohibited</td></tr></table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
</table>

Note 7: For example, if set to 3, the conference trunk mixes and plays the 3 people's voices with highest voice level (volume) in the conferees. It is controlled dynamically. When person A, B, C, D and E (in order of the volume) are speaking, the conference trunk mixes the voice of A, B and C. When person A stops talking, the conference trunk mixes the voice of B, C and D.

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW19 	1	OFF	×	Fixed to OFF
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	

6. Switch Setting Sheet

MODULE	SLOT NO.	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		MB	DOWN	Circuit card make busy cancel
		SW10		
		SW11		
		SW12		
		SW13		
		SW14		
		SW15		
		SW16		
		SW17		
		SW18		
		SW19		

PA-8COTBF
Central Office Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	-	-	-	-	-

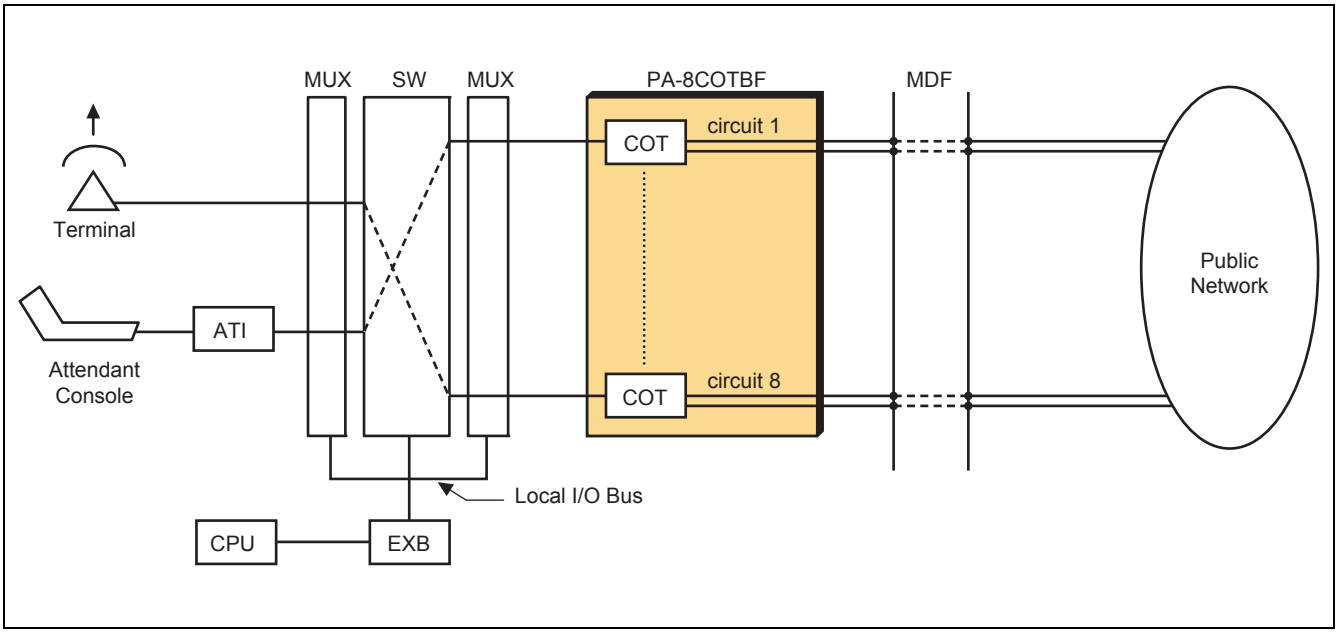
1. General Function

The PA-8COTBF (COT) circuit card provides an interface between a maximum of eight C.O. lines and the system.

The metering pulse detection is provided.

- Metering Detection frequency: 12 kHz
  16 kHz
  50 Hz

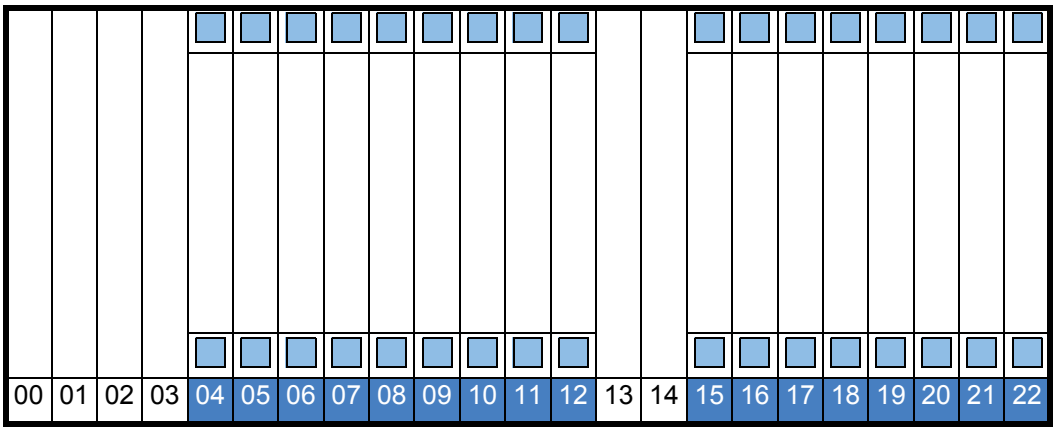
Location of PA-8COTBF (COT) in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



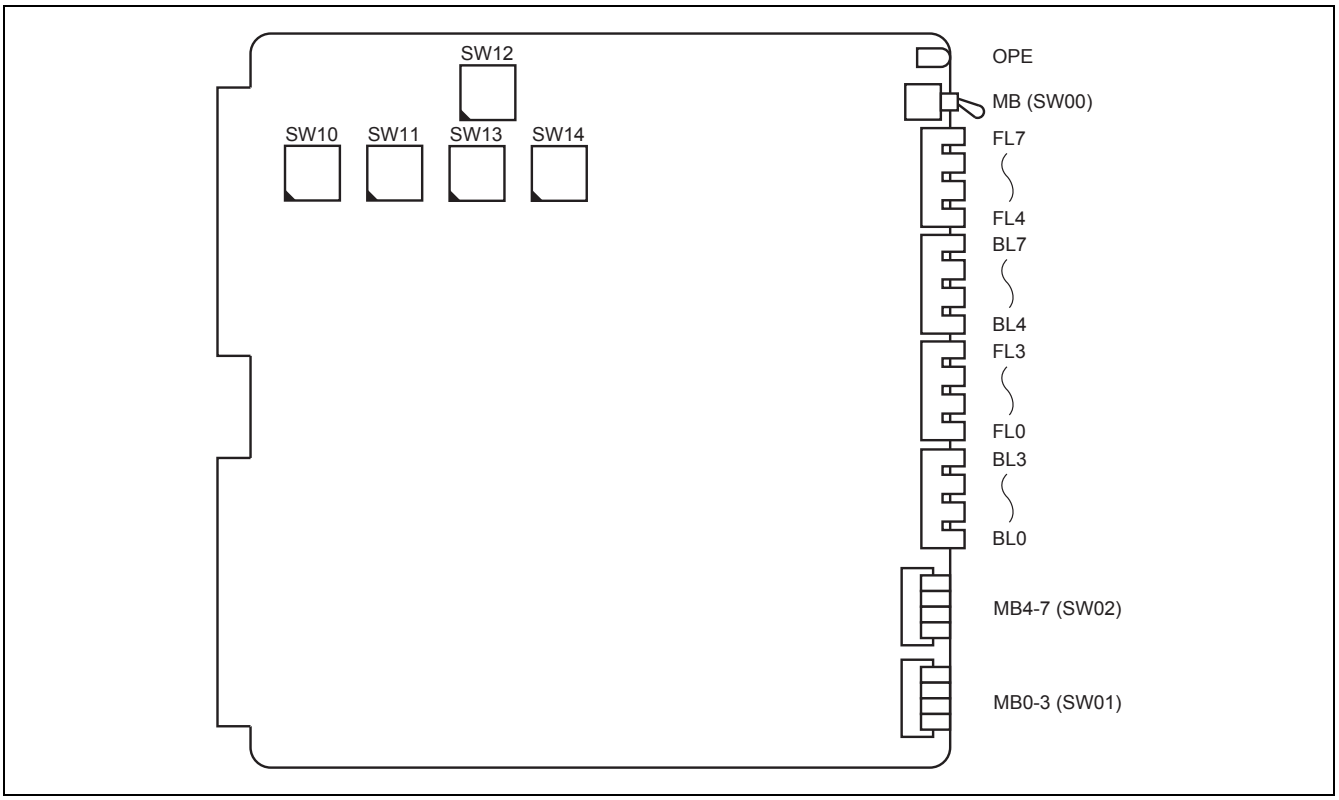
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps and switches on this circuit card is shown below.

Face Layout of PA-8COTBF (COT)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	COLOR		DISPLAY METHOD	STATE
	LAMP ON	LAMP OFF		
OPE	Green	Green	Constant Light	Indicates that the circuit card is operating normally.
BL 0~7	Green	Green	Constant Light	Indicate that the circuit concerned is busy.
			Blinking	(1) Blink when a dial pulse is sent out at origination time. (2) Blink at 60 IPM when the circuit concerned is in the Make-Busy state.
FL 0~7	Yellow	Yellow	Constant Light	Indicate that the circuit concerned is in the line fault state or in the abnormal metering signal detection state.

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00 (MB)		UP		Circuit card: Make-Busy.
		DOWN	×	Circuit card: Make-Busy cancel.
SW01 (MB 0~3)		ON		The circuit concerned is requested to be in the Make-Busy state.
		OFF	×	The circuit concerned is requested to be out of the Make-Busy state.
SW02 (MB 4~7)		ON		The circuit concerned is requested to be in the Make-Busy state.
		OFF	×	The circuit concerned is requested to be out of the Make-Busy state.
SW10	1	OFF		Line fault detection is available.
		ON		Line fault detection is not available.
	2	OFF		The circuit does not recognize incorrect polarity as line fault.
		ON		The circuit recognizes incorrect polarity as line fault.
	3	OFF	×	Circuit 0 is used as a central office trunk.
		ON		Circuit 0 is used as a overlapping trunk. (Australia only)
	4	OFF	×	Circuit 1 is used as a central office trunk.
		ON		Circuit 1 is used as a overlapping trunk. (Australia only)

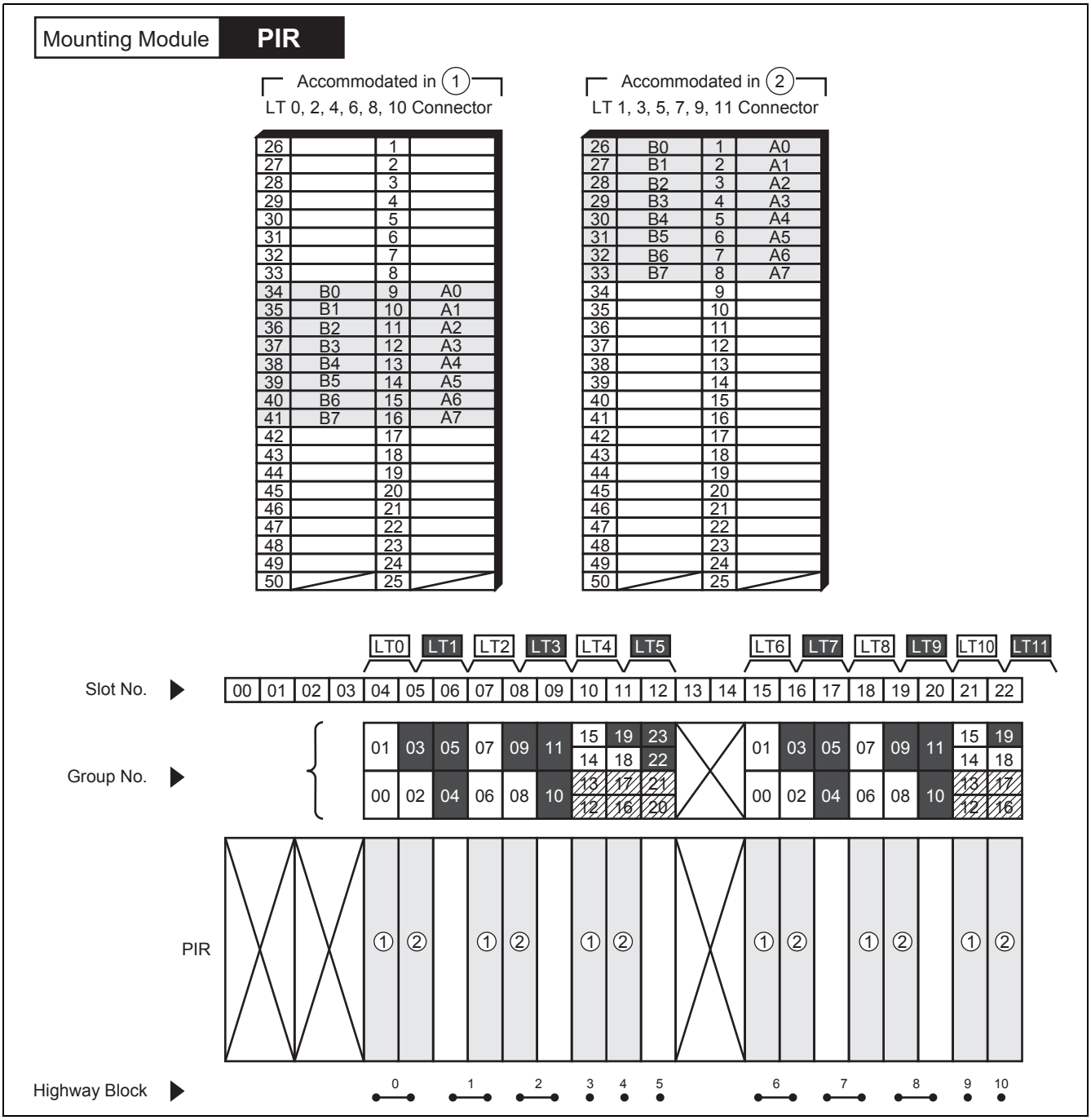
<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="5">SW11</td><td rowspan="2">1-2</td><td rowspan="2"></td><td rowspan="2"></td><td>Setting of release detection method. Shown in the following.
<table><tr><th>2</th><th>1</th><th>Available Function</th></tr><tr><td>OFF</td><td>OFF</td><td>AC clearing (Australia only)</td></tr><tr><td>OFF</td><td>ON</td><td>ROI</td></tr><tr><td>ON</td><td>OFF</td><td>OG blocking timer</td></tr><tr><td>ON</td><td>ON</td><td>not available</td></tr></table></td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">4</td><td>OFF</td><td></td><td>BNW is complex impedance.</td></tr>
<tr><td>ON</td><td></td><td>BNW is 600 Ω.</td></tr>
<tr><td rowspan="8">SW12</td><td rowspan="2">1</td><td>OFF</td><td></td><td>Metering detection frequency: 16 kHz</td></tr>
<tr><td>ON</td><td></td><td>Metering detection frequency: 12 kHz</td></tr>
<tr><td rowspan="2">2</td><td>OFF</td><td></td><td>Metering signal reduction filter in.</td></tr>
<tr><td>ON</td><td></td><td>Metering signal reduction filter out.</td></tr>
<tr><td rowspan="2">3</td><td>OFF</td><td>×</td><td>Transmission levels set for new (TS003) level plan.</td></tr>
<tr><td>ON</td><td></td><td>Transmission levels set for old (SPEC1301) level plan.</td></tr>
<tr><td rowspan="2">4</td><td>OFF</td><td></td><td>Automatic polarity correction function is not available.</td></tr>
<tr><td>ON</td><td></td><td>Automatic polarity correction function is available.</td></tr>
</table>

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW13	1	OFF		Disconnection of call termination: three seconds
		ON		Disconnection of call termination: six seconds
	2	OFF		Metering detection: more than 64 milliseconds
		ON		Metering detection: more than 16 milliseconds
	3	OFF		OG Blocking Timer availability: end of IC call.
		ON		OG Blocking Timer availability: end of IC and OG call.
	4	OFF		If 12/16 kHz metering signal is used.
		ON		If 50 Hz metering signal is used.
SW14	1	OFF	×	Fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	

6. External Interface

The leads appear as follows on the LT connectors.

LT Connector Lead Accommodation (1/2)



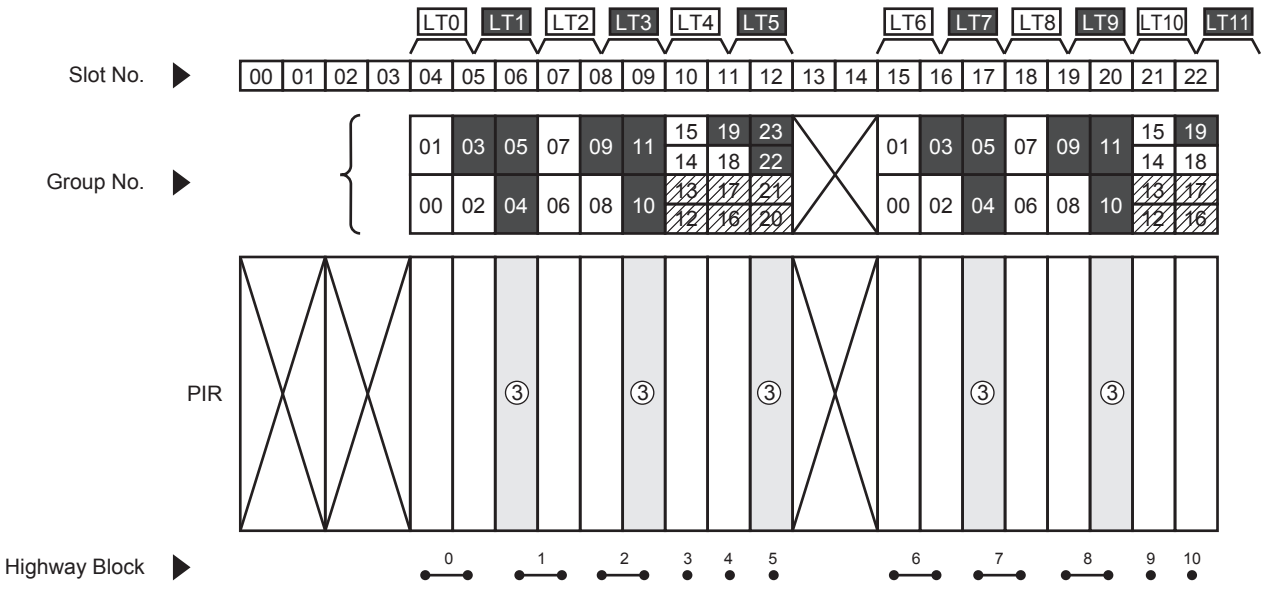
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (2/2)

Mounting Module **PIR**

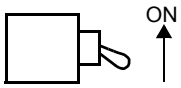
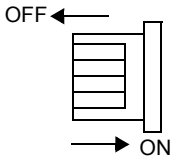
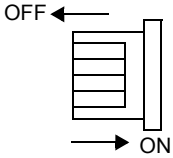
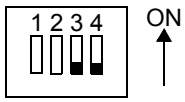
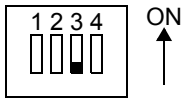
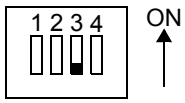
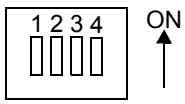
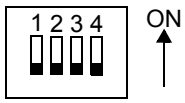
Accommodated in ③
LT 1, 3, 5, 7, 9, 11 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		MB		
		MB 0 -3		
		MB 4 - 7		
		SW 10		
		SW 11		
		SW 12		
		SW 13		
		SW 14		

PA-8COTBJ
Central Office Trunk

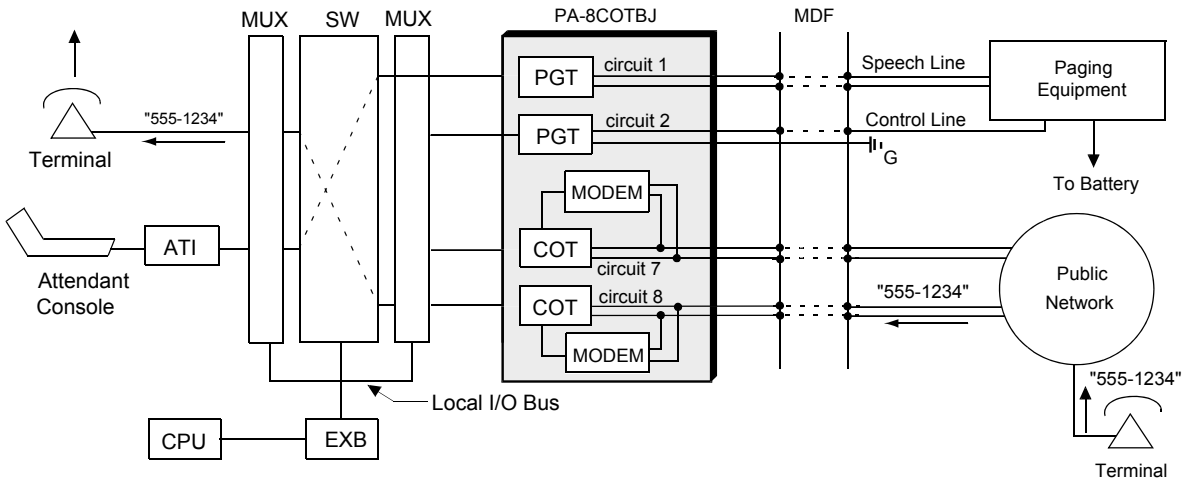
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	X	-	X	X	-

1. General Function

The PA-8COTBJ (8COT) circuit card provides an interface between a maximum of eight C.O. lines and the system. This card also provides Caller ID service. Depending upon key settings for this card, the first circuit on this card can be used as an interface for Paging Equipment. In this instance, the second circuit is also used for activating the Paging Equipment. An example of Paging Equipment and Caller ID service is illustrated below. In addition, the appropriate value of Terminal Impedance and Balancing Network (BNW) can be selected by key setting.

Location of PA-8COTBJ (8COT) Card in the System

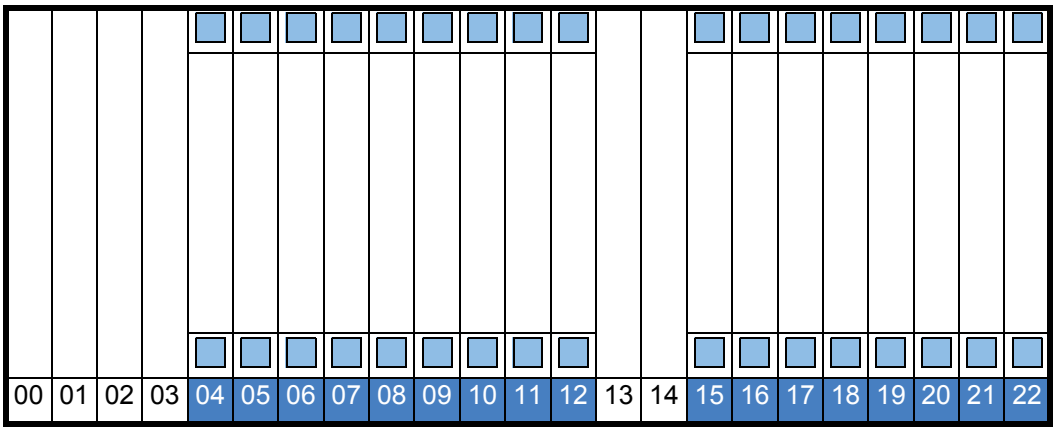
This diagram shows an example where this card is used as both a PGT and COTs.



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



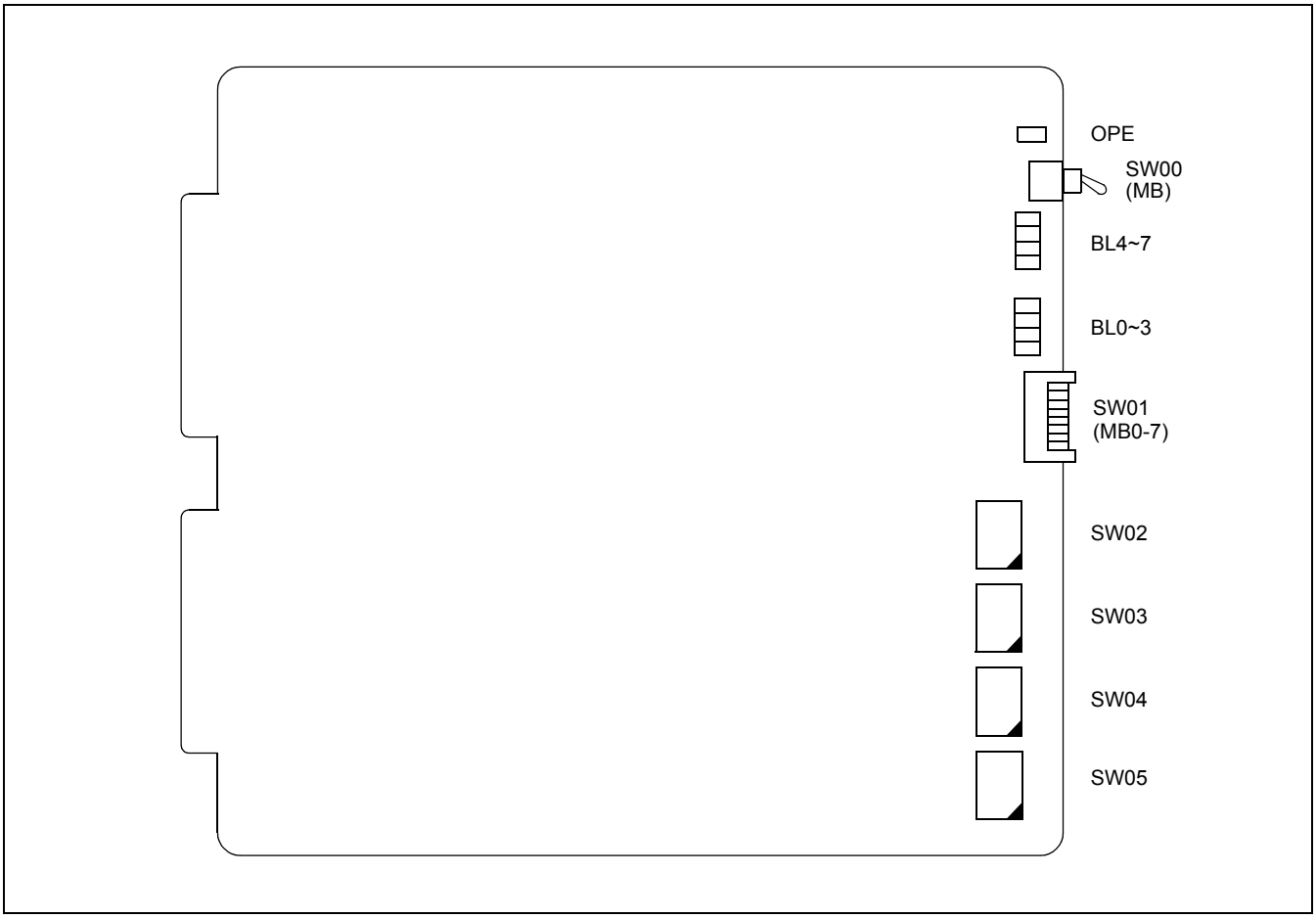
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors of this circuit card is shown below.

Face Layout of PA-8COTBJ (8COT)



4. Lamp Indications

The contents of lamp indications of this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating.
BL0 ' BL7	Green	Lights when the corresponding circuit is busy.
		Flashes to the dial pulses being sent out for an outgoing call, or the corresponding circuit is in Make-Busy state.
	OFF	BL Lamp remains off when the corresponding circuit is idle.

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">SW00
(MB)</td><td></td><td>UP</td><td></td><td>Circuit card: Make-Busy.</td></tr>
<tr><td></td><td>DOWN</td><td>×</td><td>Circuit card: Make-Busy cancel.</td></tr>
<tr><td rowspan="2">SW01
(MB0-7)</td><td></td><td>ON</td><td></td><td>Request for Make-Busy of the trunk circuit corresponding to MB switch.</td></tr>
<tr><td></td><td>OFF</td><td>×</td><td>Request for canceling the Make-Busy of the trunk circuit corresponding to MB switch.</td></tr>
<tr><td>SW02</td><td>1-4</td><td></td><td></td><td>Terminal Impedance and B.N.W. setting
<table>
<tr><th colspan="4">SW0 (SW10)</th><th colspan="2">MEANINGS</th></tr>
<tr><th>1</th><th>2</th><th>3</th><th>4</th><th>B.N.W.</th><th>Terminal Impedance</th></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>EIA/TIA 464-A</td><td>600Ω+2.16μF</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>CCITT Q.517</td><td rowspan="2">900Ω+2.16μF</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>900Ω</td></tr>
<tr><td colspan="4">Other Combinations</td><td colspan="2">Inhibited</td></tr>
</table></td></tr>
<tr><td rowspan="4">SW03</td><td>1</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>2</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="5">SW04</td><td>1</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>2</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>Paging Trunk is available. (When this switch is set to ON, CH0 and CH1 cannot be used as C. O. trunks.)</td></tr>
<tr><td>OFF</td><td></td><td>Paging Trunk is not available.</td></tr>
<tr><td rowspan="4">SW05</td><td>1</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>2</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

6. External Interface

LT Connector Leads Accommodation

Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

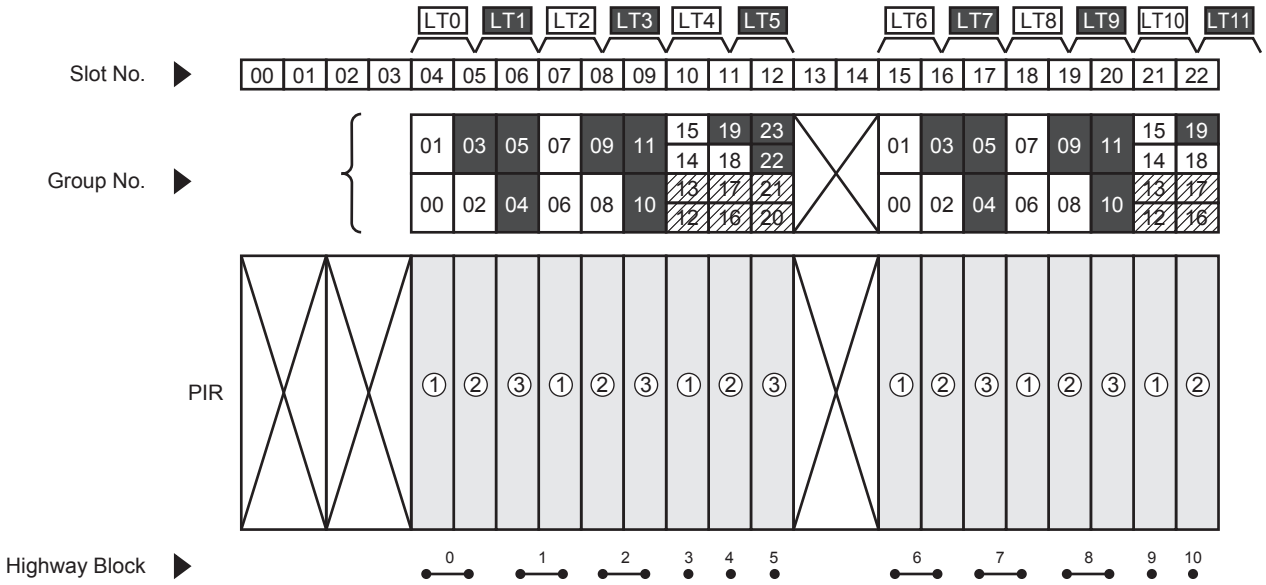
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9, 11 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ③
LT 1, 3, 5, 7, 9 Connector

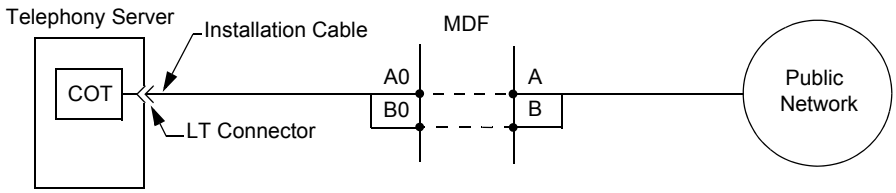
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
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35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	



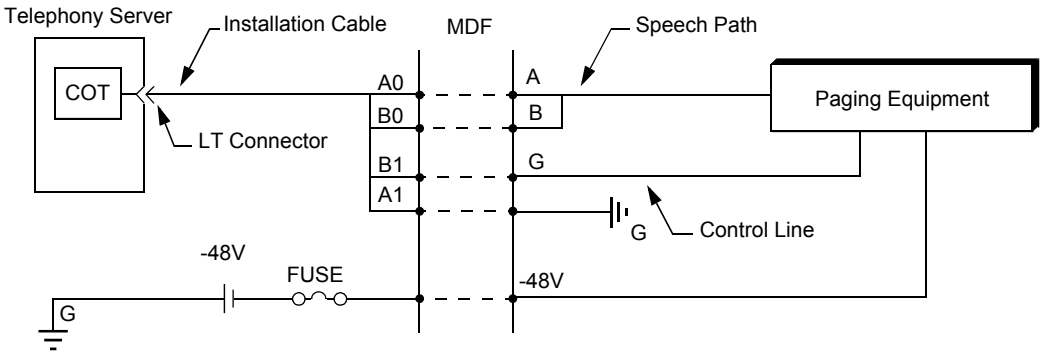
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram

- Cable Connections for a C.O. Line

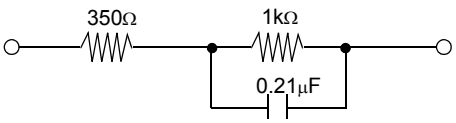
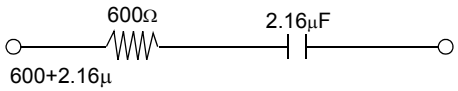
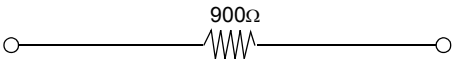
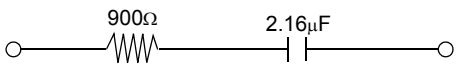
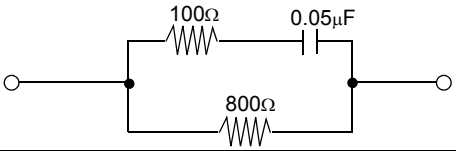


- Cable Connections for Paging Equipment

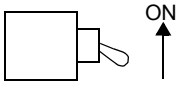
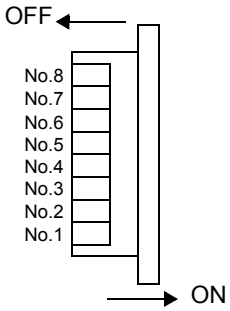
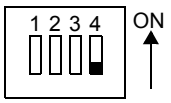
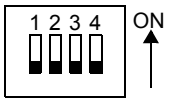
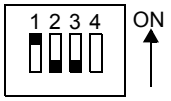
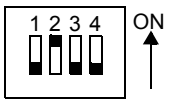


Note: As illustrated above, two circuits (0, 1) are required for connecting paging equipment.

Balancing Network and Terminal Impedance

Balancing Network		Terminal Impedance
EIA/TIA 464-A		
900Ω		
CCITT Q. 517 AT&T Echo Test Network		

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		UP: Circuit card Make-Busy. DOWN: Circuit card Make-Busy cancel.
		SW01 (MB0-7)		Make Busy switches associated with No.0 through No.7 Circuits. ON: Make-Busy on each circuit basis. OFF: Make-Busy cancel on each circuit basis.
		SW02		
		SW03		
		SW04		
		SW05		

PA-16COTBD-B
Central Office Trunk

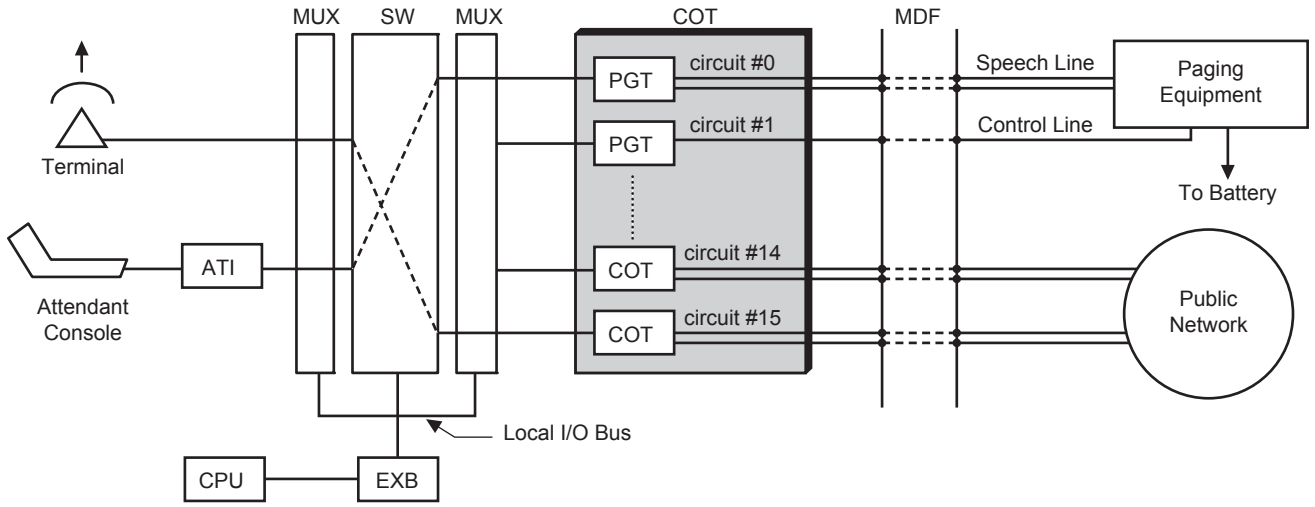
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	X	X	-	X	-

1. General Function

The PA-16COTBD-B (COT) circuit card provides an interface between a maximum of 16 C.O. lines and the system. Depending upon key settings of this card, the first circuit on this card can be used as an interface for Paging Equipment. In this instance, the second circuit (Circuit 1) is also used for activating Paging Equipment as illustrated below. In addition, the appropriate value of Terminal Impedance and Balancing Network (B.N.W.) can be selected by key setting.

Location of PA-16COTBD-B (COT) in the System

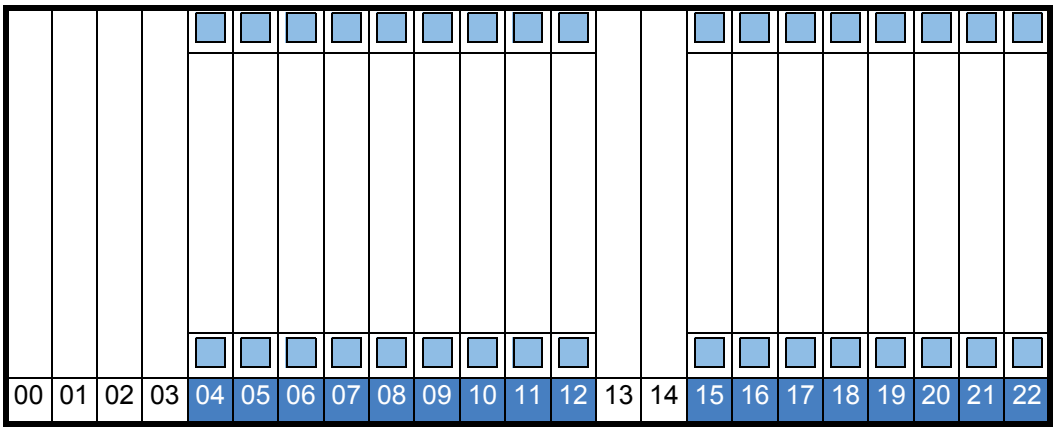
This diagram shows an example where this card is used as both a PGT and COTs.



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



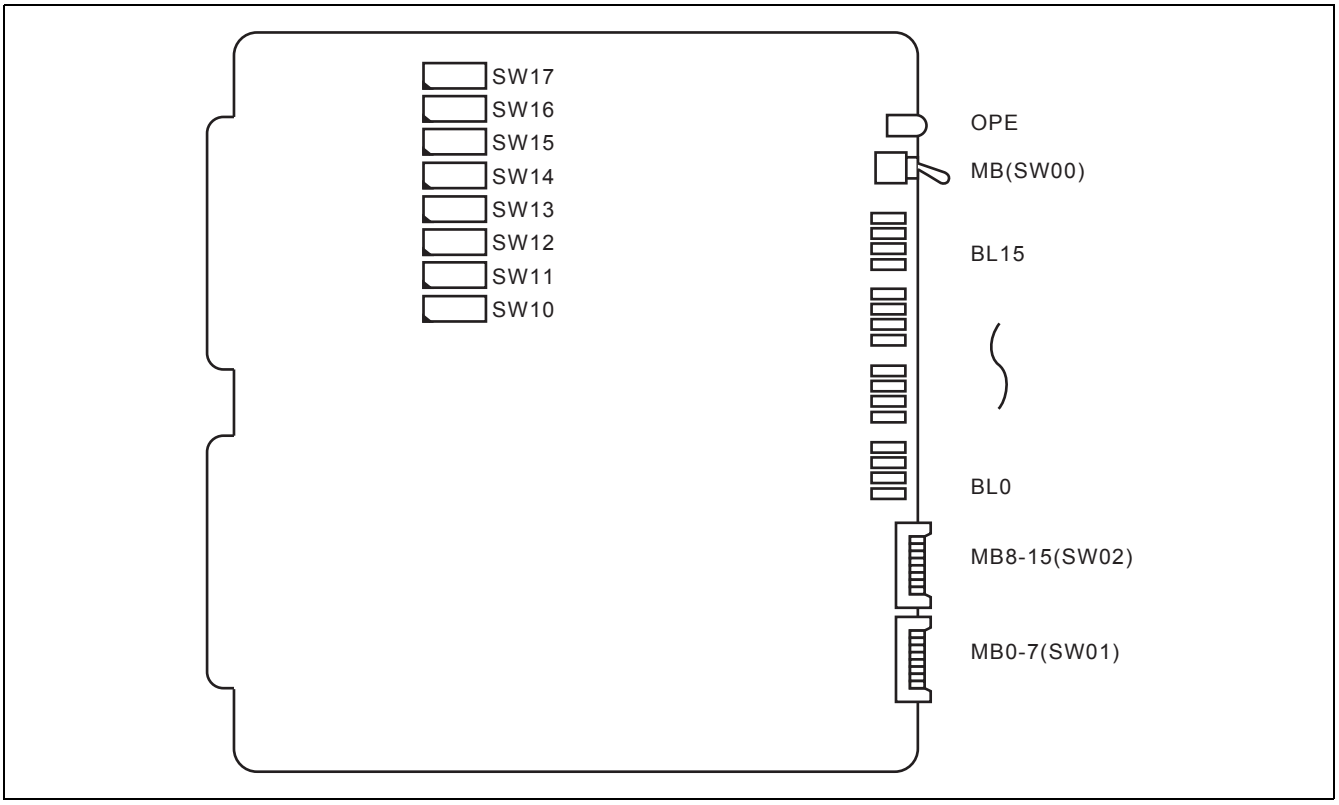
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps and switches on this circuit card is shown below.

Face Layout of PA-16COTBD-B (COT)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

COT Card Lamp Indication Reference

LAMP NAME	COLOR	STATE
OPE	Green	The circuit card is operating normally.
BL0-BL15	Green	The circuit is being used.
	Flash	1) The lamp flashes to the dial pulses that are sent out during a call origination. 2) If a trunk circuit is in Make-Busy state, the BL lamp corresponding to that trunk circuit flashes 60 times per minute.

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

PA-16COTBD-B Switch Settings Reference

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB SW00		UP		Circuit card make busy.
		DOWN	×	Circuit card make busy cancel.
MB0-7 SW01 MB8-15 SW02		ON		Request for make busy of the trunk circuit corresponding to MB switch.
		OFF	×	Request for canceling the make busy of the trunk circuit corresponding to MB switch.
SW10	1-4			SW10 and SW11 mean Terminal Impedance and B.N.W. setting. **Note 1**
SW11	1-4			SW10 and SW11 mean Terminal Impedance and B.N.W. setting. **Note 1**
SW12	1	ON	×	Fixed to ON.
	2	ON		Incoming Call Disconnection Detecting Timer: 6 seconds **Note 2**
		OFF		Incoming Call Disconnection Detecting Timer: 3 seconds **Note 2**
	3	OFF	×	Fixed to OFF.
	4	ON		When the system using this card is "non-IP configuration" (when IP-PAD is not used) **Note 3**
		OFF	×	When the system using this card is "IP configuration" (when IPPAD is used) **Note 3**
SW13	1	ON		Paging Trunk is available (When this switch is set to ON, CH0 and CH1 cannot be used as C.O. trunks.)
		OFF		Paging Trunk is not available
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF
SW14	1	OFF	×	Fixed to OFF
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW15	1	ON		Auto Polarity Decision is available **Note 4**
		OFF		Auto Polarity Decision is not available **Note 4**
	2	ON		Release signal from C.O. cannot be detected **Note 5**
		OFF		Release signal from C.O. can be detected **Note 5**
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF
SW16	1	OFF	×	Fixed to OFF
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
SW17	1	OFF	×	Fixed to OFF
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	

Note 1: Terminal Impedance and B.N.W. setting matrix with SW10 and SW11.

SW10				SW11				MEANINGS	
1	2	3	4	1	2	3	4	B.N.W.	TERMINAL IMPEDANCE
OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	EIA/TIA 464-B	600 Ω + 2.16 μF or 600 Ω
ON	OFF	OFF	OFF					600 Ω	
OFF	OFF	ON	OFF					BT3	
ON	OFF	ON	OFF	OFF	ON	ON	OFF	ITU-T Q.517	900 Ω + 2.16 μF
ON	ON	ON	OFF					900 Ω	
OFF	ON	ON	OFF	ON	OFF	ON	OFF	Brazil Complex	900 Ω
ON	ON	ON	OFF					900 Ω	
OFF	OFF	ON	OFF	ON	ON	OFF	OFF	BT3	BT3
ON	OFF	OFF	ON	OFF	OFF	ON	OFF	Chinese Complex	Chinese Complex
Other Combinations								Inhibited	

Note 2: When an incoming call arrives at a destination, but no ringer is detected for a certain period of time set by SW12-2 (3 or 6 seconds), the incoming call is deemed to be put off before answering. Then the line returns to an idle state.

Note 3: The switch setting needs to match the PAD pattern in your system. Unmatched switch setting may cause voice quality problems such as echo-producing.

Note 4: This switch is for maintenance of miss-connection for polarity reversal with "tip" and "ring". After connecting the tips and rings on MDF, if the lamps as BL0-15 on the front of the card turn on, the installation personnel should make this switch "ON". After that, the lamps turn off and it means the connection is wrong for polarity reversal as wire connecting with tip to ring and ring to tip. So, the personnel have to reconnect the wrong connections. This switch discriminates only wrong connection of tips and rings, so this switch should be "OFF" in system operation.The function of this switch can detect each connection is wrong or correct, so if the personnel made this switch "ON" and only BL1 lamp turns on, this means the second wire connection is wrong. If the lamps keep to turn on, the personnel should search another reason.

Note 5: This switch is for returning to the idle state with detecting the release signal from C.O. or not. The release signal is expected as polarity reversal from C.O. (Usually, a caller from C.O. side make "on-hook" then C.O. will make polarity reverse as release signal to the private system.)

- When the switch setting is "ON":
  The line returns to the idle state with a station made "on-hook" only.
- When the switch setting is "OFF":
  The line returns to the idle state after receiving the release signal from C.O. and a station made "on-hook", then returns to the idle state.

There is no timer to be activated while no release signal is detected, so if the release signal does not come, then call is kept connection. (However, a station is expected to make "on-hook" after conversation then connection will be disconnect and the returns to the idle state.)

Reference PAD setting

Set the PAD value using PCPro in accordance with following table.

- **When the system using this card is "non-IP configuration" (when IPPAD is not used)**

PA-16COTBD-B PAD Value Reference (1/3)

COMMAND DATA ARTD	COMMAND DATA APAD	SEND (dB) TSW → C.O. Line	RECEIVE (dB) C.O. Line → TSW	REMARKS
7	15	0	0	(Standard)
2	2	3	3	
3	3	6	6	
4	4	0	-5 (GAIN)	

PA-16COTBD-B PAD Value Reference (2/3)
(See below if B.N.W. = Brazil Complex and Impedance = 900 Ω)

COMMAND DATA ARTD	COMMAND DATA APAD	SEND (dB) TSW → C.O. Line	RECEIVE (dB) C.O. Line → TSW	REMARKS
7	15	0	0	
2	2	6	-1 (GAIN)	(Brazil Standard)
3,4	3,4	6	-1 (GAIN)	

16COTBD-B PAD Value Reference (3/3)
(See below if B.N.W. = Chinese Complex and Impedance = Chinese Complex)

COMMAND DATA ARTD	COMMAND DATA APAD	SEND (dB) TSW → C.O. Line	RECEIVE (dB) C.O. Line → TSW	REMARKS
7	15	0	0	
2	2	3	3	(Chinese Standard)
3	3	3	3	
4	4	3.5	3.5	

- **When the system using this card is "IP configuration" (when IPPAD is used)**

PA-16COTBD-B PAD Value Reference (1/3)

COMMAND DATA ARTD	COMMAND DATA APAD	SEND (dB) TSW → C.O. Line	RECEIVE (dB) C.O. Line → TSW	REMARKS
7	15	0	0	
2	2	3	0	(Standard)
3	3	3	3	
4	4	6	0	

PA-16COTBD-B PAD Value Reference (2/3)
(See below if B.N.W. = Brazil Complex and Impedance = 900 Ω)

COMMAND DATA ARTD	COMMAND DATA APAD	SEND (dB) TSW → C.O. Line	RECEIVE (dB) C.O. Line → TSW	REMARKS
7	15	0	0	
2	2	6	-1 (GAIN)	(Brazil Standard)
3,4	3,4	6	-1 (GAIN)	

PA-16COTBD-B PAD Value Reference (3/3)
(See below if B.N.W. = Chinese Complex and Impedance = Chinese Complex)

COMMAND DATA ARTD	COMMAND DATA APAD	SEND (dB) TSW → C.O. Line	RECEIVE (dB) C.O. Line → TSW	REMARKS
7	15	0	0	
2	2	3	3	(Chinese Standard)
3	3	6	0	
4	4	3.5	3.5	

6. External Interface

LT Connector Lead Accommodation (1/2)

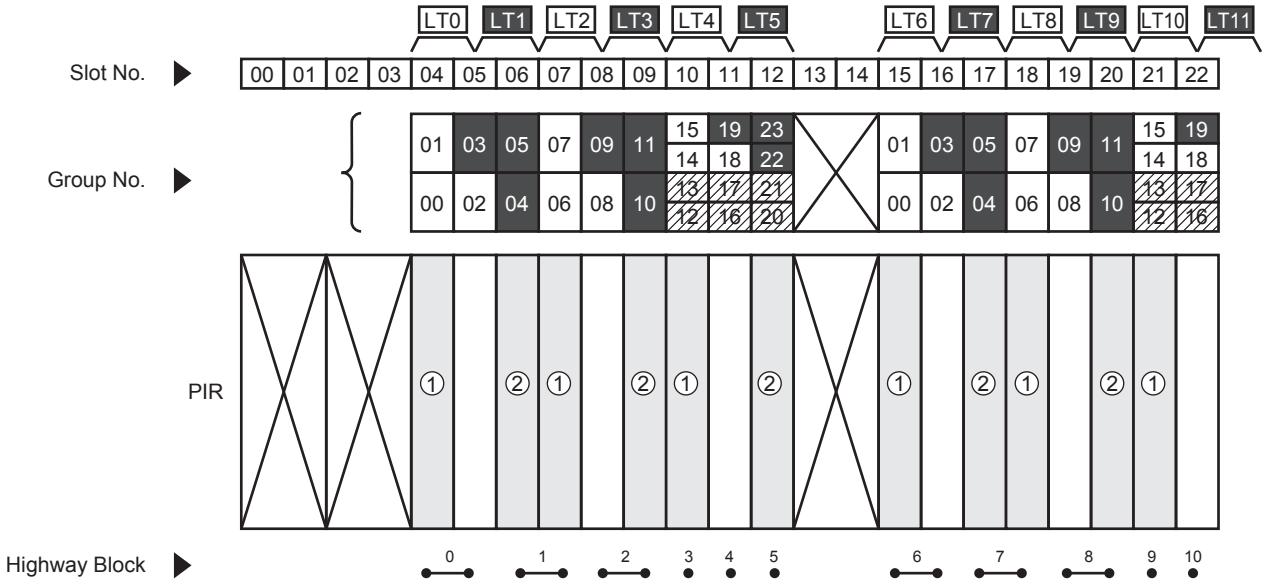
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	T0	1	R0
27	T1	2	R1
28	T2	3	R2
29	T3	4	R3
30	T4	5	R4
31	T5	6	R5
32	T6	7	R6
33	T7	8	R7
34	T8	9	R8
35	T9	10	R9
36	T10	11	R10
37	T11	12	R11
38	T12	13	R12
39	T13	14	R13
40	T14	15	R14
41	T15	16	R15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	T0	9	R0
35	T1	10	R1
36	T2	11	R2
37	T3	12	R3
38	T4	13	R4
39	T5	14	R5
40	T6	15	R6
41	T7	16	R7
42	T8	17	R8
43	T9	18	R9
44	T10	19	R10
45	T11	20	R11
46	T12	21	R12
47	T13	22	R13
48	T14	23	R14
49	T15	24	R15
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (2/2)

Mounting Module **PIR**

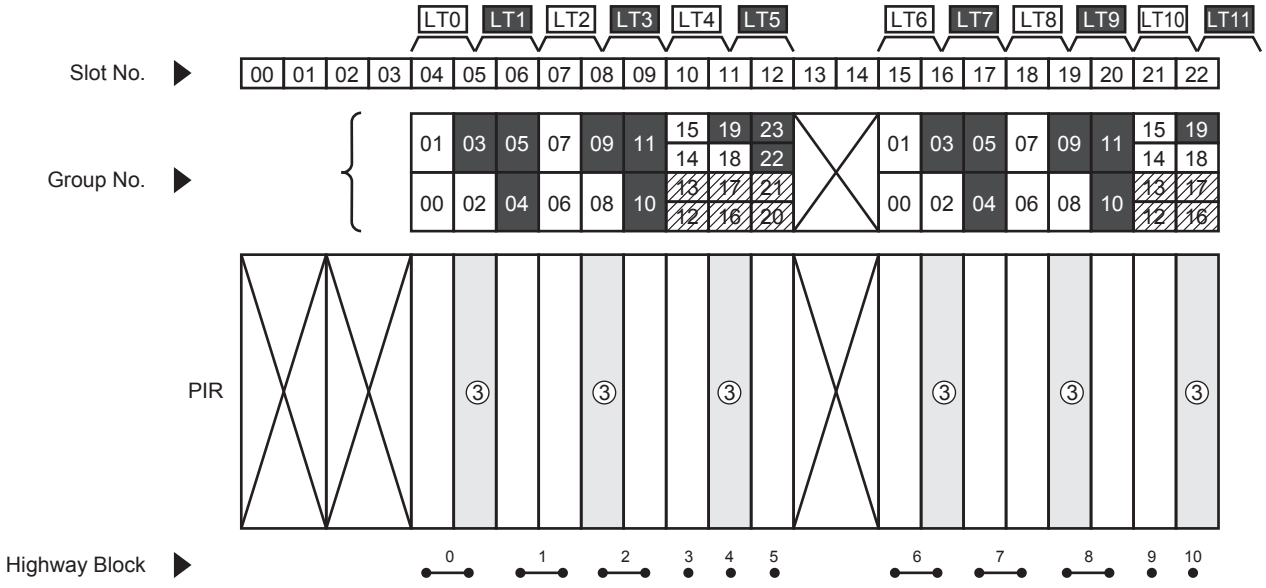
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	T0	17	R0
43	T1	18	R1
44	T2	19	R2
45	T3	20	R3
46	T4	21	R4
47	T5	22	R5
48	T6	23	R6
49	T7	24	R7
50		25	

LT 1, 3, 5, 7, 9, 11 Connector

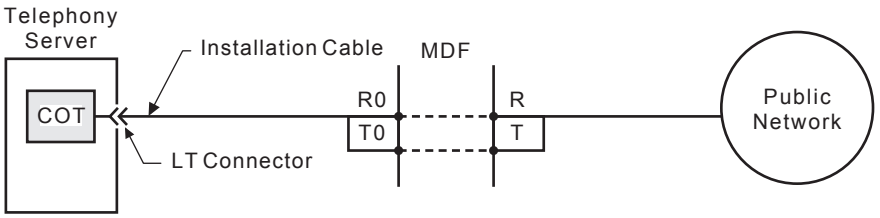
26	T8	1	R8
27	T9	2	R9
28	T10	3	R10
29	T11	4	R11
30	T12	5	R12
31	T13	6	R13
32	T14	7	R14
33	T15	8	R15
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
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50		25	



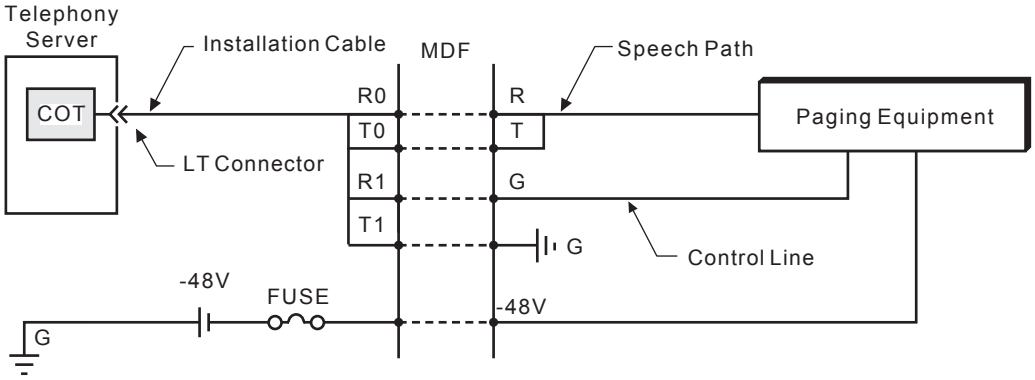
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram

- Cable Connections for a C.O. Line

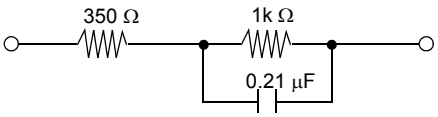
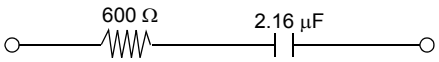
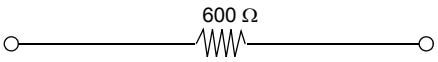
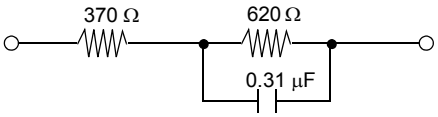
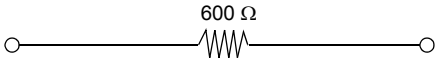
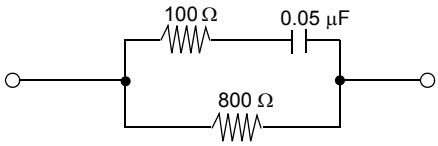
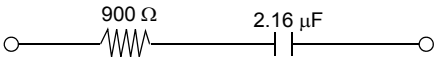
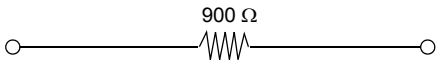
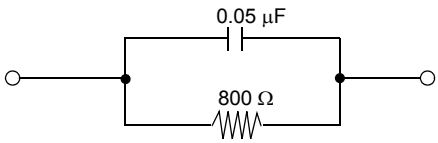
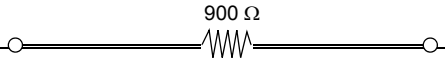
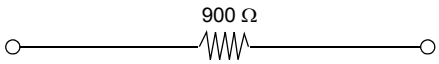
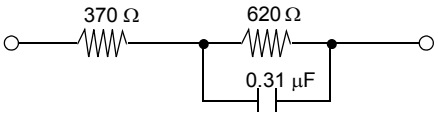
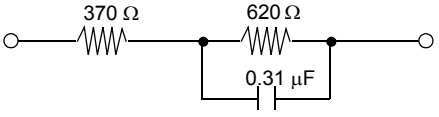
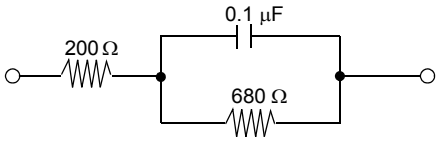
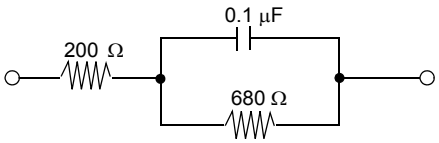


- Cable Connections for Paging Equipment

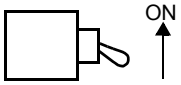
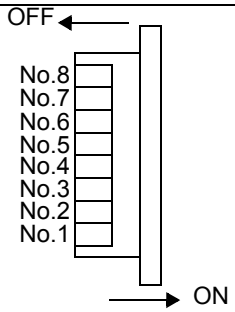
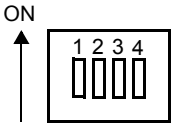
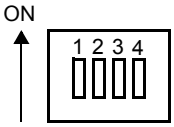
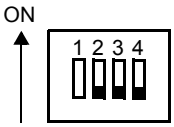
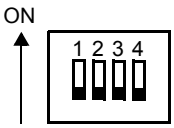
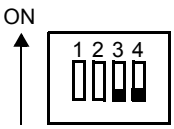
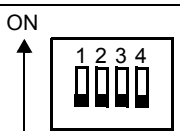
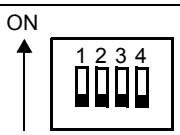


Note: Two circuits (0 and 1) are required for connecting paging equipment.

Balancing Network and Terminal Impedance

BALANCING NETWORK		TERMINAL IMPEDANCE
EIA/TIA 464-B		
600 Ω		or
BT3 Network		
ITU-T Q.517 AT & T Echo Test Network		
900 Ω		
Brazil Complex		
900 Ω		
BT3 Network		
Chinese Complex		

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		MB (SW00)		
		MB0-7 (SW01) MB8-15 (SW02)		
		SW10		
		SW11		
		SW12		
		SW13		
		SW14		
		SW15		
		SW16		
		SW17		

PA-16COTBE
Central Office Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	-	-	-	X	-	-

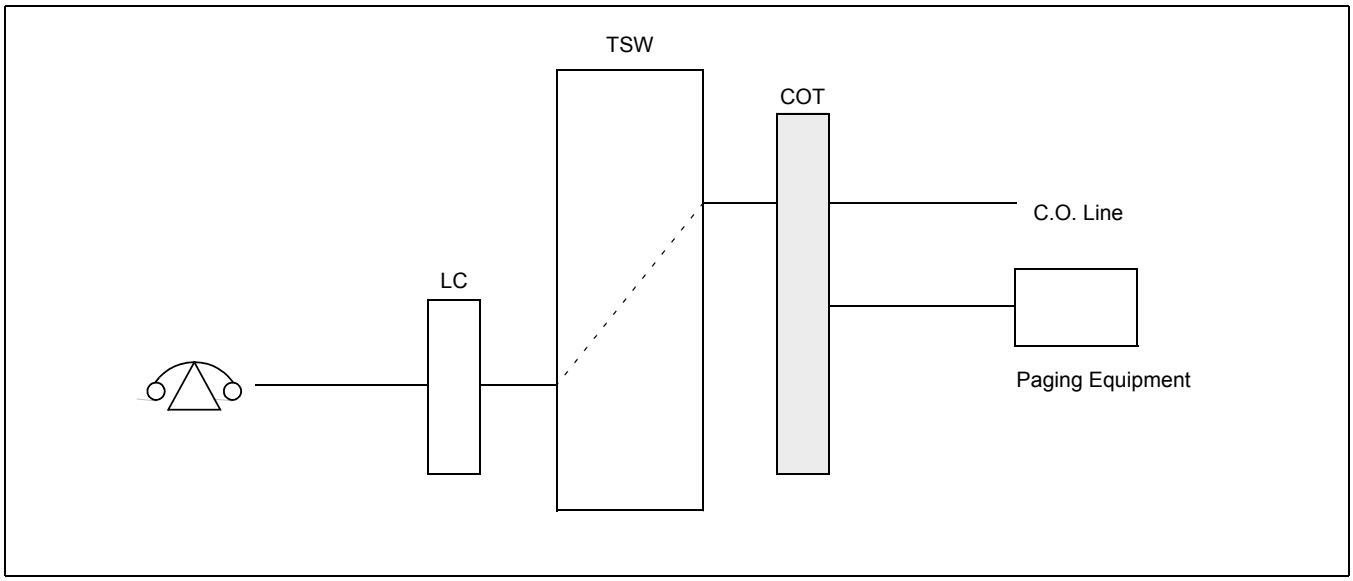
1. General Function

This circuit card is accommodated in the PIR and supports the following interface.

(a) Interface with 16 C.O. lines

(b) Interface with 14 C.O. lines and one Paging Equipment line

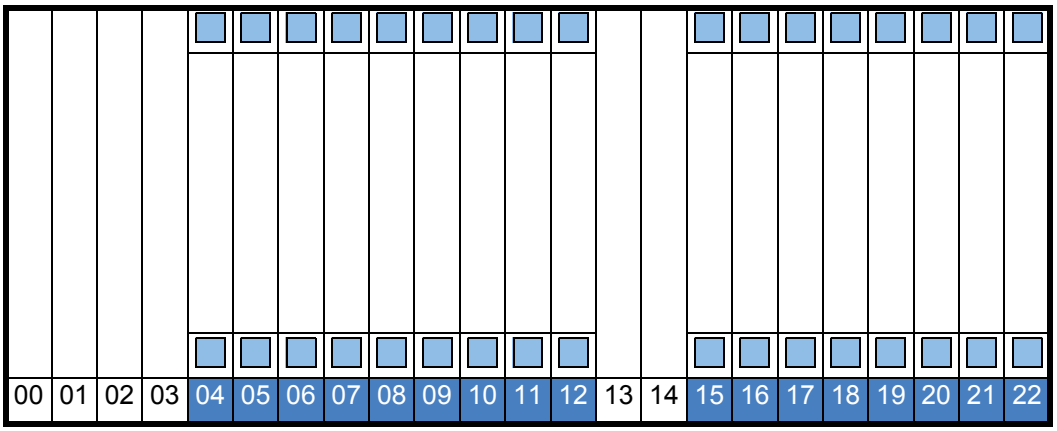
Location of PA-16COTBE (16COT) Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



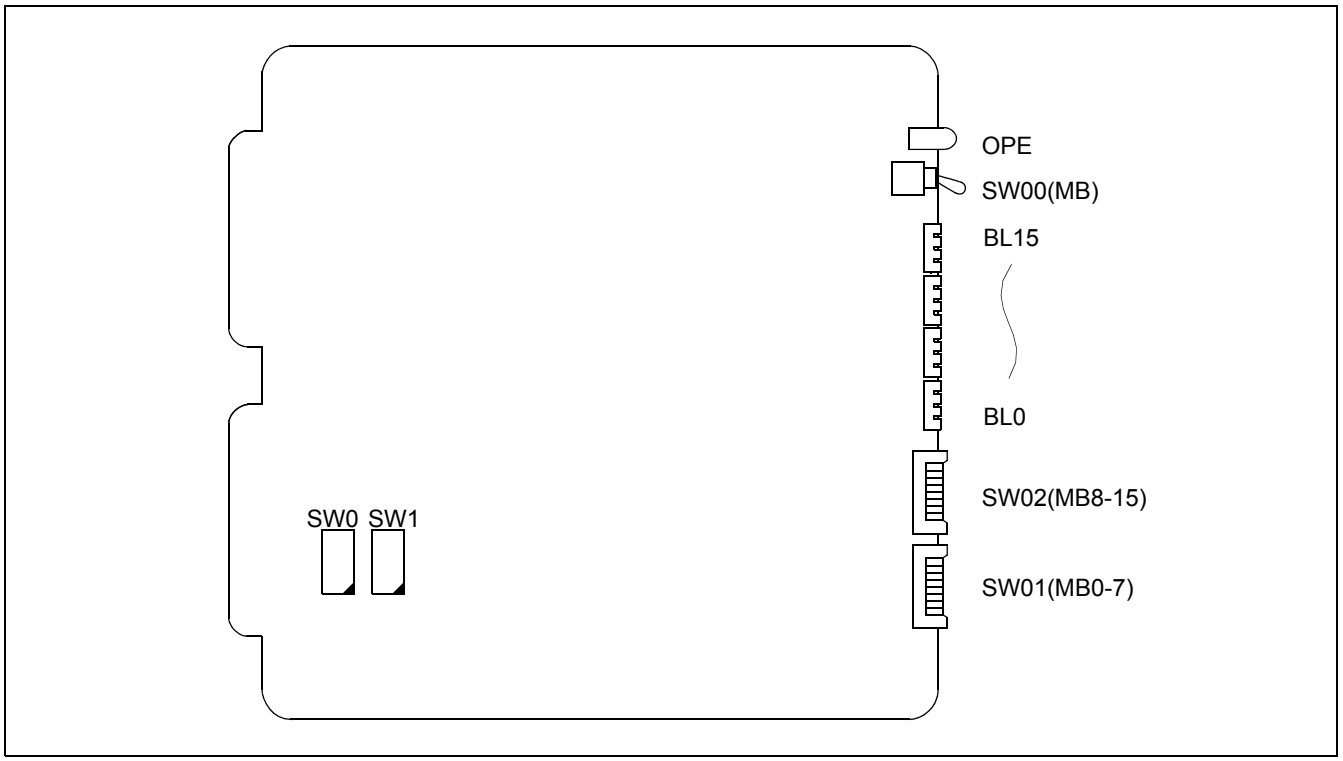
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors of this circuit card is shown below.

Face Layout of PA-16COTBE (16COT)



4. Lamp Indications

The contents of lamp indications of this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating.
BL0 ~ BL15	Green	Lights when the corresponding circuit is busy.
	Flash	Flashes to the dial pulses being sent out for an outgoing call, or the corresponding circuit is in Make-Busy state.
	Off	BL lamp remains off when the corresponding circuit is idle.

5. Switch Settings

Standard settings of various switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00 (MB)		UP		Circuit card make busy
		DOWN	×	Circuit card make busy cancel

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW01 (MB0 ~ 7)	0	ON		No. 0 circuit make busy
		OFF	×	No. 0 circuit make busy cancel
	1	ON		No. 1 circuit make busy
		OFF	×	No. 1 circuit make busy cancel
	2	ON		No. 2 circuit make busy
		OFF	×	No. 2 circuit make busy cancel
	3	ON		No. 3 circuit make busy
		OFF	×	No. 3 circuit make busy cancel
	4	ON		No. 4 circuit make busy
		OFF	×	No. 4 circuit make busy cancel
	5	ON		No. 5 circuit make busy
		OFF	×	No. 5 circuit make busy cancel
	6	ON		No. 6 circuit make busy
		OFF	×	No. 6 circuit make busy cancel
	7	ON		No. 7 circuit make busy
		OFF	×	No. 7 circuit make busy cancel

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW02 (MB8 ~ 15)	0	ON		No. 8 circuit make busy
		OFF	×	No. 8 circuit make busy cancel
	1	ON		No. 9 circuit make busy
		OFF	×	No. 9 circuit make busy cancel
	2	ON		No. 10 circuit make busy
		OFF	×	No. 10 circuit make busy cancel
	3	ON		No. 11 circuit make busy
		OFF	×	No. 11 circuit make busy cancel
	4	ON		No. 12 circuit make busy
		OFF	×	No. 12 circuit make busy cancel
	5	ON		No. 13 circuit make busy
		OFF	×	No. 13 circuit make busy cancel
	6	ON		No. 14 circuit make busy
		OFF	×	No. 14 circuit make busy cancel
	7	ON		No. 15 circuit make busy
		OFF	×	No. 15 circuit make busy cancel

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="3">SW0
(SW10)</td><td>1 - 4</td><td></td><td></td><td>TERMINAL IMPEDANCE
<table>
<tr><th colspan="4">SW0 (SW10)</th><th>MEANING</th></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>Terminal impedance</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>600 Ω + 2.16 µF</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>900 Ω + 2.16 µF</td></tr>
<tr><td colspan="4">Other Combinations</td><td>Not used</td></tr>
</table></td></tr>
<tr><td>5, 6</td><td></td><td></td><td>Wink Signal Detection Time.
<table>
<tr><th colspan="2">SW0 (SW10)</th><th rowspan="2">Detection Time</th></tr>
<tr><th>5</th><th>6</th></tr>
<tr><td>OFF</td><td>OFF</td><td>56 milliseconds</td></tr>
<tr><td>ON</td><td>OFF</td><td>96 milliseconds</td></tr>
<tr><td>OFF</td><td>ON</td><td>136 milliseconds</td></tr>
<tr><td>ON</td><td>ON</td><td>176 milliseconds</td></tr>
</table></td></tr>
<tr><td>7, 8</td><td></td><td></td><td>Answer Signal Detection Time.
<table>
<tr><th colspan="2">SW0 (SW10)</th><th rowspan="2">Detection Time</th></tr>
<tr><th>7</th><th>8</th></tr>
<tr><td>OFF</td><td>OFF</td><td>56 milliseconds</td></tr>
<tr><td>ON</td><td>OFF</td><td>96 milliseconds</td></tr>
<tr><td>OFF</td><td>ON</td><td>136 milliseconds</td></tr>
<tr><td>ON</td><td>ON</td><td>176 milliseconds</td></tr>
</table></td></tr>
</table>

Note: Switches 5-8 are only available when SP-3331 is used for E911 service. If SP-3003 is used, these switches are fixed to OFF.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW1 (SW11)	1	ON	×	Fixed to ON
		OFF		
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		(Call abandon detecting condition - Disconnection if ringing signal does not arrive within three seconds.)
		OFF	×	Fixed (Call abandon detecting condition - Disconnection if ringing signal does not arrive within six seconds.)
	4	ON		Availability of Paging Function - Circuit 0 is used as a Paging trunk (Circuit 1 cannot be used as a C.O. trunk)
		OFF		Availability of Paging Function - Circuit 0 is used as a C.O. trunk (Circuit 1 can be used as a C.O. trunk)
	5	ON		
		OFF	×	Fixed to OFF
	6	ON	×	Fixed to ON
		OFF		
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

PAD Setting

ARTD	APAD	TRANSMIT (D-A) PAD	RECEIVE (A-D) PAD	REMARKS
7	15	0 dB	0 dB	
2	2	3 dB	3 dB	
3	3	6 dB	6 dB	
4	4	0 dB	-5 dB (Gain)	

Note: If this circuit card is connected to IP network, use firmware SP-3713, which allows the following PAD settings.

ARTD	APAD	TRANSMIT (D-A) PAD	RECEIVE (A-D) PAD	REMARKS
7	15	0dB	0dB	
2	2	3dB	0dB	Standard Setting
3	3	3dB	3dB	
4	4	6dB	0dB	

6. External Interface

Accommodation of the LT connector leads of this circuit card and connecting route diagram are shown below.

LT Connector Leads Accommodation (1/2)

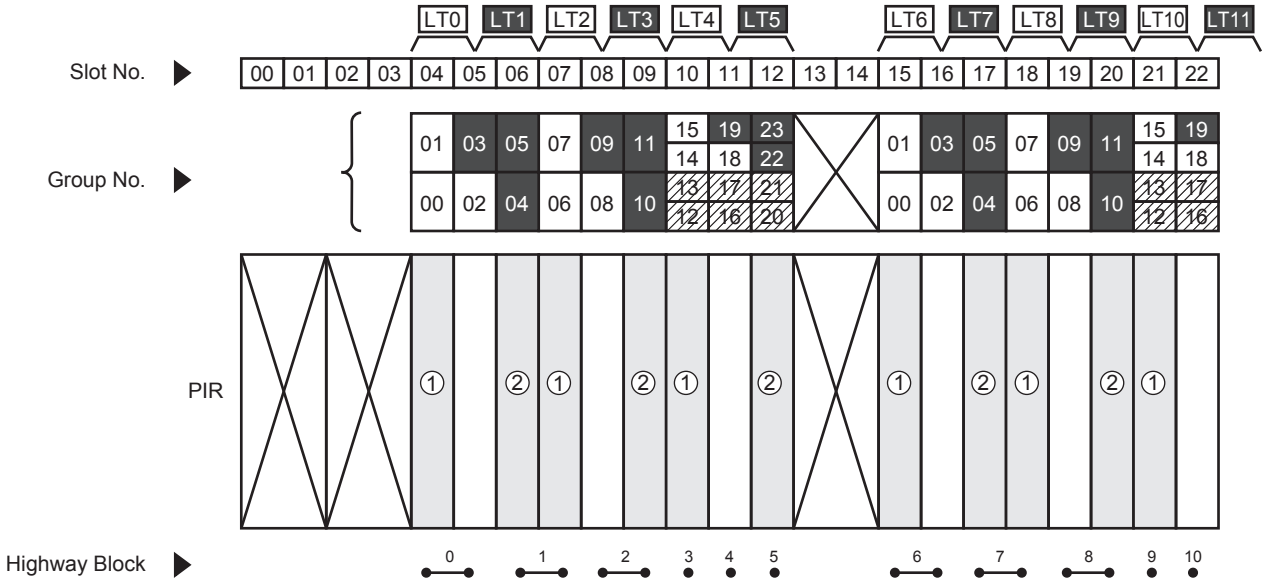
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42	B8	17	A8
43	B9	18	A9
44	B10	19	A10
45	B11	20	A11
46	B12	21	A12
47	B13	22	A13
48	B14	23	A14
49	B15	24	A15
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

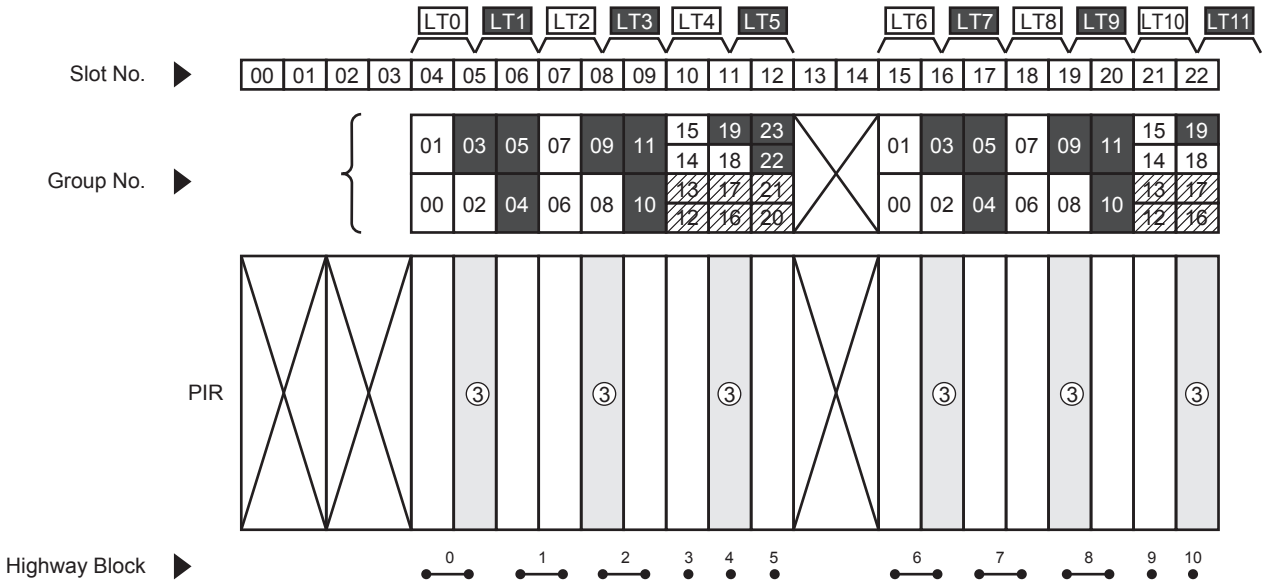
LT Connector Leads Accommodation (2/2)

Mounting Module **PIR**

Accommodated in ③

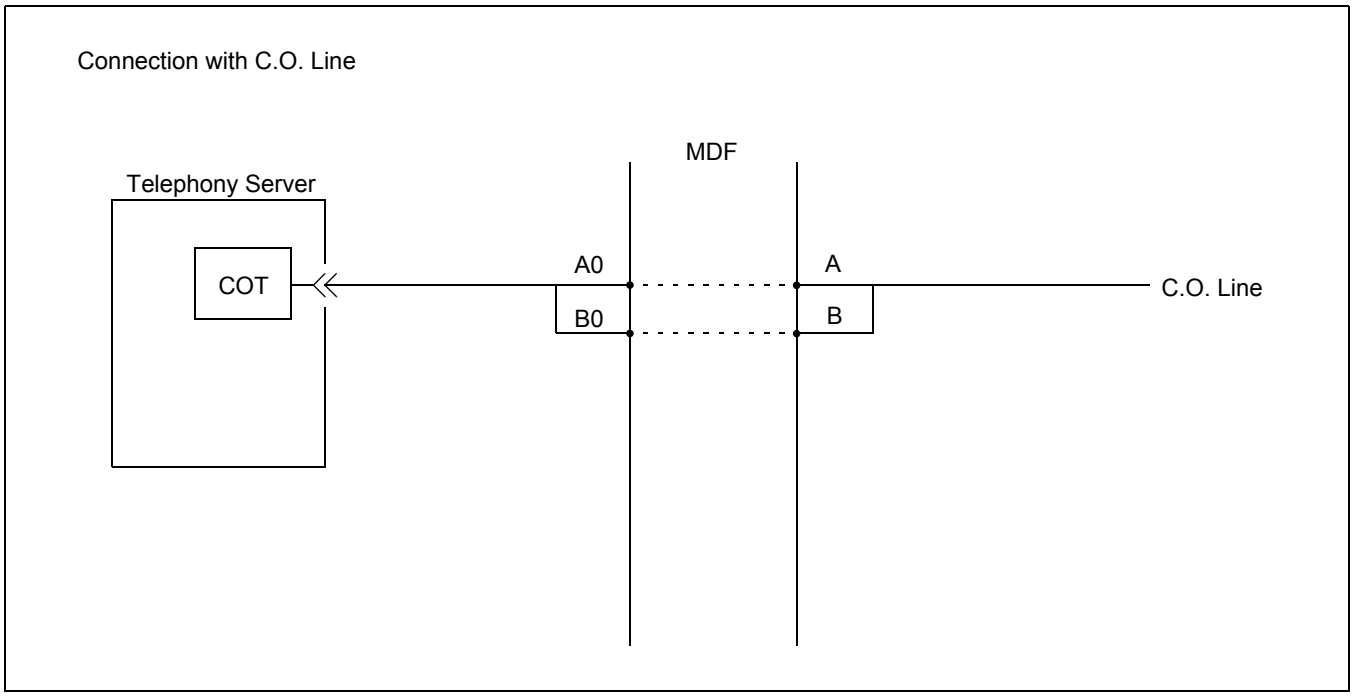
LT 0, 2, 4, 6, 8, 10 Connector			
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	

LT 1, 3, 5, 7, 9, 11 Connector			
26	B8	1	A8
27	B9	2	A9
28	B10	3	A10
29	B11	4	A11
30	B12	5	A12
31	B13	6	A13
32	B14	7	A14
33	B15	8	A15
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
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46		21	
47		22	
48		23	
49		24	
50		25	

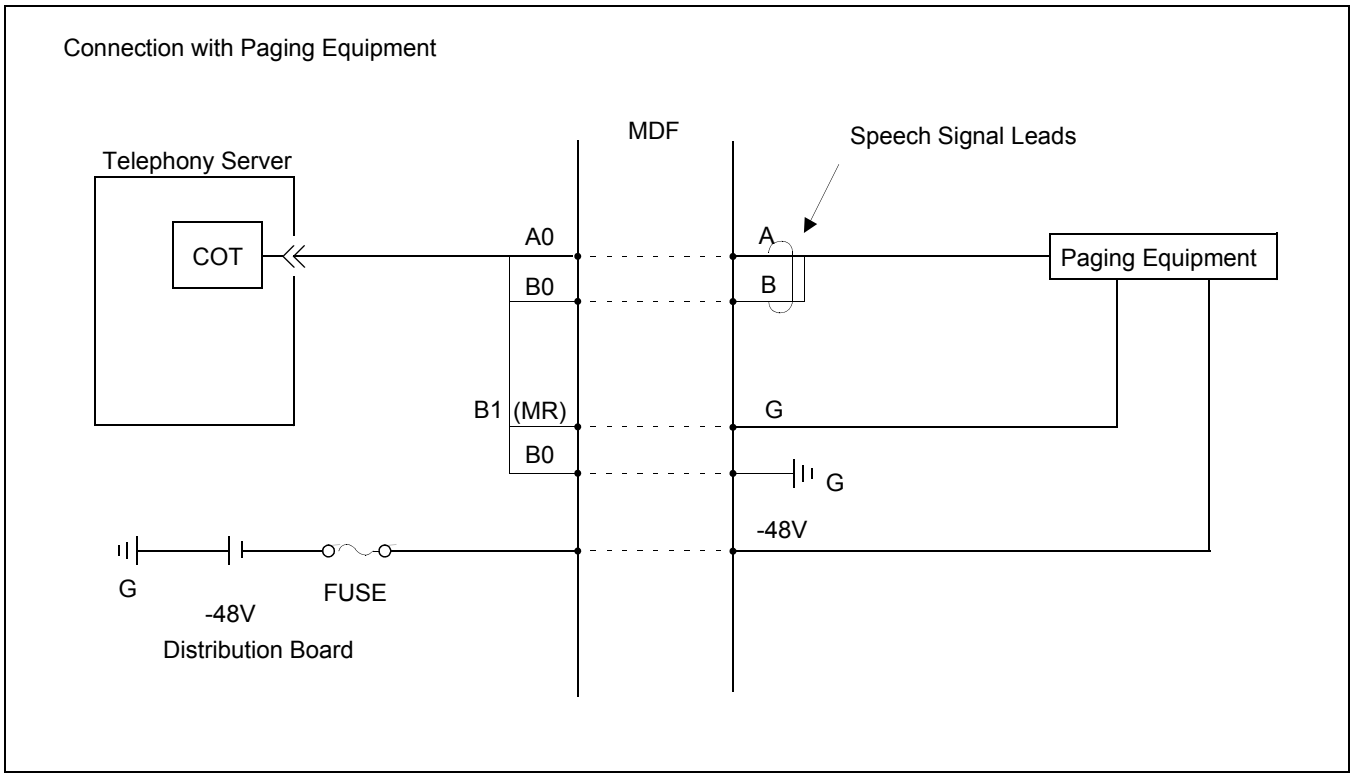


Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

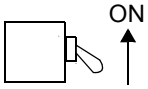
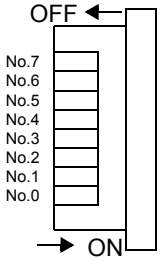
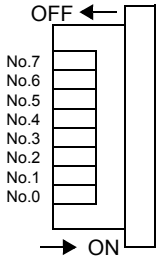
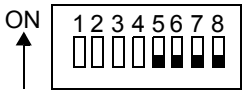
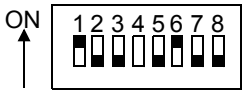
Connecting Route Diagram (1/2)



Connecting Route Diagram (2/2)



7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		UP: Circuit card Make-Busy DOWN: Circuit card Make-Busy cancel
		SW01 (MB0-7)		Make-Busy switches associated with Circuit 0 through 7 ON: Make-Busy on each circuit basis OFF: Make-Busy cancel on each circuit basis
		SW02 (MB8-15)		Make-Busy switches associated with Circuit 8 through 15 ON: Make-Busy on each circuit basis OFF: Make-Busy cancel on each circuit basis
		SW0		
		SW1		

PA-16COTBE-B
Central Office Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	-	-	-	X	-	-

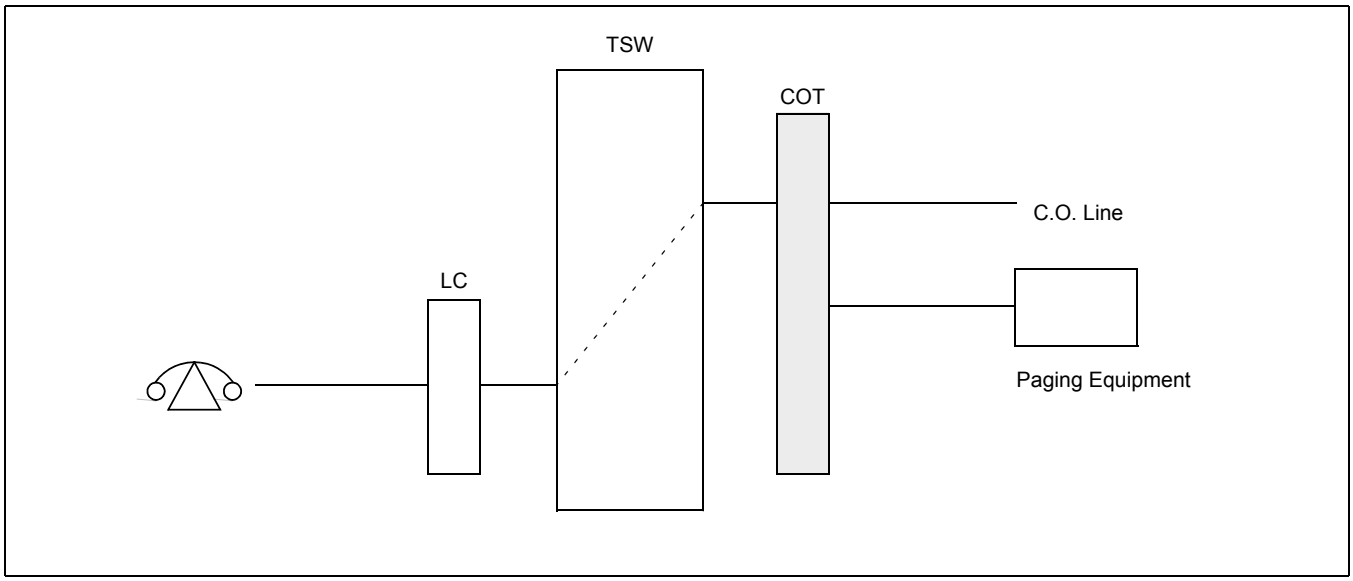
1. General Function

This circuit card is accommodated in the PIR and supports the following interface.

(a) Interface with 16 C.O. lines

(b) Interface with 14 C.O. lines and one Paging Equipment line

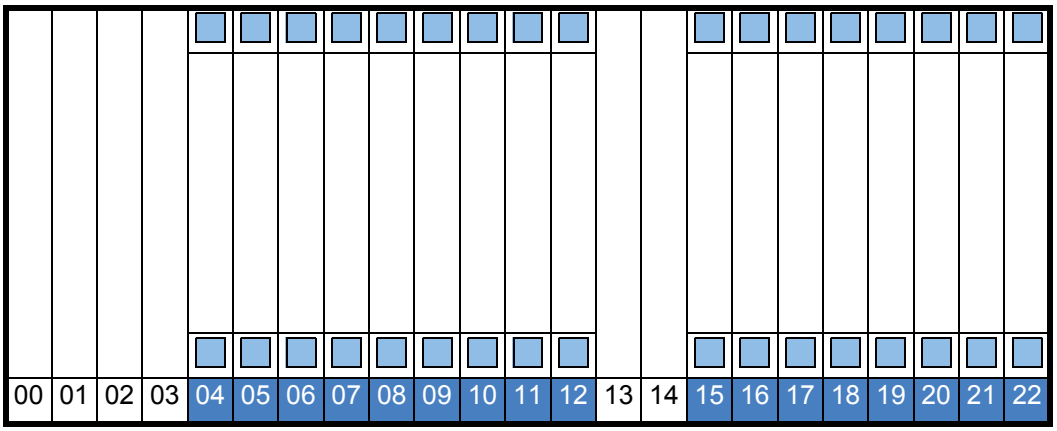
Location of PA-16COTBE-B (16COT) Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



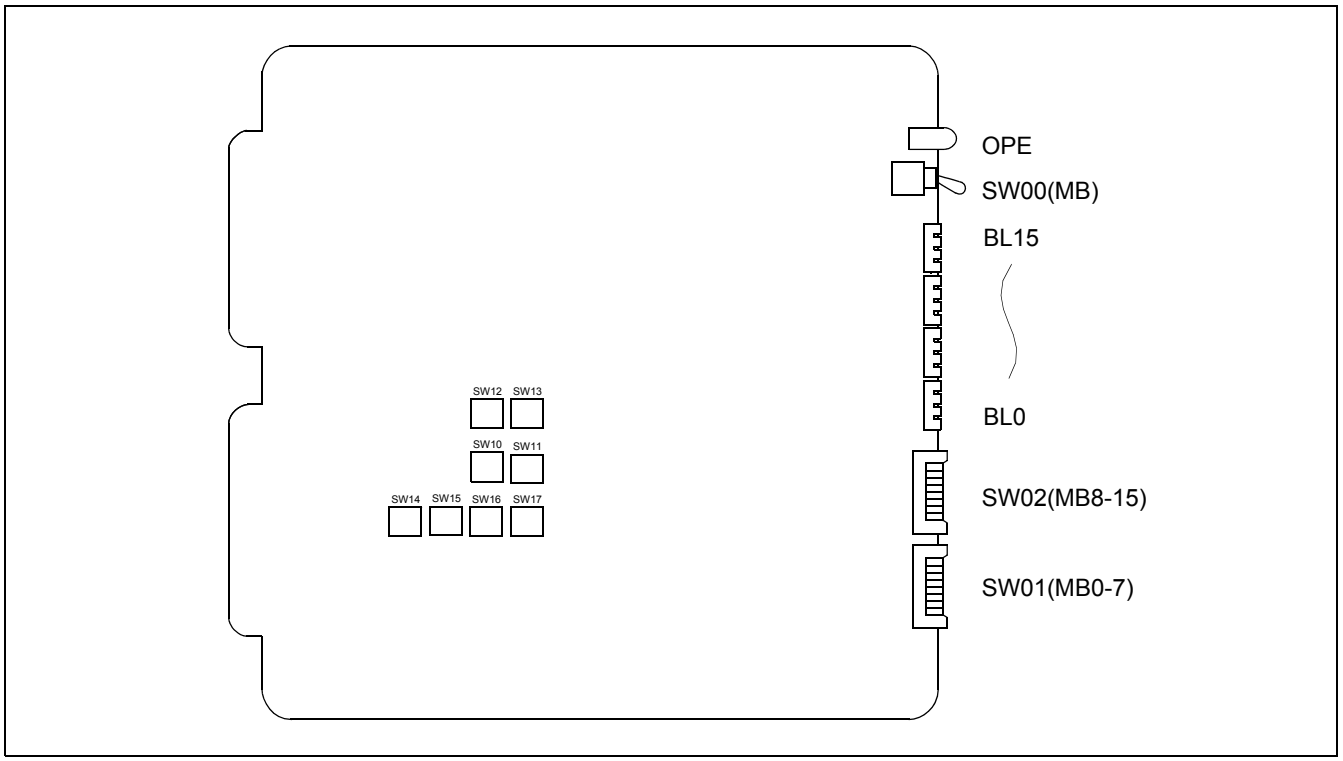
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors of this circuit card is shown below.

Face Layout of PA-16COTBE-B (16COT)



4. Lamp Indications

The contents of lamp indications of this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating.
BL0 ~ BL15	Green	Lights when the corresponding circuit is busy.
	Flash	Flashes to the dial pulses being sent out for an outgoing call, or the corresponding circuit is in Make-Busy state.
	Off	BL lamp remains off when the corresponding circuit is idle.

5. Switch Settings

Standard settings of various switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00 (MB)		UP		Circuit card make busy
		DOWN	×	Circuit card make busy cancel

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW01 (MB0 ~ 7)	0	ON		No. 0 circuit make busy
		OFF	×	No. 0 circuit make busy cancel
	1	ON		No. 1 circuit make busy
		OFF	×	No. 1 circuit make busy cancel
	2	ON		No. 2 circuit make busy
		OFF	×	No. 2 circuit make busy cancel
	3	ON		No. 3 circuit make busy
		OFF	×	No. 3 circuit make busy cancel
	4	ON		No. 4 circuit make busy
		OFF	×	No. 4 circuit make busy cancel
	5	ON		No. 5 circuit make busy
		OFF	×	No. 5 circuit make busy cancel
	6	ON		No. 6 circuit make busy
		OFF	×	No. 6 circuit make busy cancel
	7	ON		No. 7 circuit make busy
		OFF	×	No. 7 circuit make busy cancel
SW02 (MB8 ~ 15)	0	ON		No. 8 circuit make busy
		OFF	×	No. 8 circuit make busy cancel
	1	ON		No. 9 circuit make busy
		OFF	×	No. 9 circuit make busy cancel
	2	ON		No. 10 circuit make busy
		OFF	×	No. 10 circuit make busy cancel
	3	ON		No. 11 circuit make busy
		OFF	×	No. 11 circuit make busy cancel
	4	ON		No. 12 circuit make busy
		OFF	×	No. 12 circuit make busy cancel
	5	ON		No. 13 circuit make busy
		OFF	×	No. 13 circuit make busy cancel
	6	ON		No. 14 circuit make busy
		OFF	×	No. 14 circuit make busy cancel
	7	ON		No. 15 circuit make busy
		OFF	×	No. 15 circuit make busy cancel

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW10	1-4			SW10 and SW11 mean Terminal Impedance and B.N.W. setting. **Note 1**
SW11	1-4			SW10 and SW11 mean Terminal Impedance and B.N.W. setting. **Note 1**
SW12	1	ON		
		OFF	×	Fixed to OFF
	2	ON	×	Fixed (Call abandon detecting condition - Disconnection if ringing signal does not arrive within six seconds.)
		OFF		(Call abandon detecting condition - Disconnection if ringing signal does not arrive within three seconds.)
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		When the system using this card is "non-IP configuration" (when IPPAD is not used) **Note 2**
		OFF	×	When the system using this card is "IP configuration" (when IPPAD is used) **Note 2**
SW13	1	ON		Availability of Paging Function - Circuit 0 is used as a Paging trunk (Circuit 1 cannot be used as a C.O. trunk)
		OFF		Availability of Paging Function - Circuit 0 is used as a C.O. trunk
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF

Note 1: Terminal Impedance and B.N.W. setting matrix with SW10 and SW11.

SW10				SW11				MEANINGS	
1	2	3	4	1	2	3	4	B.N.W.	TERMINAL IMPEDANCE
OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	EIA/TIA-464-B	600 Ω + 2.16 μF
ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	600 Ω	
ON	OFF	ON	OFF	OFF	ON	ON	OFF	CCITT Q.517	900 Ω + 2.16 μF
ON	ON	ON	OFF	OFF	ON	ON	OFF	900 Ω	
Other Combinations								Not used	

Note 2: The switch setting needs to match the PAD pattern in your system. Unmatched switch setting may cause voice quality problems such as echo-producing.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="8">SW14</td><td rowspan="2">1</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="8">SW15</td><td rowspan="2">1</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>OFF</td><td></td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>OFF</td><td></td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">SW16</td><td>1,2</td><td></td><td></td><td>Wink Signal Detection Time.
<table>
<tr><th colspan="2">SW16</th><th rowspan="2">Detection Time</th></tr>
<tr><th>1</th><th>2</th></tr>
<tr><td>OFF</td><td>OFF</td><td>56 milliseconds</td></tr>
<tr><td>ON</td><td>OFF</td><td>96 milliseconds</td></tr>
<tr><td>OFF</td><td>ON</td><td>136 milliseconds</td></tr>
<tr><td>ON</td><td>ON</td><td>176 milliseconds</td></tr>
</table></td></tr>
<tr><td>3,4</td><td></td><td></td><td>Answer Signal Detection Time.
<table>
<tr><th colspan="2">SW16</th><th rowspan="2">Detection Time</th></tr>
<tr><th>3</th><th>4</th></tr>
<tr><td>OFF</td><td>OFF</td><td>56 milliseconds</td></tr>
<tr><td>ON</td><td>OFF</td><td>96 milliseconds</td></tr>
<tr><td>OFF</td><td>ON</td><td>136 milliseconds</td></tr>
<tr><td>ON</td><td>ON</td><td>176 milliseconds</td></tr>
</table></td></tr>
</table>

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW17	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF

Note: Switches 16-1, 16-2, 16-3, 16-4 are only available when E911 service is available.

Reference for PAD Settings

Using PCPro, set the PAD values in accordance with the following table:

When the system using this card is "non-IP configuration" (when IPPAD is not used)

ARTD	APAD	TRANSMIT (D-A) PAD	RECEIVE (A-D) PAD	REMARKS
7	15	0 dB	0 dB	
2	2	3 dB	3 dB	
3	3	6 dB	6 dB	
4	4	0 dB	-5 dB (Gain)	

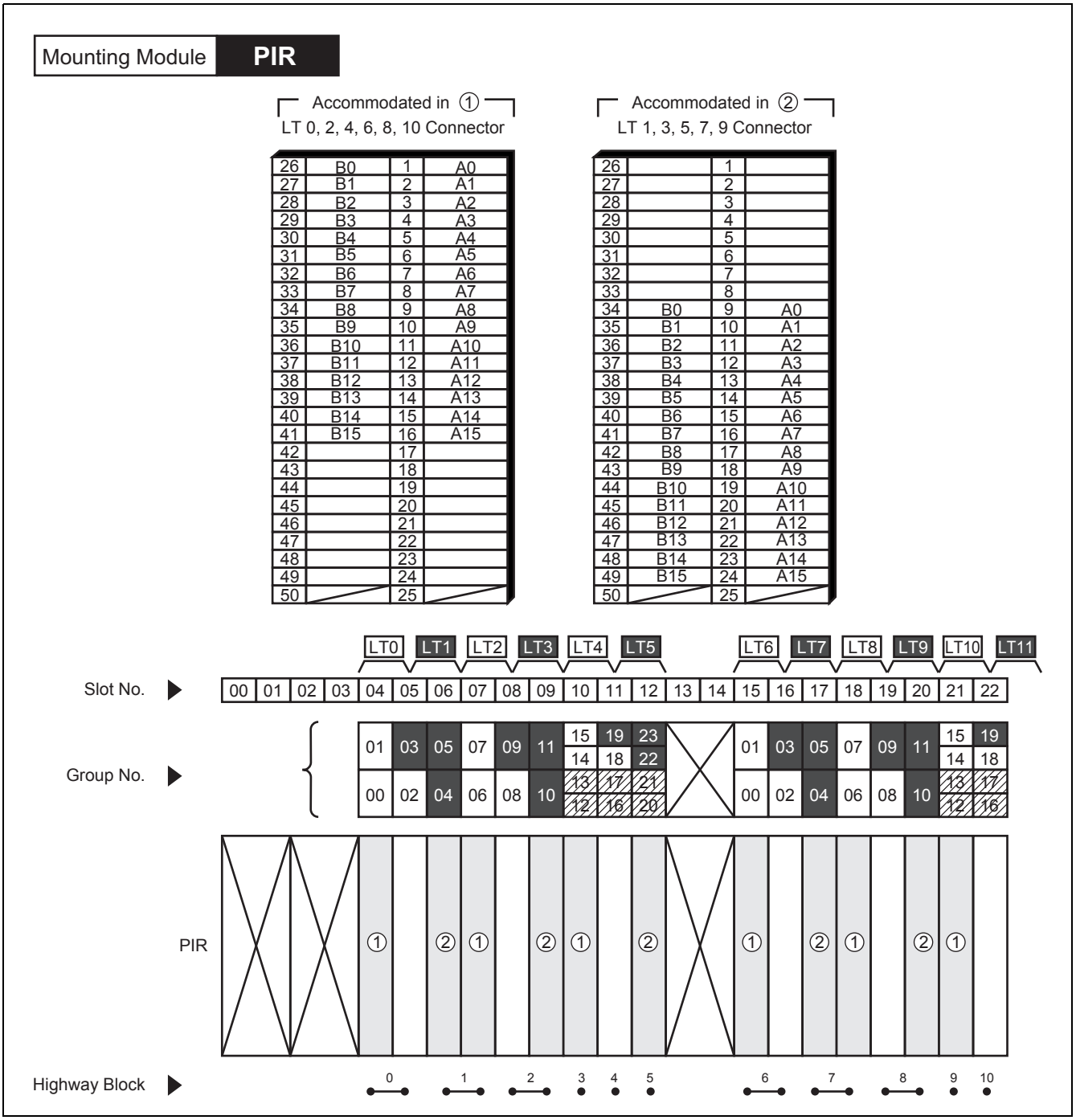
When the system using this card is "IP configuration" (when IPPAD is used)

ARTD	APAD	TRANSMIT (D-A) PAD	RECEIVE (A-D) PAD	REMARKS
7	15	0dB	0dB	
2	2	3dB	0dB	Standard Setting
3	3	3dB	3dB	
4	4	6dB	0dB	

6. External Interface

Accommodation of the LT connector leads of this circuit card and connecting route diagram are shown below.

LT Connector Leads Accommodation (1/2)



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

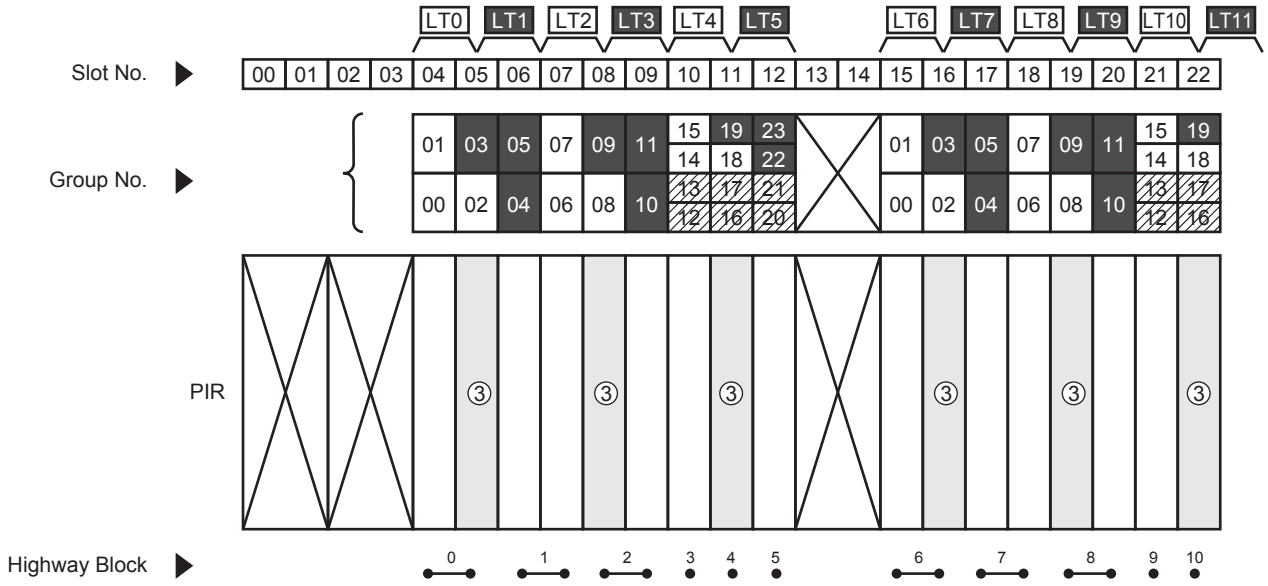
LT Connector Leads Accommodation (2/2)

Mounting Module **PIR**

Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector			
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	

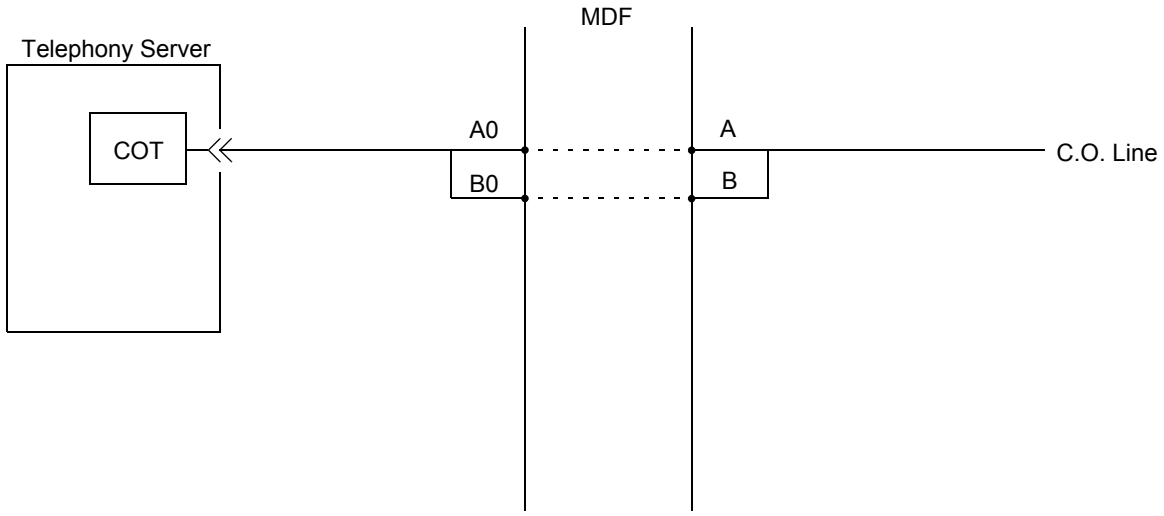
LT 1, 3, 5, 7, 9, 11 Connector			
26	B8	1	A8
27	B9	2	A9
28	B10	3	A10
29	B11	4	A11
30	B12	5	A12
31	B13	6	A13
32	B14	7	A14
33	B15	8	A15
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

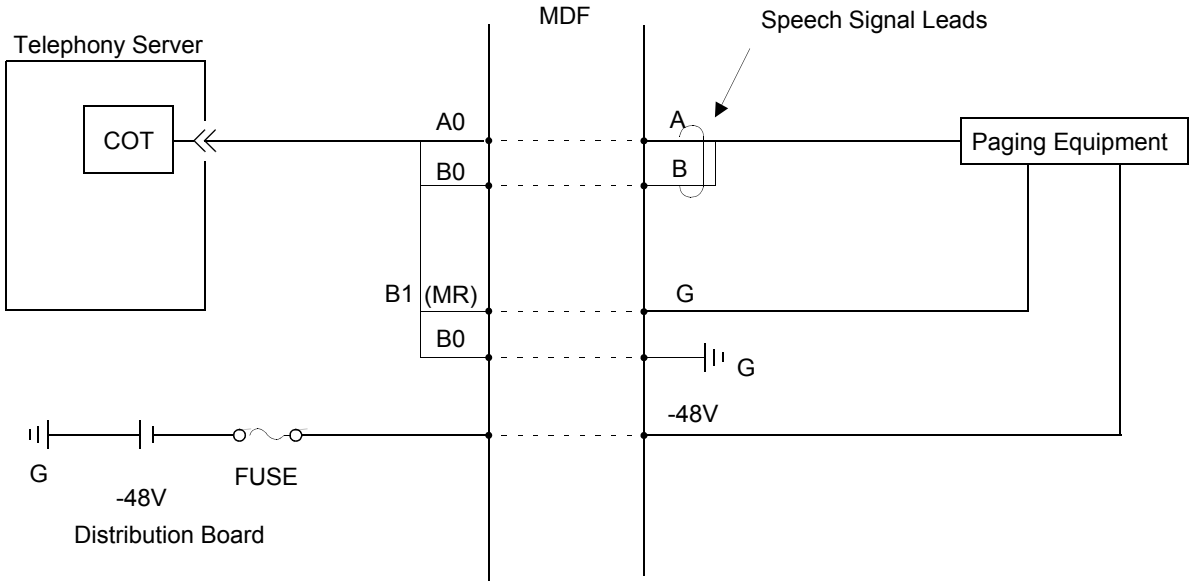
Connecting Route Diagram (1/2)

Connection with C.O. Line

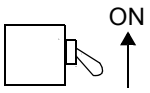
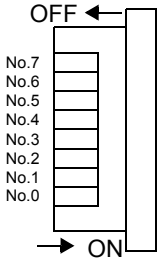
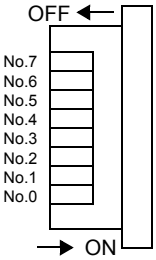
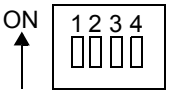
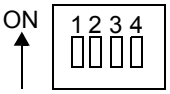
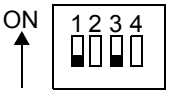
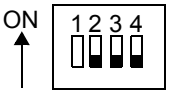


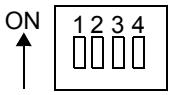
Connecting Route Diagram (2/2)

Connection with Paging Equipment



7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		UP: Circuit card Make-Busy DOWN: Circuit card Make-Busy cancel
		SW01 (MB0-7)		Make-Busy switches associated with Circuit 0 through 7 ON: Make-Busy on each circuit basis OFF: Make-Busy cancel on each circuit basis
		SW02 (MB8-15)		Make-Busy switches associated with Circuit 8 through 15 ON: Make-Busy on each circuit basis OFF: Make-Busy cancel on each circuit basis
		SW10		
		SW11		
		SW12		
		SW13		

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW14		
		SW15		
		SW16		
		SW17		

PA-16COTBH
Central Office Trunk

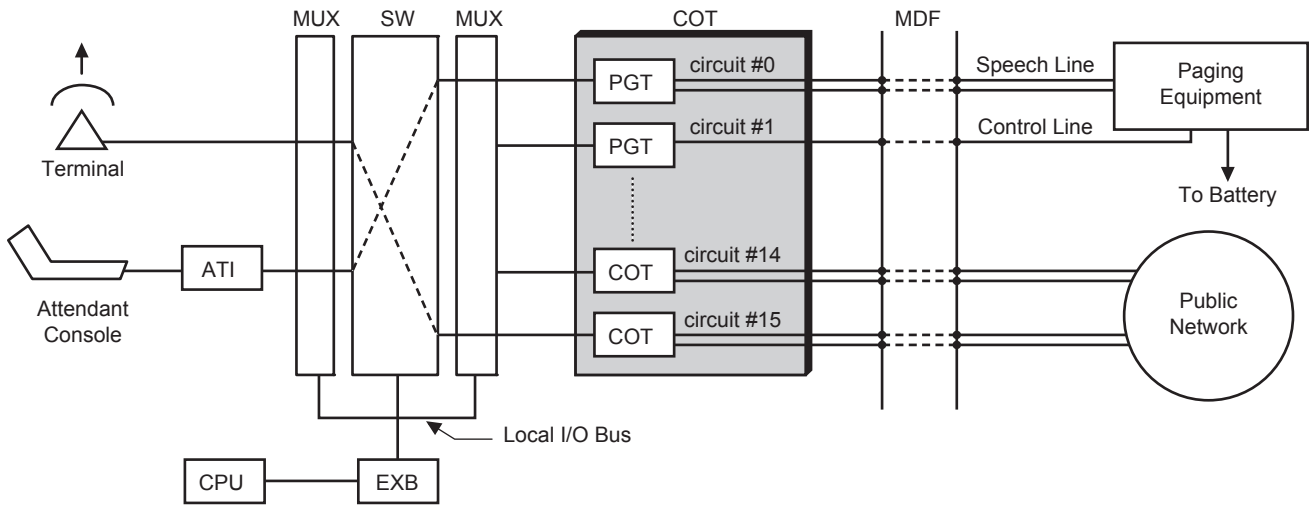
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	X	X	-	X	-

1. General Function

The PA-16COTBH (COT) circuit card provides an interface between a maximum of 16 C.O. lines and the system. Depending upon key settings of this card, the first circuit on this card can be used as an interface for Paging Equipment. In this instance, the second circuit (Circuit 1) is also used for activating Paging Equipment as illustrated below. In addition, the appropriate value of Terminal Impedance and Balancing Network (B.N.W.) can be selected by key setting.

Location of PA-16COTBH (COT) in the System

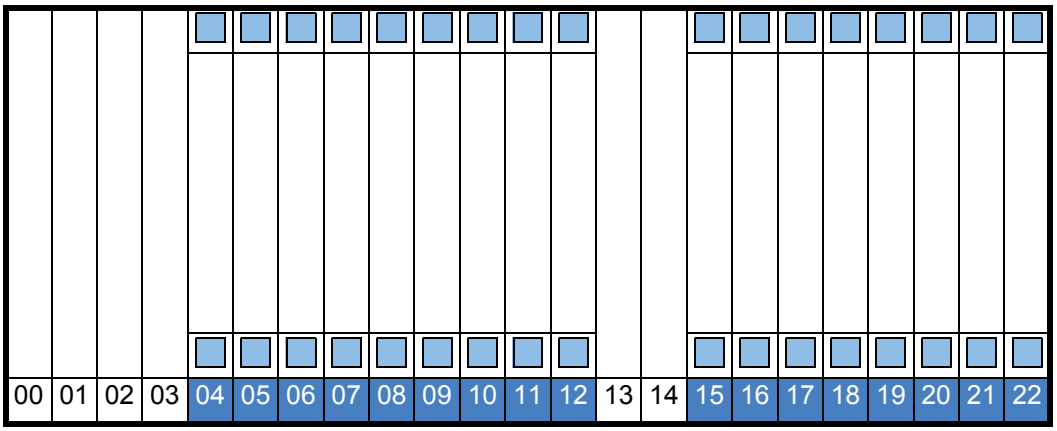
This diagram shows an example where this card is used as both a PGT and COTs.



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



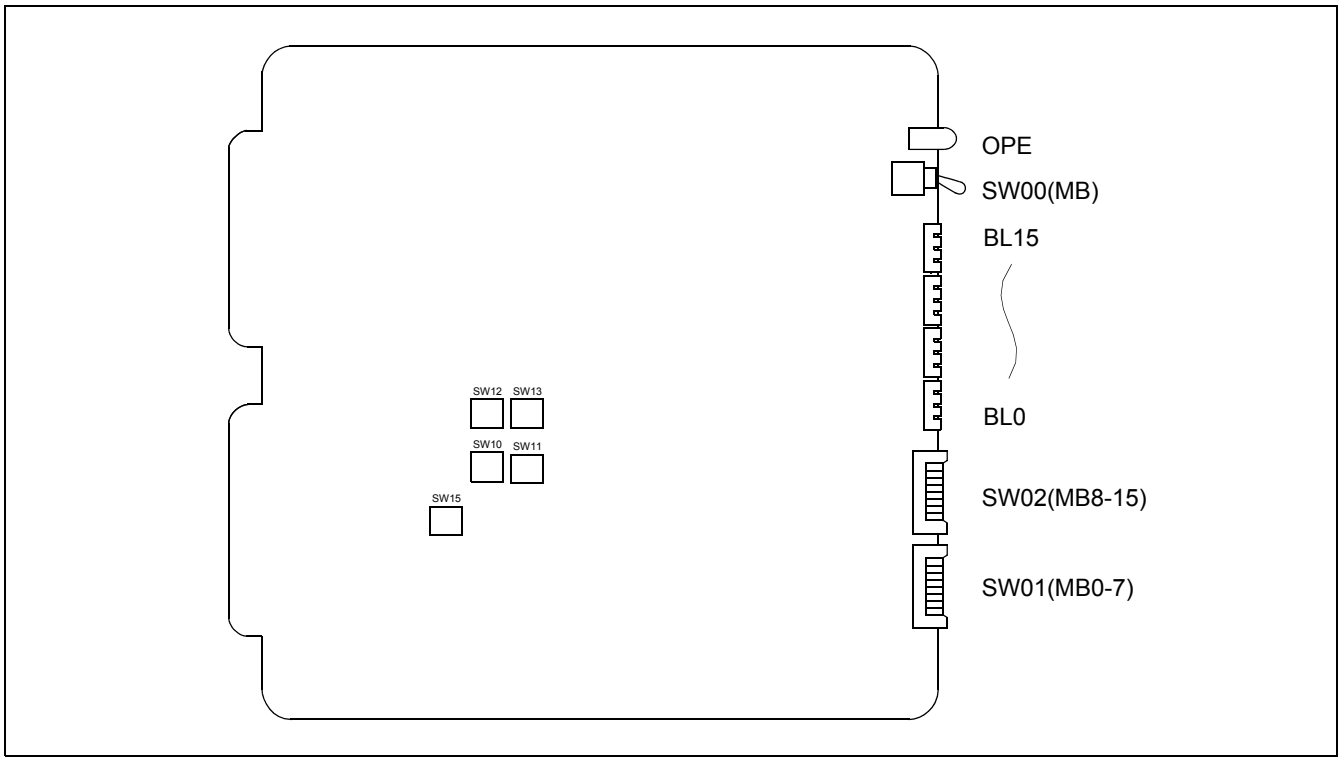
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps and switches on this circuit card is shown below.

Face Layout of PA-16COTBH (COT)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	The circuit card is operating normally.
BL0-BL15	Green	The circuit is being used.
	Flash	1) The lamp flashes to the dial pulses that are sent out during a call origination. 2) If a trunk circuit is in Make-Busy state, the BL lamp corresponding to that trunk circuit flashes 60 times per minute.

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

PA-16COTBH Switch Settings Reference

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB SW00		UP		Circuit card make busy.
		DOWN	×	Circuit card make busy cancel.
MB0-7 SW01 MB8-15 SW02		ON		Request for make busy of the trunk circuit corresponding to MB switch.
		OFF	×	Request for canceling the make busy of the trunk circuit corresponding to MB switch.
SW10	1-4			SW10 and SW11 mean Terminal Impedance and B.N.W. setting. **Note 1**
SW11	1-4			SW10 and SW11 mean Terminal Impedance and B.N.W. setting. **Note 1**
SW12	1	OFF	×	Fixed to OFF.
	2	ON		Incoming Call Disconnection Detecting Timer: 6 seconds **Note 2**
		OFF		Incoming Call Disconnection Detecting Timer: 3 seconds **Note 2**
	3	OFF	×	Fixed to OFF.
	4	ON		When the system using this card is "non-IP configuration" (when IP-PAD is not used). **Note 3**
		OFF	×	When the system using this card is "IP configuration" (when IPPAD is used). **Note 3**
SW13	1	ON		Paging Trunk is available (When this switch is set to ON, CH0 and CH1 cannot be used as C.O. trunks.).
		OFF		Paging Trunk is not available.
	2	OFF	×	Fixed to OFF.
	3	OFF	×	Fixed to OFF.
	4	OFF	×	Fixed to OFF.
SW15	1	ON		Auto Polarity Decision is available. **Note 4**
		OFF		Auto Polarity Decision is not available. **Note 4**
	2	ON		Release signal from C.O. cannot be detected. **Note 5**
		OFF		Release signal from C.O. can be detected. **Note 5**
	3	OFF	×	Fixed to OFF.
	4	OFF	×	Fixed to OFF.

Note 1: Terminal Impedance and B.N.W. setting matrix with SW10 and SW11.

SW10				SW11				MEANINGS	
1	2	3	4	1	2	3	4	B.N.W.	TERMINAL IMPEDANCE
OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	EIA/TIA 464-B	600 Ω + 2.16 μF or 600 Ω
ON	OFF	OFF	OFF					600 Ω	
OFF	OFF	ON	OFF					BT3	
ON	OFF	ON	OFF	OFF	ON	ON	OFF	ITU-T Q.517	900 Ω + 2.16 μF
ON	ON	ON	OFF					900 Ω	
OFF	ON	ON	OFF	ON	OFF	ON	OFF	Brazil Complex	900 Ω
ON	ON	ON	OFF					900 Ω	
OFF	OFF	ON	OFF	ON	ON	OFF	OFF	BT3	BT3
ON	OFF	OFF	ON	OFF	OFF	ON	OFF	Chinese Complex	Chinese Complex
Other Combinations								Inhibited	

Note 2: When an incoming call arrives at a destination, but no ringer is detected for a certain period of time set by SW12-2 (3 or 6 seconds), the incoming call is delayed before answering. Then the line returns to an idle state.

Note 3: The switch setting needs to match the PAD pattern in your system. Unmatched switch setting may cause voice quality problems such as echo.

Note 4: This switch is for maintenance of miss-connection for polarity reversal with "tip" and "ring". After connecting the tips and rings on the MDF, if the lamps as BL0-15 on the front of the card turn on, the installation personnel should make this switch "ON". After that, the lamps turn off and it means the connection is wrong for polarity reversal as wire connecting with tip to ring and ring to tip. So, the personnel have to reconnect the wrong connections. This switch discriminates only wrong connection of tips and rings, so this switch should be "OFF" in system operation. The function of this switch can detect each connection is wrong or correct, so if the personnel made this switch "ON" and only BL1 lamp turns on, this means the second wire connection is wrong. If the lamps continue to turn on, the personnel should continue troubleshooting.

Note 5: This switch is for returning to the idle state with detecting the release signal from C.O. or not. The release signal is expected as polarity reversal from C.O. (Usually, a caller from C.O. side make "on-hook" then C.O. will make polarity reverse as release signal to the private system.)

- When the switch setting is "ON":
  The line returns to the idle state with a station made "on-hook" only.
- When the switch setting is "OFF":
  The line returns to the idle state after receiving the release signal from C.O. and a station made "on-hook", then returns to the idle state.

There is no timer to be activated while no release signal is detected, so if the release signal does not come, then call connection will remain connected. (However, a station is expected to go "on-hook" after conversation then connection will disconnect and will return to the idle state.)

Reference PAD setting

Set the PAD value using PCPro in accordance with following table.

- **When the system using this card is "non-IP configuration" (when IPPAD is not used)**

PA-16COTBH PAD Value Reference (1/3)

COMMAND DATA ARTD	COMMAND DATA APAD	SEND (dB) TSW → C.O. LINE	RECEIVE (dB) C.O. LINE → TSW	REMARKS
7	15	0	0	(Standard)
2	2	3	3	
3	3	6	6	
4	4	0	-5 (GAIN)	

PA-16COTBH PAD Value Reference (2/3)
(See below if B.N.W. = Brazil Complex and Impedance = 900 Ω)

COMMAND DATA ARTD	COMMAND DATA APAD	SEND (dB) TSW → C.O. LINE	RECEIVE (dB) C.O. LINE → TSW	REMARKS
7	15	0	0	
2	2	6	-1 (GAIN)	(Brazil Standard)
3,4	3,4	6	-1 (GAIN)	

PA-16COTBH PAD Value Reference (3/3)
(See below if B.N.W. = Chinese Complex and Impedance = Chinese Complex)

COMMAND DATA ARTD	COMMAND DATA APAD	SEND (dB) TSW → C.O. LINE	RECEIVE (dB) C.O. LINE → TSW	REMARKS
7	15	0	0	
2	2	3	3	(Chinese Standard)
3	3	3	3	
4	4	3.5	3.5	

- **When the system using this card is "IP configuration" (when IPPAD is used)**

PA-16COTBH PAD Value Reference (1/3)

COMMAND DATA ARTD	COMMAND DATA APAD	SEND (dB) TSW → C.O. LINE	RECEIVE (dB) C.O. LINE → TSW	REMARKS
7	15	0	0	
2	2	3	0	(Standard)
3	3	3	3	
4	4	6	0	

PA-16COTBH PAD Value Reference (2/3)
(See below if B.N.W. = Brazil Complex and Impedance = 900 Ω)

COMMAND DATA ARTD	COMMAND DATA APAD	SEND (dB) TSW → C.O. LINE	RECEIVE (dB) C.O. LINE → TSW	REMARKS
7	15	0	0	
2	2	6	-1 (GAIN)	(Brazil Standard)
3,4	3,4	6	-1 (GAIN)	

PA-16COTBH PAD Value Reference (3/3)
(See below if B.N.W. = Chinese Complex and Impedance = Chinese Complex)

COMMAND DATA ARTD	COMMAND DATA APAD	SEND (dB) TSW → C.O. LINE	RECEIVE (dB) C.O. LINE → TSW	REMARKS
7	15	0	0	
2	2	3	3	(Chinese Standard)
3	3	6	0	
4	4	3.5	3.5	

6. External Interface

LT Connector Lead Accommodation (1/2)

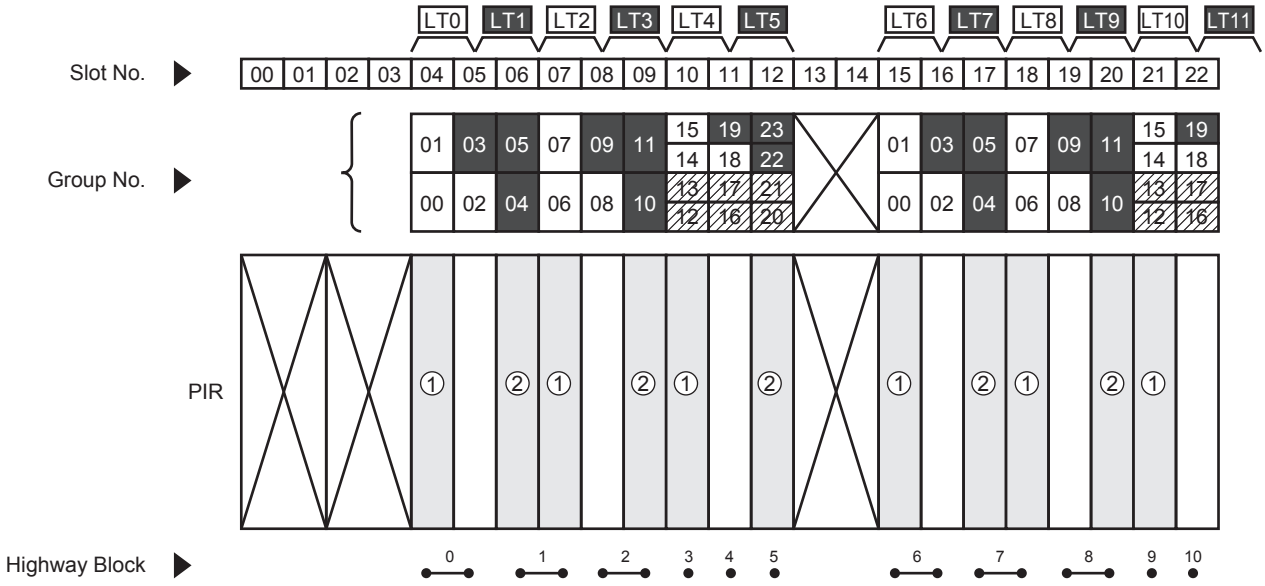
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	T0	1	R0
27	T1	2	R1
28	T2	3	R2
29	T3	4	R3
30	T4	5	R4
31	T5	6	R5
32	T6	7	R6
33	T7	8	R7
34	T8	9	R8
35	T9	10	R9
36	T10	11	R10
37	T11	12	R11
38	T12	13	R12
39	T13	14	R13
40	T14	15	R14
41	T15	16	R15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	T0	9	R0
35	T1	10	R1
36	T2	11	R2
37	T3	12	R3
38	T4	13	R4
39	T5	14	R5
40	T6	15	R6
41	T7	16	R7
42	T8	17	R8
43	T9	18	R9
44	T10	19	R10
45	T11	20	R11
46	T12	21	R12
47	T13	22	R13
48	T14	23	R14
49	T15	24	R15
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (2/2)

Mounting Module **PIR**

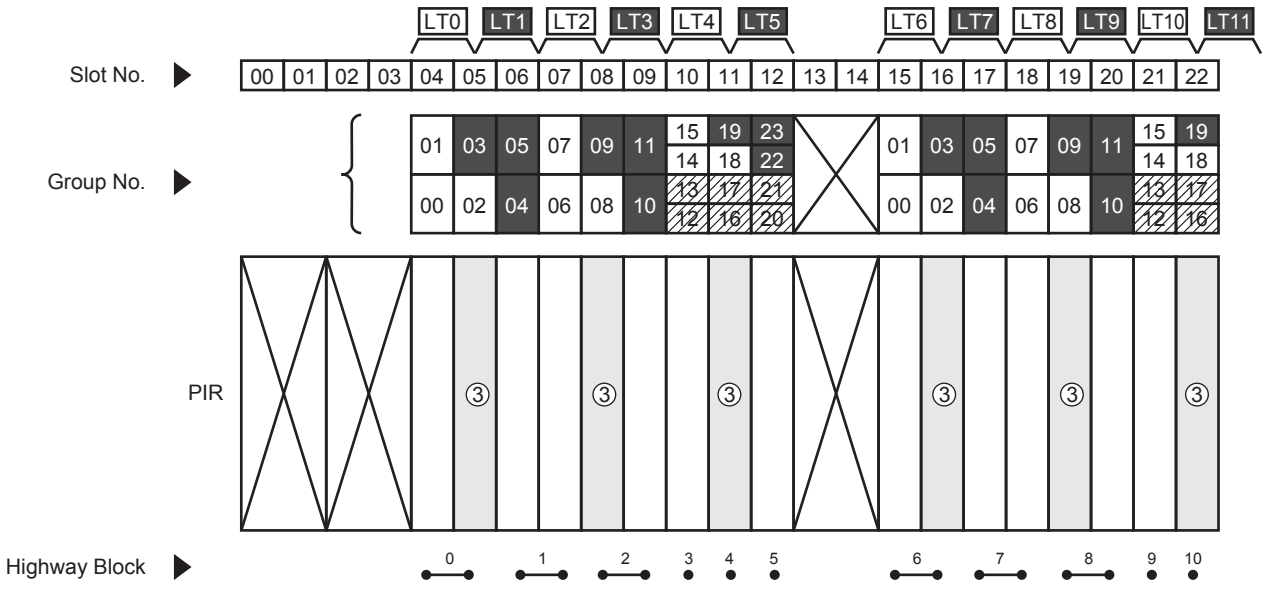
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	T0	17	R0
43	T1	18	R1
44	T2	19	R2
45	T3	20	R3
46	T4	21	R4
47	T5	22	R5
48	T6	23	R6
49	T7	24	R7
50		25	

LT 1, 3, 5, 7, 9, 11 Connector

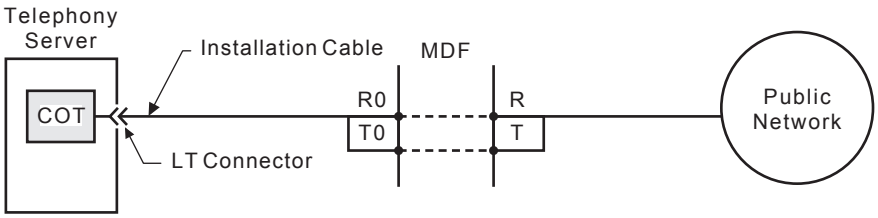
26	T8	1	R8
27	T9	2	R9
28	T10	3	R10
29	T11	4	R11
30	T12	5	R12
31	T13	6	R13
32	T14	7	R14
33	T15	8	R15
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
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49		24	
50		25	



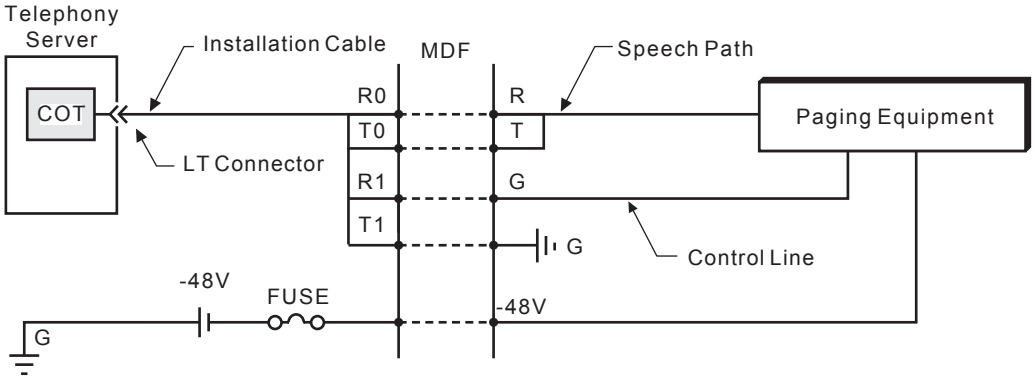
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram

- Cable Connections for a C.O. Line

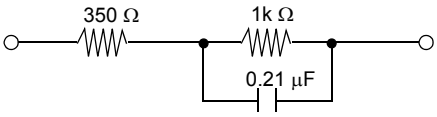
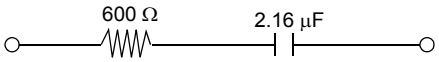
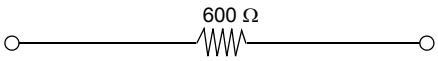
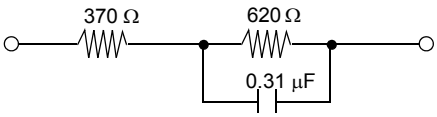
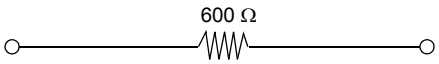
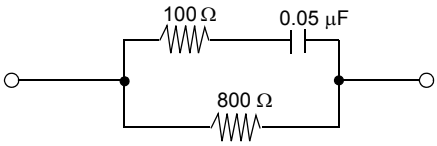
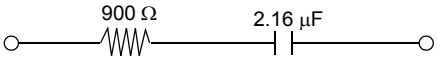
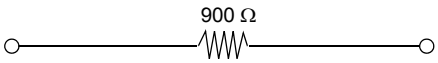
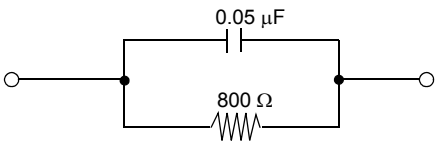
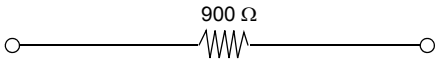
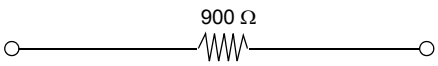
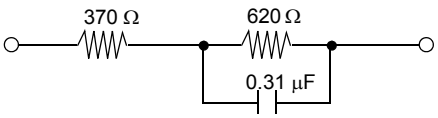
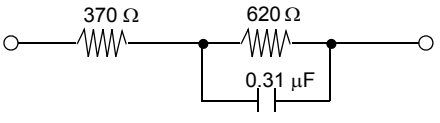
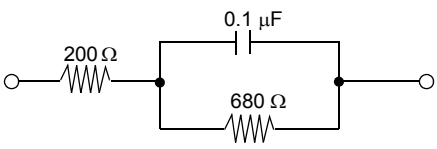
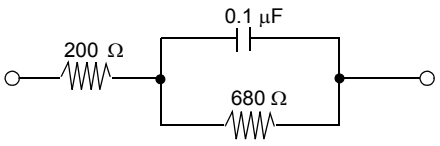


- Cable Connections for Paging Equipment

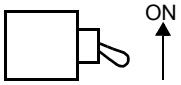
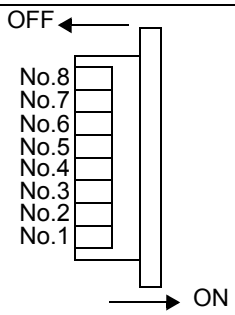
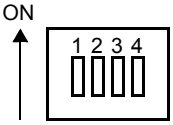
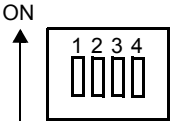
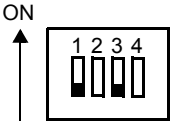
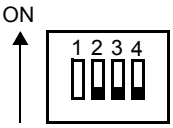
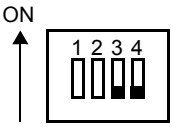


Note: Two circuits (0 and 1) are required for connecting paging equipment.

Balancing Network and Terminal Impedance

BALANCING NETWORK		TERMINAL IMPEDANCE
EIA/TIA 464-B		
600 Ω		or
BT3 Network		
ITU-T Q.517 AT & T Echo Test Network		
900 Ω		
Brazil Complex		
900 Ω		
BT3 Network		
Chinese Complex		

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		MB (SW00)		
		MB0-7 (SW01) MB8-15 (SW02)		
		SW10		
		SW11		
		SW12		
		SW13		
		SW15		

PA-8CSIE
Cell Station Interface/Zone Transceiver Interface

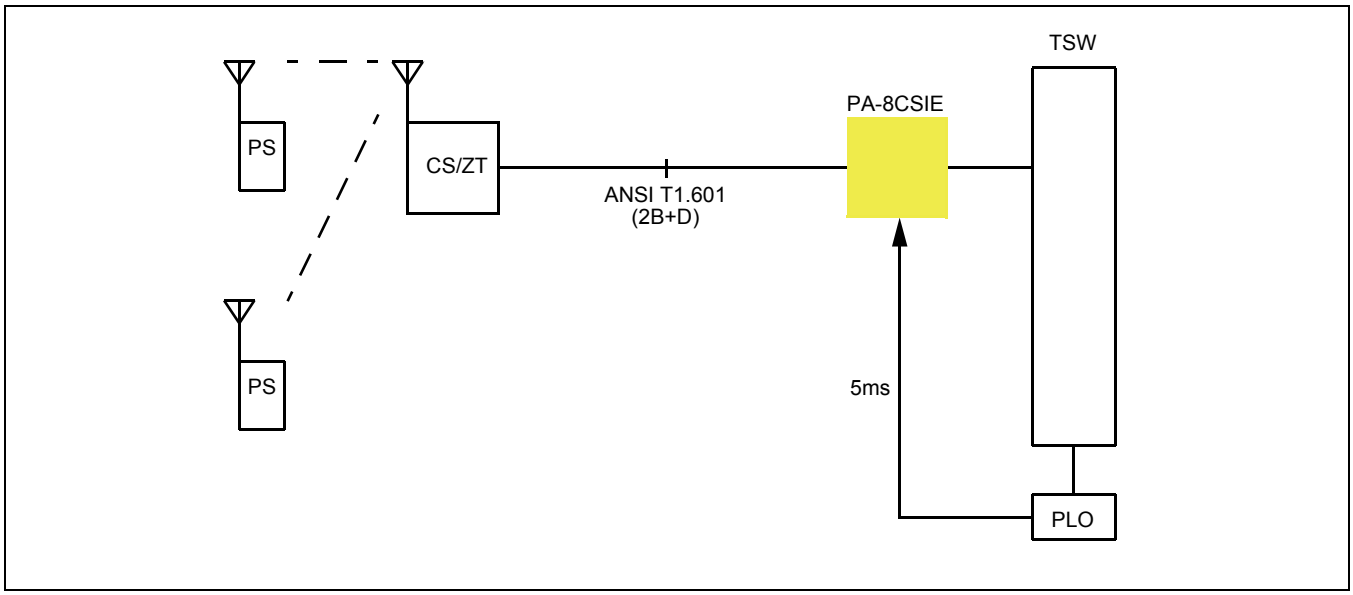
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	X	-	X	X	-

1. General Function

This circuit card is designed to provide the ISDN U interface to the Cell Station (CS)/Zone Transceiver (ZT). Specifications and functions of this circuit card are shown below.

- A maximum of 8 CSs/ZTs can be accommodated in one PA-8CSIE circuit card.
- Interface with CSs/ZTs is based on the ISDN U interface (ANSI T1.601 Echo Canceller scheme).
- Each B Channel of 32kbps in the 2B+D (B=64kbps) can be used as two channels.
- Power Feed functions to CSs/ZTs.
- Equipped with 32k ADPCM (TSW: 64kbps, CS: 32kbps).
- Burst synchronization function of 5ms signal to CSs/ZTs.
- Provided with 24 channels of PB (DTMF) sender.
- PAD control Function.

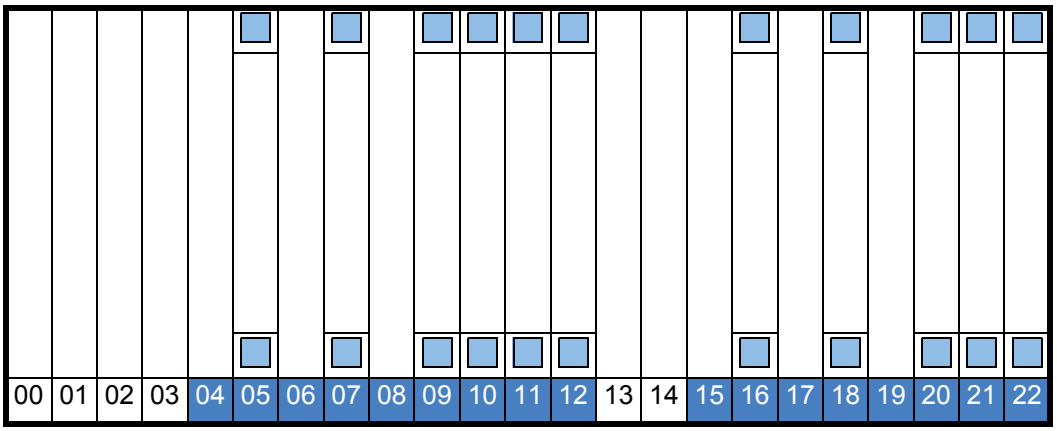
Location of Card in System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-22



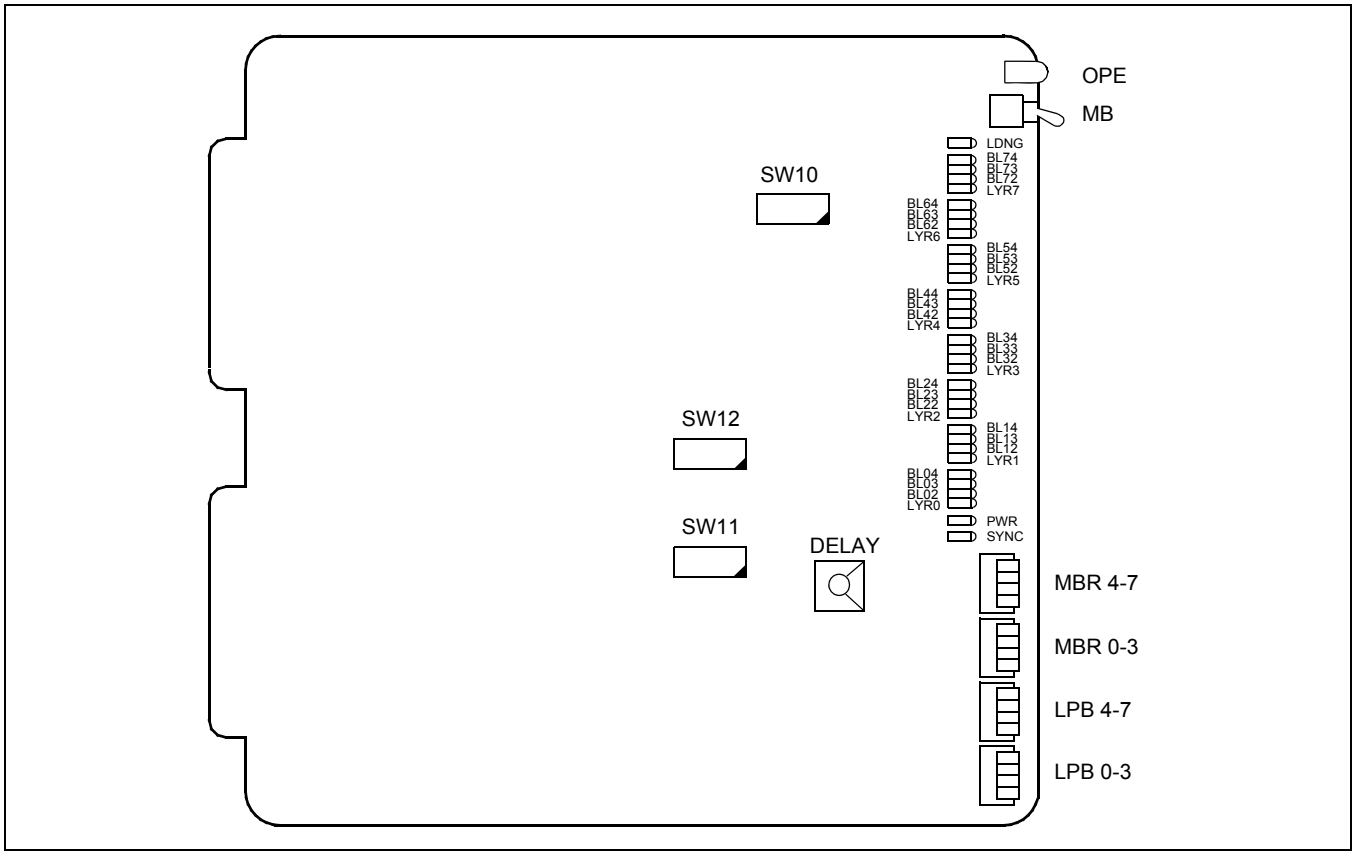
Mounting Condition:

- 11 CSINT circuit cards can be mounted in one PIR at the maximum.

3. Face Layout of Lamps, Switches, and Connectors

The following diagram shows the location of Lamp, Key and Connectors.

Lamp, Key and Connectors: PA-8CSIE



4. Lamp Indications

Shown below are the contents of lamp indication on this circuit card.

LAMP NAME	COLOR	MEANING
OPE	Green	Remains lit when this card is operating normally.
LDNG	Red	Remains lit when program loading fails.
	Flashing	Flashes while the program is loaded into RAM (120IPM).
BLn4	Green	Remains lit when B4 channel of the line #n is communicating. **Note 1**
	Flashing	Flashes while the corresponding circuit is in make-busy state (60IPM).
	OFF	Remains off when the corresponding circuit is idle.
BLn3	Green	Remains lit when B3 channel of the line #n is communicating. **Note 1**
	Flashing	Flashes while the corresponding circuit is in make-busy state (60IPM).
	OFF	Remains off when the corresponding circuit is idle.

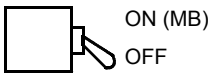
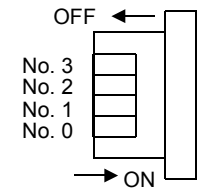
LAMP NAME	COLOR	MEANING
BLn2	Green	Remains lit when B2 channel of line #n is communicating. **Note 1**
	Flashing	Flashes while the corresponding circuit is in make-busy state (60IPM).
	OFF	Remains off when the corresponding circuit is idle.
LYRn	Green	Remains lit when the layer 2 link of line #n is established.
	Flashing	Flashes when layer 1 (U) of the line #n is synchronized (120IPM).
		Flashes when layer 1 (S) of the line #n is synchronized (60IPM).
	OFF	Layer 1 and Layer 2 have not been established.
PWR	Red	Lights when the power supply of the line fails.
SYNC	Red	Lights when the synchronous timing of 5 ms is disconnected.

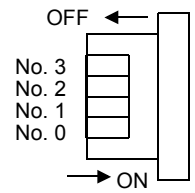
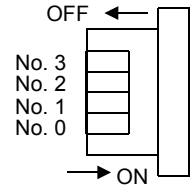
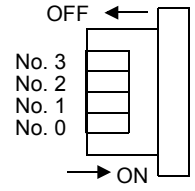
Note: n=0~7

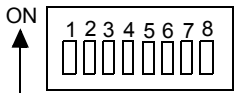
Note 1: B2 through B4 channels represent channel names of 32k ADPCM.

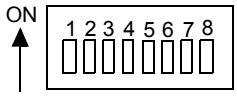
5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

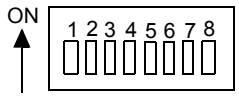
SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING	MEANING
MB  (Toggle Switch)		Up		Circuit card make-busy set
		Down	×	Circuit card make-busy cancel
MBR 0-3  (Piano-Key Switch)	0	ON		Line #0 make-busy request
		OFF	×	Line #0 make-busy request cancel
	1	ON		Line #1 make-busy request
		OFF	×	Line #1 make-busy request cancel
	2	ON		Line #2 make-busy request
		OFF	×	Line #2 make-busy request cancel
	3	ON		Line #3 make-busy request
		OFF	×	Line #3 make-busy request cancel

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING	MEANING
MBR 4-7  (Piano-Key Switch)	0	ON		Line #4 make-busy request
		OFF	×	Line #4 make-busy request cancel
	1	ON		Line #5 make-busy request
		OFF	×	Line #5 make-busy request cancel
	2	ON		Line #6 make-busy request
		OFF	×	Line #6 make-busy request cancel
	3	ON		Line #7 make-busy request
		OFF	×	Line #7 make-busy request cancel
LPB 0-3  (Piano-Key Switch)	0	ON		Line #0 loop-back set
		OFF	×	Line #0 loop-back cancel
	1	ON		Line #1 loop-back set
		OFF	×	Line #1 loop-back cancel
	2	ON		Line #2 loop-back set
		OFF	×	Line #2 loop-back cancel
	3	ON		Line #3 loop-back set
		OFF	×	Line #3 loop-back cancel
LPB 4-7  (Piano-Key Switch)	0	ON		Line #4 loop-back set
		OFF	×	Line #4 loop-back cancel
	1	ON		Line #5 loop-back set
		OFF	×	Line #5 loop-back cancel
	2	ON		Line #6 loop-back set
		OFF	×	Line #6 loop-back cancel
	3	ON		Line #7 loop-back set
		OFF	×	Line #7 loop-back cancel

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SWITCH SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="9">SW10
 

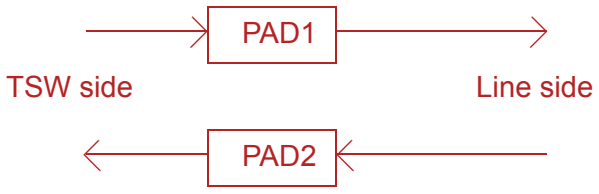
(Dip Switch)</td><td>1</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>2</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>5</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>6</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td>A-law</td></tr>
<tr><td>OFF</td><td></td><td>μ-law</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="10">SW11
 

(Dip Switch)</td><td>1</td><td colspan="3">PB Sender Mode (Law/Level) Selection
•When SW10-7 setting is OFF (μ-Law)
<table><tr><th>SWITCH 1</th><th>SWITCH 2</th><th>LAW/LEVEL</th></tr><tr><td>ON</td><td>ON</td><td>μ-Law Standard Note 1</td></tr><tr><td>OFF</td><td>ON</td><td>μ-Law (spare 1)</td></tr><tr><td>ON</td><td>OFF</td><td>μ-Law (spare 2)</td></tr><tr><td>OFF</td><td>OFF</td><td>Forbidden</td></tr></table>•When SW10-7 setting is ON (A-Law)
<table><tr><th>SWITCH 1</th><th>SWITCH 2</th><th>LAW/LEVEL</th></tr><tr><td>ON</td><td>ON</td><td>A-Law Standard Note 2</td></tr><tr><td>OFF</td><td>ON</td><td>A-Law (spare 1)</td></tr><tr><td>ON</td><td>OFF</td><td>A-Law (spare 2)</td></tr><tr><td>OFF</td><td>OFF</td><td>Forbidden</td></tr></table>Note 1: μ-Law Standard = High: -7.0 dBm Low: -9.0 dBm
Note 2: A-Law Standard = High: -8.0 dBm Low: -10.0 dBm</td></tr>
<tr><td>2</td></tr>
<tr><td>3</td><td colspan="3">PAD on TSW side
<table><tr><th>SWITCH 3</th><th>SWITCH 4</th><th>PAD</th></tr><tr><td>ON</td><td>ON</td><td>μ-Law</td></tr><tr><td>OFF</td><td>ON</td><td>Forbidden</td></tr><tr><td>ON</td><td>OFF</td><td>A-Law</td></tr><tr><td>OFF</td><td>OFF</td><td>Not used</td></tr></table></td></tr>
<tr><td>4</td></tr>
<tr><td>5</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>6</td><td>ON</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>7</td><td>ON</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>8</td><td>ON</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th colspan="2">SWITCH SETTING</th><th>STANDARD SETTING (Note 3)</th><th>MEANING</th></tr>
<tr><td rowspan="8">SW12
 

(Dip Switch)</td><td>1</td><td colspan="4" rowspan="3">PAD OFF (connection with C.O.)
<table><tr><th>SWITCH 1</th><th>SWITCH 2</th><th>SWITCH 3</th><th>PAD VALUE</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>Not used</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>PAD 1 = 5dB</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>PAD 1 = 3dB</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>PAD 1 = 0dB (standard setting)</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>PAD 1 = –3dB</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>PAD 1 = –5dB</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>PAD 1 = –7dB</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>PAD 1 = –10dB</td></tr></table></td></tr>
<tr><td>2</td></tr>
<tr><td>3</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td colspan="2">PAD OFF (connection with C.O.): PAD 2 = 3dB</td></tr>
<tr><td>OFF</td><td>×</td><td colspan="2">PAD OFF (connection with C.O.): PAD 2 = 0dB</td></tr>
<tr><td rowspan="3">5</td><td colspan="4" rowspan="3">PAD ON (connection with a station)
<table><tr><th>SWITCH 5</th><th>SWITCH 6</th><th>SWITCH 7</th><th>PAD VALUE</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>Not used</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>PAD 1 = 5dB (standard setting)</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>PAD 1 = 3dB</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>PAD 1 = 0dB</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>PAD 1 = –3dB</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>PAD 1 = –5dB</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>PAD 1 = –7dB</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>PAD 1 = –10dB</td></tr></table></td></tr>
<tr><td>6</td></tr>
<tr><td>7</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td>×</td><td colspan="2">PAD ON (connection with a station):
PAD 2 = 3dB</td></tr>
<tr><td>OFF</td><td></td><td colspan="2">PAD ON (connection with a station):
PAD 2 = 0dB</td></tr>
</table>

Note: The following diagram shows the PAD control method.



Note 3: If this circuit card is used for an additional CSI circuit card accommodation, the PAD value must be same as one of the CSI circuit cards that have already been accommodated.

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING	MEANING
DELAY  (Rotary Switch)		0		Fixed

6. External Interface

Below are accommodation of the LT connector leads of this circuit card and connecting route diagram.

(a) LT Connector Lead Accommodation when this circuit card is mounted in PIR.

LT Connector Leads Accommodation: PA-8CSIE

LT Connector Accommodation

Accommodated in *1

LT1, 5, 7, 11 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in *2

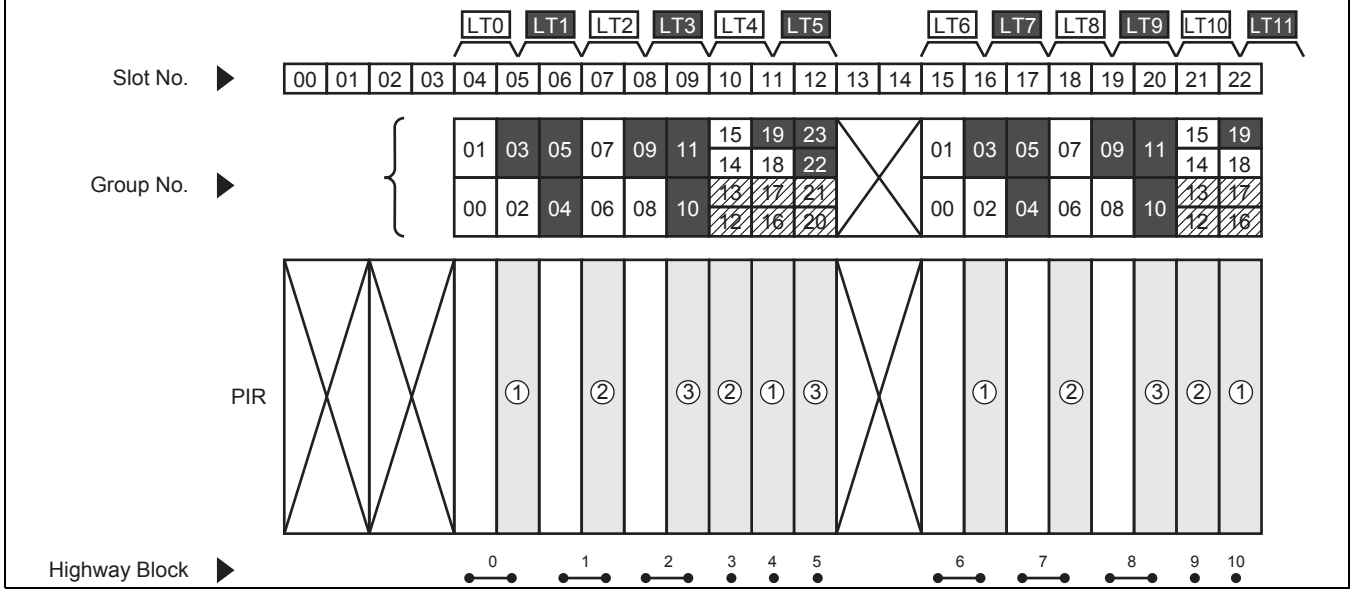
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in *3

LT3, 5, 9 Connector

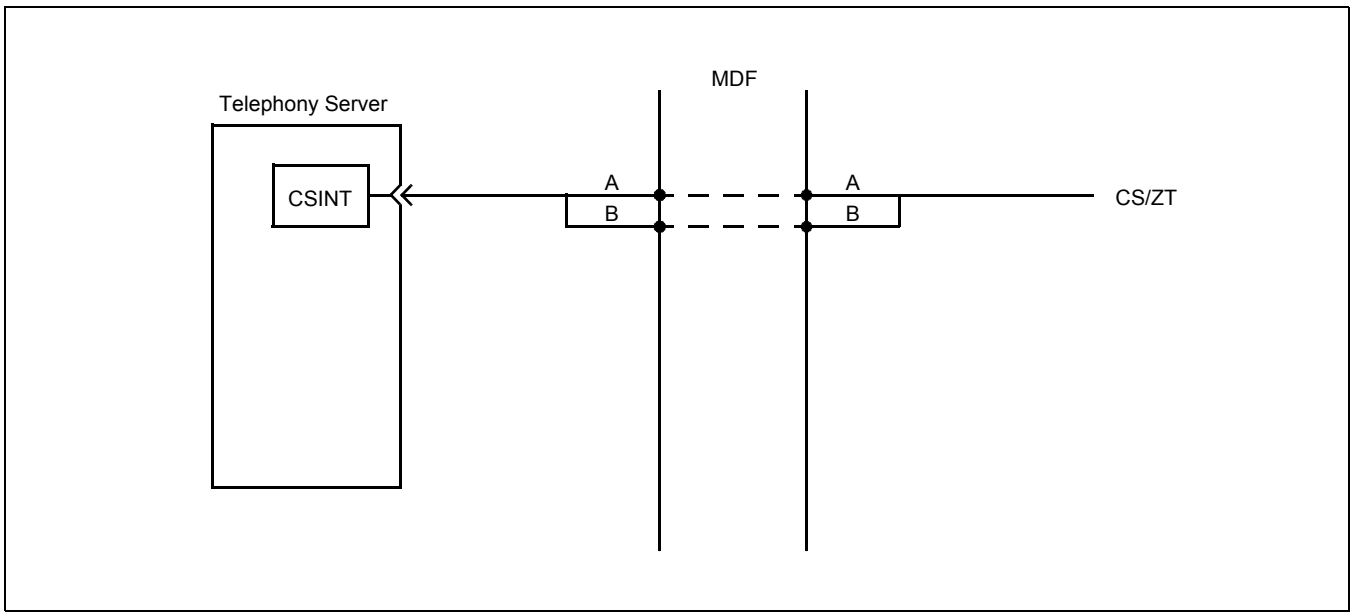
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	



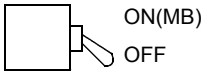
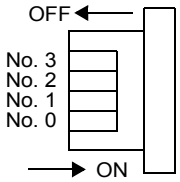
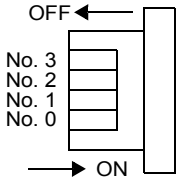
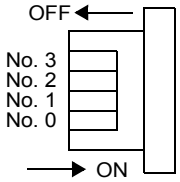
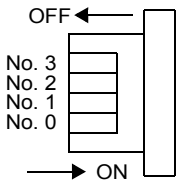
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

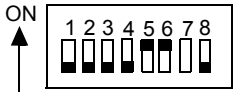
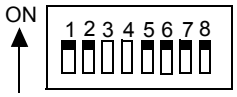
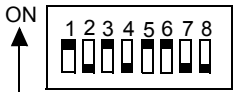
(b) Connecting Route Diagram

Connecting Route Diagram



7. Switch Setting Sheet

MODULE NAME	SLOT	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		MB		
		MBR 4-7		
		MBR 0-3		
		LPB 4-7		
		LPB 0-3		

MODULE NAME	SLOT	SWITCH NAME	SWITCH SHAPE	REMARKS
		SW10		
		SW11		
		SW12		
		DELAY		

PA-8CSIE-A
Cell Station Interface/Zone Transceiver Interface

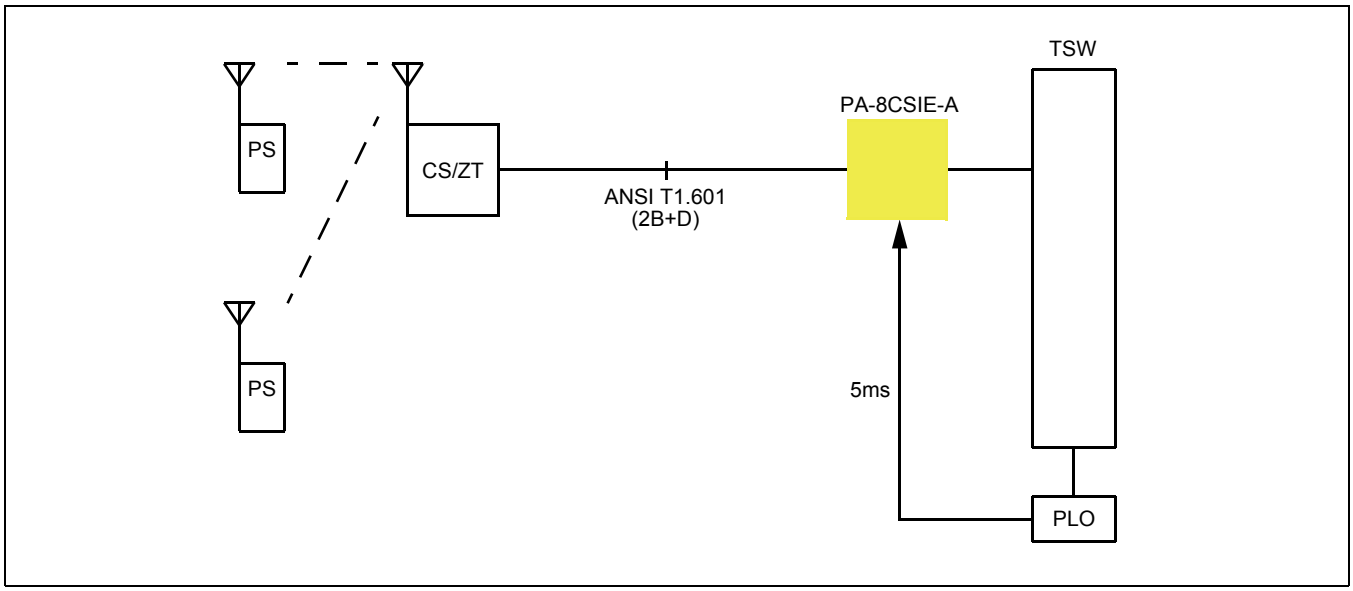
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	-	X	X	-

1. General Function

This circuit card is designed to provide the ISDN U interface to the Cell Station (CS)/Zone Transceiver (ZT). Specifications and functions of this circuit card are shown below.

- A maximum number of 8 CSs/ZTs can be accommodated in one PA-8CSIE-A circuit card.
- Interface with CSs/ZTs is based on the ISDN U interface (ANSI TI.601 Echo Canceller scheme)
- Each B Channel of 32kbps in the 2B+D (B=64kbps) can be used as two channels.
- Power feed functions to CSs/ZTs
- Equipped with 32k ADPCM (TSW: 64kbps, CS: 32kbps)
- Burst synchronization function of 5ms signal to CS
- Provided with 24 channels of PB (DTMF) sender
- PAD control Function

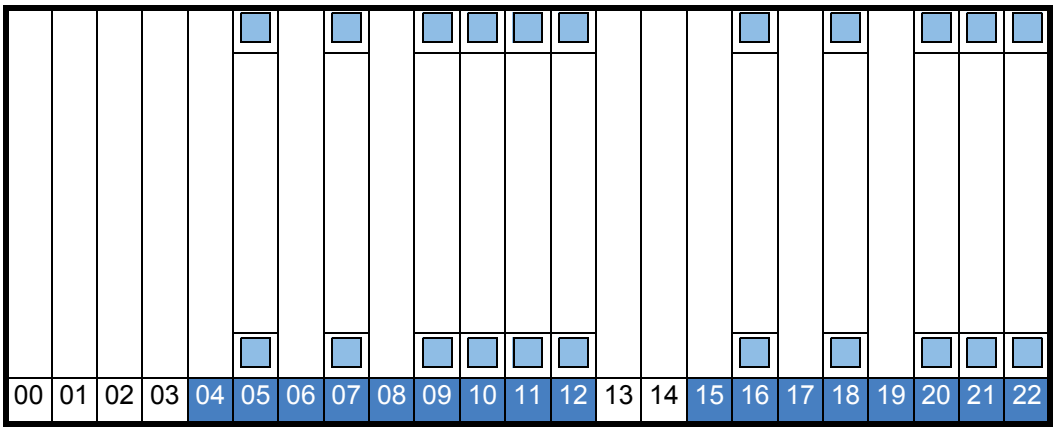
Location of Card in System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-22



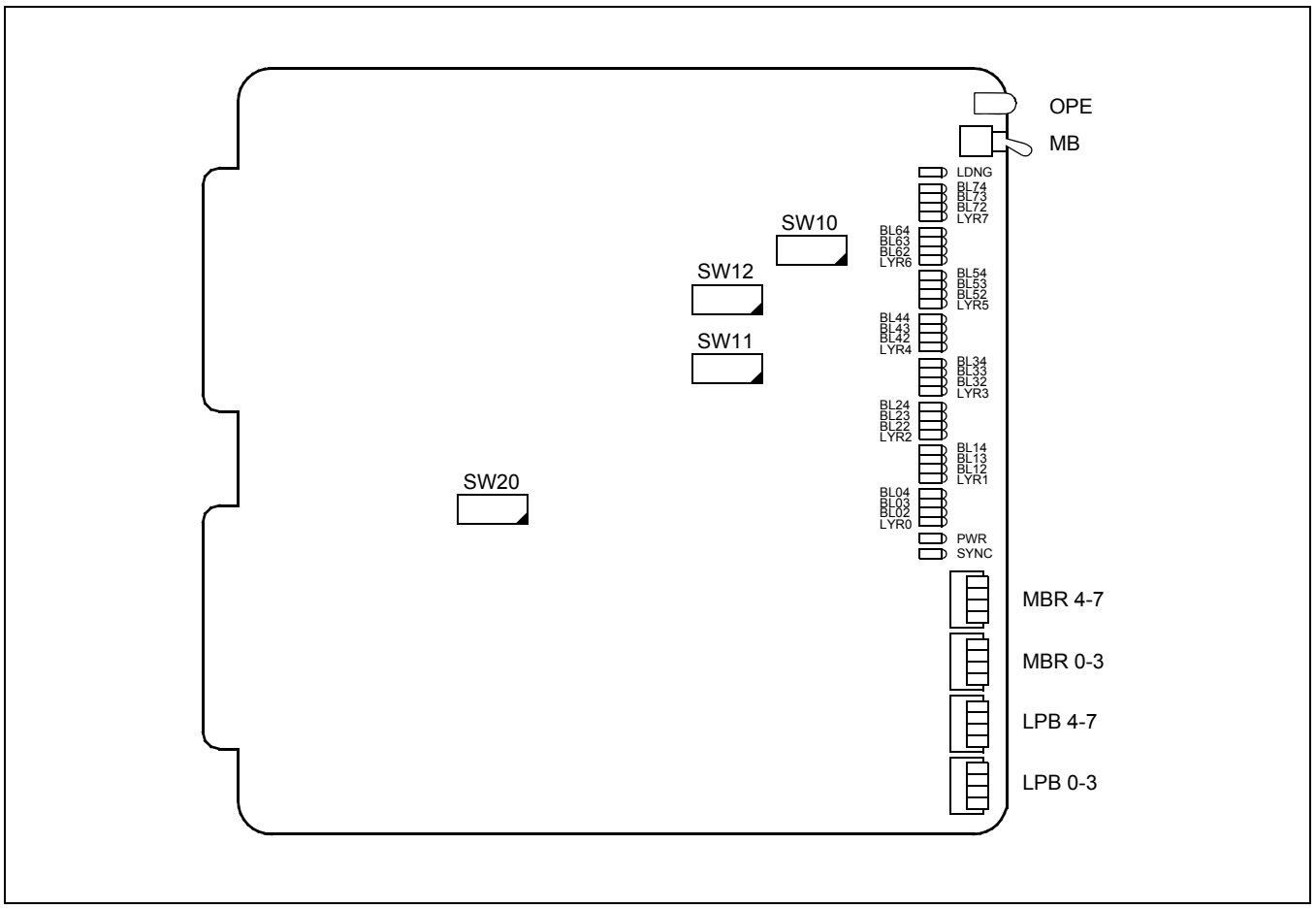
Mounting Condition:

- 11 CSINT circuit cards can be mounted in one PIR at the maximum.

3. Face Layout of Lamps, Switches, and Connectors

The following diagram shows the location of Lamp, Key and Connectors.

Lamp, Key and Connectors: PA-8CSIE-A



4. Lamp Indications

Shown below are the contents of lamp indication on this circuit card.

LAMP NAME	COLOR	MEANING
OPE	Green	Remains lit when this card is operating normally.
LDNG	Red	Remains lit when program loading fails.
	Flashing	Flashes while the program is loaded into RAM (120IPM).
BLn4	Green	Remains lit when B4 channel of the line #n is communicating. **Note 1**
	Flashing	Flashes while the corresponding circuit is in make-busy state (60IPM).
	OFF	Remains off when the corresponding circuit is idle.
BLn3	Green	Remains lit when B3 channel of the line #n is communicating. **Note 1**
	Flashing	Flashes while the corresponding circuit is in make-busy state (60IPM).
	OFF	Remains off when the corresponding circuit is idle.

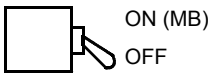
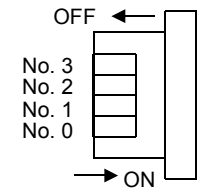
LAMP NAME	COLOR	MEANING
BLn2	Green	Remains lit when B2 channel of line #n is communicating. **Note 1**
	Flashing	Flashes while the corresponding circuit is in make-busy state (60IPM).
	OFF	Remains off when the corresponding circuit is idle.
LYRn	Green	Remains lit when the layer 2 link of line #n is established.
	Flashing	Flashes when layer 1 (U) of the line #n is synchronized (120IPM).
		Flashes when layer 1 (S) of the line #n is synchronized (60IPM).
	OFF	Layer 1 and Layer 2 have not been established.
PWR	Red	Lights when the power supply of the line fails.
SYNC	Red	Flashes when the synchronous timing of 5 ms is disconnected.

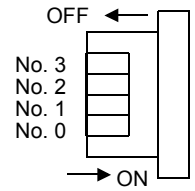
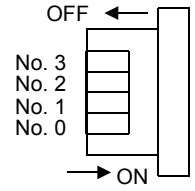
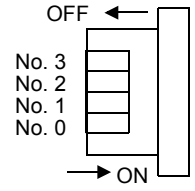
Note: n=0~7

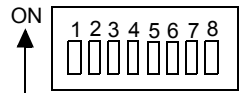
Note 1: B2 through B4 channels represent channel names of 32k ADPCM.

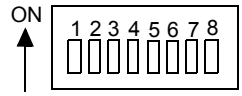
5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING	MEANING
MB  (Toggle Switch)		Up		Circuit card make-busy set
		Down	×	Circuit card make-busy cancel
MBR 0-3  (Piano-Key Switch)	0	ON		Line #0 make-busy request
		OFF	×	Line #0 make-busy request cancel
	1	ON		Line #1 make-busy request
		OFF	×	Line #1 make-busy request cancel
	2	ON		Line #2 make-busy request
		OFF	×	Line #2 make-busy request cancel
	3	ON		Line #3 make-busy request
		OFF	×	Line #3 make-busy request cancel

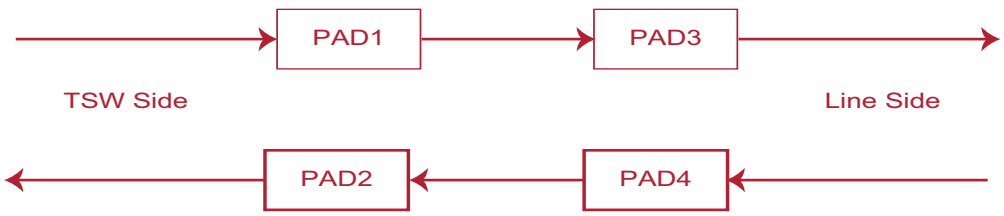
SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING	MEANING
MBR 4-7  (Piano-Key Switch)	0	ON		Line #4 make-busy request
		OFF	×	Line #4 make-busy request cancel
	1	ON		Line #5 make-busy request
		OFF	×	Line #5 make-busy request cancel
	2	ON		Line #6 make-busy request
		OFF	×	Line #6 make-busy request cancel
	3	ON		Line #7 make-busy request
		OFF	×	Line #7 make-busy request cancel
LPB 0-3  (Piano-Key Switch)	0	ON		Line #0 loop-back set
		OFF	×	Line #0 loop-back cancel
	1	ON		Line #1 loop-back set
		OFF	×	Line #1 loop-back cancel
	2	ON		Line #2 loop-back set
		OFF	×	Line #2 loop-back cancel
	3	ON		Line #3 loop-back set
		OFF	×	Line #3 loop-back cancel
LPB 4-7  (Piano-Key Switch)	0	ON		Line #4 loop-back set
		OFF	×	Line #4 loop-back cancel
	1	ON		Line #5 loop-back set
		OFF	×	Line #5 loop-back cancel
	2	ON		Line #6 loop-back set
		OFF	×	Line #6 loop-back cancel
	3	ON		Line #7 loop-back set
		OFF	×	Line #7 loop-back cancel

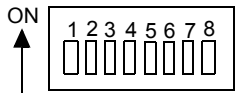
<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SWITCH SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="9">SW10
 

(Dip Switch)</td><td>1</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>2</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>5</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>6</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td>A-law</td></tr>
<tr><td>OFF</td><td></td><td>μ-law</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="8">SW11
 

(Dip Switch)</td><td>1</td><td colspan="3">PB Sender Mode (Law/Level) Selection
•When SW10-7 setting is OFF (μ-Law)
<table><tr><th>SWITCH 1</th><th>SWITCH 2</th><th>LAW/LEVEL</th></tr><tr><td>ON</td><td>ON</td><td>μ-Law Standard Note 1</td></tr><tr><td>OFF</td><td>ON</td><td>μ-Law (spare 1)</td></tr><tr><td>ON</td><td>OFF</td><td>μ-Law (spare 2)</td></tr><tr><td>OFF</td><td>OFF</td><td>Forbidden</td></tr></table></td></tr>
<tr><td>2</td><td colspan="3">•When SW10-7 setting is ON (A-Law)
<table><tr><th>SWITCH 1</th><th>SWITCH 2</th><th>LAW/LEVEL</th></tr><tr><td>ON</td><td>ON</td><td>A-Law Standard Note 2</td></tr><tr><td>OFF</td><td>ON</td><td>A-Law (spare 1)</td></tr><tr><td>ON</td><td>OFF</td><td>A-Law (spare 2)</td></tr><tr><td>OFF</td><td>OFF</td><td>Forbidden</td></tr></table></td></tr>
<tr><td>3</td><td colspan="3">PAD on TSW side
<table><tr><th>SWITCH 3</th><th>SWITCH 4</th><th>PAD</th></tr><tr><td>ON</td><td>ON</td><td>μ-Law</td></tr><tr><td>OFF</td><td>ON</td><td>Forbidden</td></tr><tr><td>ON</td><td>OFF</td><td>A-Law</td></tr><tr><td>OFF</td><td>OFF</td><td>Not used</td></tr></table></td></tr>
<tr><td>4</td><td colspan="3"></td></tr>
<tr><td>5</td><td>ON</td><td>×</td><td>PAD OFF (connection with C.O.): PAD 3 = 0dB</td></tr>
<tr><td></td><td>OFF</td><td></td><td>PAD OFF (connection with C.O.): PAD 3 = 5dB</td></tr>
<tr><td>6</td><td>ON</td><td>×</td><td>PAD OFF (connection with C.O.): PAD 4 = 0dB</td></tr>
<tr><td></td><td>OFF</td><td></td><td>PAD OFF (connection with C.O.): PAD 4 = 5dB</td></tr>
<tr><td>7</td><td>ON</td><td>×</td><td>PAD ON (connection with a station): PAD 3 = 0dB</td></tr>
<tr><td></td><td>OFF</td><td></td><td>PAD ON (connection with a station): PAD 3 = 5dB</td></tr>
<tr><td>8</td><td>ON</td><td>×</td><td>PAD ON (connection with a station): PAD 4 = 0dB</td></tr>
<tr><td></td><td>OFF</td><td></td><td>PAD ON (connection with a station): PAD 4 = 5dB</td></tr>
</table>

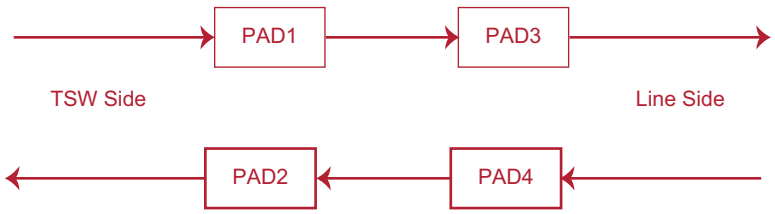
Note: The following diagram shows the PAD control method.



<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SWITCH SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="8">SW12
 

(Dip Switch)</td><td rowspan="3">1</td><td colspan="3" rowspan="3">PAD OFF (connection with C.O.)
<table><tr><th>SWITCH 1</th><th>SWITCH 2</th><th>SWITCH 3</th><th>PAD VALUE</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>Not used</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>PAD 1 = 5dB</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>PAD 1 = 3dB</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>PAD 1 = 0dB(standard setting)</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>PAD 1 = –3dB</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>PAD 1 = –5dB</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>PAD 1 = –7dB</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>PAD 1 = –10dB</td></tr></table></td></tr>
<tr></tr>
<tr></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>PAD OFF (connection with C.O.): PAD 2 = 3dB</td></tr>
<tr><td>OFF</td><td>×</td><td>PAD OFF (connection with C.O.): PAD 2 = 0dB</td></tr>
<tr><td rowspan="3">5</td><td colspan="3" rowspan="3">PAD ON (connection with a station)
<table><tr><th>SWITCH 5</th><th>SWITCH 6</th><th>SWITCH 7</th><th>PAD VALUE</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>Not used</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>PAD 1 = 5dB (standard setting)</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>PAD 1 = 3dB</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>PAD 1 = 0dB</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>PAD 1 = –3dB</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>PAD 1 = –5dB</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>PAD 1 = –7dB</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>PAD 1 = –10dB</td></tr></table></td></tr>
<tr></tr>
<tr></tr>
<tr><td rowspan="2">6</td></tr>
<tr><td rowspan="2">7</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td>×</td><td>PAD ON (connection with a station):
PAD 2 = 3dB</td></tr>
<tr><td>OFF</td><td></td><td>PAD ON (connection with a station):
PAD 2 = 0dB</td></tr>
</table>

Note: The following diagram shows the PAD control method.



SWITCH NAME	SWITCH NUMBER	SWITCH SETTING	STANDARD SETTING	MEANING
SW20	1	OFF	×	Fixed to OFF
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF
	5	OFF	×	Fixed to OFF
	6	OFF	×	Fixed to OFF
	7	OFF	×	Fixed to OFF
	8	OFF	×	Fixed to OFF

6. External Interface

Below are accommodation of the LT connector leads of this circuit card and connecting route diagram.

(c) LT Connector Lead Accommodation when this circuit card is mounted in PIR.

LT Connector Leads Accommodation of PIR: PA-8CSIE-A

LT Connector Accommodation

Accommodated in *1

LT1, 5, 7, 11 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in *2

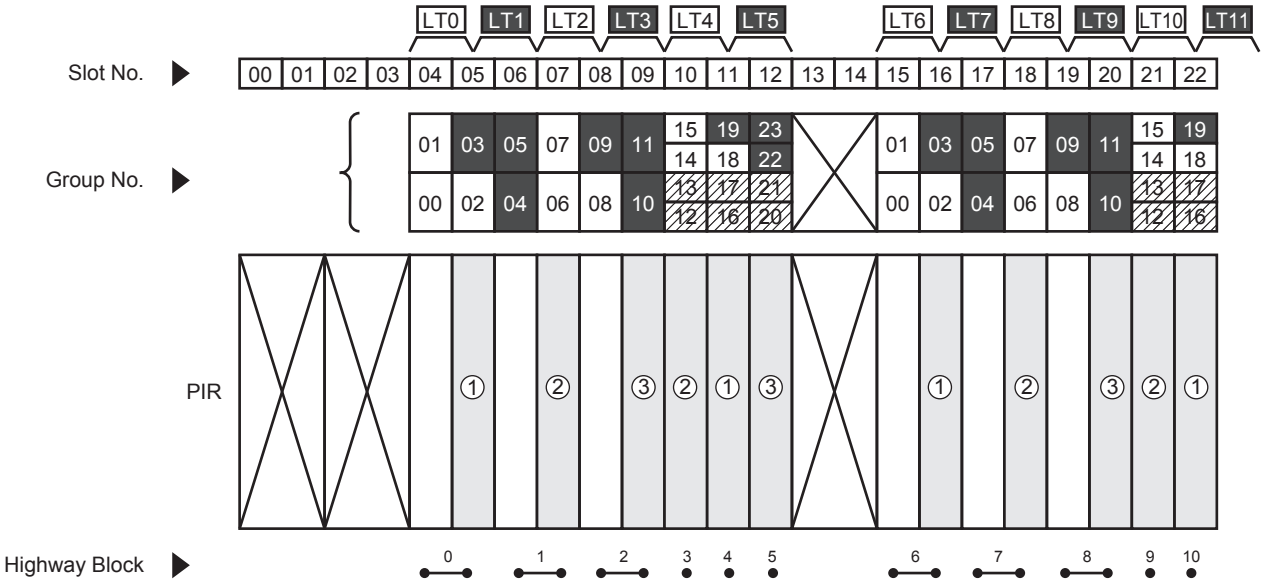
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in *3

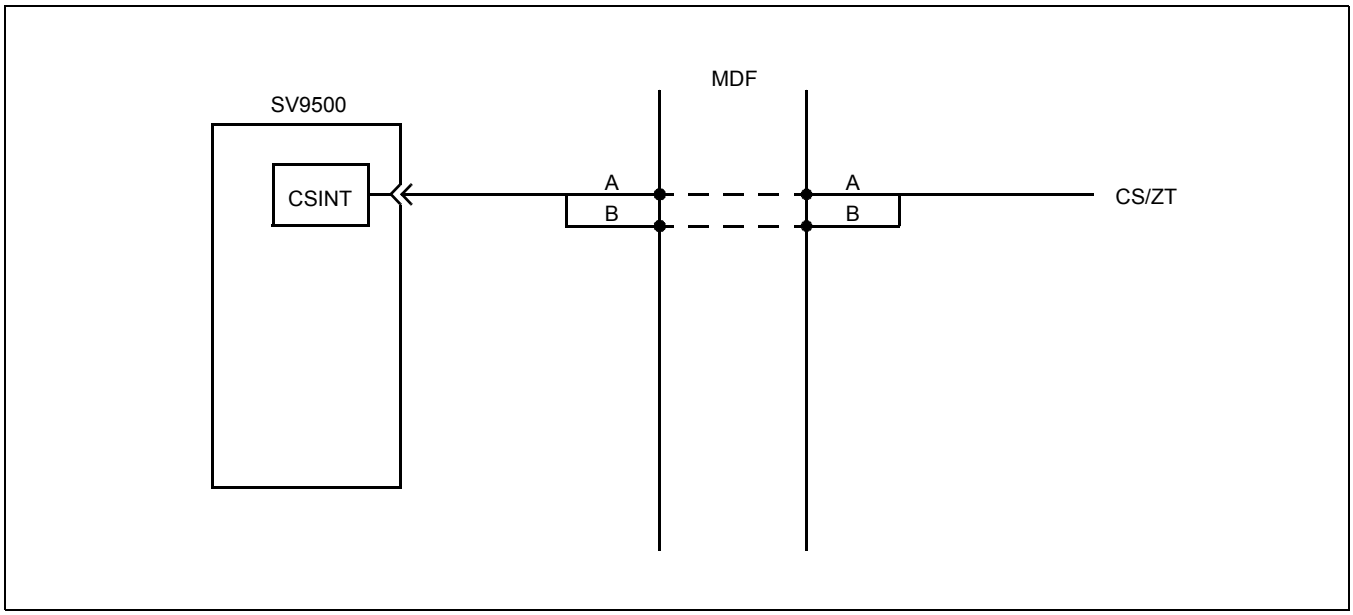
LT3, 5, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	

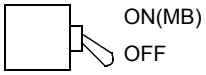
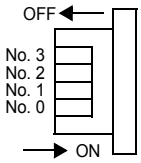
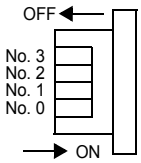
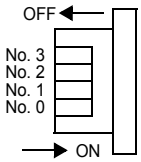
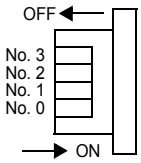


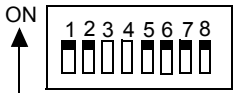
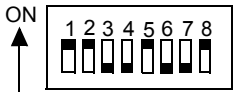
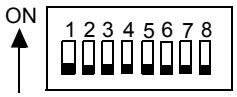
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram



7. Switch Setting Sheet

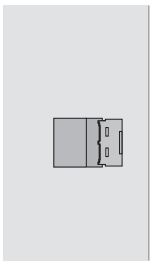
MODULE NAME	SLOT	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		MB		
		MBR 4-7		
		MBR 0-3		
		LPB 4-7		
		LPB 0-3		

MODULE NAME	SLOT	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW10		
		SW11		
		SW12		
		SW20		

PA-4DATB-A Digital Announcement Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

Note: The MRCS switch whose setting is performed on-line will be replaced with a new type in sequence. This table shows differences in shape and switch setting procedure between the new type and the traditional type.

Switch Type	Shape		Switch Setting Procedure
	Front	Top Face	
New Type			Adjust the central triangle until the triangle points the setting value.
Conventional Type			To set the value using the front window, bring the setting value into sight through the window. To set the value using the arrow in the top face, adjust the arrow until the arrow points to the setting value.

1. General Function

The PA-4DATB-A (DAT) circuit card is used as a Digital Announcement Trunk supporting service features related to announcement function such as Automated Attendant, Delay Announcement Attendant, and Announcement service (for Hotel system). Depending upon the switch setting, this circuit card works in one of the following three modes.

(a) When SW7-3: OFF (SP-882)

- 64-second mode (maximum four CHs/card)
- 128-second mode (maximum two CHs/card)
- 240-second mode (maximum one CH/card)

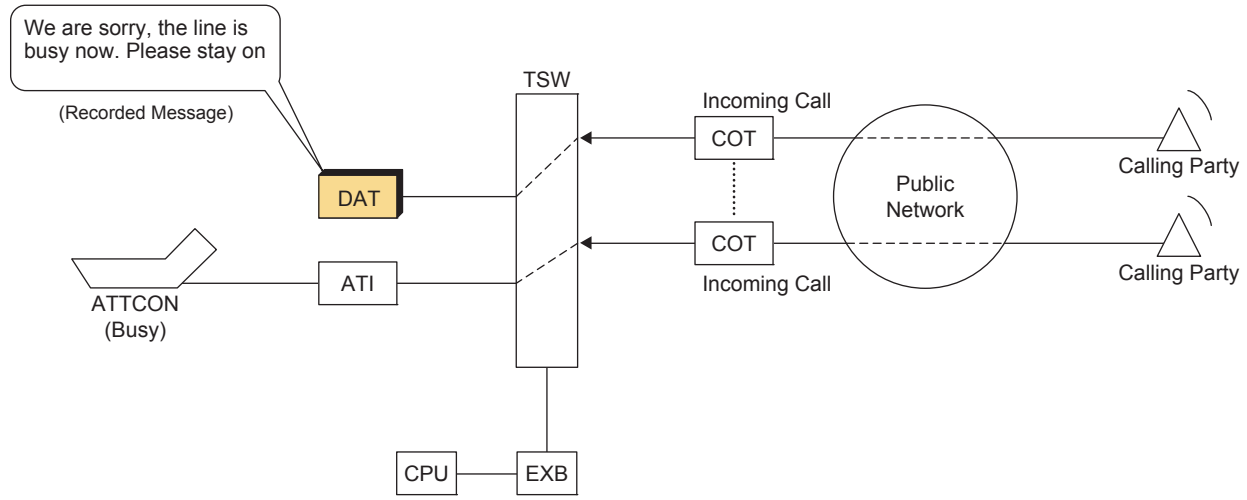
(b) When SW7-3: ON (SP-702)

- 16-second mode (maximum four CHs/card)
- 32-second mode (maximum two CHs/card)
- 60-second mode (maximum one CH/card)

A message can be recorded from either a recorder or a telephone set. (See [Reference]). In addition, this circuit card can be used as an external music source.

Location of PA-4DATB-A (DAT) in the System

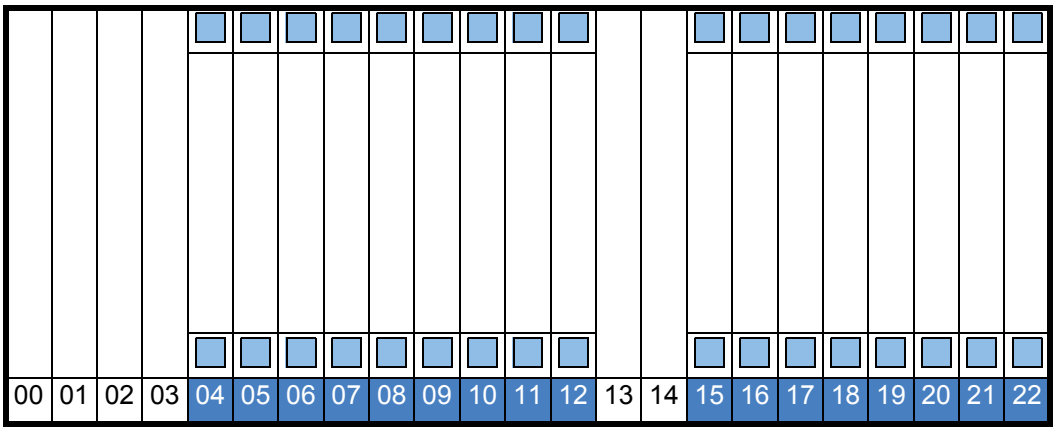
This diagram shows an example when this card is used for Delay Announcement Attendant.



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



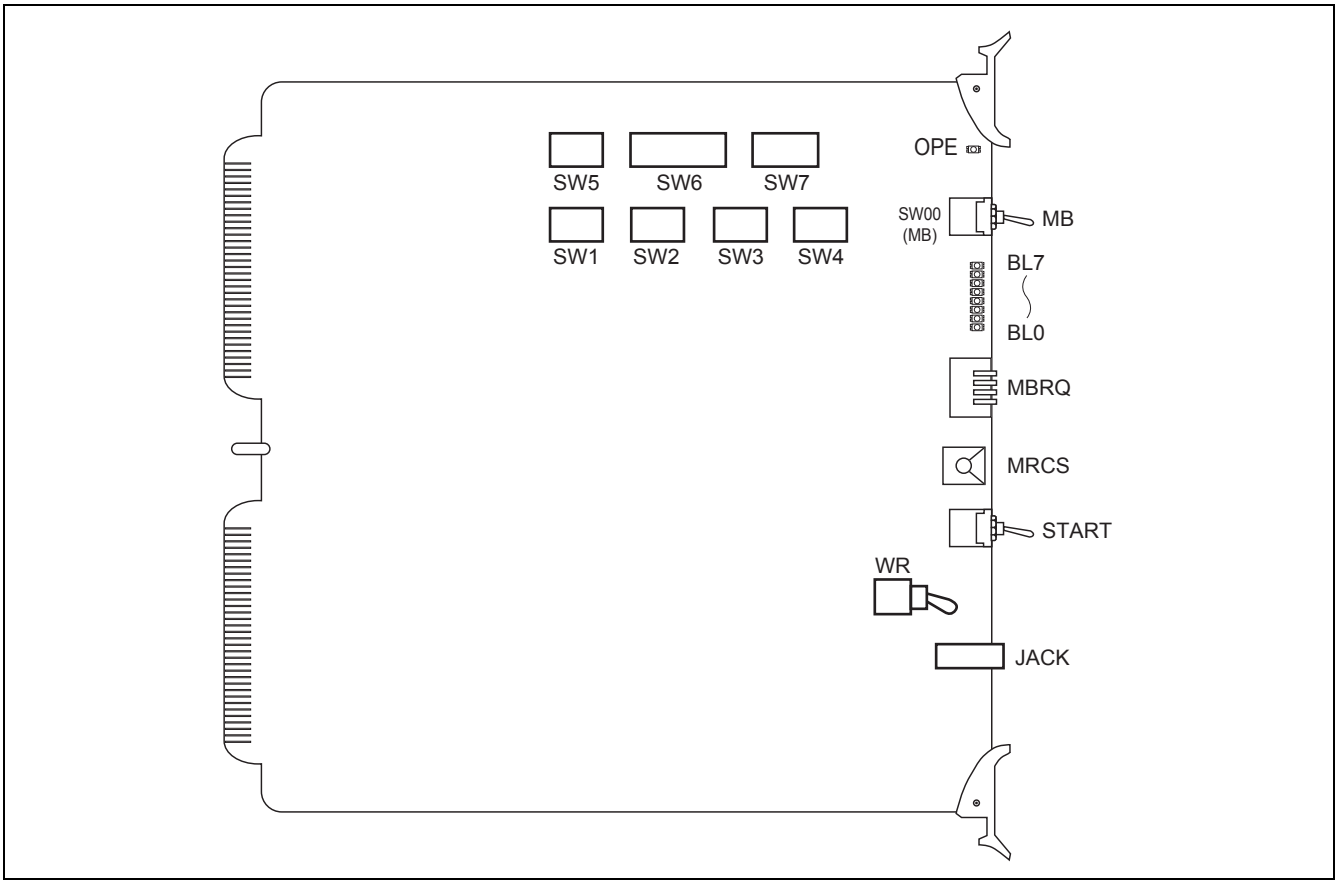
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-4DATB-A (DAT)



4. Lamp Indications

The contents of lamp indications of this circuit card are shown in the table below.

LAMP	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating.
BL4 ' BL7	Green	Lights when the corresponding circuit (Circuit 0 through 3) is connected to a recording source.
	Flash	Flashes while message recording is in progress on the corresponding circuit (Circuit 0 through 3)
BL0 ' BL3	Red	Lights when the corresponding circuit (Circuit 0 through 3) is busy.
	Flash	Flashes when the corresponding circuit (Circuit 0 through 3) is in Make-Busy state or has not been assigned in the system.

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">MB</td><td rowspan="2"></td><td>UP</td><td></td><td>Circuit card: Make-Busy</td></tr>
<tr><td>DOWN</td><td>×</td><td>Circuit card: Make-Busy cancel</td></tr>
<tr><td rowspan="2">MBRQ</td><td rowspan="2">0-3</td><td>ON</td><td></td><td>Make-Busy request on a channel basis
(Channel Designation for Recording/Playback)</td></tr>
<tr><td>OFF</td><td>×</td><td>Make-Busy request cancel on a channel basis</td></tr>
<tr><td rowspan="8">MRCS</td><td rowspan="8"></td><td>0</td><td></td><td rowspan="7">SETTING OF RECORDING and
External Hold Tone MODE
(a) When SW7-3: OFF (SP-882)
<table><tr><th>SWITCH NO.</th><th>Mode</th><th>Channel</th></tr><tr><td>0</td><td rowspan="4">64-second mode</td><td>0</td></tr><tr><td>1</td><td>1</td></tr><tr><td>2</td><td>2</td></tr><tr><td>3</td><td>3</td></tr><tr><td>4</td><td rowspan="2">128-second mode</td><td>0, 1</td></tr><tr><td>5</td><td>2, 3</td></tr><tr><td>6</td><td>240-second mode</td><td>0, 1, 2, 3</td></tr></table>(b) When SW7-3: ON (SP-702)
<table><tr><th>SWITCH NO.</th><th>Mode</th><th>Channel</th></tr><tr><td>0</td><td rowspan="4">16-second mode</td><td>0</td></tr><tr><td>1</td><td>1</td></tr><tr><td>2</td><td>2</td></tr><tr><td>3</td><td>3</td></tr><tr><td>4</td><td rowspan="2">32-second mode</td><td>0, 1</td></tr><tr><td>5</td><td>2, 3</td></tr><tr><td>6</td><td>60-second mode</td><td>0, 1, 2, 3</td></tr></table></td></tr>
<tr><td>1</td><td></td></tr>
<tr><td>2</td><td></td></tr>
<tr><td>3</td><td></td></tr>
<tr><td>4</td><td></td></tr>
<tr><td>5</td><td></td></tr>
<tr><td>6</td><td></td></tr>
<tr><td>E</td><td></td><td>Set to E while the circuit card is used as announcement equipment only.</td></tr>
</table>

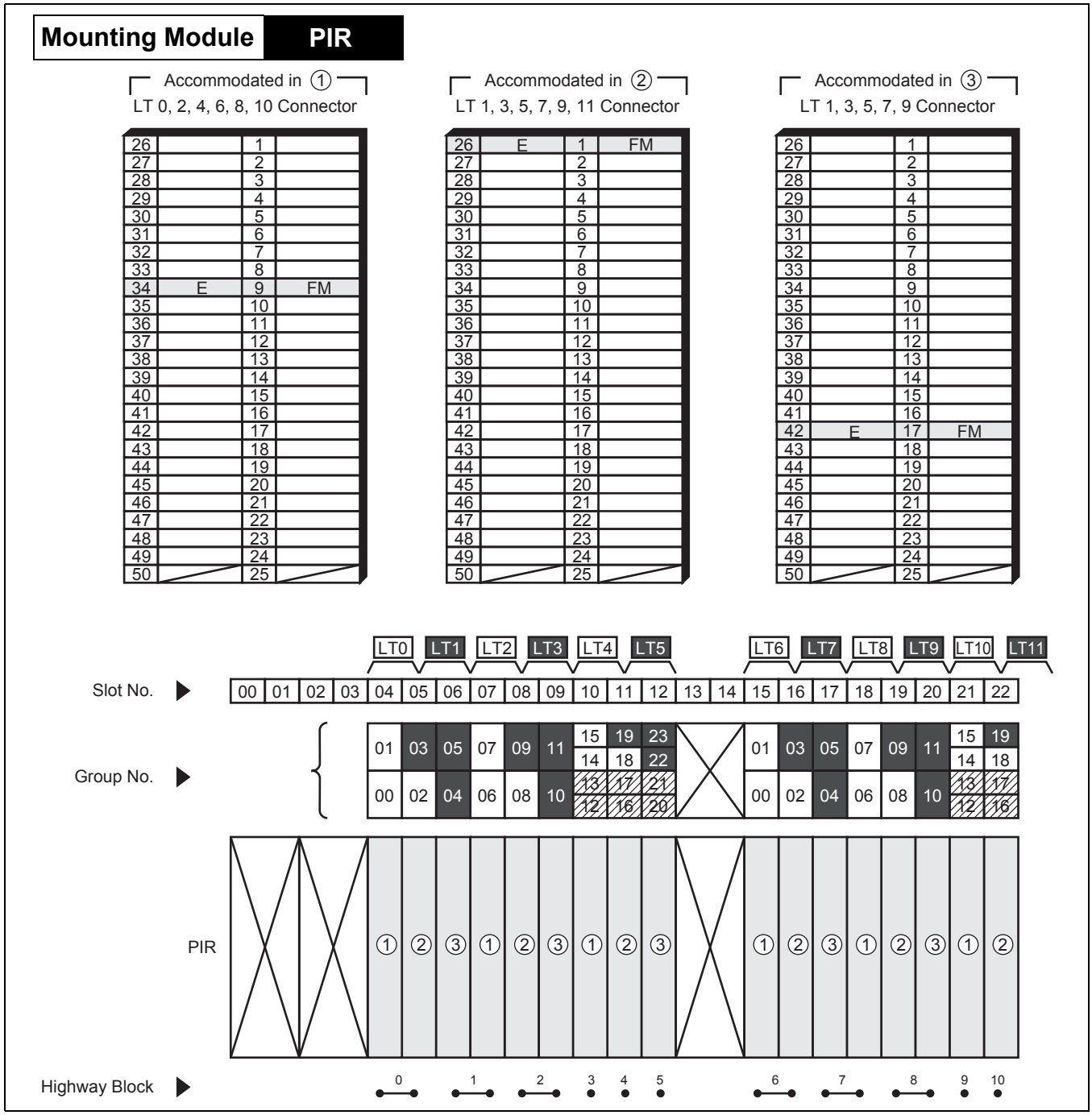
<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td>SW1
'
SW4</td><td colspan="3">Each Switch corresponds to each channel of
DAT: channel
SW1: channel 0
SW2: channel 1
SW3: channel 2
SW4: channel 3</td><td>
SETTING OF TIMER FOR EACH CIRCUIT
(a) When SW7-3: OFF (SP-882)
<table>
<tr><th>SW1</th><th>SW2</th><th>SW3</th><th>SW4</th><th>TIMER (MODE)</th></tr>
<tr><td>ON
ON
OFF</td><td>ON
ON
OFF</td><td>OFF
ON
OFF</td><td>ON
OFF
OFF</td><td>64-second mode
128-second mode
240-second mode</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>Not available</td></tr>
</table>
(b) When SW7-3: ON (SP-702)
<table>
<tr><th>SW1</th><th>SW2</th><th>SW3</th><th>SW4</th><th>TIMER (MODE)</th></tr>
<tr><td>ON
ON
OFF</td><td>ON
ON
OFF</td><td>OFF
ON
OFF</td><td>ON
OFF
OFF</td><td>16-second mode
32-second mode
60-second mode</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>Not available</td></tr>
</table>
</td></tr>
<tr><td rowspan="6">SW5</td><td>1</td><td></td><td></td><td rowspan="2">
SETTING OF ANNOUNCEMENT RECORDING/PLAYBACK TIME Note 1
(a) When SW7-3: OFF (SP-882)
<table>
<tr><th>SW5-1</th><th>SW5-2</th><th>RECORDING/PLAYBACK TIME</th></tr>
<tr><td>OFF
ON
OFF</td><td>ON
OFF
OFF</td><td>64-second Recording/Playback
128-second Recording/Playback
240-second Recording/Playback</td></tr>
</table>
(b) When SW7-3: ON (SP-702)
<table>
<tr><th>SW5-1</th><th>SW5-2</th><th>RECORDING/PLAYBACK TIME</th></tr>
<tr><td>OFF
ON
OFF</td><td>ON
OFF
OFF</td><td>16-second Recording/Playback
32-second Recording/Playback
60-second Recording/Playback</td></tr>
</table>
Note1: Recording/Playback Timer should correspond to that of SW1-SW4.
</td></tr>
<tr><td>2</td><td></td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td>Compression Law: μ-law</td></tr>
<tr><td>OFF</td><td></td><td>Compression Law: A-law</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>To be used as external hold tone source.</td></tr>
<tr><td>OFF</td><td></td><td>To be used as announcement equipment.</td></tr>
</table>

SWITCH	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW6	1	ON		Single playback of No. 0 channel **Note 3**
		OFF		Multiple playback of No. 0 channel **Note 2**
	2	ON		Single playback of No. 1 channel **Note 3**
		OFF		Multiple playback of No. 1 channel **Note 2**
	3	ON		Single playback of No. 2 channel **Note 3**
		OFF		Multiple playback of No. 2 channel **Note 2**
	4	ON		Single playback of No. 3 channel **Note 3**
		OFF		Multiple playback of No.3 channel **Note 2**
	5	OFF	×	Fixed to OFF
	6	OFF	×	Fixed to OFF
	7	ON		Announcement Message (Changed Playback) **Note 4**
		OFF		Announcement Message (Normal Playback) **Note 4**
	8	OFF	×	Fixed to OFF
	Note2: When this card is used as announcement equipment, SW6-1~ 6-4 should be set OFF. **Note3:** For Automated Attendant and Delay Announcement-Attendant, set single playback (ON). **Note4:** Available when SP-702 is accommodated.			
SW7	1	OFF	×	Fixed to OFF
	2	OFF	×	Fixed to OFF
	3	ON		SP-702 **Note 5**
		OFF		SP-882 **Note 5**
	4	OFF	×	Fixed to OFF
	Note5: The accommodated firmware (SP-702/SP-882) must correspond to this switch setting. Otherwise, this circuit card will not start up.			
WR		UP		For Recording from the phone jack
		DOWN	×	Normal setting
START		UP		When starting recording from the phone jack or playback
		DOWN	×	Normal setting

6. External Interface

When this card is used as an external music-on-hold source, the following cable connection is required.

LT Connector Lead Accommodation



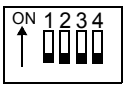
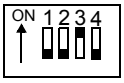
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

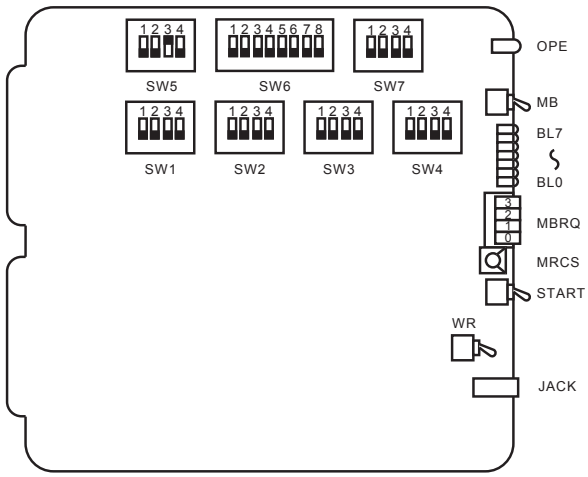
[Reference]

HOW TO RECORD A MESSAGE

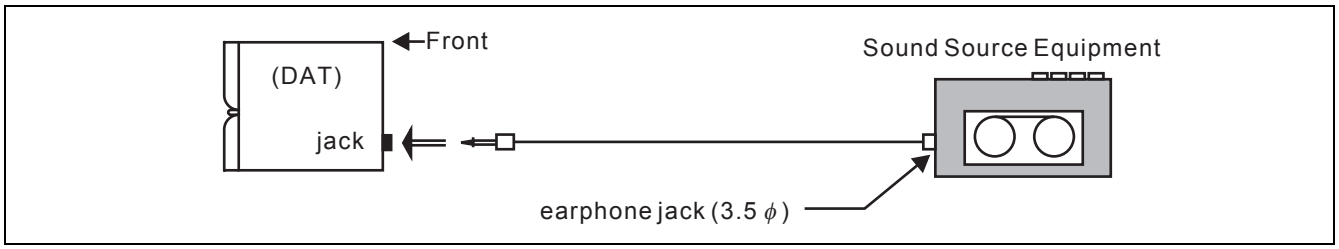
- Prior to your recording, set switches on the DAT card according to the following example.

SWITCH SETTINGS ON DAT [Example (60-second/240-second mode)]

SWITCH	SETTING	DESCRIPTION
SW1 - SW4		Timer Value for Channel 0-3 60-second/240-second
SW5		Circuit Card Timer: 60-second/240-second A-law/μ-law: μ-law External Music Source/Announcement Equipment: Announcement Equipment
SW6		Single/Repeated Playback: Repeated Playback
MRCS		Channel Designation: 60-second/240-second mode



- Connect a sound source equipment to the DAT card with a cable.



- Turn On the MBRQ key to Make-Busy a channel to be recorded.
  To record a message in the 60-second/240-second mode, all circuits must be placed into MB state.
- Turn the WR key upwards.
  The corresponding BL lamp lights green indicating the sound source equipment has been connected to the circuit.
- Set the output level of sound source equipment and start outputting. **Note 1**

Note 1: To avoid excessive input, set the output level of the sound source equipment to lower level.
After the recording is finished, check the recorded sound with an earphone by turning the WR key downwards (Playback side).

If the playback level is lower than expected or it is distorted, record again after adjusting the output level of sound source equipment.
The input impedance of this circuit card is 8W.
If the sound source equipment has a ground terminal, be sure to connect the ground wire.

- Turn the START key upwards.
  The corresponding BL lamp starts flashing recording the message in the designated channel.

  - recording -

- Recording time-out error **Note 2**
  The corresponding BL lamp (BL0 - BL7) lights steadily. (Recording ends.)

  Note 2: Care should be taken not to cause time-out error.
  If this error occurs, a noise may be heard at the end of the playback sound.
  In this case, record again from the beginning.

- Recording stop. (Recording ends.)
  Return the START, WR key to the previous position.

HOW TO PLAY BACK THE RECORDED MESSAGE

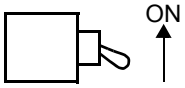
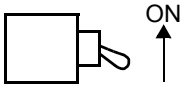
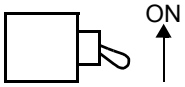
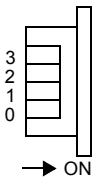
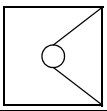
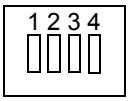
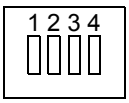
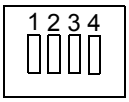
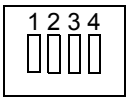
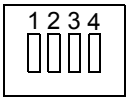
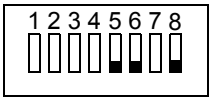
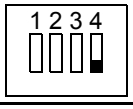
☐ Playback from a telephone set

- Set the related switches on the PA-4DATB-A (DAT) card.
- Seize a specific channel by “Individual Trunk Access”.
- Hear the recorded message.

☐ Playback from the phone jack on PA-4DATB-A (DAT) card

- Connect a earphone to the phone jack on the PA-4DATB-A (DAT) card.
- Select the desired channel (0-3) by the MRCS switch.
- Turn the START key upwards.
- Hear the recorded message.

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
		MB		
		START		
		WR		
		MBRQ		
		MRCS		
		SW1		
		SW2		
		SW3		
		SW4		
		SW5		
		SW6		
		SW7		

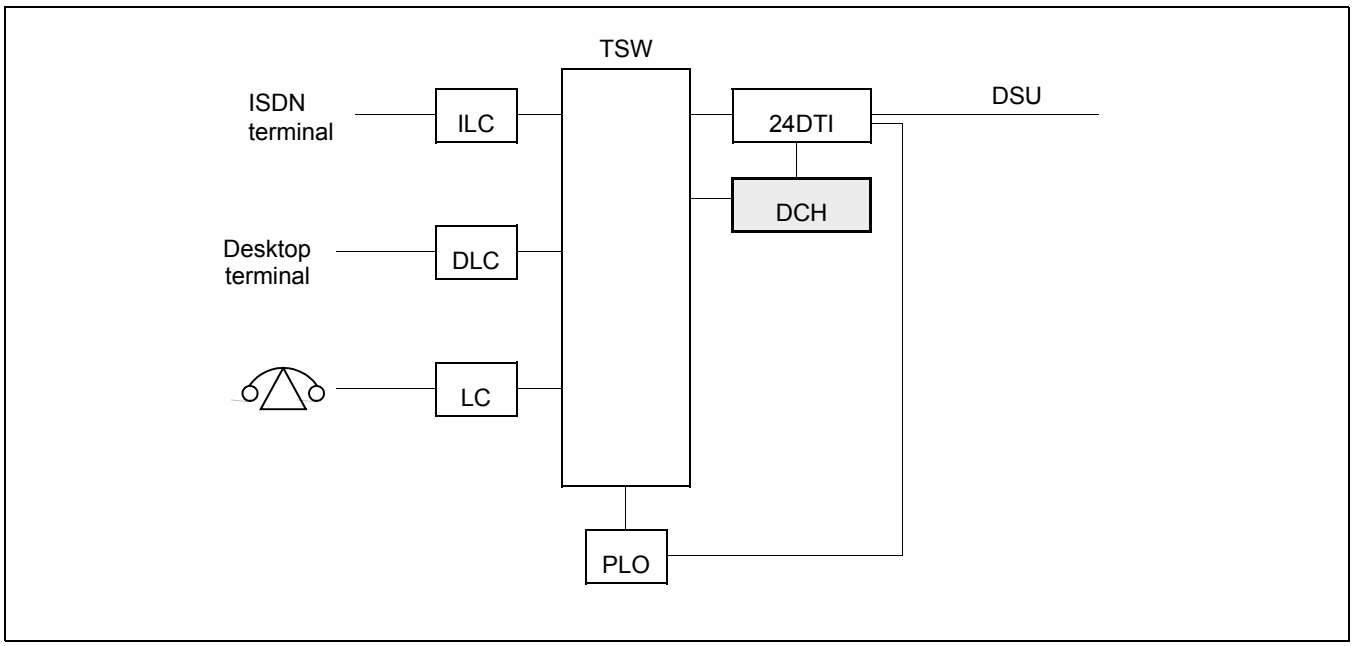
PA-2DCHA
D-Channel Handler

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	-	-	-	X	-	-

1. General Function

This circuit card controls D-Channels of ISDN Line. This circuit card provides two-circuit D-Channel Handler (DCH).

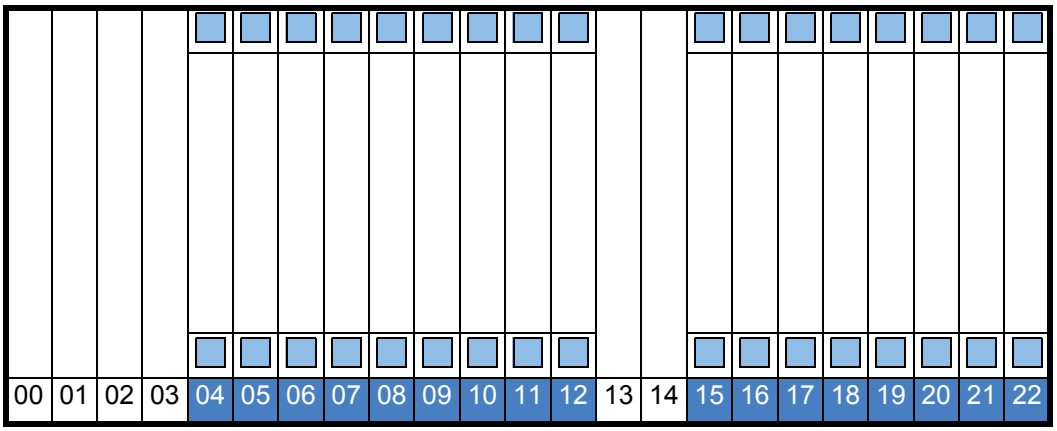
Location of PA-2DCHA (2DCH) in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



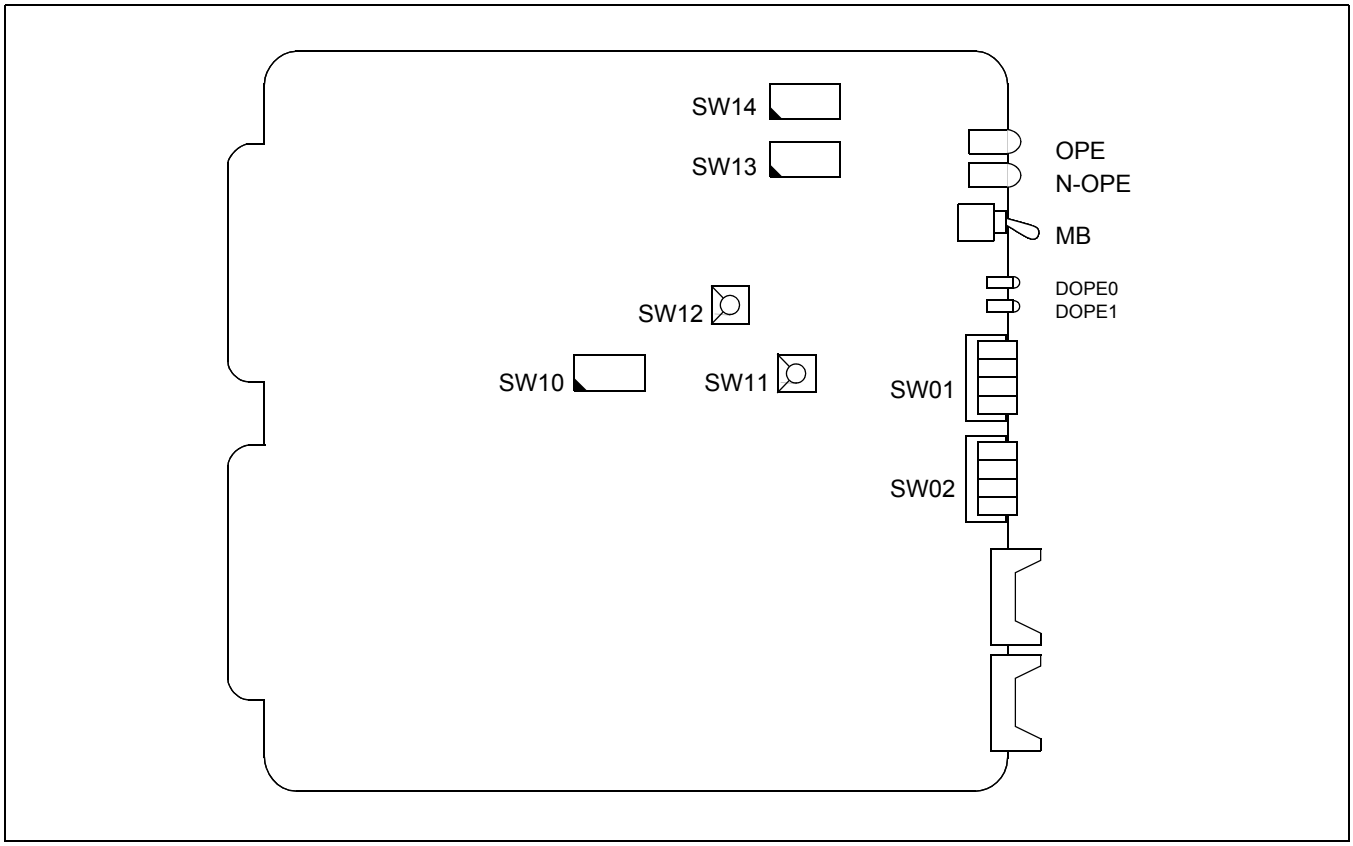
Mounting Conditions:

- This card must be mounted in slot at the left side of the slot where the DTI card is mounted.
- This card cannot use Group 0 (G=00) of Unit 0 (U=0) of even-number Module Group.
- This card cannot be mounted in Slot 4 of PIR 0, MG 00.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors of this circuit card is shown below.

Face Layout of PA-2DCHA (2DCH)



4. Lamp Indications

The contents of lamp indications of this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating.
N-OPE	Red	Remains lit while this circuit card is in Make-Busy state.
DOPE0 ~ DOPE1	Green	Lights when the common channel signaling link is set up.
	Flash	Flashes when DCH is started up.

5. Switch Settings

Standard settings of various switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
SW01	0	ON		Circuit 0 Make-Busy request
		OFF	×	Circuit 0 Make-Busy request cancel
	1	ON		Circuit 1 Make-Busy request
		OFF	×	Circuit 1 Make-Busy request cancel
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
SW02	0	ON		Loop back of Circuit 0 is performed.
		OFF	×	Loop back of Circuit 0 is not performed.
	1	ON		Loop back of Circuit 1 is performed.
		OFF	×	Loop back of Circuit 1 is not performed.
	2	ON		Drop/Insert of Circuit 0 is performed.
		OFF		Drop/Insert of Circuit 0 is not performed.
	3	ON		Drop/Insert of Circuit 1 is performed.
		OFF		Drop/Insert of Circuit 1 is not performed.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="13">SW10</td><td rowspan="3">1</td><td rowspan="3"></td><td rowspan="3"></td><td rowspan="3"><table><tr><th colspan="4">SETTING OF TRANSFER SPEED OF DROP/ INSERT IN CIRCUIT 0</th></tr><tr><th>SW10-1</th><th>SW10-2</th><th>SW10-3</th><th>TRANSFER SPEED</th></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>64 kbps</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>32 kbps (Forward)</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>16 kbps (Forward)</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>8 kbps (Forward)</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>64 kbps</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>32 kbps (Backward)</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>16 kbps (Backward)</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>8 kbps (Backward)</td></tr></table></td></tr>
<tr></tr>
<tr></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>Modem is used in Circuit 0.</td></tr>
<tr><td>OFF</td><td></td><td>Modem is not used in Circuit 0.</td></tr>
<tr><td rowspan="3">5</td><td rowspan="3"></td><td rowspan="3"></td><td rowspan="3"><table><tr><th colspan="4">SETTING OF TRANSFER SPEED OF DROP/ INSERT IN CIRCUIT 1</th></tr><tr><th>SW10-5</th><th>SW10-6</th><th>SW10-7</th><th>TRANSFER SPEED</th></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>64 kbps</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>32 kbps (Forward)</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>16 kbps (Forward)</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>8 kbps (Forward)</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>64 kbps</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>32 kbps (Backward)</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>16 kbps (Backward)</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>8 kbps (Backward)</td></tr></table></td></tr>
<tr></tr>
<tr></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Modem is used in Circuit 1.</td></tr>
<tr><td>OFF</td><td></td><td>Modem is not used in Circuit 1.</td></tr>
<tr><td rowspan="2">SW11 (MODE0)</td><td rowspan="2"></td><td>1</td><td></td><td>AT & T Bell</td></tr>
<tr><td>5</td><td></td><td>AT & T Communication</td></tr>
<tr><td rowspan="2">SW12 (MODE1)</td><td rowspan="2"></td><td>1</td><td></td><td>AT & T Bell</td></tr>
<tr><td>5</td><td></td><td>AT & T Communication</td></tr>
</table>

Note: When SW10-4 is set ON, SW10-1, 10-2 and 10-3 should be set ON.
When SW10-8 is set ON, SW10-5, 10-6 and 10-7 should be set ON.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="8">SW13 (for Circuit 0)

SW14 (for Circuit 1)</td><td>1</td><td></td><td colspan="2" rowspan="5">
<table>
<tr><th colspan="6">SETTING OF TIME SLOT NUMBER OF DROP/INSERT</th></tr>
<tr><th>SW13-1/ SW14-1</th><th>SW13-2/ SW14-2</th><th>SW13-3 SW14-3</th><th>SW13-4/ SW14-4</th><th>SW13-5/ SW14-5</th><th>TIME SLOT NUMBER</th></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>CH0</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>CH1</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>CH2</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>CH3</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>CH4</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>CH5</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>CH6</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>CH7</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>CH8</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>CH9</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>CH10</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>CH11</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>CH12</td></tr>
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<tr><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>CH14</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>CH15</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>CH16</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>CH17</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>CH18</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>CH19</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>CH20</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>CH21</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>CH22</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>CH23</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>CH24</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>CH25</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>CH26</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>CH27</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>CH28</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>CH29</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>CH30</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>CH31</td></tr>
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</td></tr>
<tr><td>2</td><td></td></tr>
<tr><td>3</td><td></td></tr>
<tr><td>4</td><td></td></tr>
<tr><td>5</td><td></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td>D-Channel mode selection; network side</td></tr>
<tr><td>OFF</td><td></td><td>D-Channel mode selection; user side</td></tr>
<tr><td>7</td><td></td><td colspan="2" rowspan="2">
<table>
<tr><th colspan="3">SETTING OF SPEED MODE</th></tr>
<tr><th>SW13-7/SW14-7</th><th>SW13-8/SW14-8</th><th>SPEED</th></tr>
<tr><td>OFF</td><td>OFF</td><td>2400 bps</td></tr>
<tr><td>OFF</td><td>ON</td><td>4800 bps</td></tr>
<tr><td>ON</td><td>OFF</td><td>9600 bps</td></tr>
<tr><td>ON</td><td>ON</td><td>Inhibit</td></tr>
</table>
</td></tr>
<tr><td>8</td><td></td></tr>
</table>

6. External Interface

Accommodation of the LT connector leads of this circuit card and connecting route diagram are shown below.

LT Connector Leads Accommodation (1/2)

Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26		1	RD 0
27	SG 0	2	ER 0
28	RT 0	3	ST2 0
29	RS 0	4	SD 0
30		5	RD 1
31	SG 1	6	ER 1
32	RT 1	7	ST2 1
33	RS 1	8	SD 1
34	SCKB 0	9	SCKA 0
35	TDB 0	10	TDA 0
36	RDB 0	11	RDA 0
37		12	
38	SCKB 1	13	SCKA 1
39	TDB 1	14	TDA 1
40	RDB 1	15	RDA 1
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

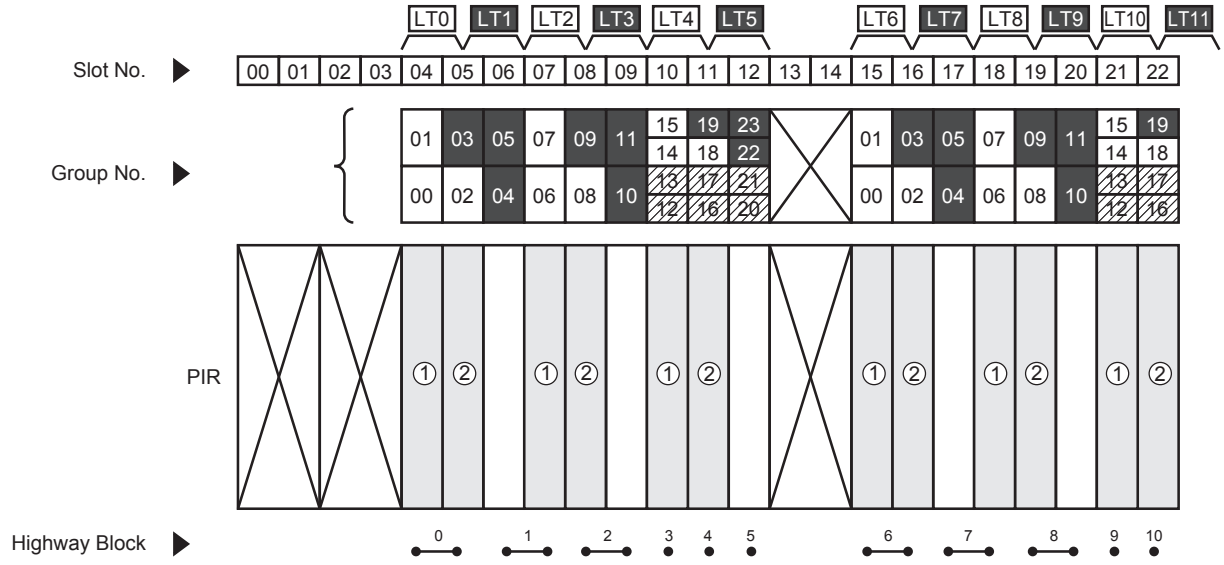
Accommodated in ②

LT 0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	RD 0
43	SG 0	18	ER 0
44	RT 0	19	ST2 0
45	RS 0	20	SD 0
46		21	RD 1
47	SG 1	22	ER 1
48	RT 1	23	ST2 1
49	RS 1	24	SD 1
50		25	

LT 1, 3, 5, 7, 9 Connector

26	SCKB 0	1	SCKA 0
27	TDB 0	2	TDA 0
28	RDB 0	3	RDA 0
29		4	
30	SCKB 1	5	SCKA 1
31	TDB 1	6	TDA 1
32	RDB 1	7	RDA 1
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	



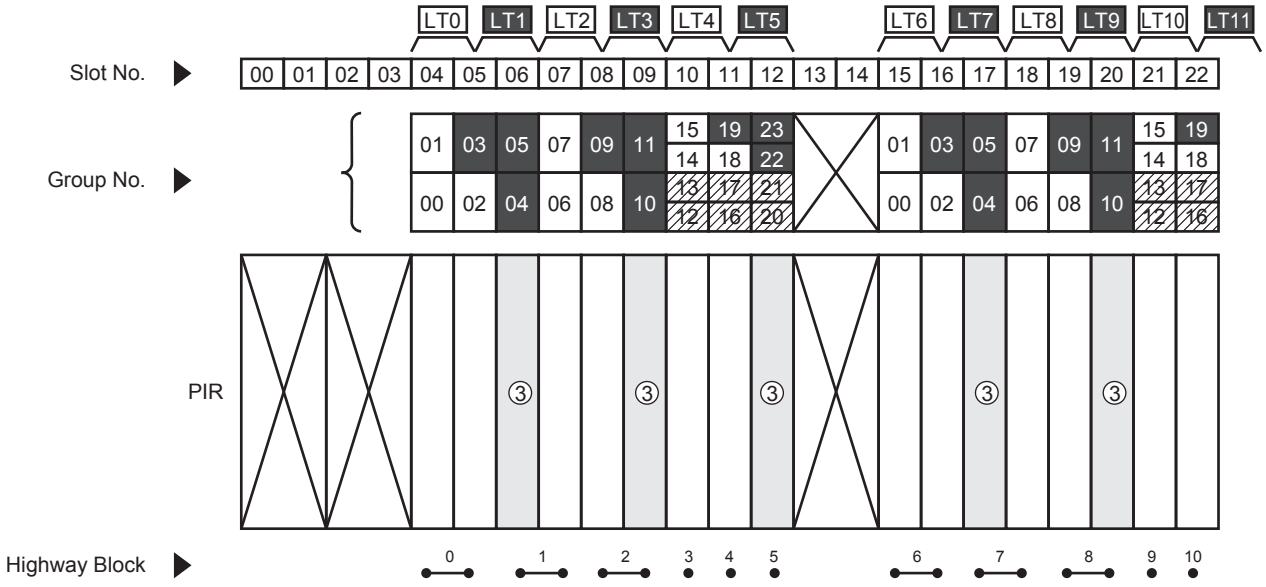
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Leads Accommodation (2/2)

Mounting Module **PIR**

Accommodated in ③
LT 1, 3, 5, 7, 9 Connector

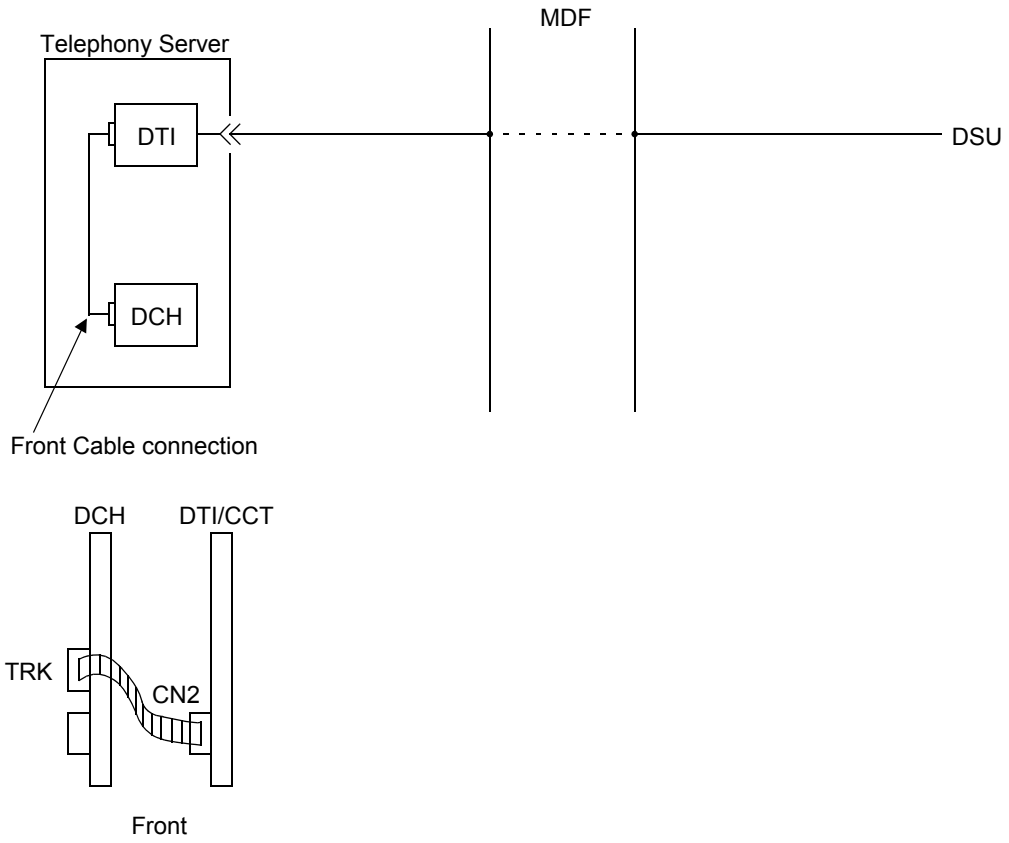
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	RD 0
35	SG 0	10	ER 0
36	RT 0	11	ST2 0
37	RS 0	12	SD 0
38		13	RD 1
39	SG 1	14	ER 1
40	RT 1	15	ST2 1
41	RS 1	16	SD 1
42	SCLB 0	17	SCKA 0
43	TDB 0	18	TDA 0
44	RDB 0	19	RDA 0
45		20	
46	SCLB 1	21	SCKA 1
47	TDB 1	22	TDA 1
48	RDB 1	23	RDA 1
49		24	
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram (1/2)

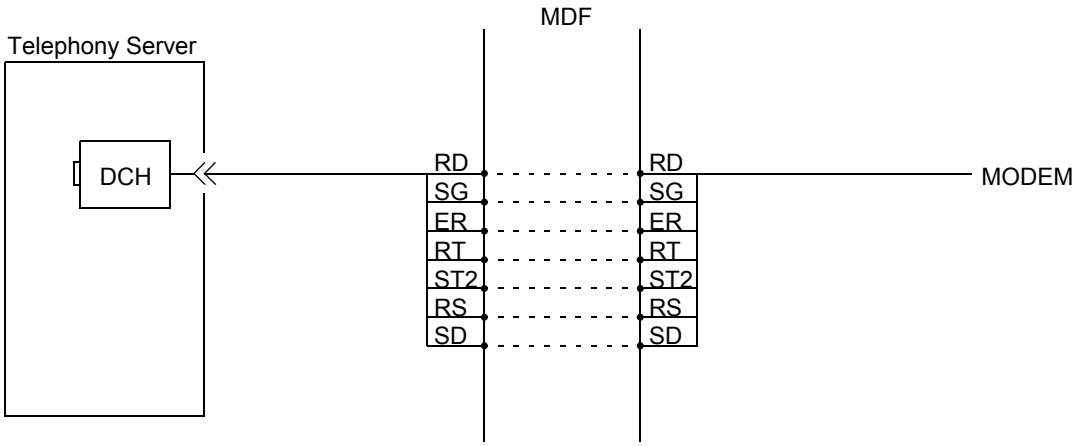
• **When modem is not used**



Note: For cross connections between DTI and D-Channel common channel signalling line, refer to the explanations of 24DTI circuit card.

Connecting Route Diagram (2/2)

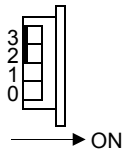
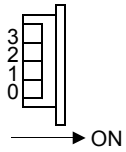
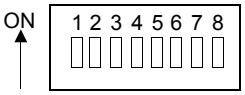
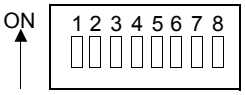
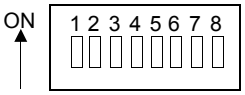
• When modem is used



• Cable length is a maximum of 15 meters (50 feet).

• Use a 2400, 4800, or 9600 bps synchronous modem. The communication method is limited to 4-wire full duplex communications.

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW01		SW01-2, 3: Not used
		SW02		
		SW10		
		SW11		1: AT & T Bell 5: AT & T Communication
		SW12		1: AT & T Bell 5: AT & T Communication
		SW13		
		SW14		
		MB	DOWN	Circuit card: Make-Busy cancel

PA-PRTC (1.5M DLI)
Digital Line Interface

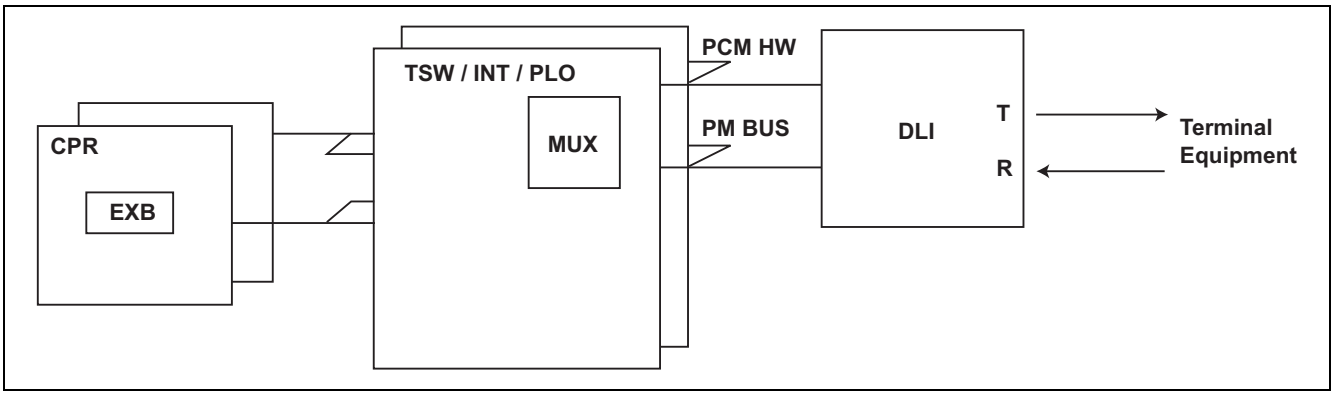
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	-	-	X	-	-

1. General Function

The PA-PRTC (1.5M DLI) circuit card provides an interface between digital line for AMI (T1) and the system at 1.5 Mbit/s. This circuit card can set an arbitrary PAD level (LOSS: 0-20dB,GAIN: 1-16dB) to the direction of sending and the direction of receiving. A desired PAD level can be selected by switches.

Note: The switches of PAD level become valid by assigning the system data (ASYD, SYS1, Index4, Bit5 = 0).

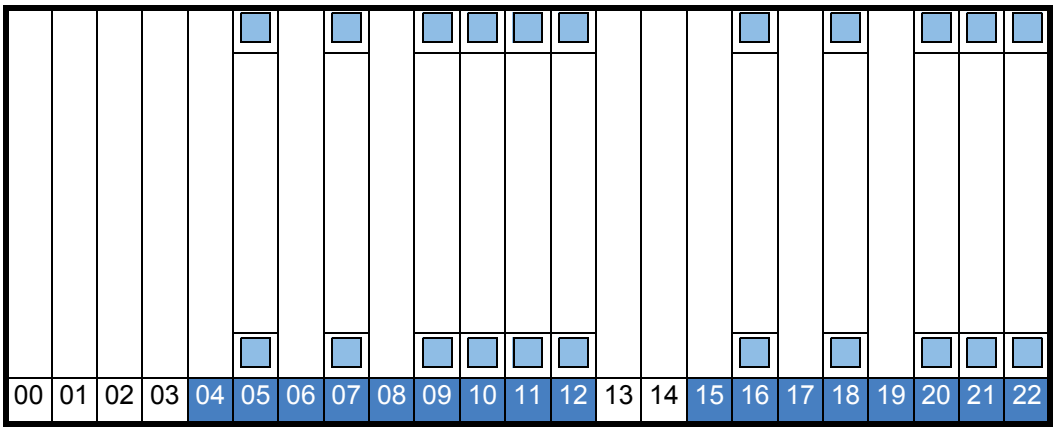
Location of PA-PRTC (1.5M DLI) in the System



2. Mounting Location

Mounting Location <8U-PIR>

Universal Slot



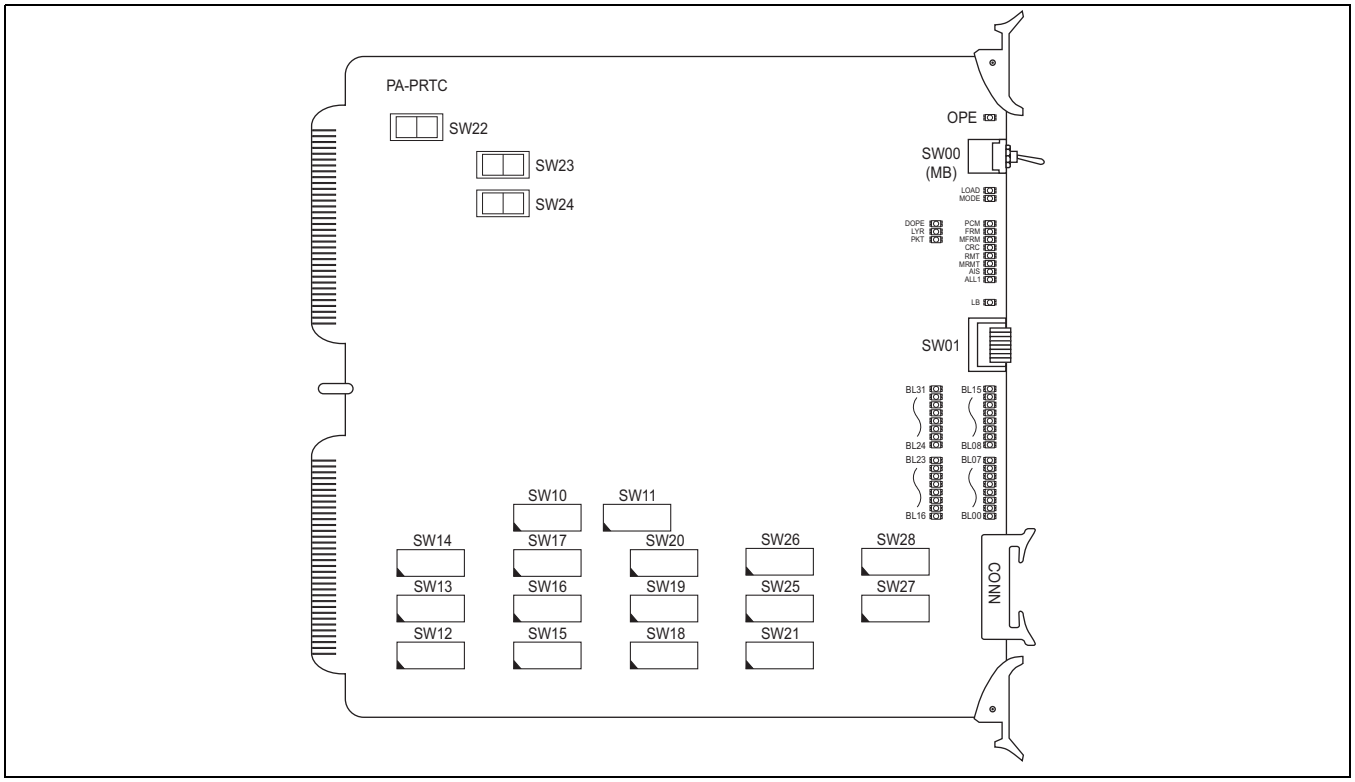
Mounting Condition:

- Mount this circuit card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.
- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-PRTC (1.5M DLI)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	COLOR	DESCRIPTION	
OPE	Green	Lights when this circuit card is operating normally.	
LOAD	Green	Lights when loading program.	
MODE	Green	This lamp is consistently lit.	
PCM	Red	Light	Lights when input signal down is detected (PCM LOSS).
		Flash (240 IPM)	Flashes when system recovered from PCM LOSS and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
FRM	Red	Light	Lights when frame alignment loss is detected.
		Flash (240 IPM)	Flashes when system recovered from frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds

LAMP NAME	COLOR	DESCRIPTION		
MFRM (Effective only when 12 multi-frame interface is used)	Red	Light		Lights when Multi frame alignment loss is detected.
		Flash (240IPM)		Flashes when system recovered from Multi frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
CRC	Red	24 Multi-frame	Light	Lights when frequent CRC error is detected.
			Flash (240 IPM)	Flashes when system has recovered from frequent CRC error and is being supervised.
		12 Multi-frame	Light	Lights when frequent Bit error is detected continuously for more than 1000 seconds.
			Flash (240 IPM)	Flashes when system has recovered from frequent Bit error and being supervised. Length of time for recovery supervision: 85 seconds

LAMP NAME	COLOR	DESCRIPTION	
RMT	Red	Light	Lights when remote alarm is detected.
		Flash (240 IPM)	Flashes when system has recovered from remote alarm detection and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 1 seconds
MRMT	Red	Not Used (This lamp is fixed to OFF).	
AIS	Yellow	Lights on receipt of Alarm Information Signal (AIS).	
ALL1 (Effective only when SW13-1 is ON)	Red	Light	Lights when main signal ALL1 is detected.
		Flash (240 IPM)	Flashes when system has recovered from main signal ALL1 and is being supervised. Length of time for recovery supervision: 2 seconds
LB	Red	Light	Lights when loopback is being activated.
		Flash (240 IPM)	Flashes when the line-loopback request (inband) signal or the DL message under payload loopback of distant office is detected. (This state indicates the circuit card is in outgoing/incoming Make-Busy state.)
BL08 ' BL31	Green	BL08~BL31 effective (BL00~BL07 are not used) **Note 1**	
		Light	Lights when corresponding circuit is busy.
		Flash	Flashes while DP signal are being sent out or received (Flashes to dial pulses), the corresponding circuit (outgoing) is in Make-Busy state (60 IPM) or the corresponding circuit (Bothway) is in Make-Busy state (30 IPM).
		OFF	Remains OFF when Idle.
DOPE	Green	Not used (These lamps are fixed to OFF)	
LYR	Green		
PKT	Green		

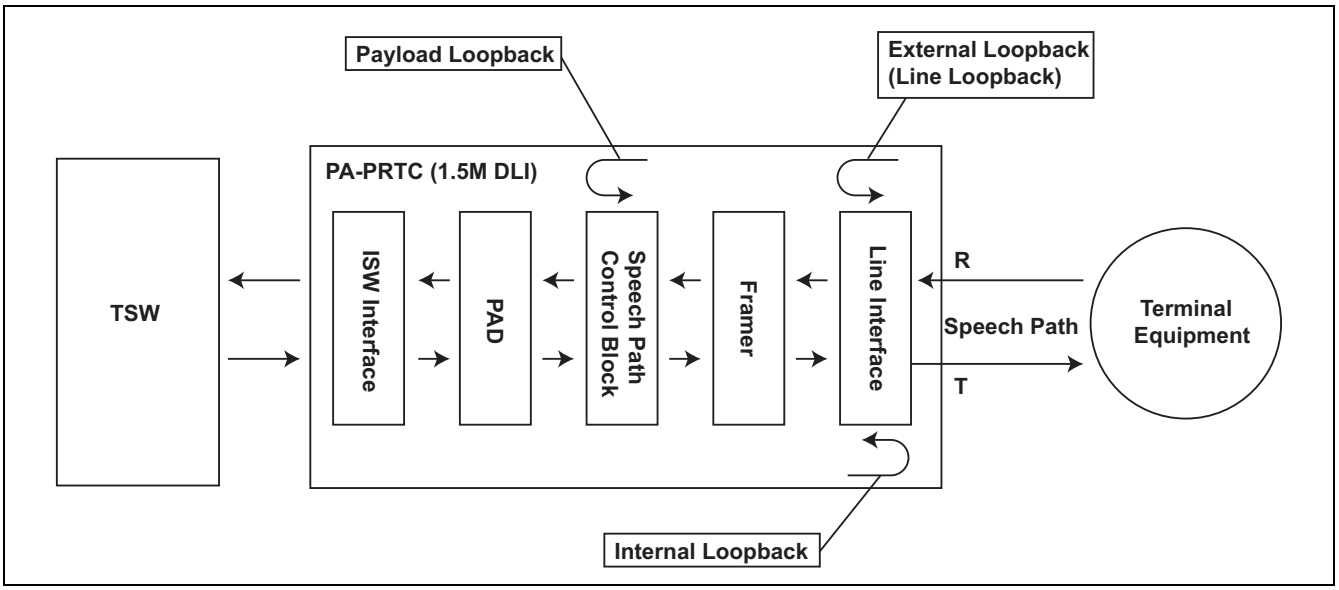
Note 1: BL08 means Channel 0, BL31 means Channel 23.

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00 (MB)		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
SW01	1	ON		Local loopback: Set (Internal)
		OFF	×	Local loopback: Cancel (Internal)
	2	ON		Line loopback: Set (External)
		OFF	×	Line loopback: Cancel (External)
	3	ON		Payload loopback: Set
		OFF	×	Payload loopback: Cancel
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

Available Locations for Loopback Testing



<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="11">SW10</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="6"><table><tr><th colspan="4">Equalizer Settings</th></tr><tr><td>10-1</td><td>10-2</td><td>10-3</td><td>Transmission distance</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>0~40m</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>40~80 m</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>80~120 m</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>120~160 m</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>160~200 m</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td rowspan="3">Unavailable</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td></tr><tr><td>ON</td><td>ON</td><td>ON</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>TTC JT-G704 Mode (Only the 1st edition and the 2nd edition)</td></tr>
<tr><td>OFF</td><td>×</td><td>ITU-T G.704 Mode</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td>Earlier than NEAX2400 ICS/NEAX7400 ICS</td></tr>
<tr><td>OFF</td><td>×</td><td>NEAX2400 ICS/NEAX7400 ICS or later</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW11	1	ON		Remote Alarm Send Out Restricted
		OFF	×	Remote Alarm Send Out Unrestricted
	2	ON		Remote Alarm In Channel **Note 1**
		OFF		Remote Alarm (Data Link or FS Bit) **Note 1**
	3	ON	×	Remote Alarm is not sent when AIS was detected.
		OFF		Remote Alarm is sent when AIS was detected.
	4	ON	×	Alarm Release Time: (Long)
		OFF		Alarm Release Time: (Short)
	5	ON		Alarm Detect/Release Type (AT&T)
		OFF		Alarm Detect/Release Type (Normal)
	6	ON		PLO is controlled when main signal ALL1.
		OFF	×	PLO is not controlled when main signal ALL1.
	7	ON		
		OFF	×	Fixed to OFF.
	8	ON		
		OFF	×	Fixed to OFF.

Note 1: ON when using 12 multiframe, OFF when using 24 multiframe.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th colspan="2">MEANING</th></tr>
<tr><td rowspan="15">SW12</td><td rowspan="2">1</td><td>ON</td><td></td><td colspan="2">Line Signal: AMI/ZCS</td></tr>
<tr><td>OFF</td><td>×</td><td colspan="2">Line Signal: B8ZS</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td colspan="2">Multiframe: 12 Multiframe</td></tr>
<tr><td>OFF</td><td></td><td colspan="2">Multiframe: 24 Multiframe</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td colspan="2">4k Data Link: MOS</td></tr>
<tr><td>OFF</td><td></td><td colspan="2">4k Data Link: BOM</td></tr>
<tr><td rowspan="3">4, 5</td><td rowspan="3"></td><td colspan="4">4k Data Link Operation Mode
When BOM is used (SW12-3: OFF, SW10-4: OFF)
<table>
<tr><th>STANDARD SETTING</th><th>SW12-4</th><th>SW12-5</th><th>Transmission</th><th>Reception</th></tr>
<tr><td>×</td><td>OFF</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is not received</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>FFFFH data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>FFFFH data are sent</td><td>BOM message is not received</td></tr>
</table></td></tr>
<tr><td colspan="4">When BOM is used (SW12-3: OFF, SW10-4: ON)
<table>
<tr><th>STANDARD SETTING</th><th>SW12-4</th><th>SW12-5</th><th>Transmission</th><th>Reception</th></tr>
<tr><td>×</td><td>OFF</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is not received</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>0000H data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>0000H data are sent</td><td>BOM message is not received</td></tr>
</table></td></tr>
<tr><td colspan="4">When MOS is used (SW12-3: ON)
<table>
<tr><th>STANDARD SETTING</th><th>SW12-4</th><th>SW12-5</th><th>Transmission</th><th>Reception</th></tr>
<tr><td>×</td><td>OFF</td><td>OFF</td><td>PPR data are sent</td><td>MOS message is received</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>PPR data are sent</td><td>MOS message is not received</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>Flag (7EH) data are sent</td><td>MOS message is received</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>Flag (7EH) data are sent</td><td>MOS message is not received</td></tr>
</table></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td colspan="2"></td></tr>
<tr><td>OFF</td><td>×</td><td colspan="2">Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td colspan="2">Long haul mode</td></tr>
<tr><td>OFF</td><td>×</td><td colspan="2">Short haul mode</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td rowspan="2">4k data link activation mode</td><td>Network side mode</td></tr>
<tr><td>OFF</td><td>×</td><td>User side mode</td></tr>
</table>

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW13	1	ON		Main Signal ALL1 is detected.
		OFF	×	Main Signal ALL1 is not detected.
	2	ON		Idle Code is sent.
		OFF	×	Idle Code is not sent.
	3	ON		One Digit Dialing: Valid
		OFF	×	One Digit Dialing: Invalid
	4	ON		Simultaneous Seizure Supervision: Not controlled
		OFF	×	Simultaneous Seizure Supervision: Controlled
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		Layer 1 Alarm is not notified to CPU.
		OFF	×	Layer 1 Alarm is notified to CPU.
	7	ON		Burst Ringing Control: Valid
		OFF		Burst Ringing Control: Invalid
	8	ON		Ringing Control: Continuous
		OFF		Ringing Control: Intermittent

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW14	1	ON		Reception PAD Value Setting **Refer to PAD Level Setting of SW14-SW15 for more details in PAD value of PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Control Method		
				7	8	
				OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
				ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
				OFF	ON	Transmission/Reception PAD Control
				ON	ON	Transmission/Reception PAD Control

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW15	1	ON		Transmission PAD Value Setting (Flexible PAD) **Refer to PAD Level Setting of SW14-SW15 for more details in PAD value of PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Selection		
				7	8	
			×	OFF	OFF	μ- Law
				ON	OFF	A - Law
				OFF	ON	A - Law → μ - Law
				ON	ON	μ - Law →A - Law

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW16	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW17	1	ON				
		OFF	×	Fixed to OFF		
	2	ON				
		OFF	×	Fixed to OFF		
	3	ON				
		OFF	×	Fixed to OFF		
	4	ON				
		OFF	×	Fixed to OFF		
	5	ON				
		OFF	×	Fixed to OFF		
	6	ON				
		OFF	×	Fixed to OFF		
	7, 8			Line Signal Selection		
				7	8	
			×	OFF	OFF	Loop Start (used signal A and B) (TIA/EIA-464-C specification)
				ON	OFF	Loop Start (used signal A)
				OFF	ON	Loop Start (used signal B)
				ON	ON	Setting inhibited.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW18	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW19	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW20	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW21	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
SW22	ON	×	Fixed to ON
	OFF		
SW23	ON		
	OFF	×	Fixed to OFF
SW24	ON	×	Middle point of reception transformer: Open
	OFF		Middle point of reception transformer: Ground

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW25	1, 2			Send Signaling Pattern Selection		
				1	2	Signaling Pattern
				OFF	OFF	AAAA
				ON	OFF	ABAB
				OFF	ON	Bit Steal Inhibited
				ON	ON	ABCD
	3, 4			Receive Signaling Pattern Selection		
				3	4	Signaling Pattern
				OFF	OFF	AAAA
				ON	OFF	ABAB
				OFF	ON	Bit Steal Inhibited
				ON	ON	ABCD
	5 Note 2	ON		Send Signaling A Logic: Negative		
		OFF		Send Signaling A Logic: Positive		
	6 Note 2	ON		Receive Signaling A Logic: Negative		
		OFF		Receive Signaling A Logic: Positive		
	7	ON				
		OFF	×	Fixed to OFF		
	8	ON				
		OFF	×	Fixed to OFF		

Note 2: These switch settings are invalid when "Bit Steal Inhibited" was chosen for the Signaling Pattern.
North America: Positive is standard setting.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW26	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW27	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW28	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

PAD Level Setting of SW14-SW15

NO.	-1	-2	-3	-4	-5	-6	Setting Level Value [dB]
0	OFF	OFF	OFF	OFF	OFF	OFF	0
1	ON	OFF	OFF	OFF	OFF	OFF	1
2	OFF	ON	OFF	OFF	OFF	OFF	2
3	ON	ON	OFF	OFF	OFF	OFF	3
4	OFF	OFF	ON	OFF	OFF	OFF	4
5	ON	OFF	ON	OFF	OFF	OFF	5
6	OFF	ON	ON	OFF	OFF	OFF	6
7	ON	ON	ON	OFF	OFF	OFF	7
8	OFF	OFF	OFF	ON	OFF	OFF	8
9	ON	OFF	OFF	ON	OFF	OFF	9
10	OFF	ON	OFF	ON	OFF	OFF	10
11	ON	ON	OFF	ON	OFF	OFF	11
12	OFF	OFF	ON	ON	OFF	OFF	12
13	ON	OFF	ON	ON	OFF	OFF	13
14	OFF	ON	ON	ON	OFF	OFF	14
15	ON	ON	ON	ON	OFF	OFF	15
16	OFF	OFF	OFF	OFF	ON	OFF	16
17	ON	OFF	OFF	OFF	ON	OFF	17
18	OFF	ON	OFF	OFF	ON	OFF	18
19	ON	ON	OFF	OFF	ON	OFF	19
20	OFF	OFF	ON	OFF	ON	OFF	20
21	ON	OFF	ON	OFF	ON	OFF	-1 (Gain)
22	OFF	ON	ON	OFF	ON	OFF	-2 (Gain)
23	ON	ON	ON	OFF	ON	OFF	-3 (Gain)
24	OFF	OFF	OFF	ON	ON	OFF	-4 (Gain)
25	ON	OFF	OFF	ON	ON	OFF	-5 (Gain)
26	OFF	ON	OFF	ON	ON	OFF	-6 (Gain)
27	ON	ON	OFF	ON	ON	OFF	-7 (Gain)
28	OFF	OFF	ON	ON	ON	OFF	-8 (Gain)
29	ON	OFF	ON	ON	ON	OFF	-9 (Gain)
30	OFF	ON	ON	ON	ON	OFF	-10 (Gain)
31	ON	ON	ON	ON	ON	OFF	-11 (Gain)
32	OFF	OFF	OFF	OFF	OFF	ON	-12 (Gain)
33	ON	OFF	OFF	OFF	OFF	ON	-13 (Gain)
34	OFF	ON	OFF	OFF	OFF	ON	-14 (Gain)
35	ON	ON	OFF	OFF	OFF	ON	-15 (Gain)
36	OFF	OFF	ON	OFF	OFF	ON	-16 (Gain)
37	OFF	ON	OFF	ON	OFF	ON	through
Other Setting							Setting Inhibited

6. External Interface

a. The leads appear as follows on the LT connectors.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	POUTB	5	POUTA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

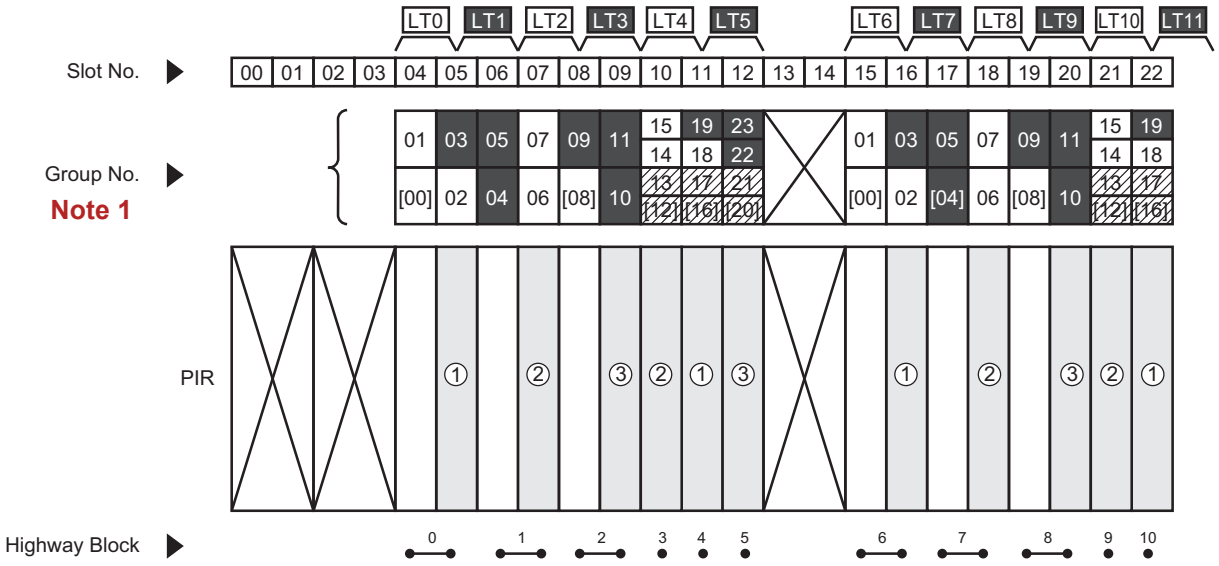
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	POUTB	13	POUTA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 3

LT3, 5, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	POUTB	21	POUTA
47		22	
48		23	
49	TB	24	TA
50		25	



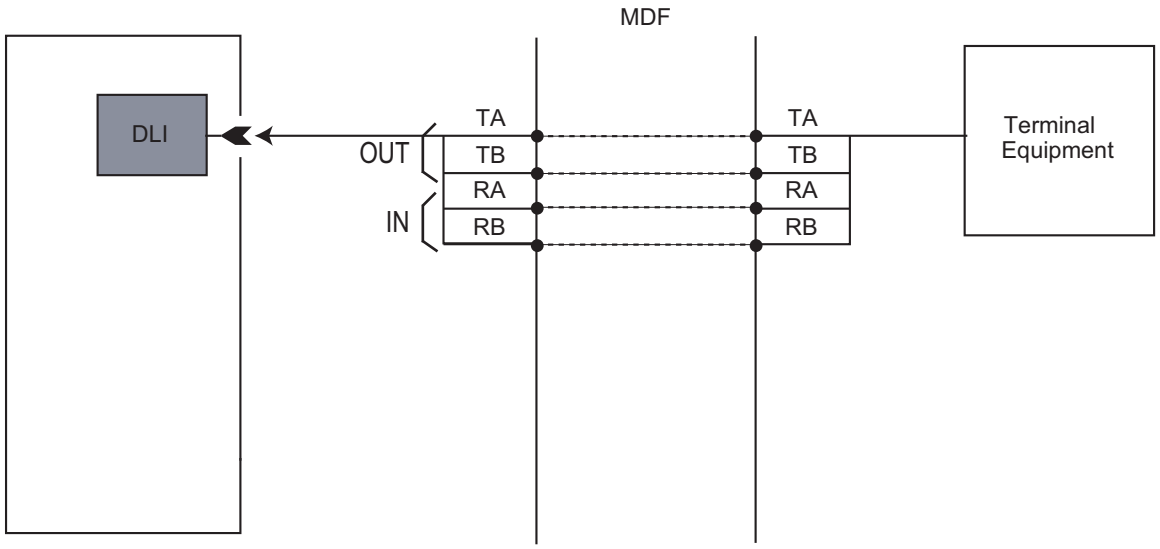
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Note 1: Do not assign station data in the group enclosed with "[]".

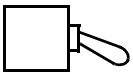
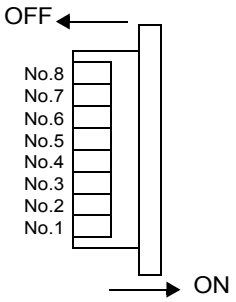
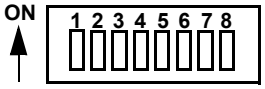
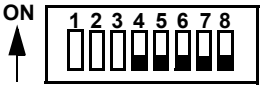
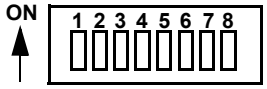
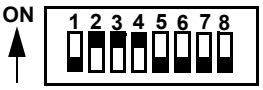
b. Connecting Route Diagram

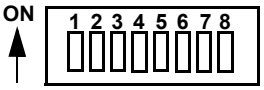
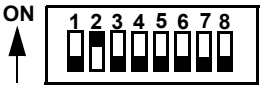
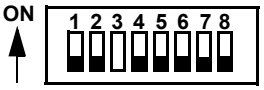
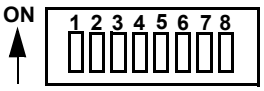
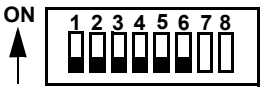
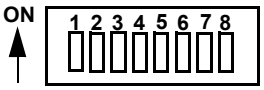
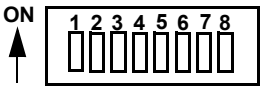
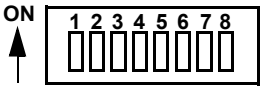
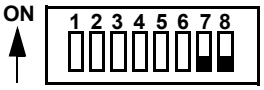
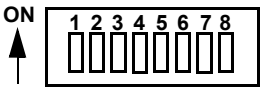
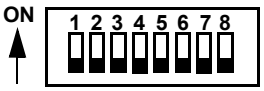
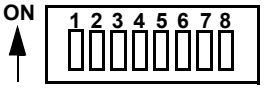
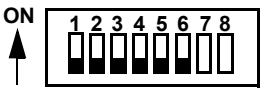
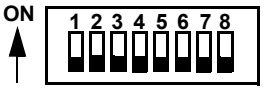
Connecting Route Diagram

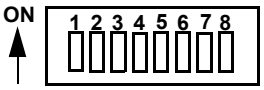
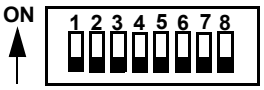
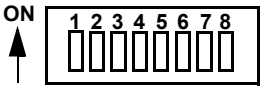
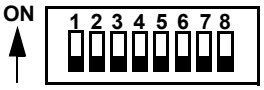
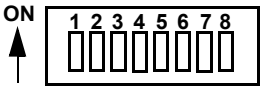
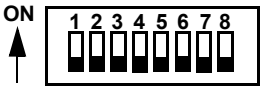
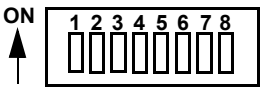
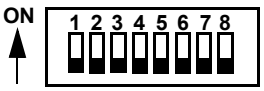
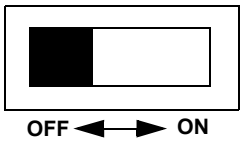
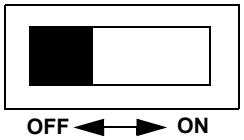
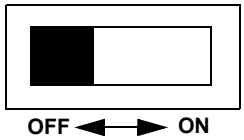
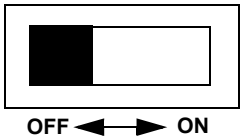
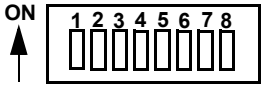
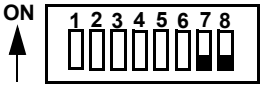
Connecting Route Diagram for the PA-PRTC (1.5M DLI) circuit card is as follows.

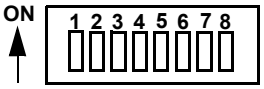
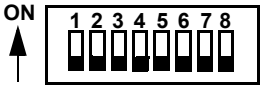
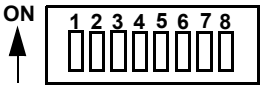
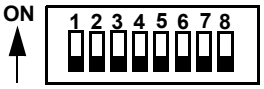
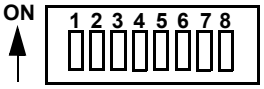
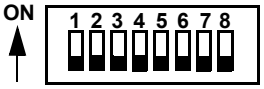


7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW00		
SW01		
SW10		
SW11		**North America 12 Multi Frame Standard**  **North America 24 Multi Frame Standard** 

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW12		**12 Multi Frame Standard**  **24 Multi Frame Standard** 
SW13		
SW14		
SW15		
SW16		
SW17		 **North America Standard** 

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW18		
SW19		
SW20		
SW21		
SW22		
SW23		
SW24		
SW25		

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW26		
SW27		
SW28		

PA-PRTC (2M DLI)
Digital Line Interface

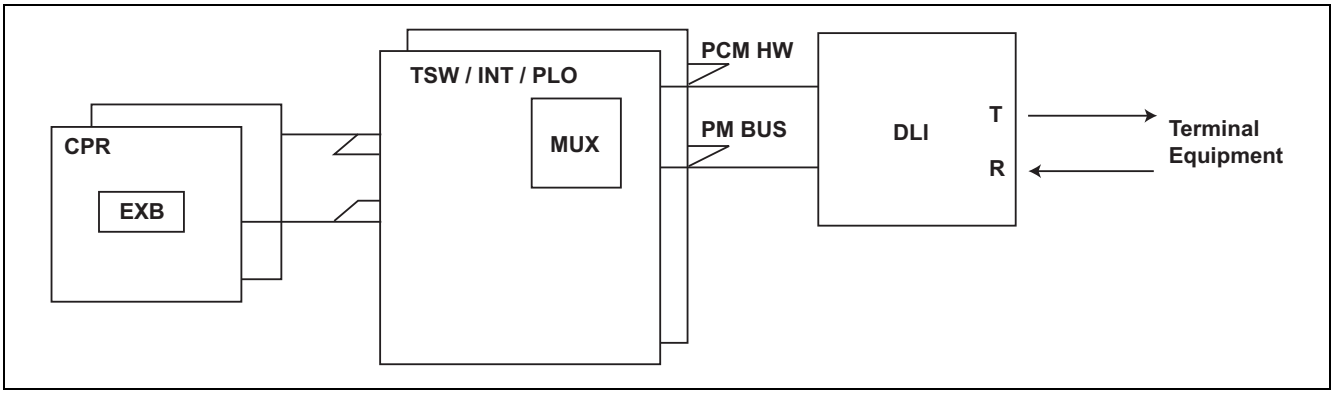
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	-	X	-

1. General Function

The PA-PRTC (2M DLI) circuit card provides an interface between digital line for AMI(E1) and the system at 2 Mbit/s. This circuit card can set an arbitrary PAD level (LOSS: 0-20dB,GAIN: 1-16dB) to the direction of sending and the direction of receiving. A desired PAD level can be selected by switches.

Note: The switches of PAD level become valid by assigning the system data (ASYD, SYS1, Index4, Bit5 = 0).

Location of PA-PRTC (2M DLI) in the System



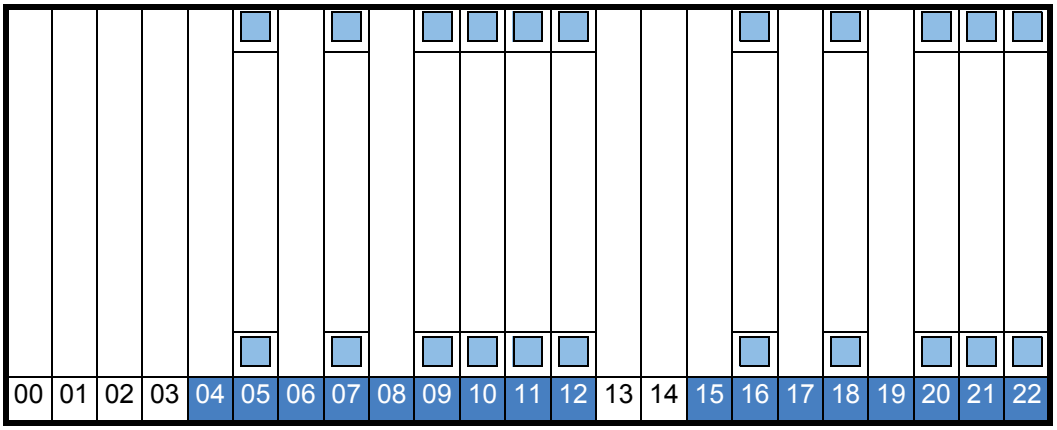
2. Mounting Location/Condition

Since allowable mounting locations of this card can vary depending upon the type of cables [Twisted Pair, Co-axial (Next Page)], be sure to observe instructions described below.

[Twisted Pair Cable]

Mounting Location <8U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-22



Mounting Conditions:

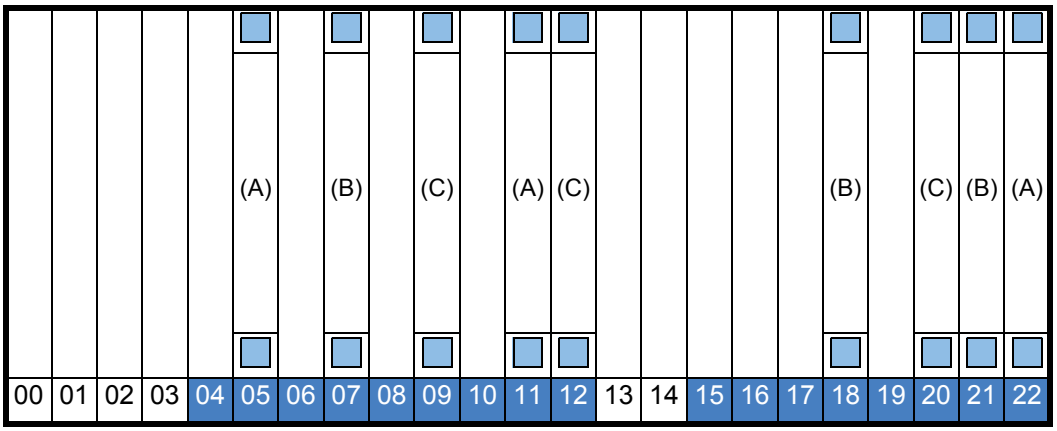
- Mount this circuit card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.
- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot.

[Coaxial Cable]

Using coaxial cables reduces available mounting slots for this card as shown below. In addition, COAX TERM card, that is equipped with jumper switches, must be installed for connecting the coaxial cables to the system (Next Page). Prior to installing the card, set the jumpers to the correct positions depending on the mounting slot of the PA-PRTC (2M DLI).

Mounting Location <8U-PIR>

Slots 05, 07, 09, 11-12, 18, 20-22



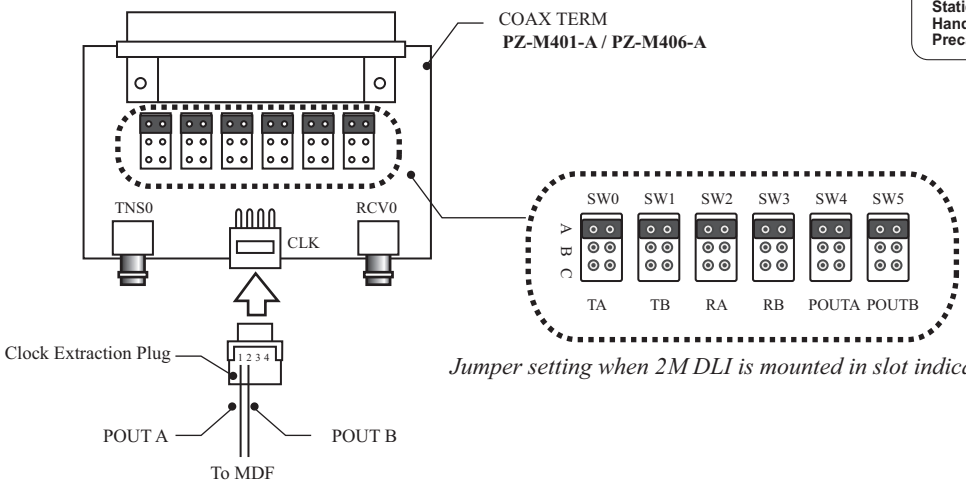
Mounting Conditions:

- When mounting PA-PRTC (2M DLI) card in one of the following combination of slots; (Slots 7, 9) (Slots 11, 12) (Slots 18, 22) (Slots 20, 21), available slot for mounting this card is one of slots in each combination of slots.
- When slots indicated (A)/(B) accommodate this card, Line/Trunk cards that have external leads cannot be mounted in the subsequent slot of (A)/(B). Slots indicated (C) are also subject to the same restriction for the proceeding slot of (C).

How to Set Jumpers on COAX TERM (PZ-401-A / PZ-406-A)

This figure shows an example when a 2M DLI card is mounted in one of slots indicated (A).

ATTENTION
Contents
Static Sensitive
Handling
Precautions Required



Jumper setting when 2M DLI is mounted in slot indicated A

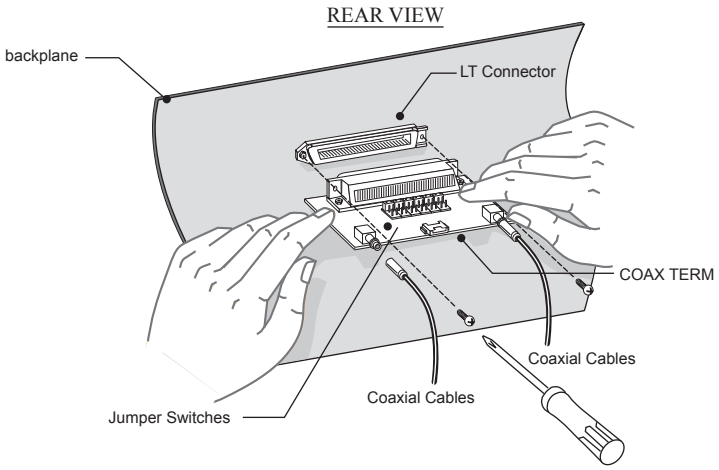
Note: Set the jumpers to (A), (B) or (C) depending on the mounting slot of 2M DLI card.

Note: Leads 3 and 4 are not used.

How to Install COAX TERM

Insert COAX TERM to a proper LT connector referring to 6 "External Interface" and secure it with screws on the backplane.

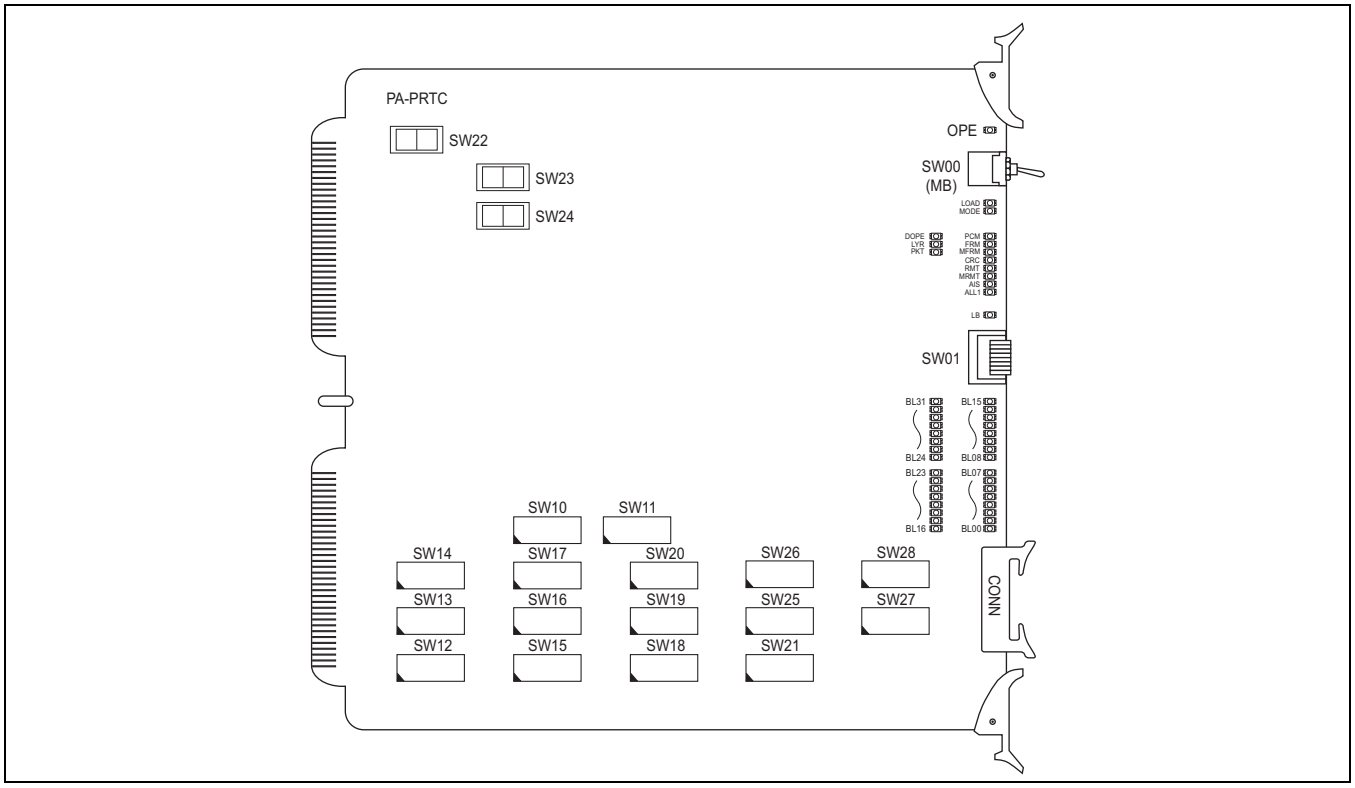
ATTENTION
Contents
Static Sensitive
Handling
Precautions Required



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-PRTC (2M DLI)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	COLOR	DESCRIPTION	
OPE	Green	Lights when this circuit card is operating normally.	
LOAD	Green	Lights when loading program.	
MODE	Green	This lamp is fixed to OFF.	
PCM	Red	Light	Lights when input signal down is detected (PCM LOSS).
		Flash (240 IPM) (Effective only when SW11-5 is OFF.)	Flashes when system recovered from PCM LOSS and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
FRM	Red	Light	Lights when basic frame alignment loss is detected.
		Flash (240 IPM) (Effective only when SW11-5 is OFF.)	Flashes when system recovered from basic frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
MFRM	Red	Light	Lights when CRC-4 multi frame alignment loss is detected. Lights when TS16 multi frame alignment loss is detected.
		Flash (240 IPM) (Effective only when SW11-5 is OFF.)	Flashes when system recovered from Multi frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
CRC	Red	Light (Effective only when SW12-2 is OFF.)	Lights when CRC errors are detected 915 times or more per second.
		Light (Effective only when SW12-2 is ON.)	Lights when Framing errors are detected 28 times or more per second, and it continues for five seconds.
		Light (240IPM) (Effective only when SW12-2 is ON.)	Flashes when system has recovered from Framing error and is being supervised. (Flashes for 5 seconds after recovery)

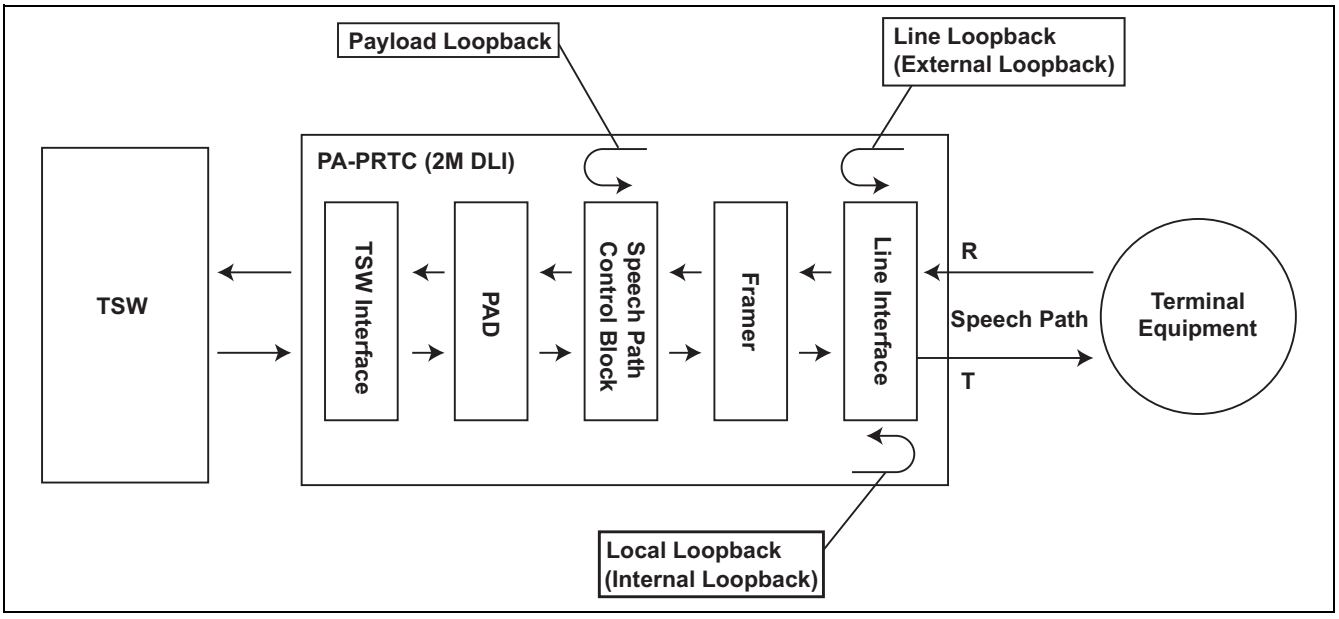
LAMP NAME	COLOR	DESCRIPTION	
RMT	Red	Light	Lights when remote alarm is detected.
		Flash (240IPM) (Effective only when SW11-5 is OFF)	Flashes when system has recovered from remote alarm detection and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
MRMT (Effective only when SW12-5 is OFF)	Red	Light	Lights when TS16 remote alarm is detected.
		Flash (240IPM) (Effective only when SW11-5 is OFF)	Flashes when system has recovered from TS16 remote alarm detection and is being supervised. (Flashes for 2 seconds after recovery)
AIS	Yellow	Lights on receipt of Alarm Information Signal (AIS).	
ALL1 (Effective only when SW13-1 is ON)	Red	• Light	Lights when main signal ALL1 is detected.
		• Flash (240 IPM)	Flashes when system has recovered from main signal ALL1 and is being supervised. Length of time for recovery supervision: 2 seconds
LB	Green	• Light	Lights when loopback is being activated.
BL00, BL16	Green	Not used (This lamp is fixed to OFF)	
BL01 ' BL15 BL17 ' BL31	Green	Light	Lights when corresponding circuit is busy.
		Flash	Flashes while DP signal is being sent out or received (Flashes to dial pulses), the corresponding circuit (outgoing) is in Make-Busy state (60 IPM) or the corresponding circuit (Bothway and Blocking Signal Detect) is in Make-Busy state (30 IPM).
		OFF	Remains OFF when Idle.
DOPE	Green	Not used (These lamps are fixed to OFF)	
LYR	Green		
PKT	Green		

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
SW01	1	ON		Local loopback: Set (Internal)
		OFF	×	Local loopback: Cancel (Internal)
	2	ON		Line loopback: Set (External)
		OFF	×	Line loopback: Cancel (External)
	3	ON		Payload loopback: Set
		OFF	×	Payload loopback: Cancel
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

Available Locations for Loopback Testing



SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW10	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		Earlier than NEAX2400 ICS/NEAX7400 ICS
		OFF	×	NEAX2400 ICS/NEAX7400 ICS or later
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NO.	SETTING	STANDARD-SETTING	MEANING
SW11	1	ON		Remote Alarm Send Out Restricted
		OFF	×	Remote Alarm Send Out Unrestricted
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		Multi Remote Alarm Send Out Restricted (TS16) **Note 1**
		OFF	×	Multi Remote Alarm Send Out Unrestricted (TS16) **Note 1**
	4	ON		Alarm Release Time: (Long)
		OFF		Alarm Release Time: (Short)
	5	ON		Alarm Detect/Release Type (ETSI)
		OFF		Alarm Detect/Release Type (Normal)
	6	ON		PLO is controlled when main signal ALL1.
		OFF	×	PLO is not controlled when main signal ALL1.
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

Note 1: Effective when the TS16 signaling (SW12-5:OFF) is selected.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW12	1	ON		Line Signal: AMI
		OFF	×	Line Signal: HDB3
	2	ON		CRC-4 Processing Control: Not to be controlled
		OFF	×	CRC-4 Processing Control: to be controlled
	3	ON		E-Bit Sending: Controlled by CPU
		OFF	×	E-Bit Sending: Automatic
	4	ON		Signaling Format Setting: CEPT
		OFF		Signaling Format Setting: ITU-T
	5	ON		TS16 Control: Data Through
		OFF	×	TS16 Control: Used for Signaling
	6	ON		CRC Multiframe Format: ITU-T G. 706 Annex-B type (Option)
		OFF	×	CRC Multiframe Format: ITU-T G. 706 (Normal)
	7	ON		Long haul mode
		OFF	×	Short haul mode
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW13	1	ON		Main Signal ALL1 is detected.
		OFF	×	Main Signal ALL1 is not detected.
	2	ON		Idle Code is sent.
		OFF	×	Idle Code is not sent.
	3	ON		One Digit Dialing: Valid
		OFF	×	One Digit Dialing: Invalid
	4	ON		Simultaneous Seizure Supervision: Not controlled
		OFF	×	Simultaneous Seizure Supervision: Controlled
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		Layer 1 Alarm is not notified to CPU.
		OFF	×	Layer 1 Alarm is notified to CPU.
	7	ON		Burst Ringing Control: Valid
		OFF		Burst Ringing Control: Invalid
	8	ON		Ringing Control: Continuous
		OFF		Ringing Control: Intermittent

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW14	1	ON		Reception **PAD Value Setting** **Refer to PAD Level Setting of SW14-SW15 for more details in PAD value of PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Control Method		
				7	8	
				OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
				ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
				OFF	ON	Transmission/Reception PAD Control
				ON	ON	Transmission/Reception PAD Control

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW15	1	ON		Transmission **PAD Value Setting** **Refer to PAD Level Setting of SW14-SW15 for more details in PAD value of PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Selection		
				7	8	
				OFF	OFF	μ- Law
			×	ON	OFF	A - Law
				OFF	ON	A - Law → μ - Law
				ON	ON	μ - Law →A - Law

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW16	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW17	1	ON				
		OFF	×	Fixed to OFF		
	2	ON				
		OFF	×	Fixed to OFF		
	3	ON				
		OFF	×	Fixed to OFF		
	4	ON				
		OFF	×	Fixed to OFF		
	5	ON				
		OFF	×	Fixed to OFF		
	6	ON				
		OFF	×	Fixed to OFF		
	7, 8			Line Signal Selection		
				7	8	
				OFF	OFF	Loop Start (used signal A and B)
				ON	OFF	Loop Start (used signal A)
				OFF	ON	Loop Start (used signal B)
				ON	ON	Setting inhibited.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW18	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW19	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW20	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW21	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
SW22	ON		
	OFF	×	Fixed to OFF
SW23	ON		Impedance Setting 75Ω (Coaxial Cable)
	OFF		Impedance Setting 120Ω (Pair Cable)
SW24	ON	×	Middle point of reception transformer: Open
	OFF		Middle point of reception transformer: Ground

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW25	1	ON		Sa4-Sa8 Bit Operation Select (Reserve)
		OFF		
	2	ON		
		OFF		Fixed to all OFF.
	3	ON		
		OFF		
	4	ON		
		OFF		
	5	ON		Transmission Signal A Logic: Negative
		OFF	×	Transmission Signal A Logic: Positive
	6	ON		Receiving Signal A Logic: Negative
		OFF	×	Receiving Signal A Logic: Positive
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW26	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW27	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW28	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

PAD Level Setting of SW14-SW15

NO.	-1	-2	-3	-4	-5	-6	Setting Level Value [dB]
0	OFF	OFF	OFF	OFF	OFF	OFF	0
1	ON	OFF	OFF	OFF	OFF	OFF	1
2	OFF	ON	OFF	OFF	OFF	OFF	2
3	ON	ON	OFF	OFF	OFF	OFF	3
4	OFF	OFF	ON	OFF	OFF	OFF	4
5	ON	OFF	ON	OFF	OFF	OFF	5
6	OFF	ON	ON	OFF	OFF	OFF	6
7	ON	ON	ON	OFF	OFF	OFF	7
8	OFF	OFF	OFF	ON	OFF	OFF	8
9	ON	OFF	OFF	ON	OFF	OFF	9
10	OFF	ON	OFF	ON	OFF	OFF	10
11	ON	ON	OFF	ON	OFF	OFF	11
12	OFF	OFF	ON	ON	OFF	OFF	12
13	ON	OFF	ON	ON	OFF	OFF	13
14	OFF	ON	ON	ON	OFF	OFF	14
15	ON	ON	ON	ON	OFF	OFF	15
16	OFF	OFF	OFF	OFF	ON	OFF	16
17	ON	OFF	OFF	OFF	ON	OFF	17
18	OFF	ON	OFF	OFF	ON	OFF	18
19	ON	ON	OFF	OFF	ON	OFF	19
20	OFF	OFF	ON	OFF	ON	OFF	20
21	ON	OFF	ON	OFF	ON	OFF	-1 (Gain)
22	OFF	ON	ON	OFF	ON	OFF	-2 (Gain)
23	ON	ON	ON	OFF	ON	OFF	-3 (Gain)
24	OFF	OFF	OFF	ON	ON	OFF	-4 (Gain)
25	ON	OFF	OFF	ON	ON	OFF	-5 (Gain)
26	OFF	ON	OFF	ON	ON	OFF	-6 (Gain)
27	ON	ON	OFF	ON	ON	OFF	-7 (Gain)
28	OFF	OFF	ON	ON	ON	OFF	-8 (Gain)
29	ON	OFF	ON	ON	ON	OFF	-9 (Gain)
30	OFF	ON	ON	ON	ON	OFF	-10 (Gain)
31	ON	ON	ON	ON	ON	OFF	-11 (Gain)
32	OFF	OFF	OFF	OFF	OFF	ON	-12 (Gain)
33	ON	OFF	OFF	OFF	OFF	ON	-13 (Gain)
34	OFF	ON	OFF	OFF	OFF	ON	-14 (Gain)
35	ON	ON	OFF	OFF	OFF	ON	-15 (Gain)
36	OFF	OFF	ON	OFF	OFF	ON	-16 (Gain)
37	OFF	ON	OFF	ON	OFF	ON	through
Other Setting							Setting Inhibited

6. External Interface

a. The leads appear as follows on the LT connectors.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	POUTB	5	POUTA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

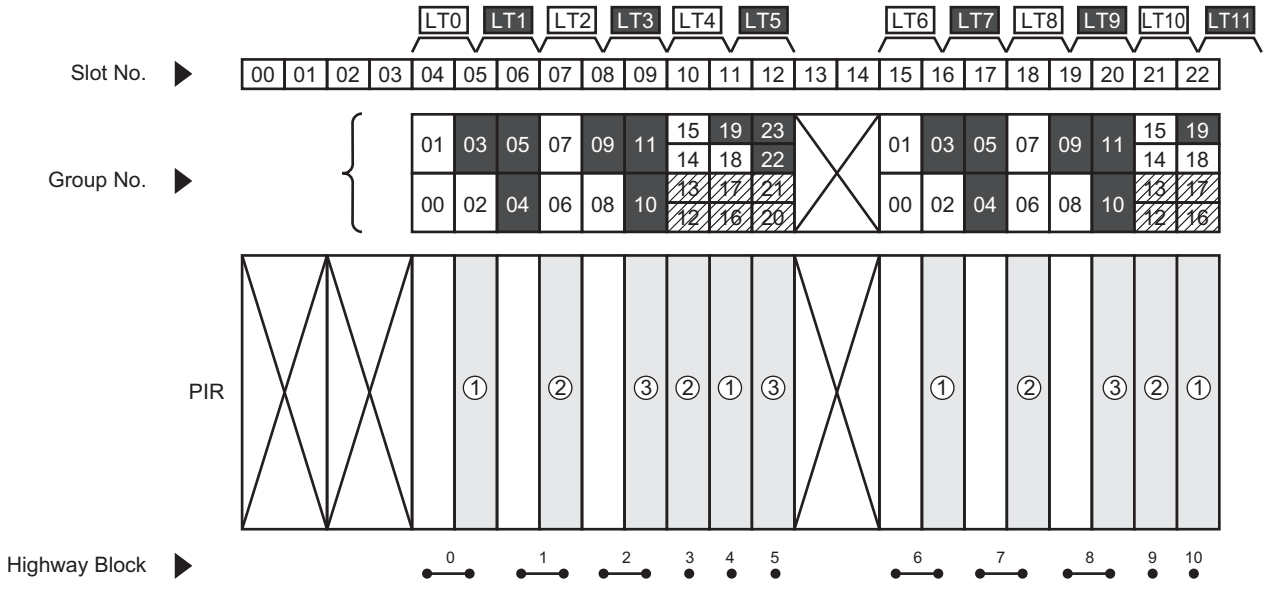
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	POUTB	13	POUTA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 3

LT3, 5, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	POUTB	21	POUTA
47		22	
48		23	
49	TB	24	TA
50		25	



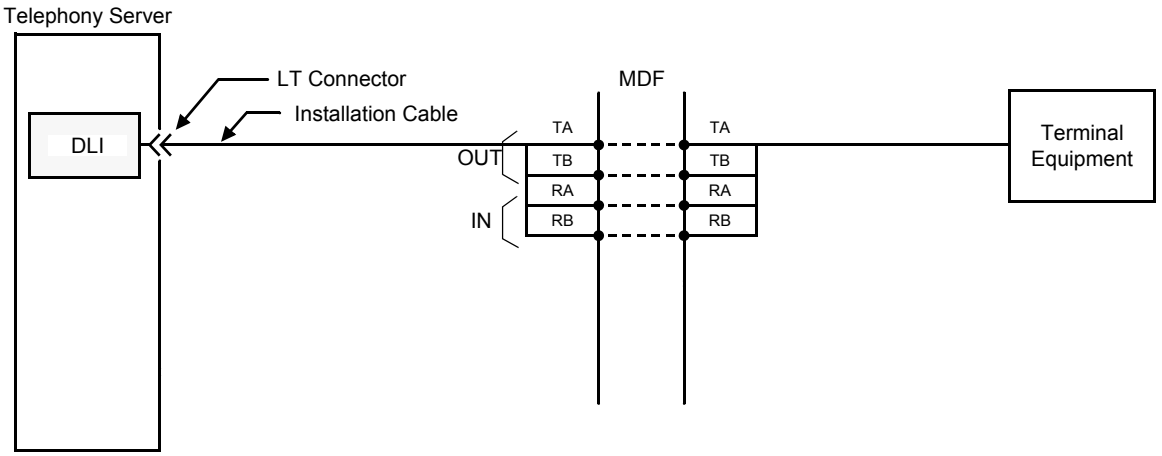
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

b. Connecting Route Diagram

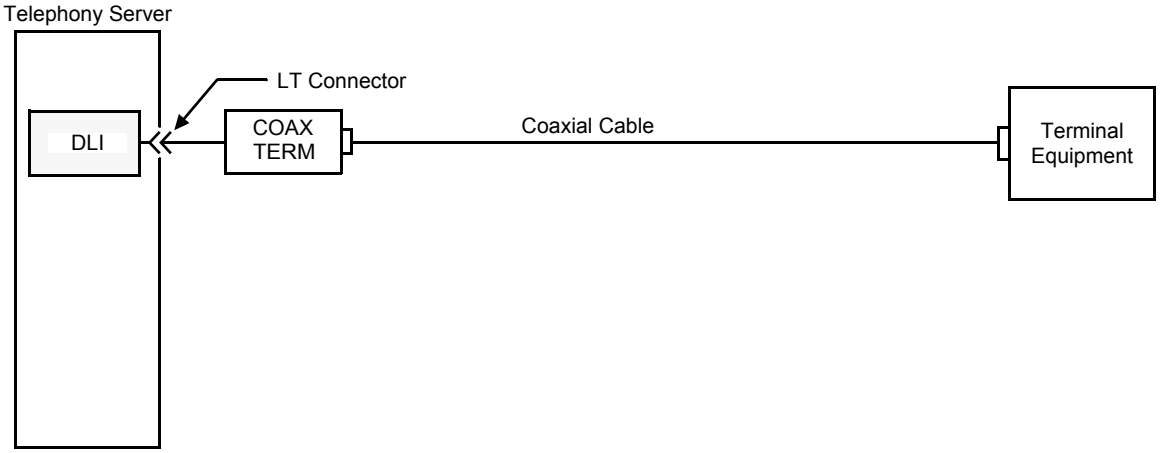
Connecting Route Diagram

Connecting Route Diagram is as follows depending on the cable type.

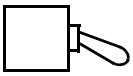
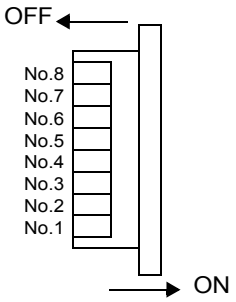
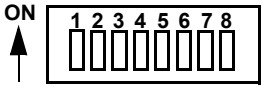
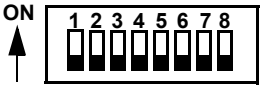
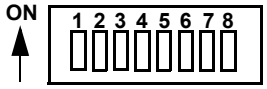
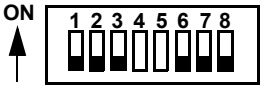
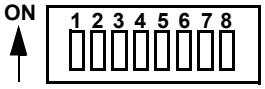
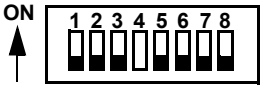
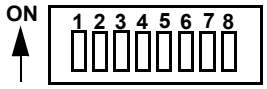
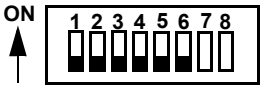
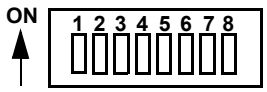
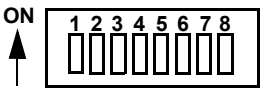
• Twisted Pair Cable

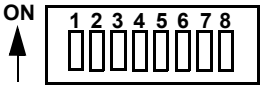
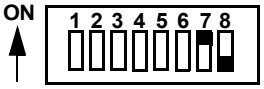
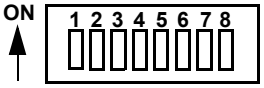
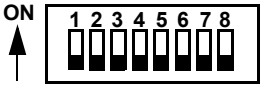
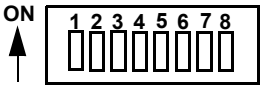
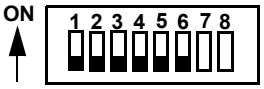
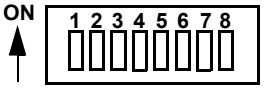
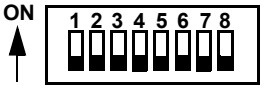
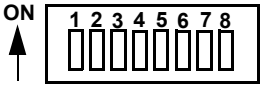
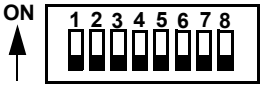
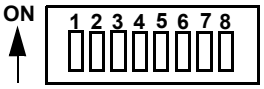
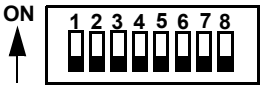
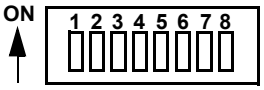
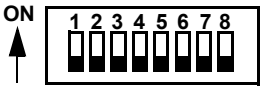
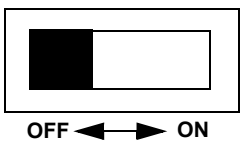
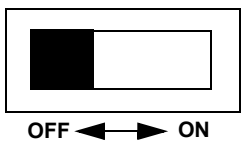


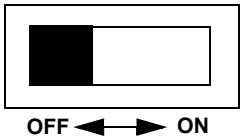
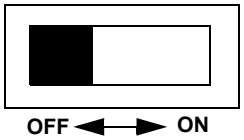
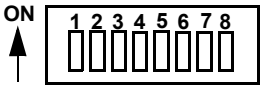
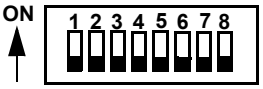
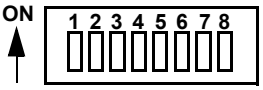
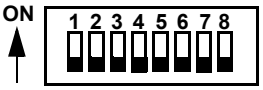
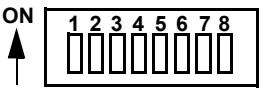
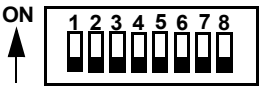
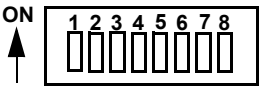
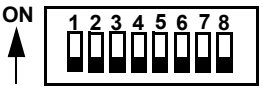
• Coaxial Cable



7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW00		
SW01		
SW10		
SW11		
SW12		
SW13		
SW14		

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW15		
SW16		
SW17		
SW18		
SW19		
SW20		
SW21		
SW22		

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW23		
SW24		
SW25		
SW26		
SW27		
SW28		

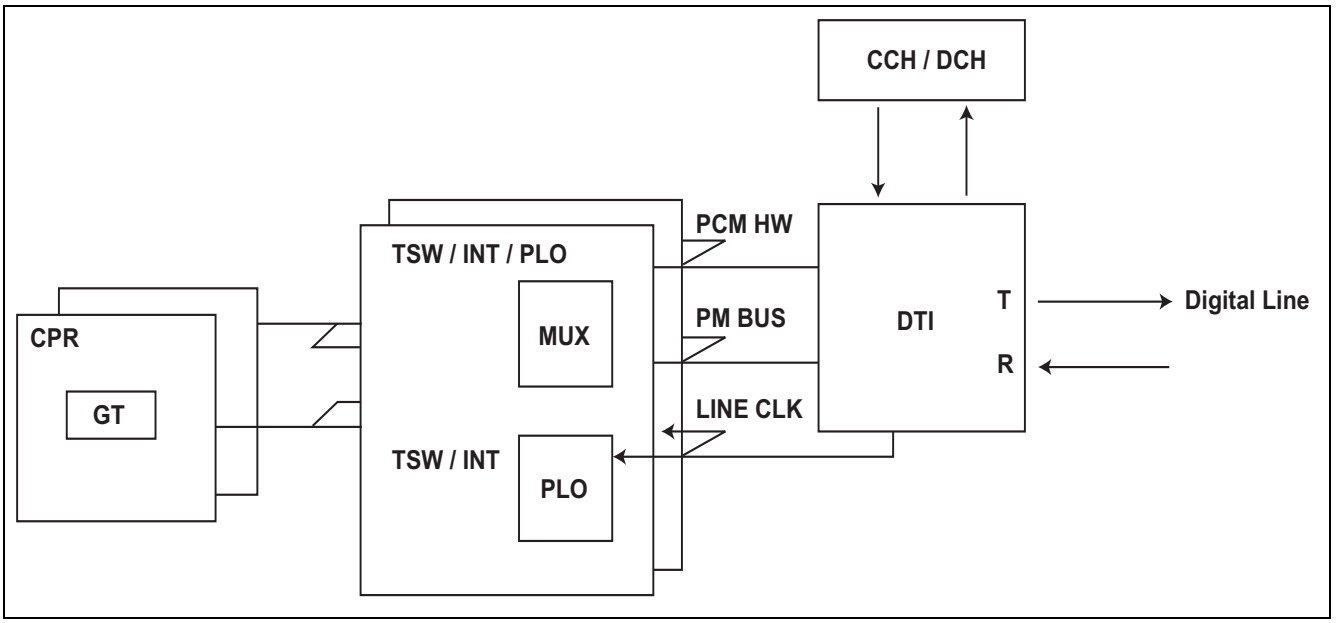
PA-PRTC (1.5M DTI)
Digital Trunk Interface

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	-	-	X	-	-

1. General Function

The PA-PRTC (1.5M DTI) circuit card provides an interface between digital trunk for AMI (T1) and the system at 1.5 Mbit/s. This card can also be used as an interface for a Common Channel Interoffice Signaling (CCIS) or an ISDN network when connecting an additional CCH or DCH circuit card to the front connector using a flat cable as illustrated below. This PAD provides more flexibility compared to the standard PAD by holding the Flexible PAD function. This circuit card can set an arbitrary level range LOSS: 0~20 dB/GAIN:-1~16 dB toward each of the Send/Receive sides of PAD Setting Value 1~4 of APAD or ARTD commands. Note that substitution of the Standard/Flexible PAD, level setting of Flexible PAD are performed by the switches.

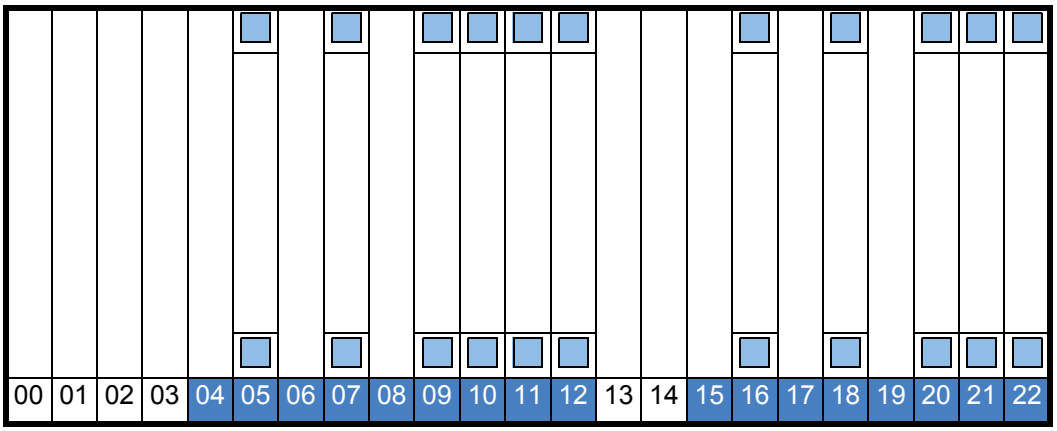
Location of PA-PRTC (1.5M DTI) in the System



2. Mounting Location

Mounting Location <8U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-22



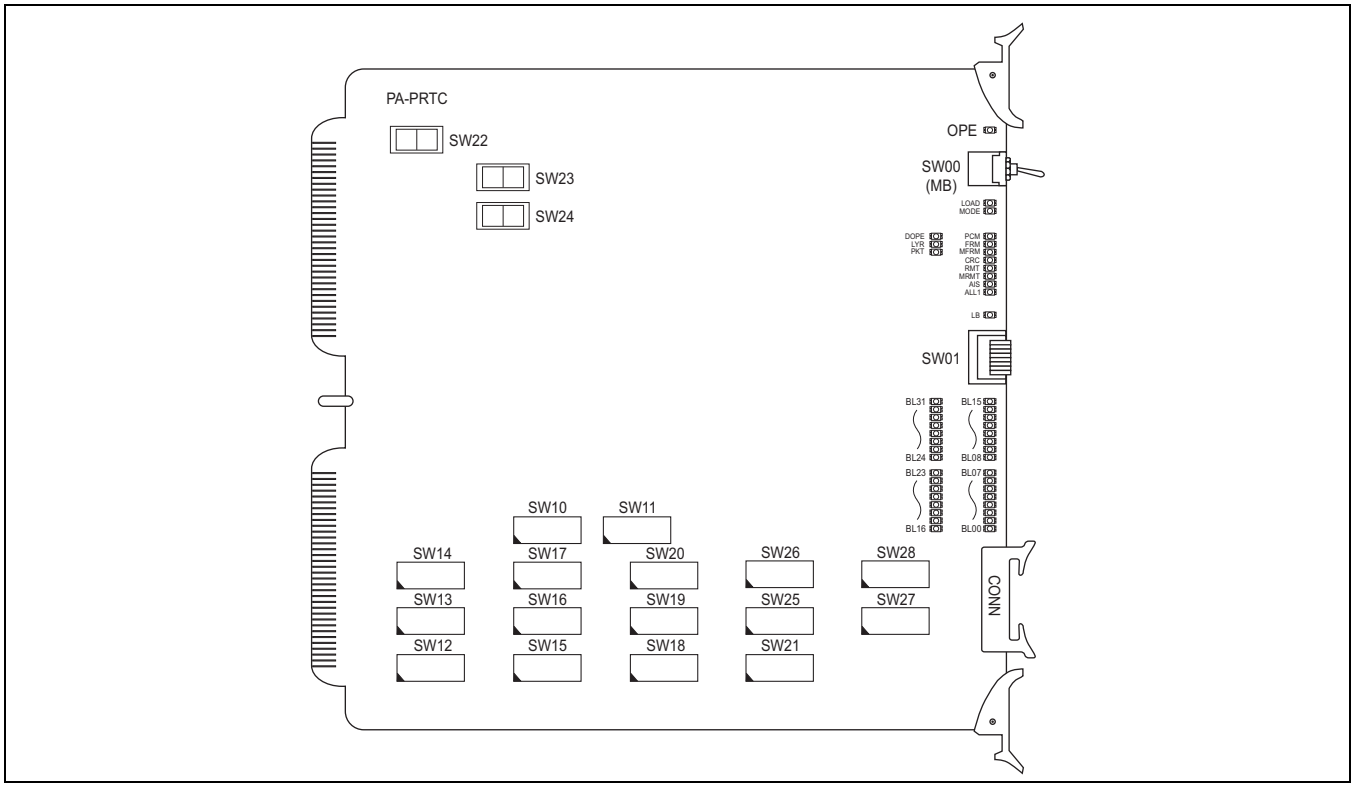
Mounting Condition:

- Mount this circuit card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.
- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-PRTC (1.5M DTI)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	COLOR	DESCRIPTION	
OPE	Green	Lights when this circuit card is operating normally.	
LOAD	Green	Lights when loading program.	
MODE	Green	This lamp is consistently lit.	
PCM	Red	Light	Lights when input signal down is detected (PCM LOSS).
		Flash (240 IPM)	Flashes when system recovered from PCM LOSS and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
FRM	Red	Light	Lights when frame alignment loss is detected.
		Flash (240 IPM)	Flashes when system recovered from frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds

LAMP NAME	COLOR	DESCRIPTION		
MFRM (Effective only when 12 multi-frame interface is used)	Red	Light		Lights when Multi frame alignment loss is detected.
		Flash (240IPM)		Flashes when system recovered from Multi frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
CRC	Red	24 Multi-frame	Light	Lights when frequent CRC error is detected.
			Flash (240 IPM)	Flashes when system has recovered from frequent CRC error and is being supervised.
		12 Multi-frame	Light	Lights when frequent Bit error is detected continuously for more than 1000 seconds.
			Flash (240 IPM)	Flashes when system has recovered from frequent Bit error and being supervised. Length of time for recovery supervision: 85 seconds

LAMP NAME	COLOR	DESCRIPTION	
RMT	Red	Light	Lights when remote alarm is detected.
		Flash (240 IPM)	Flashes when system has recovered from remote alarm detection and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 1 seconds
MRMT	Red	Not Used (This lamp is fixed to OFF).	
AIS	Yellow	Lights on receipt of Alarm Information Signal (AIS).	
ALL1 (Effective only when SW13-1 is ON)	Red	Light	Lights when main signal ALL1 is detected.
		Flash (240 IPM)	Flashes when system has recovered from main signal ALL1 and is being supervised. Length of time for recovery supervision: 2 seconds
LB	Red	Light	Lights when loopback is being activated.
		Flash (240 IPM)	Flashes when the line-loopback request (inband) signal or the DL message under payload loopback of distant office is detected. (This state indicates the circuit card is in outgoing/incoming Make-Busy state.)
BL08 ' BL31	Green	BL08~BL31 effective (BL00~BL07 are not used) **Note 1**	
		Light	Lights when corresponding circuit is busy.
		Flash	Flashes while DP signal are being sent out or received (Flashes to dial pulses), the corresponding circuit (outgoing) is in Make-Busy state (60 IPM) or the corresponding circuit (Bothway) is in Make-Busy state (30 IPM).
		OFF	Remains OFF when Idle.
DOPE	Green	Not used (These lamps are fixed to OFF)	
LYR	Green		
PKT	Green		

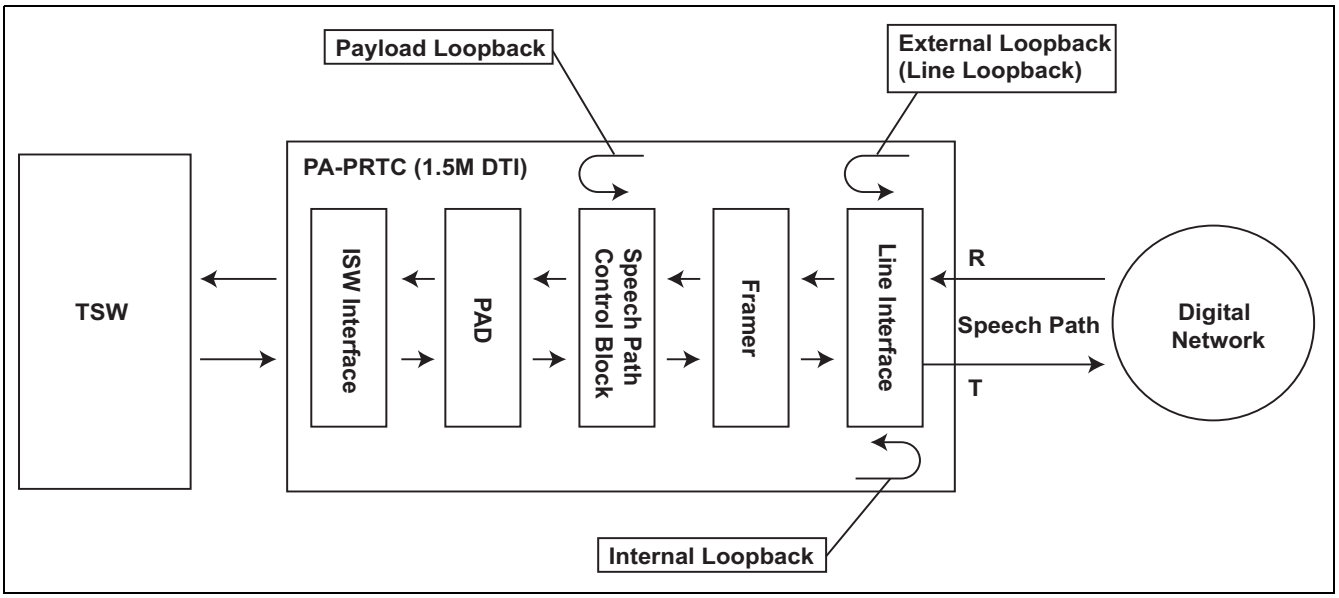
Note 1: BL08 means Channel 0, BL31 means Channel 23.

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00 (MB)		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
SW01	1	ON		Local Loopback: Set (Internal)
		OFF	×	Local Loopback: Cancel (Internal)
	2	ON		Line Loopback: Set (External)
		OFF	×	Line Loopback: Cancel (External)
	3	ON		Payload Loopback: Set
		OFF	×	Payload Loopback: Cancel
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		All Channel Make-Busy: Set
		OFF	×	All Channel Make-Busy: Cancel
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

Available Locations for Loopback Testing



<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="11">SW10</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="7"><table><tr><th colspan="4">Equalizer Settings</th></tr><tr><td>10-1</td><td>10-2</td><td>10-3</td><td>Transmission distance</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>0~40m</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>40~80 m</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>80~120 m</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>120~160 m</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>160~200 m</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td rowspan="3">Unavailable</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td></tr><tr><td>ON</td><td>ON</td><td>ON</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>TTC JT-G704 Mode (Only the 1st edition and the 2nd edition)</td></tr>
<tr><td>OFF</td><td>×</td><td>ITU-T G.704 Mode</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW11	1	ON		Remote Alarm Send Out Restricted
		OFF	×	Remote Alarm Send Out Unrestricted
	2	ON		Remote Alarm In Channel **Note 1**
		OFF		Remote Alarm (Data Link or FS Bit) **Note 1**
	3	ON	×	Remote Alarm is not sent when AIS was detected.
		OFF		Remote Alarm is sent when AIS was detected.
	4	ON	×	Alarm Release Time: (Long)
		OFF		Alarm Release Time: (Short)
	5	ON		Alarm Detect/Release Type (AT&T)
		OFF		Alarm Detect/Release Type (Normal)
	6	ON		PLO is controlled when main signal ALL1.
		OFF	×	PLO is not controlled when main signal ALL1.
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

Note 1: ON when using 12 multiframe, OFF when using 24 multiframe.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th colspan="2">MEANING</th></tr>
<tr><td rowspan="15">SW12</td><td rowspan="2">1</td><td>ON</td><td></td><td colspan="2">Line Signal: AMI/ZCS</td></tr>
<tr><td>OFF</td><td>×</td><td colspan="2">Line Signal: B8ZS</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td colspan="2">Multiframe: 12 Multiframe</td></tr>
<tr><td>OFF</td><td></td><td colspan="2">Multiframe: 24 Multiframe</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td colspan="2">4k Data Link: MOS</td></tr>
<tr><td>OFF</td><td></td><td colspan="2">4k Data Link: BOM</td></tr>
<tr><td rowspan="3">4, 5</td><td rowspan="3"></td><td colspan="4">4k Data Link Operation Mode
When BOM is used (SW12-3: OFF, SW10-4: OFF)
<table>
<tr><th>STANDARD SETTING</th><th>SW12-4</th><th>SW12-5</th><th>Transmission</th><th>Reception</th></tr>
<tr><td>×</td><td>OFF</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is not received</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>FFFFH data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>FFFFH data are sent</td><td>BOM message is not received</td></tr>
</table></td></tr>
<tr><td colspan="4">When BOM is used (SW12-3: OFF, SW10-4: ON)
<table>
<tr><th>STANDARD SETTING</th><th>SW12-4</th><th>SW12-5</th><th>Transmission</th><th>Reception</th></tr>
<tr><td>×</td><td>OFF</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is not received</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>0000H data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>0000H data are sent</td><td>BOM message is not received</td></tr>
</table></td></tr>
<tr><td colspan="4">When MOS is used (SW12-3: ON)
<table>
<tr><th>STANDARD SETTING</th><th>SW12-4</th><th>SW12-5</th><th>Transmission</th><th>Reception</th></tr>
<tr><td>×</td><td>OFF</td><td>OFF</td><td>PPR data are sent</td><td>MOS message is received</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>PPR data are sent</td><td>MOS message is not received</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>Flag (7EH) data are sent</td><td>MOS message is received</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>Flag (7EH) data are sent</td><td>MOS message is not received</td></tr>
</table></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td colspan="2"></td></tr>
<tr><td>OFF</td><td>×</td><td colspan="2">Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td colspan="2">Long haul mode</td></tr>
<tr><td>OFF</td><td>×</td><td colspan="2">Short haul mode</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td rowspan="2">4k data link activation mode</td><td>Network side mode</td></tr>
<tr><td>OFF</td><td>×</td><td>User side mode</td></tr>
</table>

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW13	1	ON		Main Signal ALL1 is detected (When using HSD Line).
		OFF	×	Main Signal ALL1 is not detected.
	2	ON		Idle Code is sent.
		OFF	×	Idle Code is not sent.
	3	ON		DP relay function is used for FCCS.
		OFF	×	DP relay function is not used for FCCS.
	4	ON		Simultaneous Seizure Supervision: Not controlled
		OFF	×	Simultaneous Seizure Supervision: Controlled
	5	ON		Not activate counter node when detecting Simultaneous Seizure.
		OFF	×	Activate counter node when detecting Simultaneous Seizure.
	6	ON		Layer 1 Alarm is not notified to CPU.
		OFF	×	Layer 1 Alarm is notified to CPU.
	7	ON		CAS is not effective when CCH/DCH is used.
		OFF	×	CAS is effective when CCH/DCH is used.
	8	ON		Incoming / Outgoing call collision processing is used.
		OFF	×	Incoming / Outgoing call collision processing is not used.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW14	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Control Method (Using Both Flexible/Standard PAD)		
				7	8	
			×	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
				ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
				OFF	ON	Fixed to ARTD (Transmission/Reception PAD Control)
				ON	ON	Transmission/Reception PAD Control

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW15	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 2 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Selection (Using Both Flexible/Standard PAD)		
				7	8	
			×	OFF	OFF	μ- Law
				ON	OFF	A - Law
				OFF	ON	A - Law → μ - Law
				ON	ON	μ - Law →A - Law

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW16	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 3 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Pattern Selection **Refer to Standard Setting PAD Level (1/4) ~ Standard Setting PAD Level (4/4)**		
				7	8	
			×	OFF	OFF	PAD Pattern 1
				ON	OFF	PAD Pattern 2
				OFF	ON	PAD Pattern 3
				ON	ON	PAD Pattern 4

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW17	1	ON		Reception PAD Value Setting (Flexible PAD): (PAD Data 4) (Reception PAD value when 4 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Data PAD Pattern Selection		
				7	8	
			×	OFF	OFF	64 k
				ON	OFF	64 k Inversion
				OFF	ON	56 k
				ON	ON	48 k

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW18	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**
		OFF		
	2	ON		
		OFF		
	3	ON		
		OFF		
	4	ON		
		OFF		
	5	ON		
		OFF		
	6	ON		
		OFF		
	7	ON		Flexible PAD (Refer to No. 1 - 6 of SW14 - SW21)
		OFF	×	Standard PAD (Refer to No.7-8 of SW16)
	8	ON		CCH/DCH Signaling Logic: Negative
		OFF	×	CCH/DCH Signaling Logic: Positive

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW19	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Seizure Acknowledgement Guard Time		
				7	8	
			×	OFF	OFF	48 milliseconds
				ON	OFF	64 milliseconds
				OFF	ON	80 milliseconds
				ON	ON	96 milliseconds
			Acknowledge Signal Detection Guard timer when sending out Wink/Delay.			

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW20	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Seizure Acknowledgement Detection Time		
				7	8	
			×	OFF	OFF	56 milliseconds
				ON	OFF	96 milliseconds
				OFF	ON	136 milliseconds
				ON	ON	176 milliseconds
			Acknowledge Signal Detection timer when sending out Wink/Delay.			

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW21	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Answer Detection Time		
				7	8	
			×	OFF	OFF	200 milliseconds
				ON	OFF	100 milliseconds
				OFF	ON	400 milliseconds
				ON	ON	700 milliseconds

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
SW22	ON	×	Fixed to ON
	OFF		
SW23	ON		
	OFF	×	Fixed to OFF
SW24	ON	×	Middle point of reception transformer: Open
	OFF		Middle point of reception transformer: Ground

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW25	1, 2		Note 2	Send Signaling Pattern Selection		
				1	2	Signaling Pattern
				OFF	OFF	AAAA
				ON	OFF	ABAB
				OFF	ON	Bit Steal Inhibited
				ON	ON	ABCD
	3, 4		Note 2	Receive Signaling Pattern Selection		
				3	4	Signaling Pattern
				OFF	OFF	AAAA
				ON	OFF	ABAB
				OFF	ON	Bit Steal Inhibited
				ON	ON	ABCD
	5	ON		Send Signaling A Logic: Negative		
	Note 3	OFF		Send Signaling A Logic: Positive		
	6	ON		Receive Signaling A Logic: Negative		
	Note 3	OFF		Receive Signaling A Logic: Positive		
	7	ON				
		OFF	×	Fixed to OFF		
	8	ON				
		OFF	×	Fixed to OFF		

Note 2: 12/24 Multi frame CCT/PRT Standard (when CCIS is used, ACIS is not used): Bit Steal Inhibited Setting (SW25-1, 2/3, 4: OFF, ON)

Note 3: These switch settings are invalid when "Bit Steal Inhibited" was chosen for the Signaling Pattern.
North America: Positive is standard setting.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW26	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW27	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON	×	Fixed to ON
		OFF		
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW28	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

Key Setting for PAD selection

PAD Selection	SW15-7	SW15-8	SW16-7	SW16-8	SW18-7	PCM-Law: Pattern No.
Standard PAD	OFF	OFF	OFF	OFF	OFF	μ-law: Pattern 1
			ON			μ-law: Pattern 2
			OFF	ON		μ-law: Pattern 3
			ON			μ-law: Pattern 4
	ON		OFF	OFF		A-law: Pattern 1
			ON			A-law: Pattern 2
			OFF	ON		A-law: Pattern 3
			ON			A-law: Pattern 4
	OFF	ON	OFF	OFF		A-μ: Pattern 1
			ON			A-μ: Pattern 2
			OFF	ON		A-μ: Pattern 3
			ON			A-μ: Pattern 4
	ON		OFF	OFF		μ-A: Pattern 1
			ON			μ-A: Pattern 2
			OFF	ON		μ-A: Pattern 3
			ON			μ-A: Pattern 4
Flexible PAD	OFF	OFF	Not used		ON	μ-law
	ON		Not used			A-law
	OFF	ON	Not used	OFF		A-μ: Pattern 5 **Note 4**
			Not used	ON		A-μ: Pattern 6 **Note 4**
	ON		Not used	OFF		μ-A: Pattern 5 **Note 4**
			Not used	ON		μ-A: Pattern 6 **Note 4**

Note 4: Refer to Flexible PAD Level.

Standard Setting PAD Level (1/4)

a. μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

Pattern 1		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	8dB	16dB
2	8dB	4dB
3	4dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	9dB

Standard Setting PAD Level (2/4)

b. A-law pattern Setting (Switch 15-7, 8 ON, OFF)

Pattern 1		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	1dB	1dB
2	3dB	3dB
3	5dB	5dB
4	7dB	7dB

Pattern 4		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	9dB

Standard Setting PAD Level (3/4)

c. A-μ Conversion Setting (Switch 15-7, 8 OFF, ON)

Pattern 1		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	0dB	4dB
3	0dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Standard Setting PAD Level (4/4)

d. μ-A Conversion Setting (Switch 15-7,8 ON, ON)

Pattern 1		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	0dB	4dB
3	0dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Flexible PAD Level

ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD: 15	See **Flexible PAD Level of ARTD: 7 or APAD: 15**	See **Flexible PAD Level of ARTD: 7 or APAD: 15**
1	Set value of SW18-1, 2, 3, 4, 5, 6	Set value of SW14-1, 2, 3, 4, 5, 6
2	Set value of SW19-1, 2, 3, 4, 5, 6	Set value of SW15-1, 2, 3, 4, 5, 6
3	Set value of SW20-1, 2, 3, 4, 5, 6	Set value of SW16-1, 2, 3, 4, 5, 6
4	Set value of SW21-1, 2, 3, 4, 5, 6	Set value of SW17-1, 2, 3, 4, 5, 6

Flexible PAD Level of ARTD: 7 or APAD: 15

PCM-Law: Pattern No.	Transmission	Reception
μ-law	0dB	0dB
A-law	0dB	0dB
A-μ: Pattern 5	through	through
A-μ: Pattern 6	0dB	0dB
μ-A: Pattern 5	through	through
μ-A: Pattern 6	0dB	0dB

Flexible PAD Level Setting of SW14-SW21

NO.	-1	-2	-3	-4	-5	-6	Setting Level Value [dB]
0	OFF	OFF	OFF	OFF	OFF	OFF	0
1	ON	OFF	OFF	OFF	OFF	OFF	1
2	OFF	ON	OFF	OFF	OFF	OFF	2
3	ON	ON	OFF	OFF	OFF	OFF	3
4	OFF	OFF	ON	OFF	OFF	OFF	4
5	ON	OFF	ON	OFF	OFF	OFF	5
6	OFF	ON	ON	OFF	OFF	OFF	6
7	ON	ON	ON	OFF	OFF	OFF	7
8	OFF	OFF	OFF	ON	OFF	OFF	8
9	ON	OFF	OFF	ON	OFF	OFF	9
10	OFF	ON	OFF	ON	OFF	OFF	10
11	ON	ON	OFF	ON	OFF	OFF	11
12	OFF	OFF	ON	ON	OFF	OFF	12
13	ON	OFF	ON	ON	OFF	OFF	13
14	OFF	ON	ON	ON	OFF	OFF	14
15	ON	ON	ON	ON	OFF	OFF	15
16	OFF	OFF	OFF	OFF	ON	OFF	16
17	ON	OFF	OFF	OFF	ON	OFF	17
18	OFF	ON	OFF	OFF	ON	OFF	18
19	ON	ON	OFF	OFF	ON	OFF	19
20	OFF	OFF	ON	OFF	ON	OFF	20
21	ON	OFF	ON	OFF	ON	OFF	-1 (Gain)
22	OFF	ON	ON	OFF	ON	OFF	-2 (Gain)
23	ON	ON	ON	OFF	ON	OFF	-3 (Gain)
24	OFF	OFF	OFF	ON	ON	OFF	-4 (Gain)
25	ON	OFF	OFF	ON	ON	OFF	-5 (Gain)
26	OFF	ON	OFF	ON	ON	OFF	-6 (Gain)
27	ON	ON	OFF	ON	ON	OFF	-7 (Gain)
28	OFF	OFF	ON	ON	ON	OFF	-8 (Gain)
29	ON	OFF	ON	ON	ON	OFF	-9 (Gain)
30	OFF	ON	ON	ON	ON	OFF	-10 (Gain)
31	ON	ON	ON	ON	ON	OFF	-11 (Gain)
32	OFF	OFF	OFF	OFF	OFF	ON	-12 (Gain)
33	ON	OFF	OFF	OFF	OFF	ON	-13 (Gain)
34	OFF	ON	OFF	OFF	OFF	ON	-14 (Gain)
35	ON	ON	OFF	OFF	OFF	ON	-15 (Gain)
36	OFF	OFF	ON	OFF	OFF	ON	-16 (Gain)
37	OFF	ON	OFF	ON	OFF	ON	through
Other Setting							Setting Inhibited

6. External Interface

a. The leads appear as follows on the LT connectors.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	POUTB	5	POUTA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

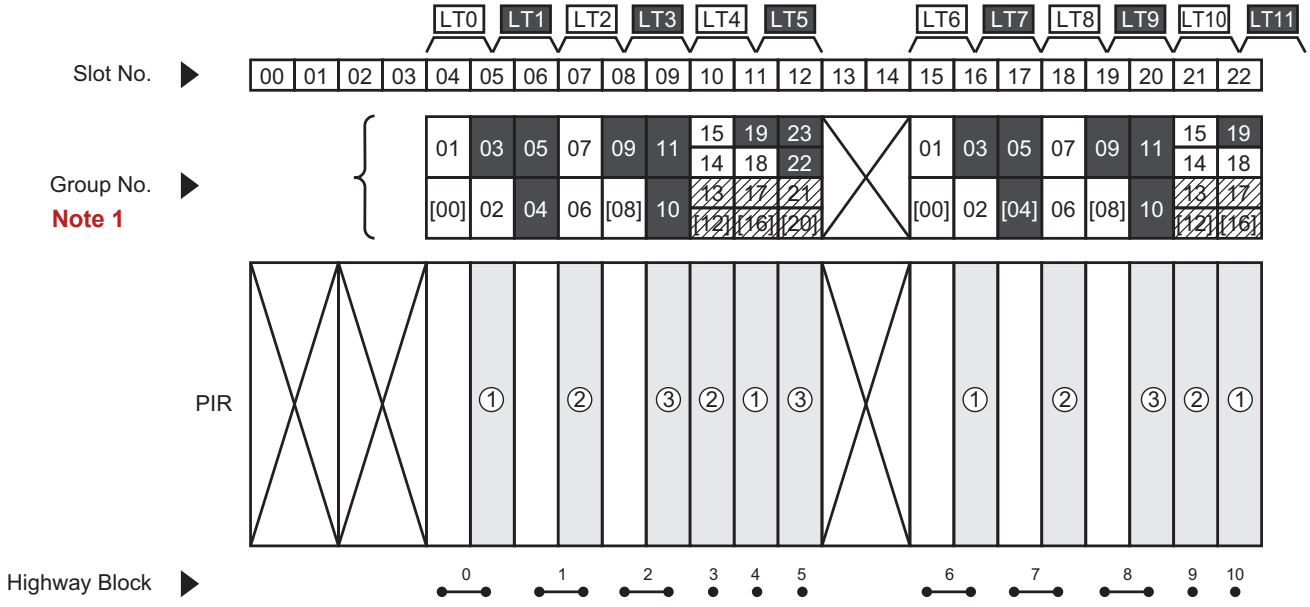
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	POUTB	13	POUTA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 3

LT3, 5, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	POUTB	21	POUTA
47		22	
48		23	
49	TB	24	TA
50		25	



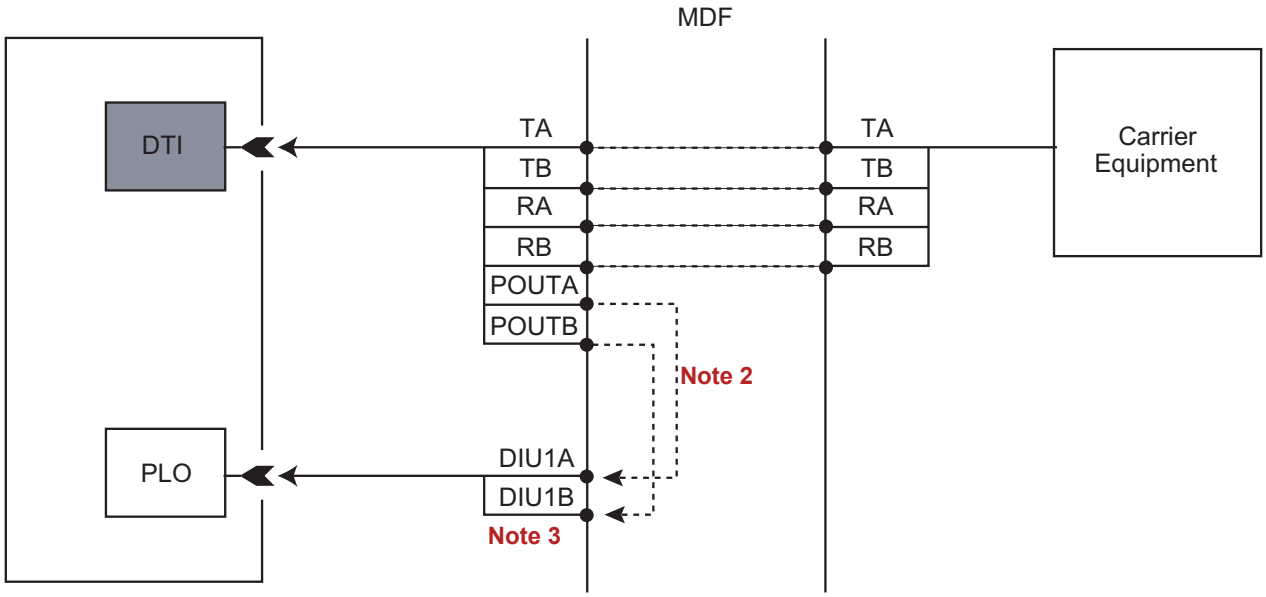
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Note 1: Do not assign trunk data in the group enclosed with "[]."

b. Connecting Route Diagram

Connecting Route Diagram

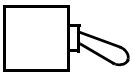
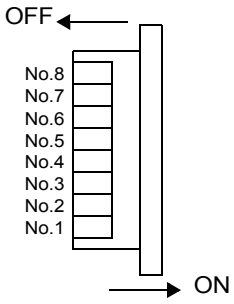
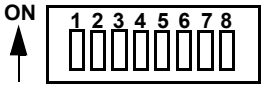
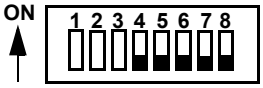
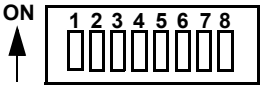
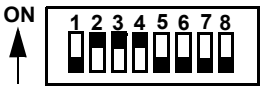
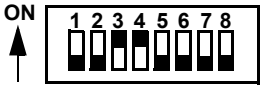
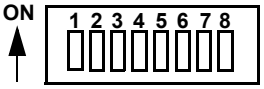
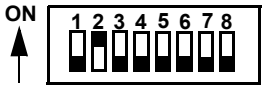
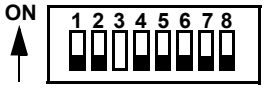
Connecting Route Diagram for the PA-PRTC (1.5M DTI) circuit card is as follows.

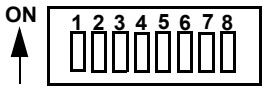
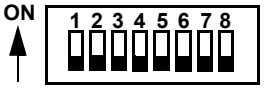
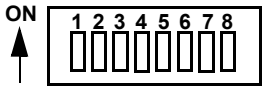
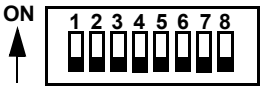
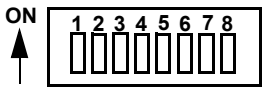
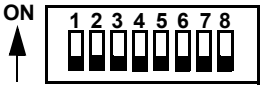
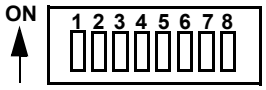
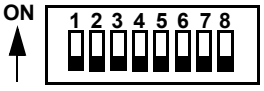
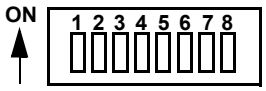
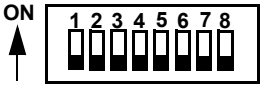
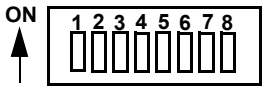
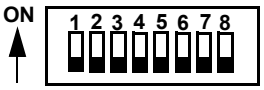
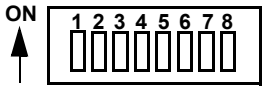
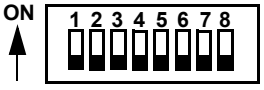
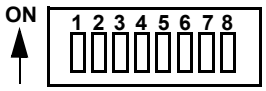
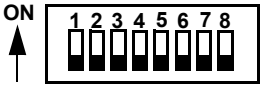


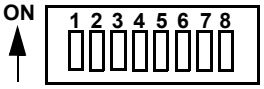
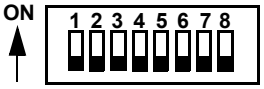
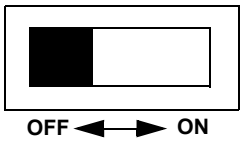
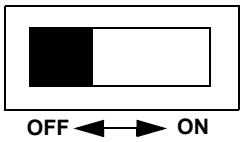
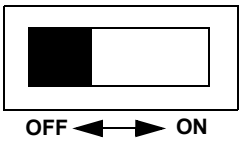
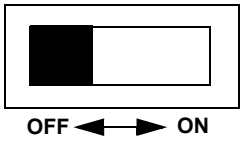
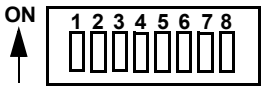
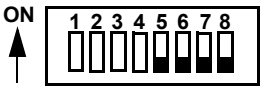
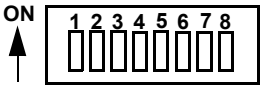
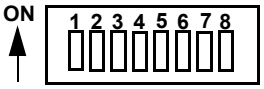
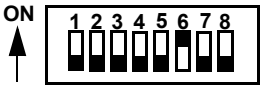
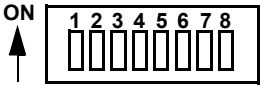
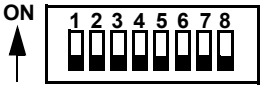
Note 2: This cable connection is required when clock signals must be extracted from the network side.

Note 3: As an example, DIU1A and DIU1B leads are used in this diagram.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW00		
SW01		
SW10		
SW11		**North America 12 Multi Frame Standard**  **North America 24 Multi Frame Standard** 
SW12		**12 Multi Frame Standard**  **24 Multi Frame Standard** 

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW13		
SW14		
SW15		
SW16		
SW17		
SW18		
SW19		
SW20		

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW21		
SW22		
SW23		
SW24		
SW25		
SW26		
SW27		
SW28		

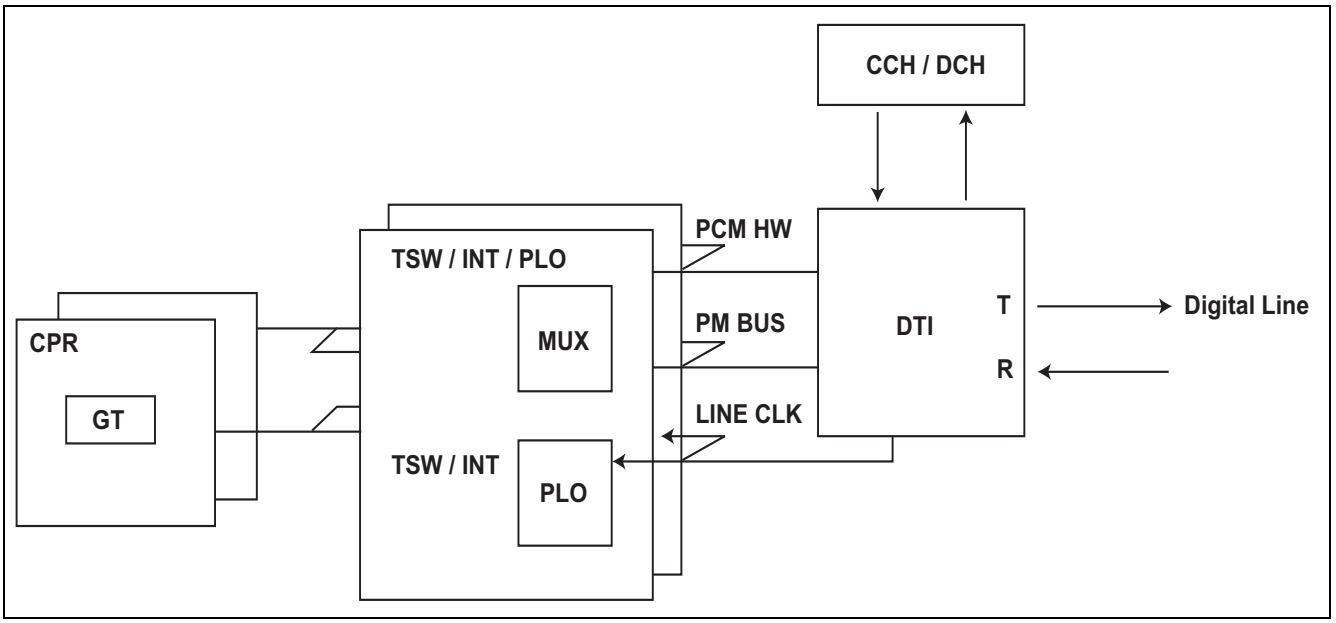
PA-PRTC (2M DTI)
Digital Trunk Interface

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	-	X	-

1. General Function

The PA-PRTC (2M DTI) circuit card provides an interface between 30 digital trunks for the system at 2 Mbit/s. This card can also be used as an interface for a Common Channel Interoffice Signaling (CCIS) or an ISDN network when connecting an additional CCH or DCH circuit card to the front connector using a flat cable as illustrated below. This PAD provides more flexibility compared to the standard PAD by holding the Flexible PAD function. This circuit card can set an arbitrary level range LOSS: 0~20 dB/GAIN:-1~16 dB toward each of the Send/Receive sides of PAD Setting Value 1~4 of APAD or ARTD commands. Note that substitution of the Standard/Flexible PAD, level setting of Flexible PAD are performed by the switches.

Location of PA-PRTC (2M DTI) in the System



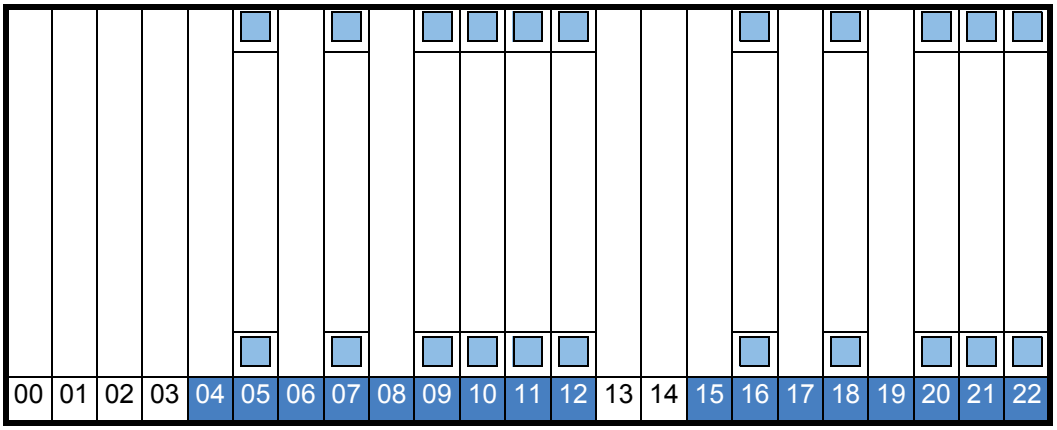
2. Mounting Location/Condition

Since allowable mounting locations of this card can vary depending upon the type of cables [Twisted Pair, Co-axial (Next Page)], be sure to observe instructions described below.

[Twisted Pair Cable]

Mounting Location <8U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-22



Mounting Conditions:

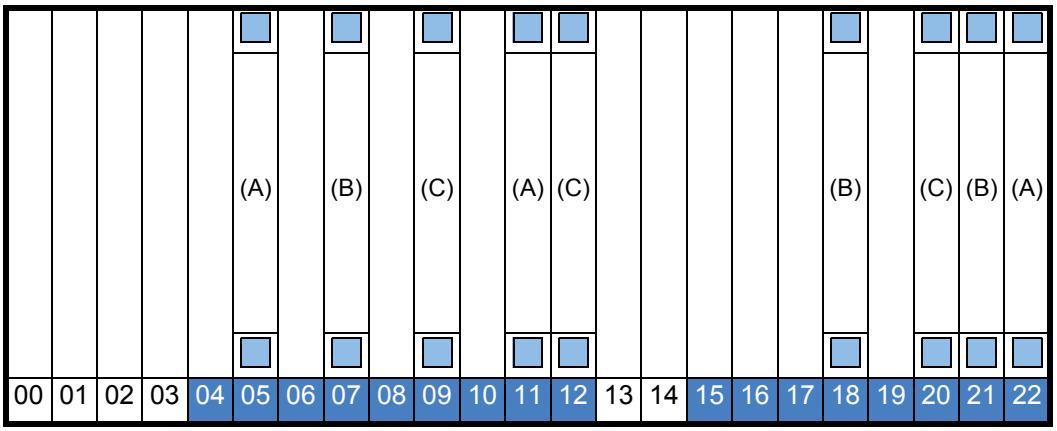
- Mount this circuit card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.
- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot.

[Coaxial Cable]

Using coaxial cables reduces available mounting slots for this card as shown below. In addition, COAX TERM card, that is equipped with jumper switches, must be installed for connecting the coaxial cables to the system (Next Page). Prior to installing the card, set the jumpers to the correct positions depending on the mounting slot of the PA-PRTC (2M DTI).

Mounting Location <8U-PIR>

Slots 05, 07, 09, 11-12, 18, 20-22



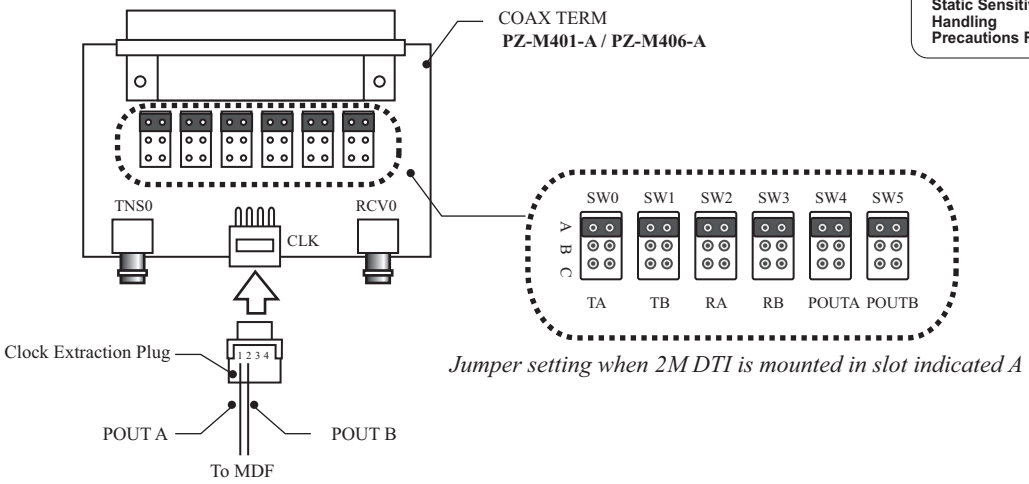
Mounting Conditions:

- When mounting PA-PRTC (2M DLI) card in one of the following combination of slots; (Slots 7, 9) (Slots 11, 12) (Slots 18, 22) (Slots 20, 21), available slot for mounting this card is one of slots in each combination of slots.
- When slots indicated (A)/(B) accommodate this card, Line/Trunk cards that have external leads cannot be mounted in the subsequent slot of (A)/(B). Slots indicated (C) are also subject to the same restriction for the proceeding slot of (C).

How to Set Jumpers on COAX TERM (PZ-401-A / PZ-406-A)

This figure shows an example when a 2M DTI card is mounted in one of slots indicated (A).





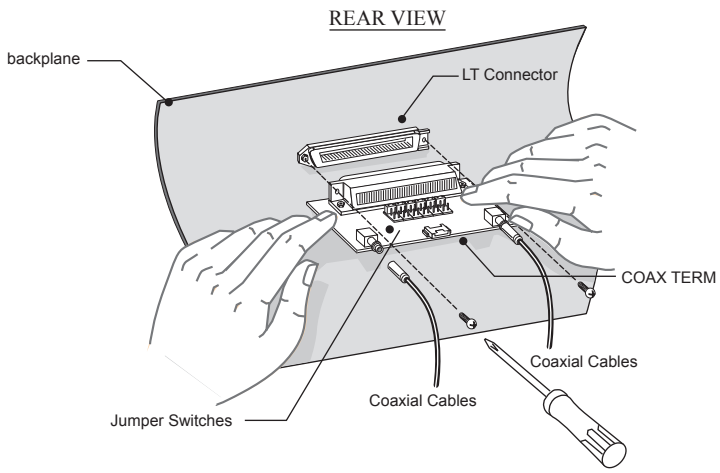
Jumper setting when 2M DTI is mounted in slot indicated A

Note : Set the jumpers to (A), (B) or (C) depending on the mounting slot of 2M DTI card.
Note : Leads 3 and 4 are not used.

How to Install COAX TERM

Insert COAX TERM to a proper LT connector referring to 6 "External Interface" and secure it with screws on the backplane.

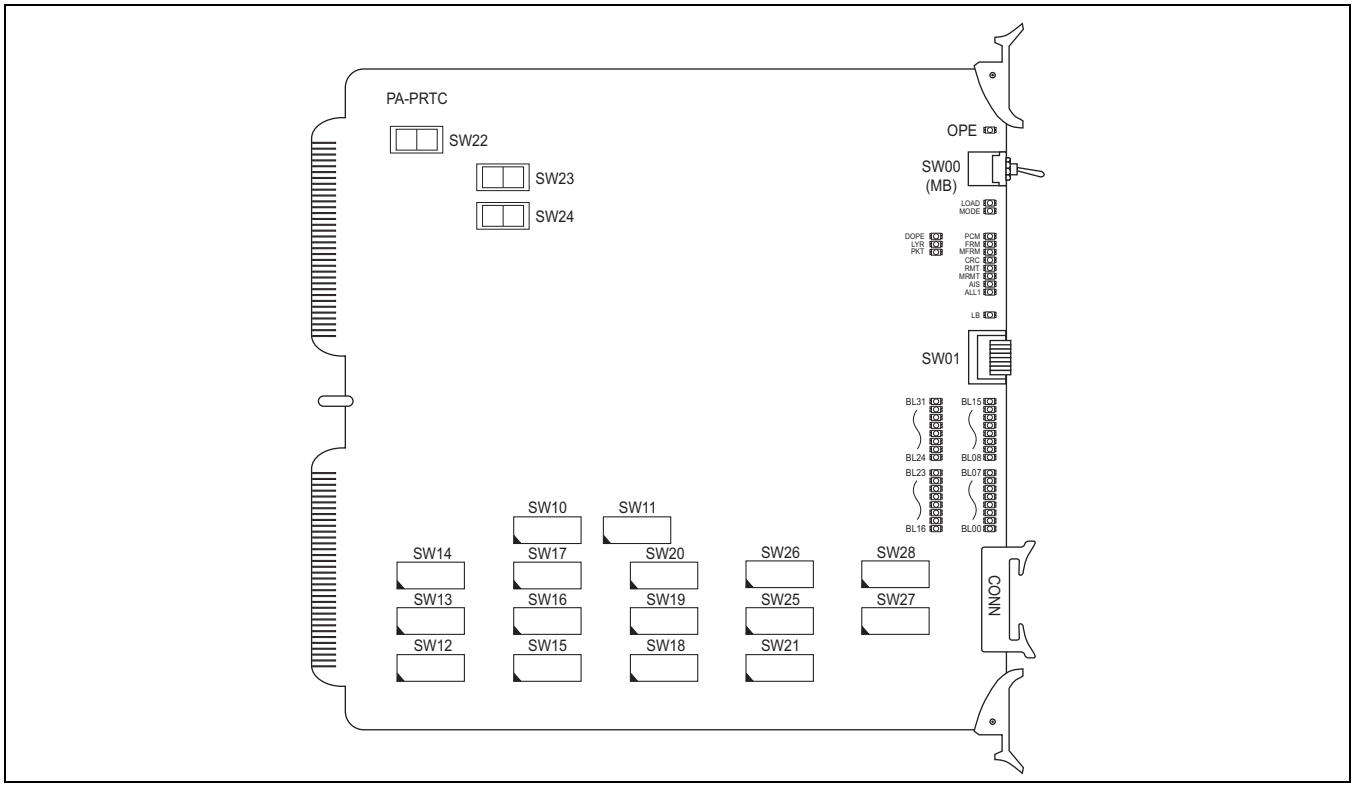




3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-PRTC (2M DTI)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	COLOR	DESCRIPTION	
OPE	Green	Lights when this circuit card is operating normally.	
LOAD	Green	Lights when loading program.	
MODE	Green	This lamp is fixed to OFF.	
PCM	Red	Light	Lights when input signal down is detected (PCM LOSS).
		Flash (240 IPM) (Effective only when SW11-5 is OFF.)	Flashes when system recovered from PCM LOSS and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
FRM	Red	Light	Lights when basic frame alignment loss is detected.
		Flash (240 IPM) (Effective only when SW11-5 is OFF.)	Flashes when system recovered from basic frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
MFRM	Red	Light	Lights when CRC-4 multi frame alignment loss is detected. Lights when TS16 multi frame alignment loss is detected.
		Flash (240 IPM) (Effective only when SW11-5 is OFF.)	Flashes when system recovered from Multi frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
CRC	Red	Light (Effective only when SW12-2 is OFF.)	Lights when CRC errors are detected 915 times or more per second.
		Light (Effective only when SW12-2 is ON.)	Lights when Framing errors are detected 28 times or more per second, and it continues for five seconds.
		Light (240IPM) (Effective only when SW12-2 is ON.)	Flashes when system has recovered from Framing error and is being supervised. (Flashes for 5 seconds after recovery)

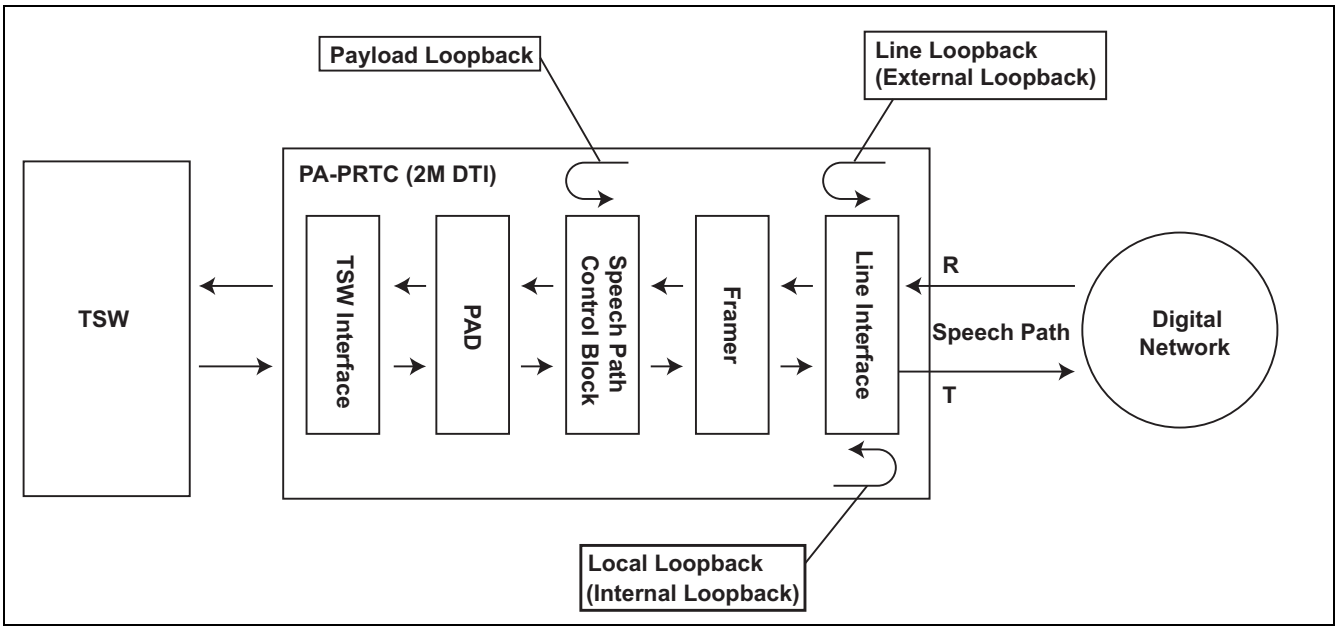
LAMP NAME	COLOR	DESCRIPTION	
RMT	Red	Light	Lights when remote alarm is detected.
		Flash (240IPM) (Effective only when SW11-5 is OFF)	Flashes when system has recovered from remote alarm detection and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
MRMT (Effective only when SW12-5 is OFF)	Red	Light	Lights when TS16 remote alarm is detected.
		Flash (240IPM) (Effective only when SW11-5 is OFF)	Flashes when system has recovered from TS16 remote alarm detection and is being supervised. (Flashes for 2 seconds after recovery)
AIS	Yellow	Lights on receipt of Alarm Information Signal (AIS).	
ALL1 (Effective only when SW13-1 is ON)	Red	Light	Lights when main signal ALL1 is detected.
		Flash (240 IPM)	Flashes when system has recovered from main signal ALL1 and is being supervised. Length of time for recovery supervision: 2 seconds
LB	Green	Light	Lights when loopback is being activated.
BL00	Green	Not used (This lamp is fixed to OFF)	
BL01 ' BL31	Green	Light	Lights when corresponding circuit is busy.
		Flash	Flashes while DP signal is being sent out or received (Flashes to dial pulses), the corresponding circuit (outgoing) is in Make-Busy state (60 IPM) or the corresponding circuit (Bothway and Blocking Signal Detect) is in Make-Busy state (30 IPM).
		OFF	Remains OFF when Idle.
DOPE	Green	Not used (These lamps are fixed to OFF)	
LYR	Green		
PKT	Green		

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
SW01	1	ON		Local Loopback: Set (Internal)
		OFF	×	Local Loopback: Cancel (Internal)
	2	ON		Line Loopback: Set (External)
		OFF	×	Line Loopback: Cancel (External)
	3	ON		Payload Loopback: Set
		OFF	×	Payload Loopback: Cancel
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		All channel make-busy: Set
		OFF	×	All channel make-busy: Cancel
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

Available Locations for Loopback Testing



<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="17">SW10</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="17">Country/Recommendation specification of ACIS
<table><tr><th colspan="7">Country/Recommendation Spec. Settings</th></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>Country/Recommendation</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ITU-T Q. 421, Q. 422</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ITU-T Q. 421, Q. 422
Fascicle VI. 4 - Suppl. No. 6
(Pulse Clear Back)</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ITU-T Q. 421, Q. 422
Fascicle VI. 4 - Suppl. No. 6
(Pulse Answer)</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>Australia P2 Protocol</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>China</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>Thailand</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>Brazil LME Interface</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>Brazil Collect Call Blocking</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>Brazil Continuous E&M Signal A Positive</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>Brazil Continuous E&M Signal A Negative</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>Brazil Continuous E&M Signal B Positive</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>Iran TCI Interface</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>Peru Continuous E&M Signal A Positive</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>Peru Continuous E&M Signal A Negative</td></tr><tr><td colspan="5">Other Setting</td><td>ITU-T Q. 421, Q. 422</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW11	1	ON		Remote Alarm Send Out Restricted
		OFF	×	Remote Alarm Send Out Unrestricted
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		Multi Remote Alarm Send Out Restricted (TS16) **Note 1**
		OFF	×	Multi Remote Alarm Send Out Unrestricted (TS16) **Note 1**
	4	ON		Alarm Release Time: (Long)
		OFF		Alarm Release Time: (Short)
	5	ON		Alarm Detect/Release Type (ETSI)
		OFF		Alarm Detect/Release Type (Normal)
	6	ON		PLO is controlled when main signal ALL1.
		OFF	×	PLO is not controlled when main signal ALL1.
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

Note 1: Effective when the TS16 signaling (SW12-5:OFF) is selected.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW12	1	ON		Line Signal: AMI
		OFF	×	Line Signal: HDB3
	2	ON		CRC-4 Processing Control: Not to be controlled
		OFF	×	CRC-4 Processing Control: to be controlled
	3	ON		E-Bit Sending: Controlled by CPU
		OFF	×	E-Bit Sending: Automatic
	4	ON		Signaling Format Setting: CEPT
		OFF		Signaling Format Setting: ITU-T
	5	ON		TS16 Control: Data Through **Note 2**
		OFF		TS16 Control: Used for Signaling
	6	ON		CRC Multiframe Format: ITU-T G. 706 Annex-B type (Option)
		OFF	×	CRC Multiframe Format: ITU-T G. 706 (Normal)
	7	ON		Long haul mode
		OFF	×	Short haul mode
	8	ON		
		OFF	×	Fixed to OFF

Note 2: Fixed to ON if registered as CCIS signal by TS16.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW13	1	ON		Main Signal ALL1 is detected.
		OFF	×	Main Signal ALL1 is not detected.
	2	ON		Idle Code is sent.
		OFF	×	Idle Code is not sent.
	3	ON		DP relay function is used for FCCS.
		OFF	×	DP relay function is not used for FCCS.
	4	ON		Simultaneous Seizure Supervision: Not controlled
		OFF	×	Simultaneous Seizure Supervision: Controlled
	5	ON		Not activate counter node when detecting Simultaneous Seizure.
		OFF	×	Activate counter node when detecting Simultaneous Seizure.
	6	ON		Layer 1 Alarm is not notified to CPU.
		OFF	×	Layer 1 Alarm is notified to CPU.
	7	ON		CAS is not effective when CCH/DCH is used.
		OFF	×	CAS is effective when CCH/DCH is used.
	8	ON	×	Incoming / Outgoing call collision processing is used. **Note 3**
		OFF		Incoming / Outgoing call collision processing is not used.

Note 3: Assign ASYD SYS=1 Index=7 bit 3=1

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW14	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Control Method (Using Both Flexible/Standard PAD)		
				7	8	
			×	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
				ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
				OFF	ON	Fixed to ARTD (Transmission/Reception PAD Control)
				ON	ON	Transmission/Reception PAD Control

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW15	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 2 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Selection (Using Both Flexible/Standard PAD)		
				7	8	
				OFF	OFF	μ- Law
			×	ON	OFF	A - Law
				OFF	ON	A - Law → μ - Law
				ON	ON	μ - Law →A - Law

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW16	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 3 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Pattern Selection **Refer to Standard PAD Setting PAD Level (1/4) ~ UK PAD Setting PAD Level (4/4)**		
				7	8	
			×	OFF	OFF	PAD Pattern 1
				ON	OFF	PAD Pattern 2
				OFF	ON	PAD Pattern 3
				ON	ON	PAD Pattern 4

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW17	1	ON		Reception PAD Value Setting (Flexible PAD): (PAD Data 4) (Reception PAD value when 4 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Data PAD Pattern Selection		
				7	8	
			×	OFF	OFF	64 k
				ON	OFF	64 k Inversion
				OFF	ON	56 k
				ON	ON	48 k

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW18	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**
		OFF		
	2	ON		
		OFF		
	3	ON		
		OFF		
	4	ON		
		OFF		
	5	ON		
		OFF		
	6	ON		
		OFF		
	7	ON		Flexible PAD (Refer to No. 1 - 6 of SW14 - SW21)
		OFF	×	Standard PAD (Refer to No.7-8 of SW16)
	8	ON		CCH/DCH Signaling Logic: Negative
		OFF	×	CCH/DCH Signaling Logic: Positive

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW19	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Seizure Acknowledgement Guard Time		
				7	8	
			×	OFF	OFF	48 milliseconds
				ON	OFF	64 milliseconds
				OFF	ON	80 milliseconds
				ON	ON	96 milliseconds
			Acknowledge Signal Detection Guard timer when sending out Wink/Delay.			

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW20	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Seizure Acknowledgement Detection Time		
				7	8	
			×	OFF	OFF	56 milliseconds
				ON	OFF	96 milliseconds
				OFF	ON	136 milliseconds
				ON	ON	176 milliseconds
			Acknowledge Signal Detection timer when sending out Wink/Delay.			

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW21	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Answer Detection Time		
				7	8	
			×	OFF	OFF	200 milliseconds
				ON	OFF	100 milliseconds
				OFF	ON	400 milliseconds
				ON	ON	700 milliseconds

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
SW22	ON		
	OFF	×	Fixed to OFF
SW23	ON		Impedance Setting 75Ω (Coaxial Cable)
	OFF		Impedance Setting 120Ω (Pair Cable)
SW24	ON	×	Middle point of reception transformer: Open
	OFF		Middle point of reception transformer: Ground

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW25	1	ON		Sa4-Sa8 Bit Operation Select (Reserve)
		OFF		
	2	ON		
		OFF		
	3	ON		Fixed to all OFF.
		OFF		
	4	ON		
		OFF		
	5	ON		PAD Select: UK PAD Select
		OFF		PAD Select: Standard PAD Select
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW26	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW27	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON	×	Fixed to ON
		OFF		
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW28	1	ON		
		OFF	×	Fixed to OFF
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		
		OFF	×	Fixed to OFF
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

Key Setting for PAD selection

PAD Selection	SW15-7	SW15-8	SW16-7	SW16-8	SW18-7	PCM-Law: Pattern No.
Standard/UK PAD	OFF	OFF	OFF	OFF	OFF	μ-law: Pattern 1
			ON			μ-law: Pattern 2
			OFF	ON		μ-law: Pattern 3
			ON			μ-law: Pattern 4
	ON		OFF	OFF		A-law: Pattern 1
			ON			A-law: Pattern 2
			OFF	ON		A-law: Pattern 3
			ON			A-law: Pattern 4
	OFF	ON	OFF	OFF		A-μ: Pattern 1
			ON			A-μ: Pattern 2
			OFF	ON		A-μ: Pattern 3
			ON			A-μ: Pattern 4
	ON		OFF	OFF		μ-A: Pattern 1
			ON			μ-A: Pattern 2
			OFF	ON		μ-A: Pattern 3
			ON			μ-A: Pattern 4
Flexible PAD	OFF	OFF	Not used		ON	μ-law
	ON		Not used			A-law
	OFF	ON	Not used	OFF		A-μ: Pattern 5 **Note 4**
			Not used	ON		A-μ: Pattern 6 **Note 4**
	ON		Not used	OFF		μ-A: Pattern 5 **Note 4**
			Not used	ON		μ-A: Pattern 6 **Note 4**

Note 4: Refer to Flexible PAD Level.

Standard PAD Setting PAD Level (1/4)

a. μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

Pattern 1		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	8dB	16dB
2	8dB	4dB
3	4dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	9dB

Standard PAD Setting PAD Level (2/4)

b. A-law pattern Setting (Switch 15-7, 8 ON, OFF)

Pattern 1		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	1dB	1dB
2	3dB	3dB
3	5dB	5dB
4	7dB	7dB

Pattern 4		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	9dB

Standard PAD Setting PAD Level (3/4)

c. A-μ Conversion Setting (Switch 15-7, 8 OFF, ON)

Pattern 1		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	0dB	4dB
3	0dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Standard PAD Setting PAD Level (4/4)

d. μ-A Conversion Setting (Switch 15-7,8 ON, ON)

Pattern 1		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	0dB	4dB
3	0dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission μ→A	Reception A→μ
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

UK PAD Setting PAD Level(1/4)

a. μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

Pattern 1		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	4dB	4dB
2	8dB	0dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	8dB	0dB
3	6dB	6dB
4	8dB	8dB

UK PAD Setting PAD Level (2/4)

b. A-law pattern Setting (Switch 15-7, 8 ON, OFF)

Pattern 1		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	4dB	4dB
2	8dB	0dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	0dB
3	6dB	6dB
4	8dB	8dB

UK PAD Setting PAD Level (3/4)

c. A-μ Conversion Setting (Switch 15-7, 8 OFF, ON)

Pattern 1		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	8dB	0dB
4	3dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	-3dB	3dB
3	0dB	0dB
4	3dB	3dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	3dB	3dB
3	12dB	12dB
4	8dB	8dB

UK PAD Setting PAD Level (4/4)

d. μ-A Conversion Setting (Switch 15-7,8 ON, ON)

Pattern 1		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	8dB	0dB
4	3dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	-3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	3dB	3dB
3	12dB	12dB
4	8dB	8dB

Flexible PAD Level

ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD: 15	See **Flexible PAD Level of ARTD: 7 or APAD: 15**	See **Flexible PAD Level of ARTD: 7 or APAD: 15**
1	Set value of SW18-1, 2, 3, 4, 5, 6	Set value of SW14-1, 2, 3, 4, 5, 6
2	Set value of SW19-1, 2, 3, 4, 5, 6	Set value of SW15-1, 2, 3, 4, 5, 6
3	Set value of SW20-1, 2, 3, 4, 5, 6	Set value of SW16-1, 2, 3, 4, 5, 6
4	Set value of SW21-1, 2, 3, 4, 5, 6	Set value of SW17-1, 2, 3, 4, 5, 6

Flexible PAD Level of ARTD: 7 or APAD: 15

PCM-Law: Pattern No.	Transmission	Reception
μ-law	0dB	0dB
A-law	0dB	0dB
A-μ: Pattern 5	through	through
A-μ: Pattern 6	0dB	0dB
μ-A: Pattern 5	through	through
μ-A: Pattern 6	0dB	0dB

Flexible PAD Level Setting of SW14-SW21

NO.	-1	-2	-3	-4	-5	-6	Setting Level Value [dB]
0	OFF	OFF	OFF	OFF	OFF	OFF	0
1	ON	OFF	OFF	OFF	OFF	OFF	1
2	OFF	ON	OFF	OFF	OFF	OFF	2
3	ON	ON	OFF	OFF	OFF	OFF	3
4	OFF	OFF	ON	OFF	OFF	OFF	4
5	ON	OFF	ON	OFF	OFF	OFF	5
6	OFF	ON	ON	OFF	OFF	OFF	6
7	ON	ON	ON	OFF	OFF	OFF	7
8	OFF	OFF	OFF	ON	OFF	OFF	8
9	ON	OFF	OFF	ON	OFF	OFF	9
10	OFF	ON	OFF	ON	OFF	OFF	10
11	ON	ON	OFF	ON	OFF	OFF	11
12	OFF	OFF	ON	ON	OFF	OFF	12
13	ON	OFF	ON	ON	OFF	OFF	13
14	OFF	ON	ON	ON	OFF	OFF	14
15	ON	ON	ON	ON	OFF	OFF	15
16	OFF	OFF	OFF	OFF	ON	OFF	16
17	ON	OFF	OFF	OFF	ON	OFF	17
18	OFF	ON	OFF	OFF	ON	OFF	18
19	ON	ON	OFF	OFF	ON	OFF	19
20	OFF	OFF	ON	OFF	ON	OFF	20
21	ON	OFF	ON	OFF	ON	OFF	-1 (Gain)
22	OFF	ON	ON	OFF	ON	OFF	-2 (Gain)
23	ON	ON	ON	OFF	ON	OFF	-3 (Gain)
24	OFF	OFF	OFF	ON	ON	OFF	-4 (Gain)
25	ON	OFF	OFF	ON	ON	OFF	-5 (Gain)
26	OFF	ON	OFF	ON	ON	OFF	-6 (Gain)
27	ON	ON	OFF	ON	ON	OFF	-7 (Gain)
28	OFF	OFF	ON	ON	ON	OFF	-8 (Gain)
29	ON	OFF	ON	ON	ON	OFF	-9 (Gain)
30	OFF	ON	ON	ON	ON	OFF	-10 (Gain)
31	ON	ON	ON	ON	ON	OFF	-11 (Gain)
32	OFF	OFF	OFF	OFF	OFF	ON	-12 (Gain)
33	ON	OFF	OFF	OFF	OFF	ON	-13 (Gain)
34	OFF	ON	OFF	OFF	OFF	ON	-14 (Gain)
35	ON	ON	OFF	OFF	OFF	ON	-15 (Gain)
36	OFF	OFF	ON	OFF	OFF	ON	-16 (Gain)
37	OFF	ON	OFF	ON	OFF	ON	through
Other Setting							Setting Inhibited

6. External Interface

a. The leads appear as follows on the LT connectors.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	POUTB	5	POUTA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

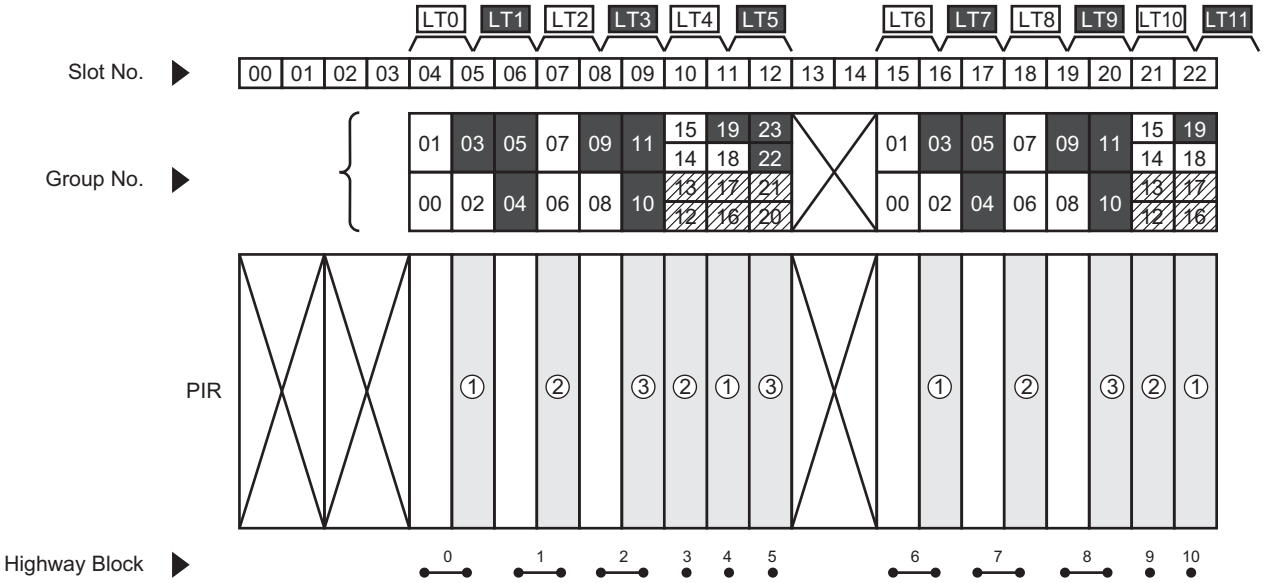
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	POUTB	13	POUTA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 3

LT3, 5, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	POUTB	21	POUTA
47		22	
48		23	
49	TB	24	TA
50		25	



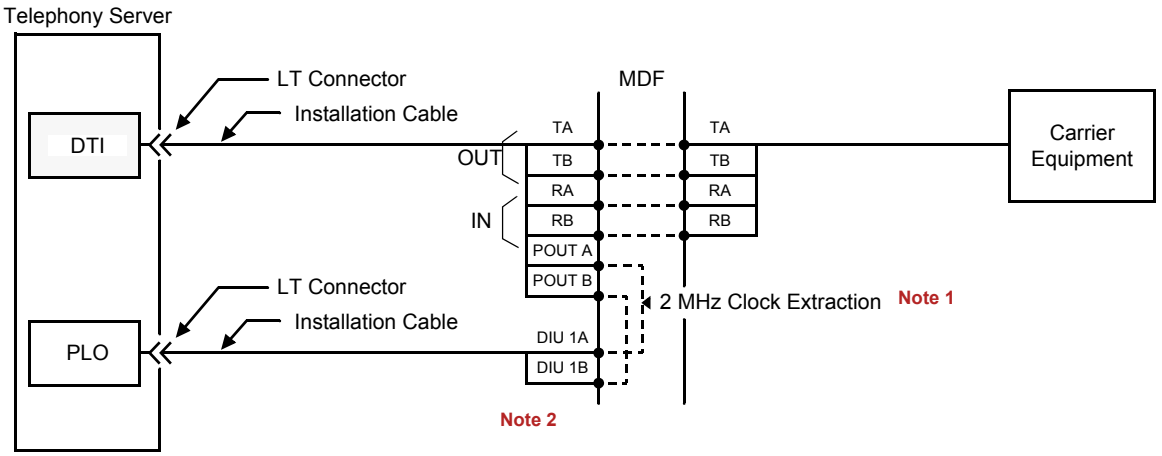
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

b. Connecting Route Diagram

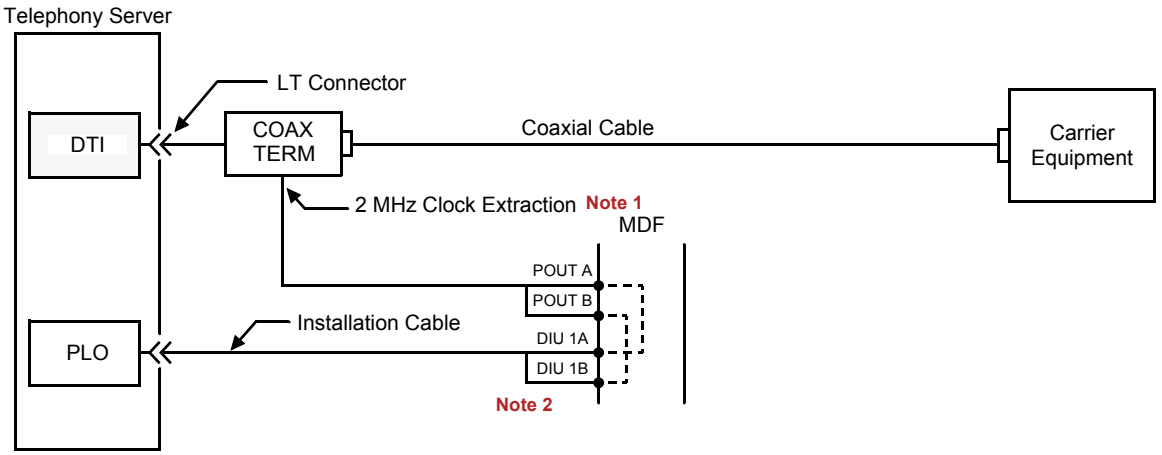
Connecting Route Diagram

Connecting Route Diagram is as follows depending on the cable type.

• Twisted Pair Cable



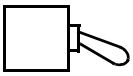
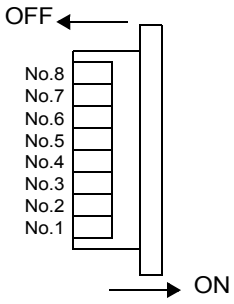
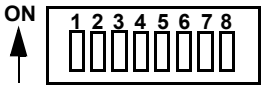
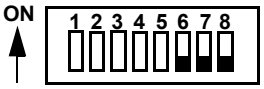
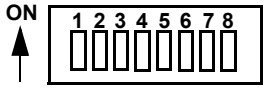
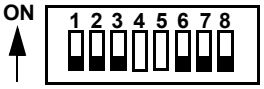
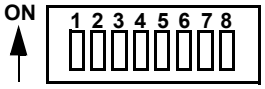
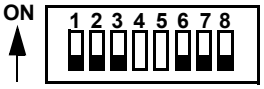
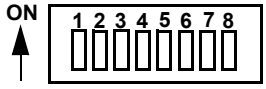
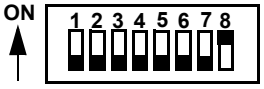
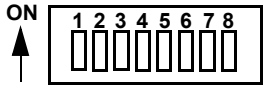
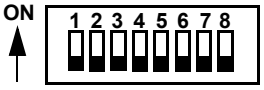
• Coaxial Cable

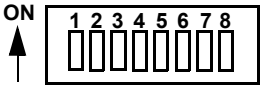
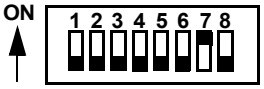
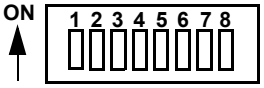
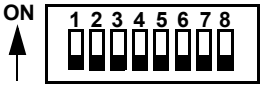
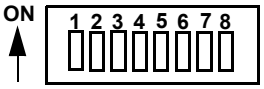
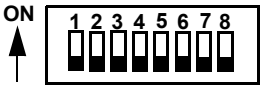
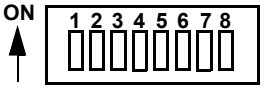
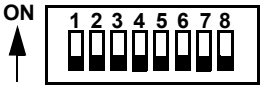
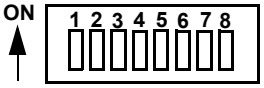
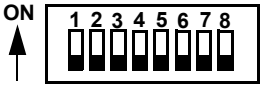
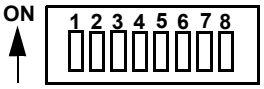
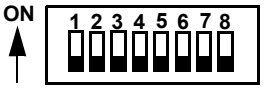
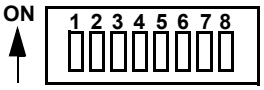
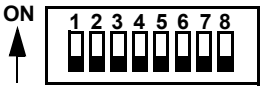
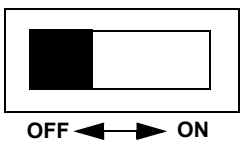
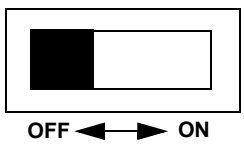


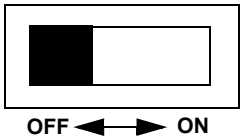
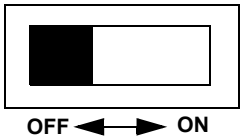
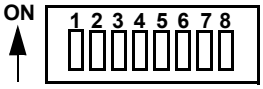
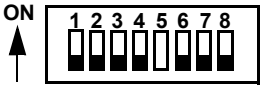
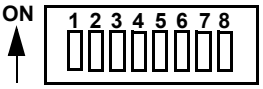
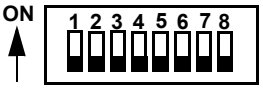
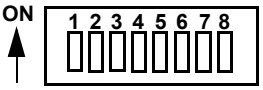
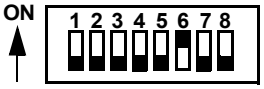
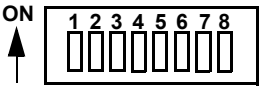
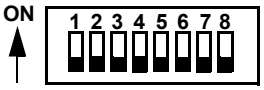
Note 1: This cable connection is required when clock signals must be extracted from the network side.

Note 2: As an example, DIU1A and DIU1B leads are used in this diagram.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW00		
SW01		
SW10		
SW11		
SW12		
SW13		
SW14		

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW15		
SW16		
SW17		
SW18		
SW19		
SW20		
SW21		
SW22		

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW23		
SW24		
SW25		
SW26		
SW27		
SW28		

PA-16ELCJ-B
Electronic Line Circuit

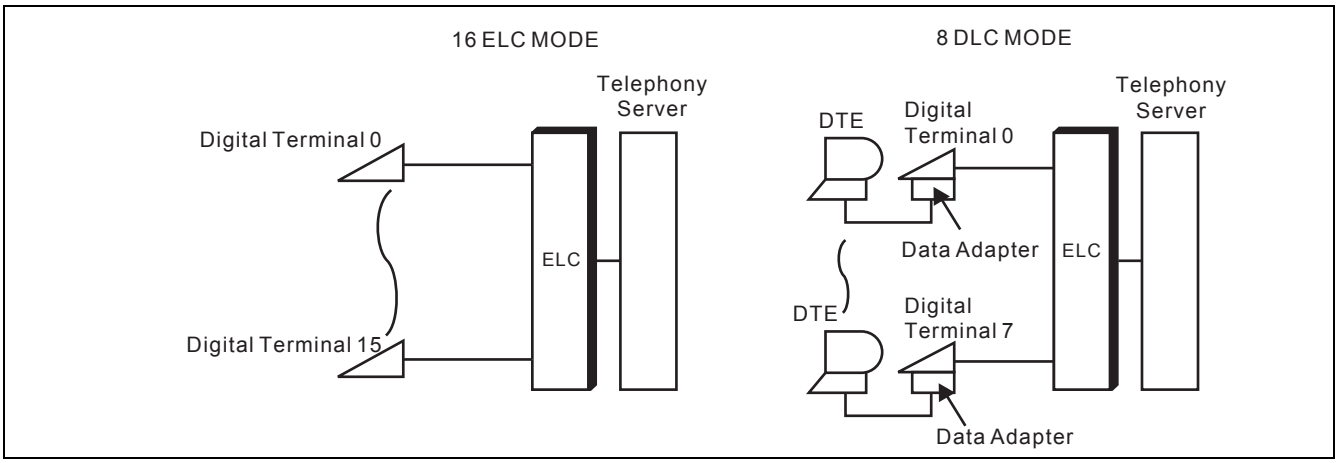
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

The PA-16ELCJ-B (ELC) circuit card provides an interface between Dterm and the Telephony Server. Depending upon the switch settings, this card works in the following two modes.

- 16 ELC mode: A maximum of 16 sets of Dterms can be connected to this card. (Voice communications only)
- 8 DLC mode: A maximum of eight sets of Dterms can be connected to this card. (Simultaneous Voice and Data communications)

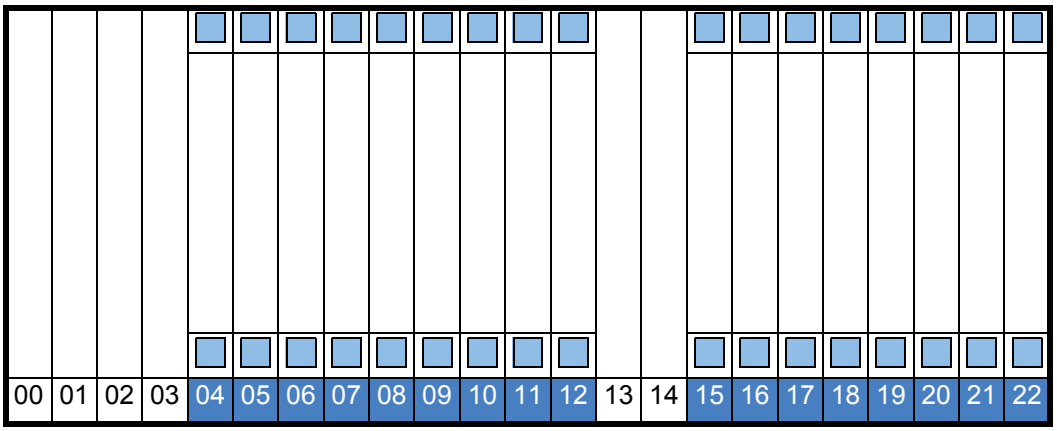
Location of PA-16ELCJ-B (ELC) Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



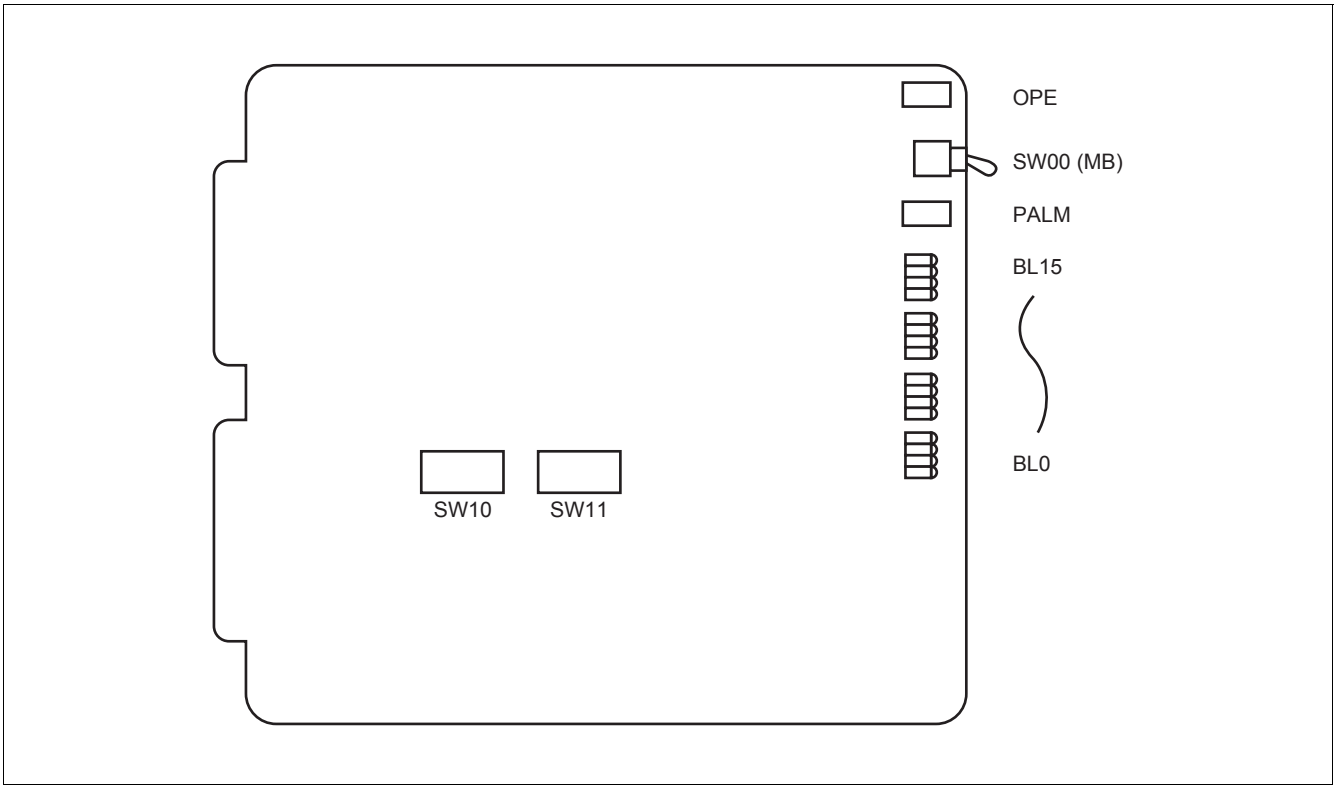
Mounting Condition：

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-16ELCJ-B (ELC) Card



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

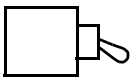
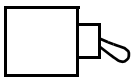
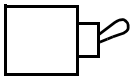
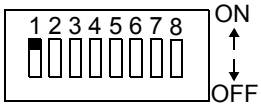
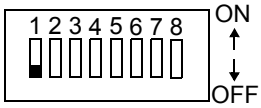
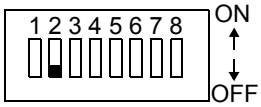
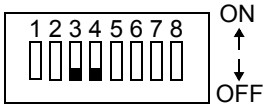
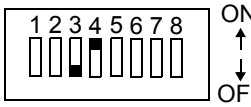
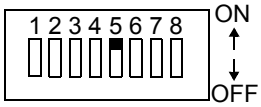
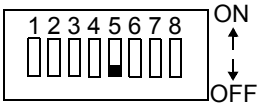
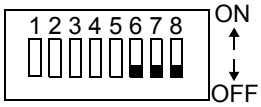
LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while On Line operations are normal.
	Off	Off when On Line operations are abnormal.
PALM	Red	Lights red when power supply circuit(s) is abnormal. **Note 1**
	Off	Off when all the power supply circuits are normal.
BL0 ' BL15	Green	Lights when the corresponding circuit is busy.
	Flash	Flashes when the corresponding circuit is in Make-Busy state or station data has not been assigned.
	Off	Off when the corresponding circuit is idle.

Note 1: When the PALM lamp lights red, observe the following instructions.

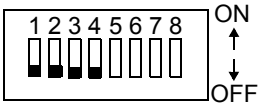
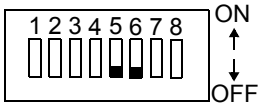
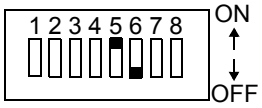
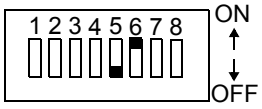
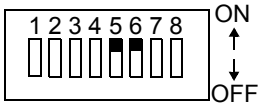
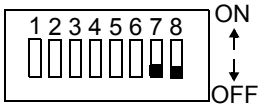
1. Identify the location where any in-house wires have a short circuit as to all lines belonging to the PA-16ELCJ-B card whose PALM is on.
2. Repair the short-circuited wires of the associated Dterm.
3. Disconnect the Dterm from the rosette, and leave it disconnected for at least one minute.
4. Connect the Dterm again.

5. Switch Settings

Switches on the PA-16ELCJ-B card have the following meanings.

SWITCH	FUNCTION		SWITCH SETTING	MEANING
SW00 (MB) 	Circuit Card Make-Busy key			Circuit card: Make-Busy cancel
				Circuit card: Make-Busy
SW10	1	LP-PM Interface mode setting		When firmware SP-3419 is used, and your system uses software Release 7 or earlier.
				When firmware SP-3514 or higher is used, and your system uses software Release 8 or higher.
	2	—		Not used.
	3-4	ELC/DLC mode setting		This circuit card is operated in 16 ELC mode.
				This circuit card is operated in 8 DLC mode.
			Do not set another combination.	
Details are shown in the next table.	5	Analog Port Adapter setting		Analog Port Adapter is available.
				Analog Port Adapter is not available.
	6-8	—		Fixed to all OFF.

	SW10-3: OFF, SW10-4: OFF	SW10-3: OFF, SW10-4: ON
SW10-5: OFF	• 16 sets of Dterms per card. • Voice communication only.	• Eight sets of Dterms per card. • Data Adapter is used.
SW10-5: ON	• 16 sets of Dterms per card. • Analog Port Adapter is used (Either Dterm or Analog terminal can be used at the same time).	• Eight sets of Dterms per card. • Analog Port Adapter is used (Both Dterm and Analog terminal can be used at the same time).

SWITCH	FUNCTION		SWITCH SETTING	MEANING
SW11	1-4	—		Fixed to all OFF.
	5-6	Terminal Mode Setting **Note 1**		Dterm Series *i* mode. (Standard Setting)
				Dterm Series E/Dterm 75 mode.
				Not used.
				Not used.
	7-8	—		Fixed to all OFF.

Note 1: This switch setting is valid when the mounted firmware is SP-3752 or higher. If the firmware is SP-3656, this setting is invalid. In this case, be sure to set SW11-5 and SW11-6 to OFF position. The detailed terminal operation mode is determined by the combinations of Switch Setting, Terminal Type and System Type as shown below.

- Terminal Operation Mode

SWITCH SETTING	TERMINAL TYPE	OPERATION MODE
SW11-5: OFF SW11-6: OFF	Dterm Series *i*	Dterm Series *i* mode
SW11-5: ON SW11-6: OFF		Dterm Series E/Dterm 75 mode
SW11-5: OFF SW11-6: ON		Unavailable

- Ringer Tone Selection

  Ringer Tone can be selected by pressing the FEATURE key and Key Pad 3 consecutively. The following tone types can be selected.

TONE NUMBER	1st/2nd FREQUENCY (Hz)/TONE KIND	MODULATION (Hz)
Tone 1	520/660	16
Tone 2	520/660	8
Tone 3	1100/1400	16
Tone 4	660/760	16
Tone 5 **Note 2**	Door Phone Music Scale Tone	-
Tone 6 **Note 2**	Music Scale Tone 1	-
Tone 7 **Note 2**	Music Scale Tone 2	-
Tone 8 **Note 2**	Music Scale Tone 3	-
Tone 9 **Note 2**	Music Scale Tone 4	-
Tone 10 **Note 2**	Music Scale Tone 5	-

Note: The conditions of Ringer Tone Selection are as follows.
- When selecting Tone 1-4, Ringer ON/OFF Pattern specified by the system data (ASYD, SYS3: Ringer Pattern) are valid. When selecting Tone 5-10, Ringer ON/OFF Pattern specified by the system data (ASYD, SYS3: Ringer Pattern) are invalid.

Note 2: The following conditions must be satisfied for Dterm Series i.
- Operation Mode: Dterm Series i mode
- Firmware: SP-3752 or higher

6. External Interface

Depending upon the applied mode (16 ELC/8 DLC mode), external interface leads appear on the LT connectors as follows.

- 16 ELC mode

LT Connector Lead Accommodation (16ELC Mode) (1/2)

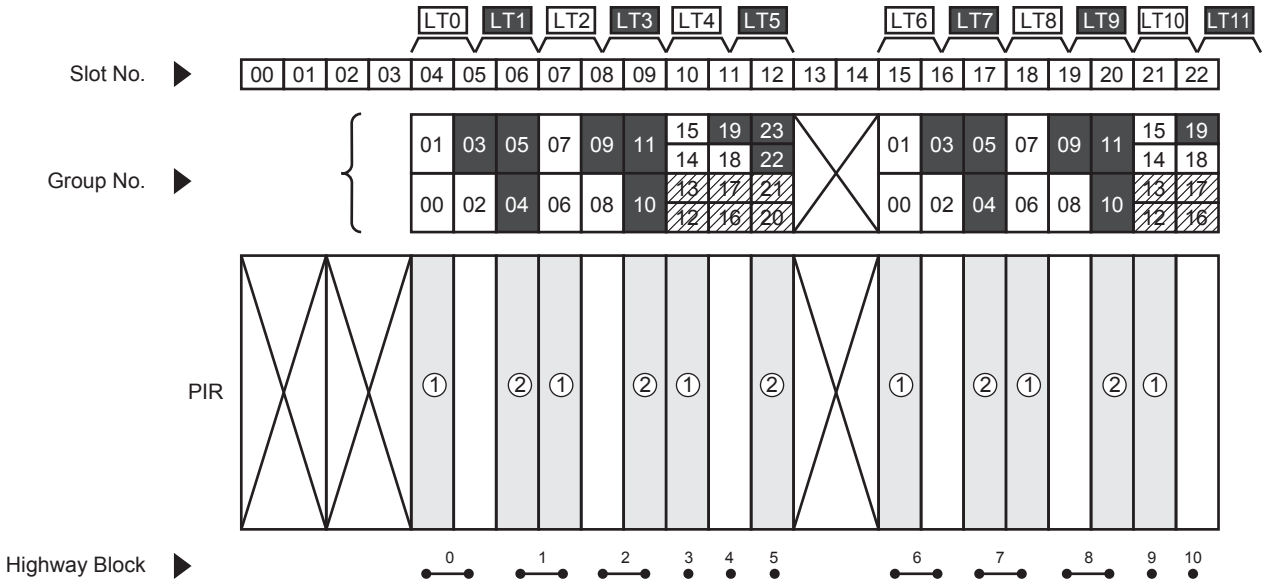
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

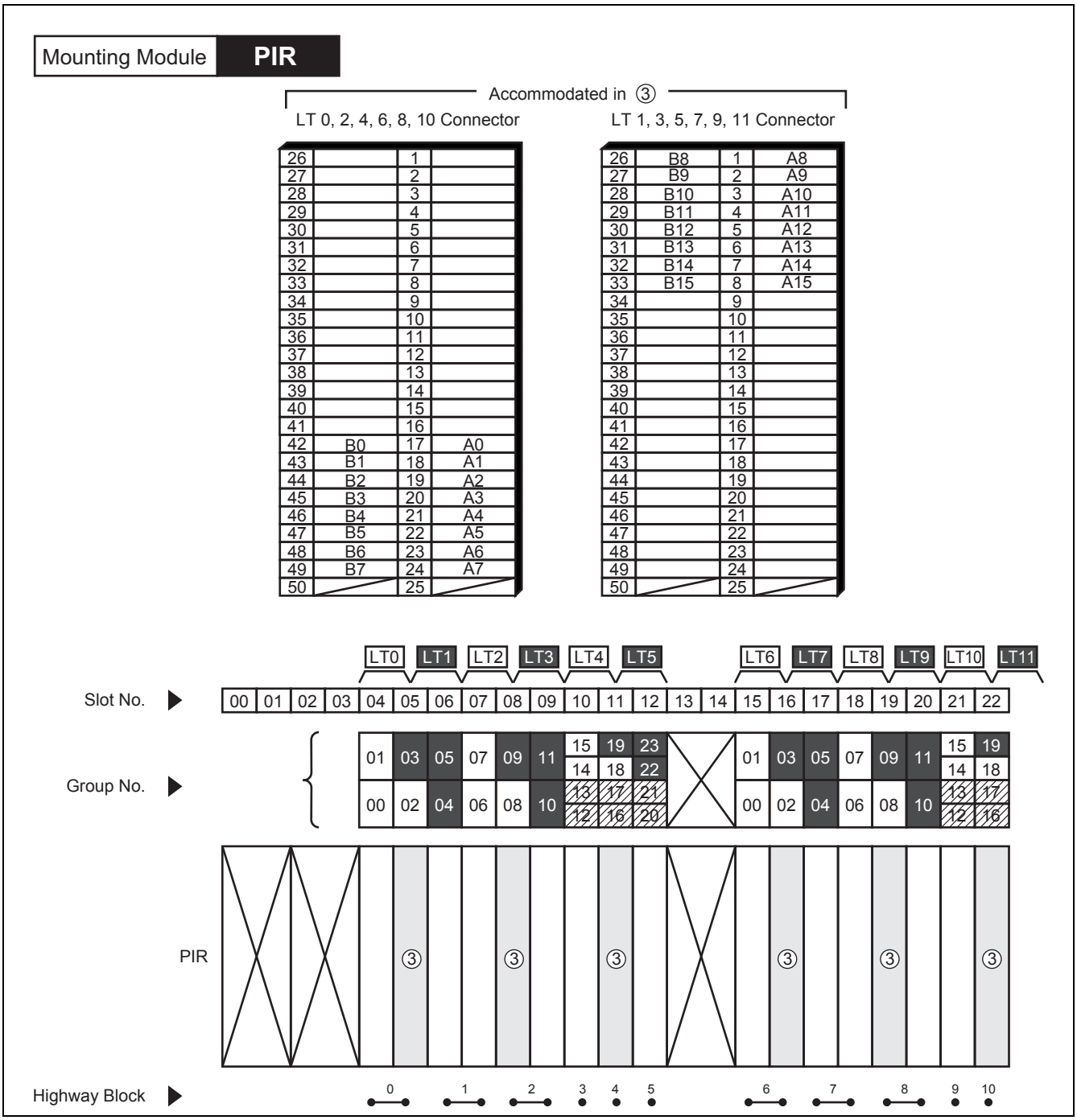
Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42	B8	17	A8
43	B9	18	A9
44	B10	19	A10
45	B11	20	A11
46	B12	21	A12
47	B13	22	A13
48	B14	23	A14
49	B15	24	A15
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

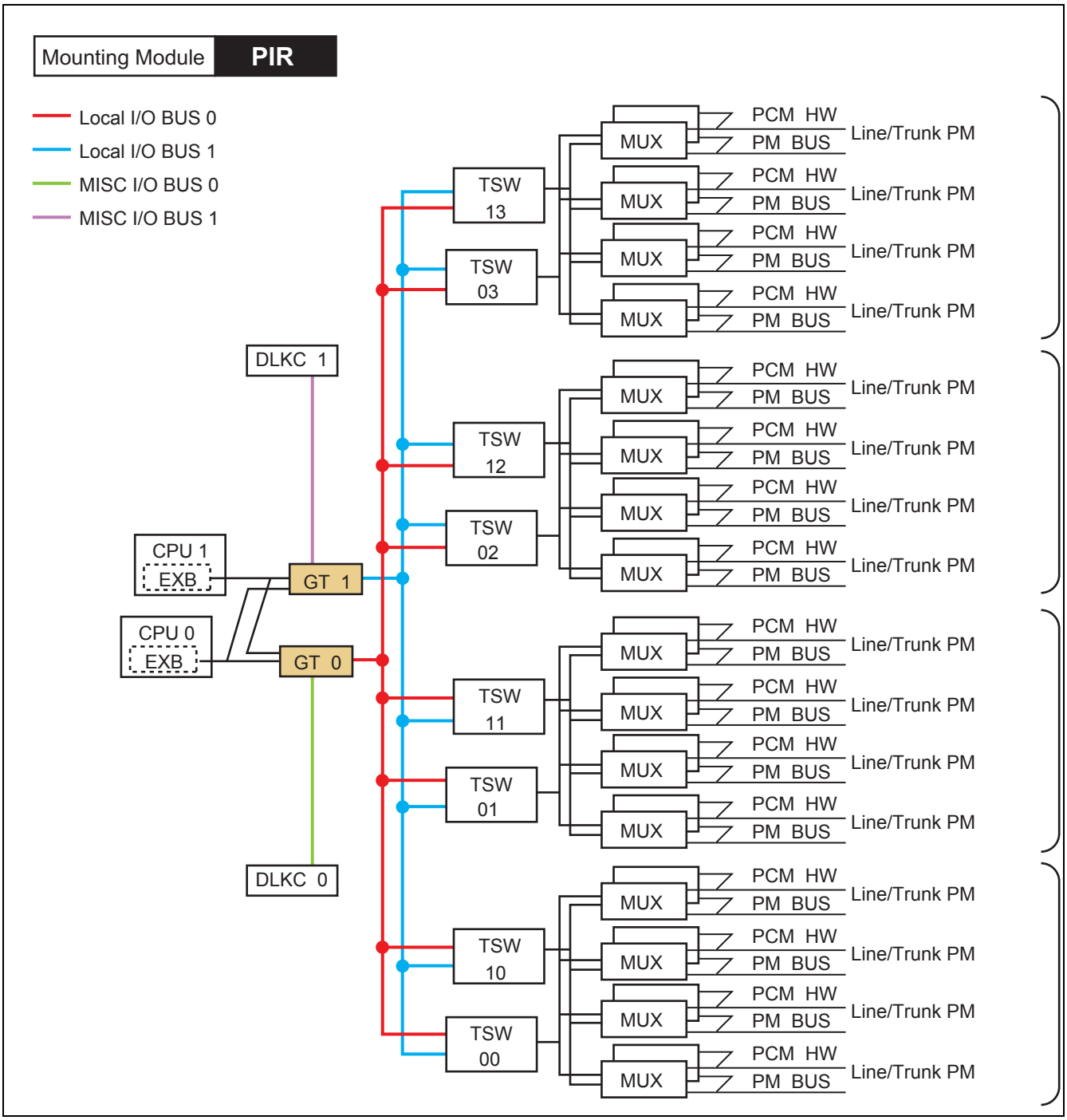
LT Connector Lead Accommodation (16 ELC Mode) (2/2)



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

- 8 DLC mode

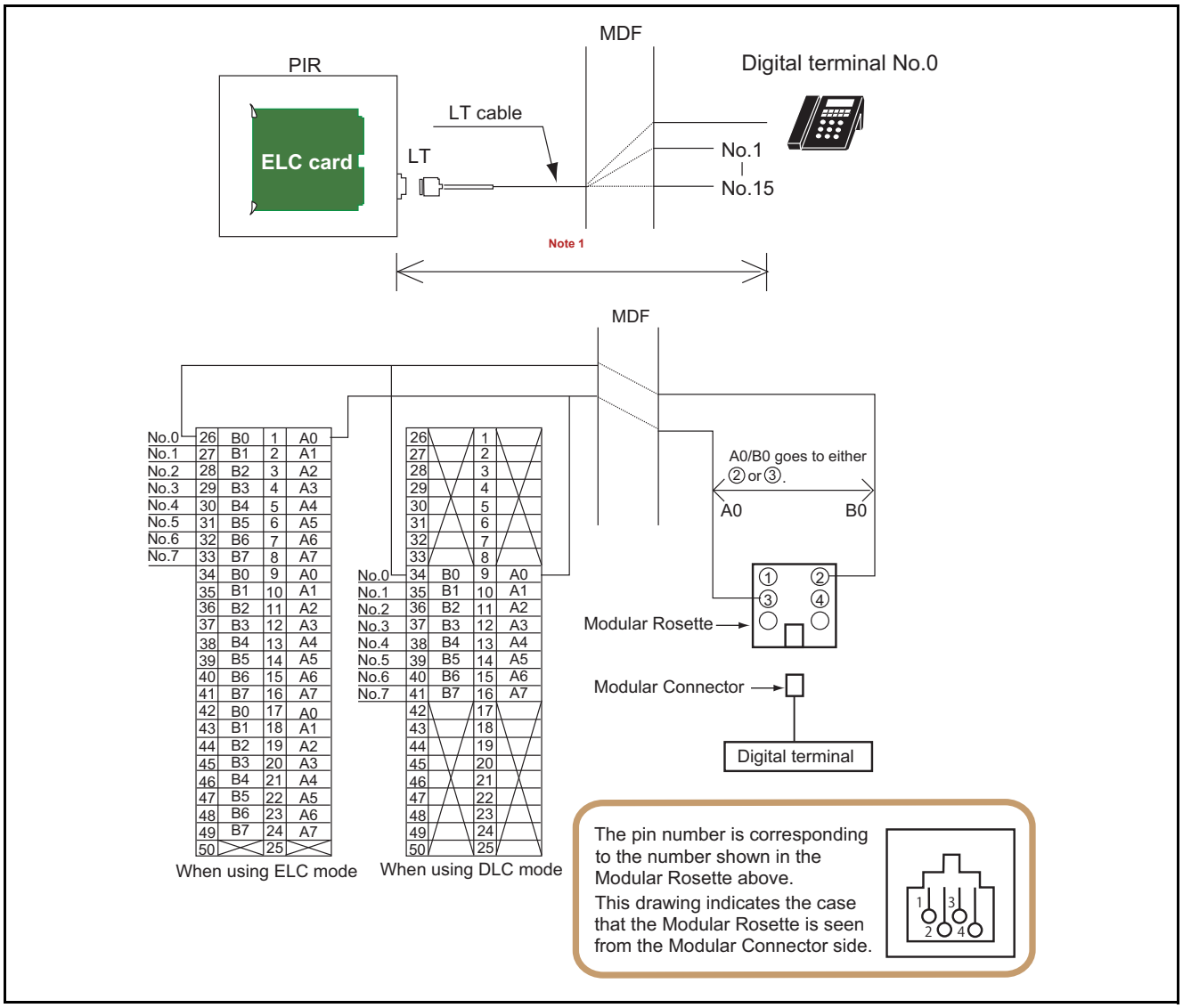
LT Connector Lead Accommodation (8 DLC Mode)



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

- Connection Diagram for Digital Terminal

  The following shows a connection diagram for digital terminals.



Note: Accommodation of connector leads is depending on LENS of the circuit card.

Note 1: Here shows the allowable cable distances.

Power supply from System (Without arrestor)

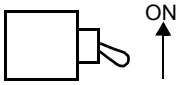
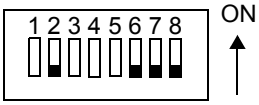
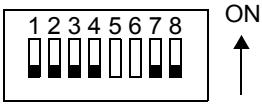
	DT400/DT300 Series	Dterm Series *i* *
ϕ 0.4	600 m	
ϕ 0.5	850 m	
ϕ 0.65	1400 m	
ϕ 0.9	1800 m	

*: DSS Console is not available. AC Adapter is required for DSS Console.

Local power supply

	DT400/DT300 Series	Dterm Series *i*
ϕ 0.4	700 m	
ϕ 0.5	1200 m	
ϕ 0.65	1800 m	
ϕ 0.9	1800 m	

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW10		
		SW11		

PA-16ELCN
Electronic Line Circuit

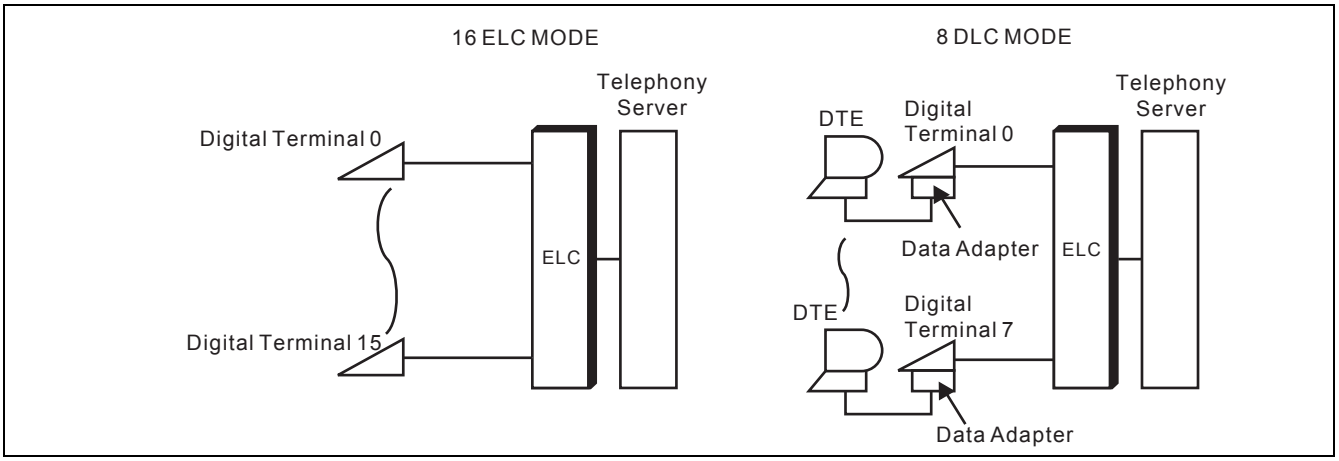
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

The PA-16ELCN (ELC) circuit card provides an interface between Digital terminal and the system. Depending upon the switch settings, this card works in the following two modes.

- 16 ELC mode: A maximum of 16 sets of Digital terminals can be connected to this card. (Voice communications only)
- 8 DLC mode: A maximum of eight sets of Digital terminals can be connected to this card. (Simultaneous Voice and Data communications)

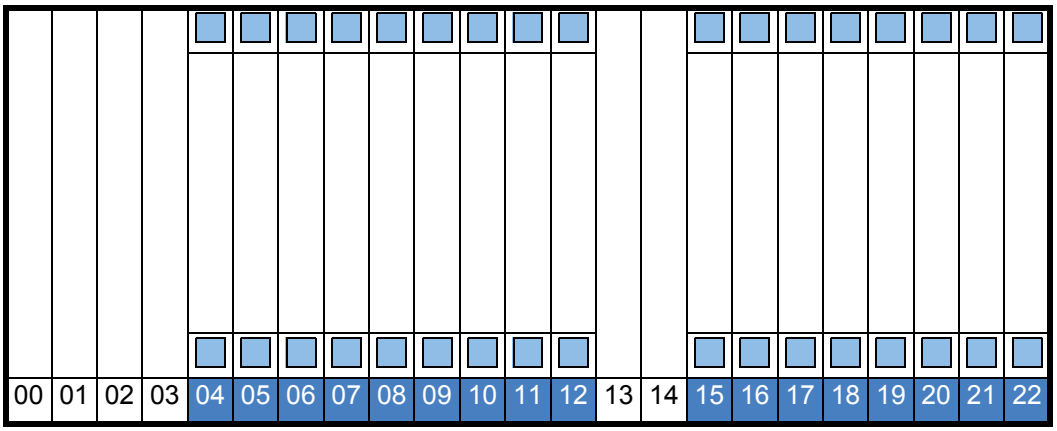
Location of PA-16ELCN (ELC) Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



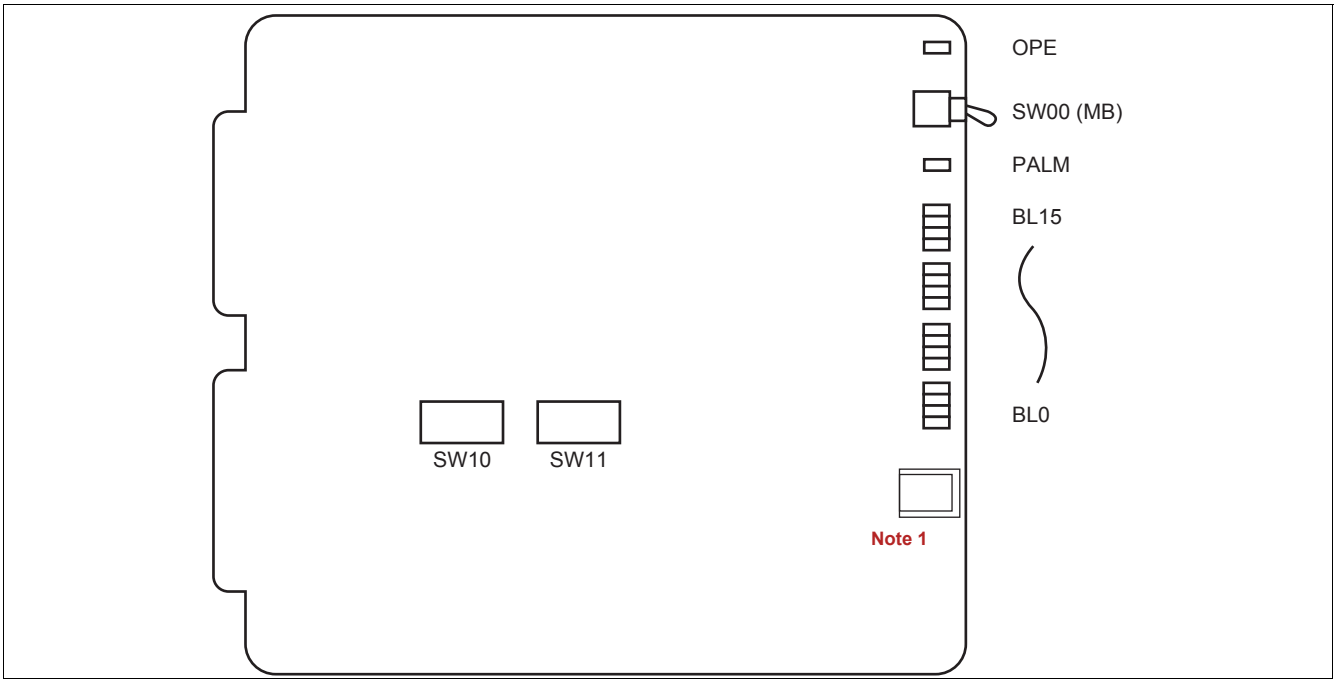
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-16ELCN (ELC) Card



Note 1: The console port is not used.

4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

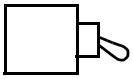
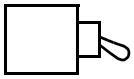
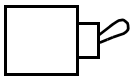
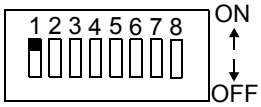
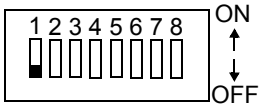
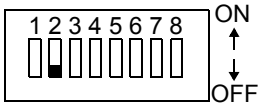
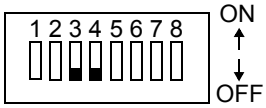
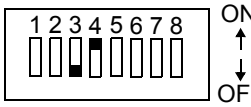
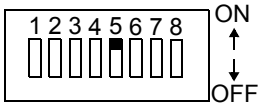
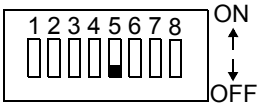
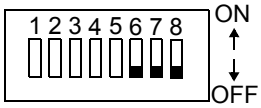
LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while On Line operations are normal.
	Off	Off when On Line operations are abnormal.
PALM	Red	Lights red when power supply circuit(s) is abnormal. **Note 1**
	Off	Off when all the power supply circuits are normal.
BL0 ' BL15	Green	Lights when the corresponding circuit is busy.
	Flash	Flashes when the corresponding circuit is in Make-Busy state or station data has not been assigned.
	Off	Off when the corresponding circuit is idle.

Note 1: When the PALM lamp lights red, observe the following instructions.

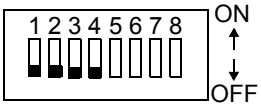
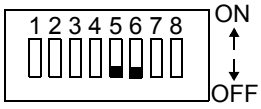
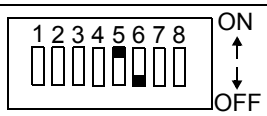
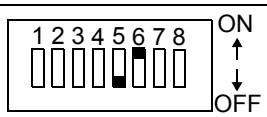
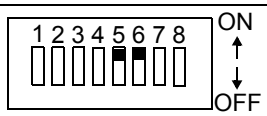
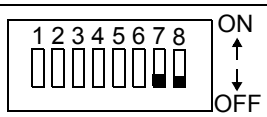
1. Identify the location where any in-house wires have a short circuit as to all lines belonging to the PA-16ELCN card whose PALM is on.
2. Repair the short-circuited wires of the associated Dterm.
3. Disconnect the Dterm from the rosette, and leave it disconnected for at least one minute.
4. Connect the Dterm again.

5. Switch Settings

Switches on the PA-16ELCN card have the following meanings.

SWITCH	FUNCTION		SWITCH SETTING	MEANING
SW00 (MB) 	Circuit Card Make-Busy key			Circuit card: Make-Busy cancel
				Circuit card: Make-Busy
SW10	1	LP-PM Interface mode setting		When your system uses software Release 7 or earlier.
				When your system uses software Release 8 or higher.
	2	—		Not used.
	3-4	ELC/DLC mode setting		This circuit card is operated in 16 ELC mode.
				This circuit card is operated in 8 DLC mode.
			Do not set another combination.	
Details are shown in the next table.	5	Analog Port Adapter setting		Analog Port Adapter is available.
				Analog Port Adapter is not available.
	6-8	—		Fixed to all OFF.

	SW10-3: OFF, SW10-4: OFF	SW10-3: OFF, SW10-4: ON
SW10-5: OFF	• 16 sets of Dterms per card. • Voice communication only.	• Eight sets of Dterms per card. • Data Adapter is used.
SW10-5: ON	• 16 sets of Dterms per card. • Analog Port Adapter is used (Either Dterm or Analog terminal can be used at the same time).	• Eight sets of Dterms per card. • Analog Port Adapter is used (Both Dterm and Analog terminal can be used at the same time).

SWITCH	FUNCTION		SWITCH SETTING	MEANING
SW11	1-4	—		Fixed to all OFF.
	5-6	Terminal Mode Setting **Note 1**, **Note 2**		Dterm Series *i* mode.
				Dterm Series E/Dterm 75 mode.
				Not used.
				DT400/DT300 Series mode. (Standard Setting)
	7-8	—		Fixed to all OFF.

Note 1: The detailed terminal operation mode is determined by the combinations of Switch Setting, Terminal Type and System Type as shown below.

Note 2: This setting should be kept in DT400/DT300 Series mode (Standard Setting: SW11-5=ON, SW11-6=ON) unless required for specific purposes.

- Terminal Operation Mode

SWITCH SETTING	TERMINAL TYPE	OPERATION MODE
SW11-5: OFF SW11-6: OFF	DT400/DT300 Series	Dterm Series *i* mode
	Dterm Series *i*	
SW11-5: ON SW11-6: OFF	DT400/DT300 Series	Unavailable
	Dterm Series *i*	Dterm Series E/Dterm 75 mode
SW11-5: OFF SW11-6: ON	DT400/DT300 Series	Unavailable
	Dterm Series *i*	
SW11-5: ON SW11-6: ON	DT400/DT300 Series	DT400/DT300 Series mode
	Dterm Series *i*	Dterm Series *i* mode

- Ringer Tone Selection

  Ringer Tone can be selected by pressing the FEATURE key and Key Pad 3 consecutively. The following tone types can be selected.

TONE NUMBER	1st/2nd FREQUENCY (Hz)/TONE KIND	MODULATION (Hz)
Tone 1	520/660	16
Tone 2	520/660	8
Tone 3	1100/1400	16
Tone 4	660/760	16
Tone 5 **Note 3**	Door Phone Music Scale Tone	-
Tone 6 **Note 3**	Music Scale Tone 1	-
Tone 7 **Note 3**	Music Scale Tone 2	-
Tone 8 **Note 3**	Music Scale Tone 3	-
Tone 9 **Note 3**	Music Scale Tone 4	-
Tone 10 **Note 3**	Music Scale Tone 5	-

Note: The conditions of Ringer Tone Selection are as follows.
- When selecting Tone 1-4, Ringer ON/OFF Pattern specified by the system data (ASYD, SYS3: Ringer Pattern) are valid. When selecting Tone 5-10, Ringer ON/OFF Pattern specified by the system data (ASYD, SYS3: Ringer Pattern) are invalid.

Note 3: The following conditions must be satisfied for Dterm Series i and DT400/DT300 Series.
- Operation Mode: Dterm Series i mode and DT400/DT300 Series mode.

6. External Interface

Depending upon the applied mode (16 ELC/8 DLC mode), external interface leads appear on the LT connectors as follows.

- 16 ELC mode

LT Connector Lead Accommodation (16ELC Mode) (1/2)

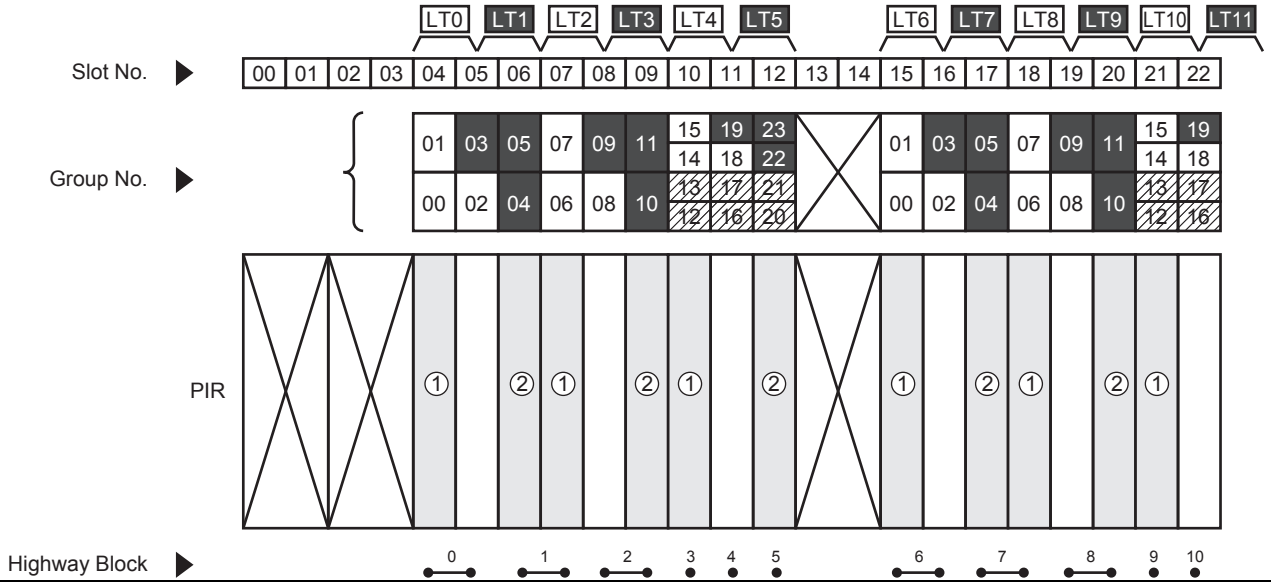
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

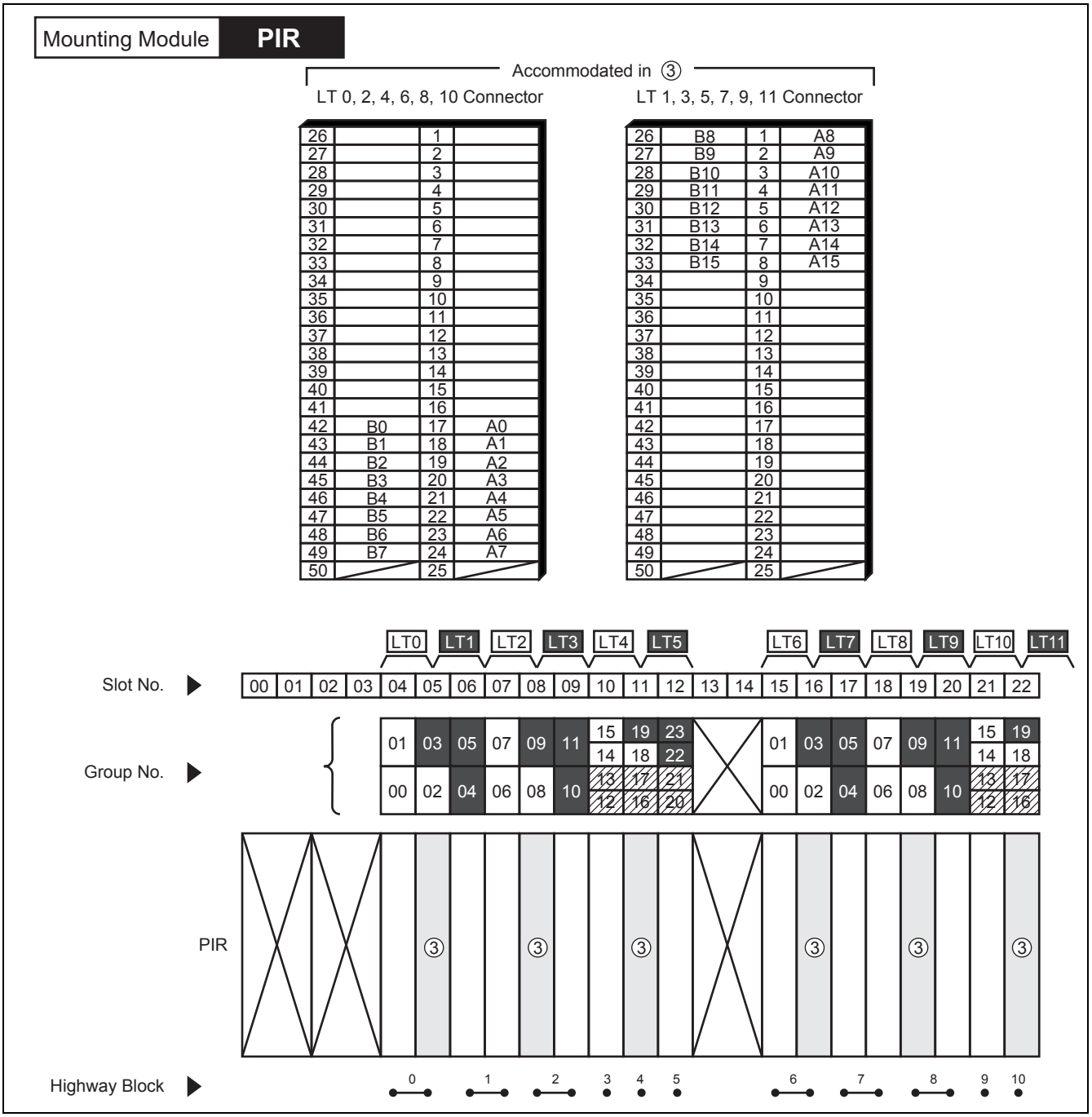
Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42	B8	17	A8
43	B9	18	A9
44	B10	19	A10
45	B11	20	A11
46	B12	21	A12
47	B13	22	A13
48	B14	23	A14
49	B15	24	A15
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (16 ELC Mode) (2/2)



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

- 8 DLC mode

LT Connector Lead Accommodation (8 DLC Mode)

Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

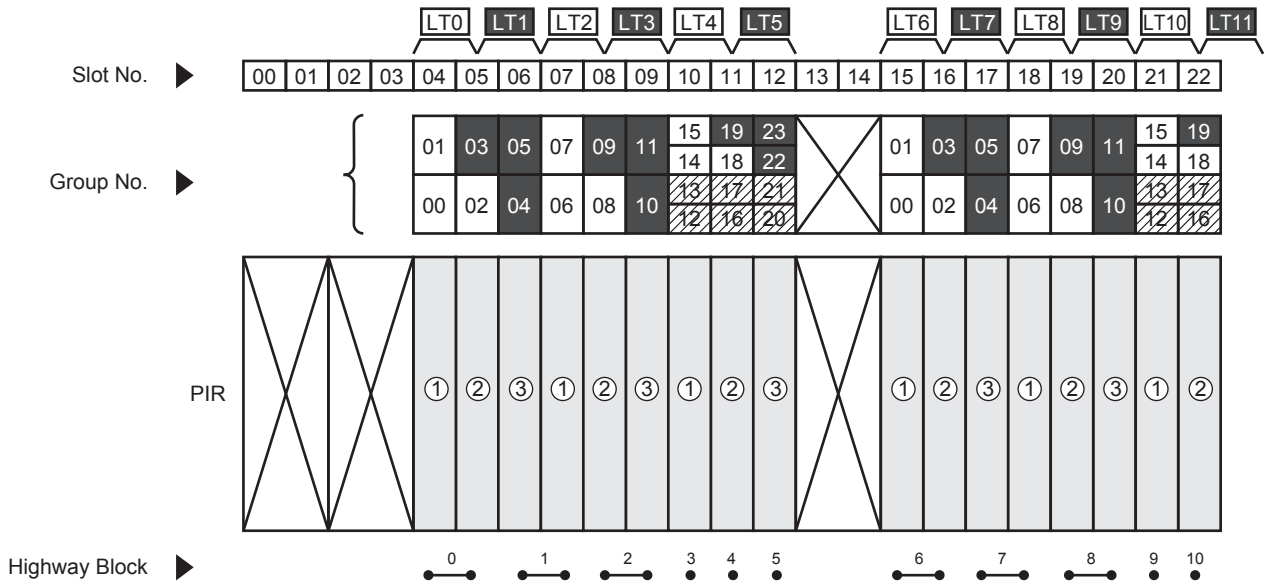
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9, 11 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ③
LT 1, 3, 5, 7, 9 Connector

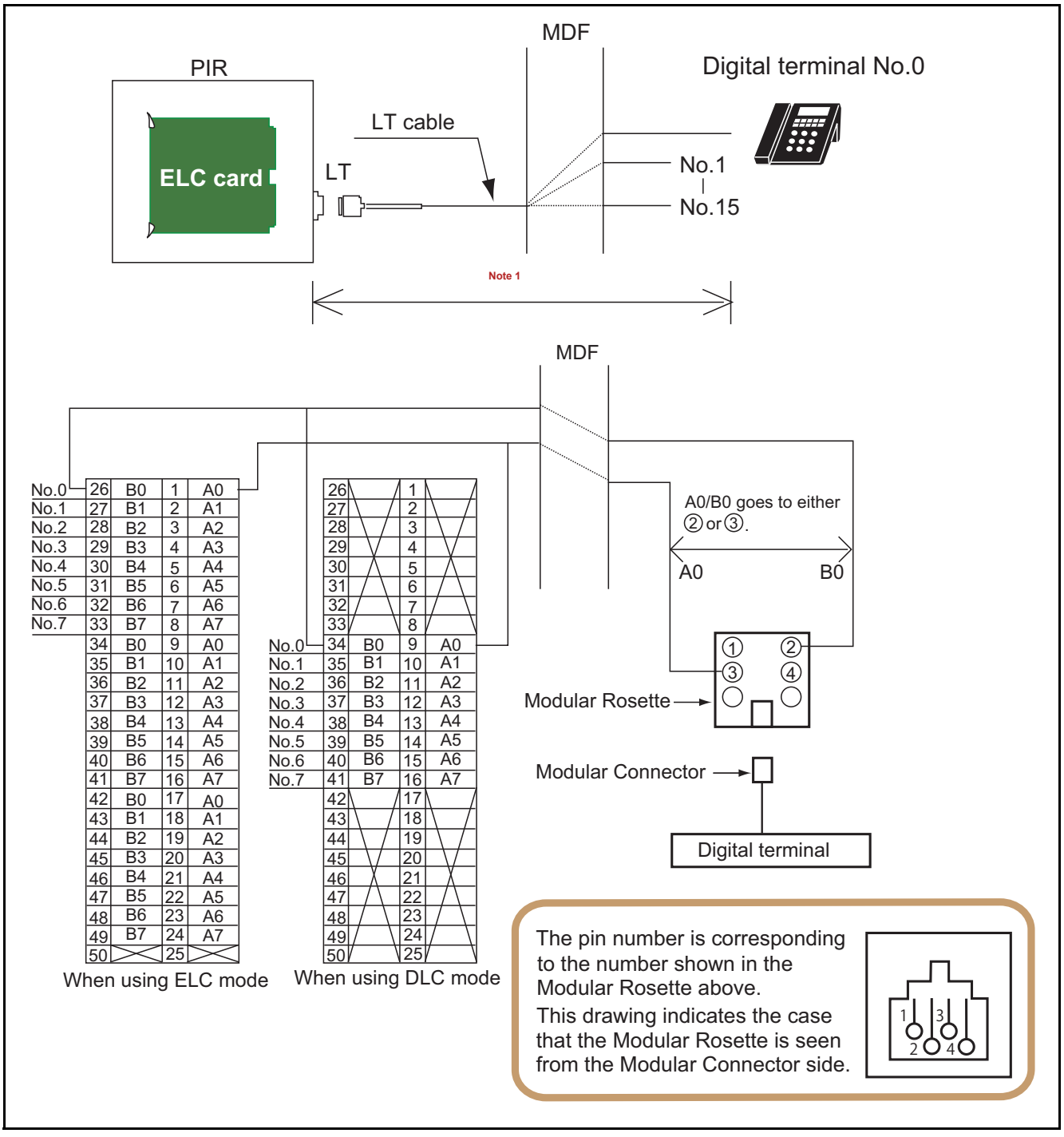
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

- Connection Diagram for Digital Terminal

  The following shows a connection diagram for digital terminals.



No.0	26	B0	1	A0	No.0	34	B0	9	A0
No.1	27	B1	2	A1	No.1	35	B1	10	A1
No.2	28	B2	3	A2	No.2	36	B2	11	A2
No.3	29	B3	4	A3	No.3	37	B3	12	A3
No.4	30	B4	5	A4	No.4	38	B4	13	A4
No.5	31	B5	6	A5	No.5	39	B5	14	A5
No.6	32	B6	7	A6	No.6	40	B6	15	A6
No.7	33	B7	8	A7	No.7	41	B7	16	A7
	34	B0	9	A0		42		17	
	35	B1	10	A1		43		18	
	36	B2	11	A2		44		19	
	37	B3	12	A3		45		20	
	38	B4	13	A4		46		21	
	39	B5	14	A5		47		22	
	40	B6	15	A6		48		23	
	41	B7	16	A7		49		24	
	42	B0	17	A0		50		25	
	43	B1	18	A1					
	44	B2	19	A2					
	45	B3	20	A3					
	46	B4	21	A4					
	47	B5	22	A5					
	48	B6	23	A6					
	49	B7	24	A7					
	50		25						

Note: Accommodation of connector leads is depending on LENS of the circuit card.

Note 1: Here shows the allowable cable distances.

Power supply from System (Without arrestor)

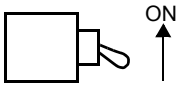
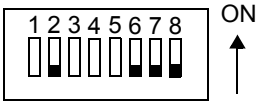
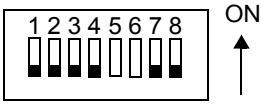
	DT400/DT300 Series	Dterm Series *i* *
ϕ 0.4	600 m	
ϕ 0.5	850 m	
ϕ 0.65	1400 m	
ϕ 0.9	1800 m	

*: DSS Console is not available. AC Adapter is required for DSS Console.

Local power supply

	DT400/DT300 Series	Dterm Series *i*
ϕ 0.4	700 m	
ϕ 0.5	1200 m	
ϕ 0.65	1800 m	
ϕ 0.9	1800 m	

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW10		
		SW11		

PA-16ELCN-A
Electronic Line Circuit

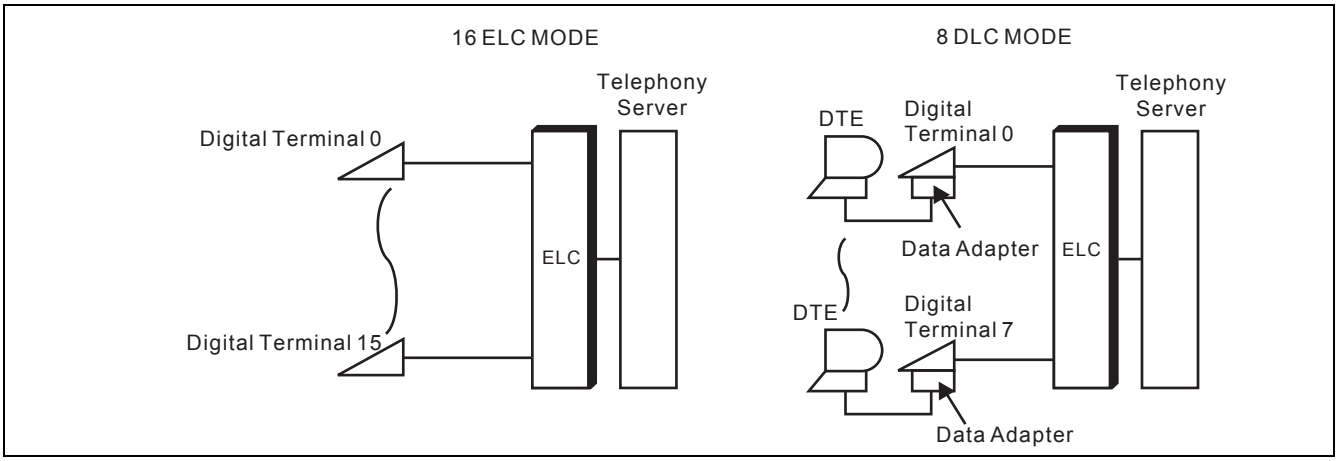
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

The PA-16ELCN-A (ELC) circuit card provides an interface between Digital terminal and the system. Depending upon the switch settings, this card works in the following two modes.

- 16 ELC mode: A maximum of 16 sets of Digital terminals can be connected to this card. (Voice communications only)
- 8 DLC mode: A maximum of eight sets of Digital terminals can be connected to this card. (Simultaneous Voice and Data communications)

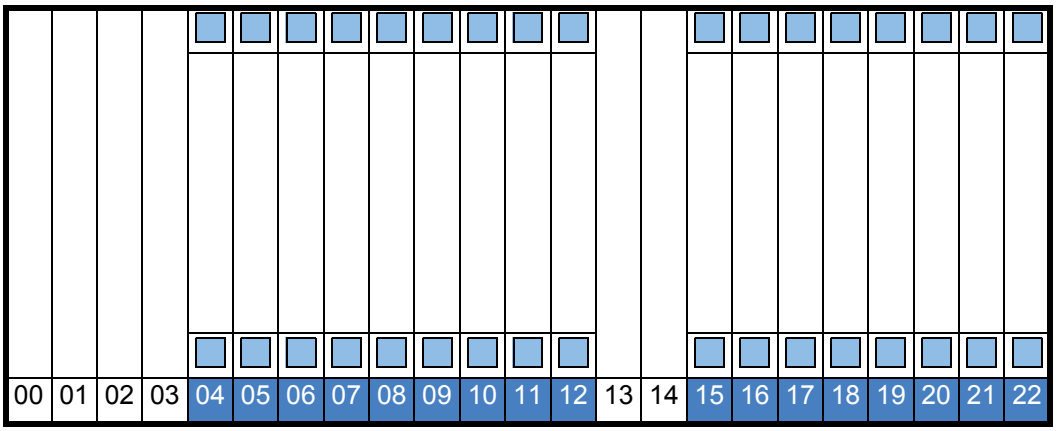
Location of PA-16ELCN-A (ELC) Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



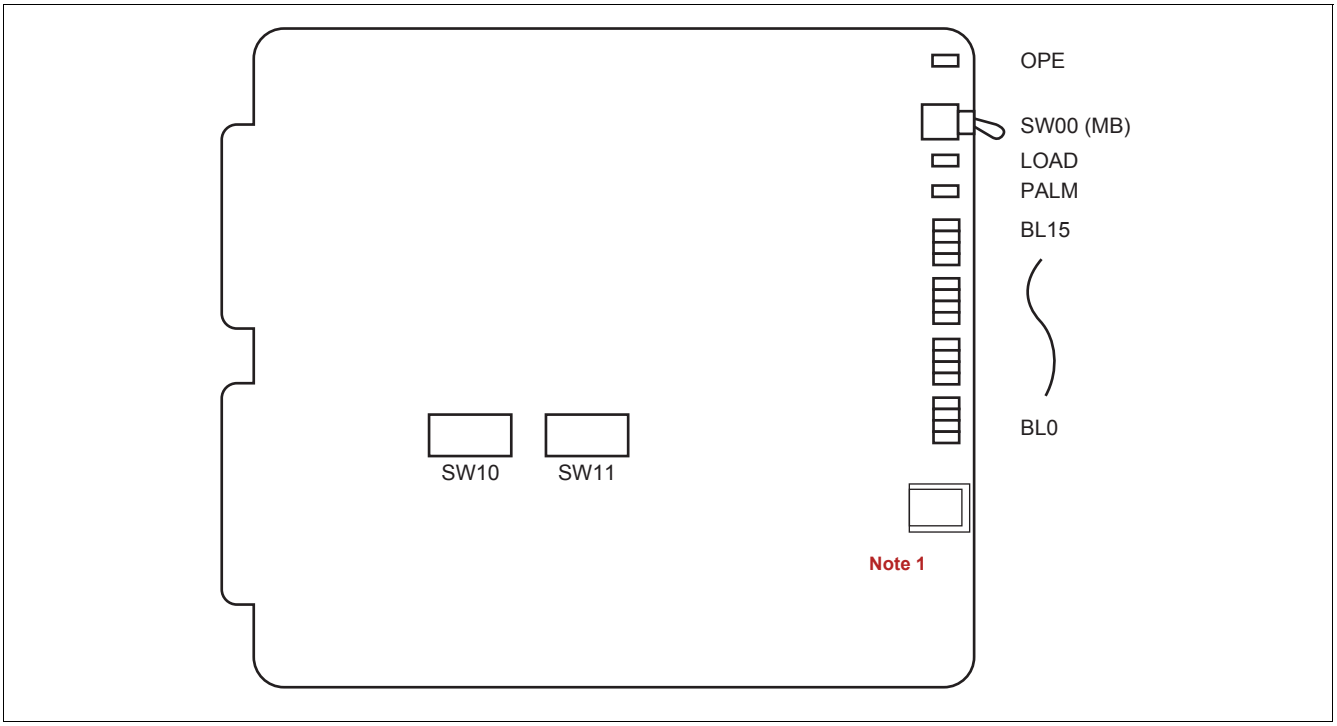
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-16ELCN-A (ELC) Card



Note 1: The console port is used.

4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

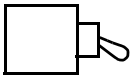
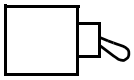
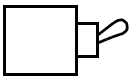
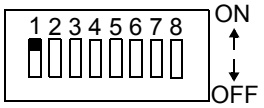
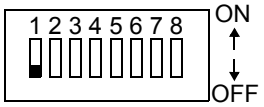
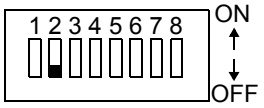
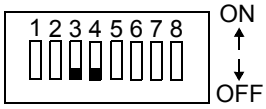
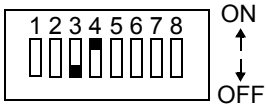
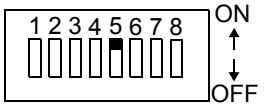
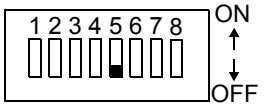
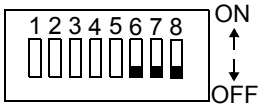
LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while On Line operations are normal.
	Off	Off when On Line operations are abnormal.
LOAD	Green	Remains lit while program is transferred. (Flash memory → SRAM)
PALM	Red	Lights red when power supply circuit(s) is abnormal. **Note 1**
	Off	Off when all the power supply circuits are normal.
BL0 ' BL15	Green	Lights when the corresponding circuit is busy.
	Flash	Flashes when the corresponding circuit is in Make-Busy state or station data has not been assigned.
	Off	Off when the corresponding circuit is idle.

Note 1: When the PALM lamp lights red, observe the following instructions.

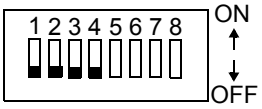
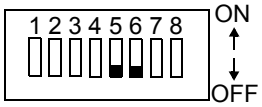
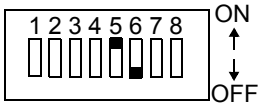
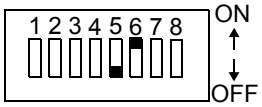
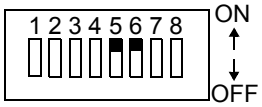
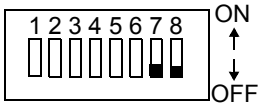
1. Identify the location where any in-house wires have a short circuit as to all lines belonging to the PA-16ELCN-A card whose PALM is on.
2. Repair the short-circuited wires of the associated Dterm.
3. Disconnect the Dterm from the rosette, and leave it disconnected for at least one minute.
4. Connect the Dterm again.

5. Switch Settings

Switches on the PA-16ELCN-A card have the following meanings.

SWITCH	FUNCTION		SWITCH SETTING	MEANING
SW00 (MB) 	Circuit Card Make-Busy key			Circuit card: Make-Busy cancel
				Circuit card: Make-Busy
SW10	1	LP-PM Interface mode setting		When your system uses software Release 7 or earlier.
				When your system uses software Release 8 or higher.
	2	—		Not used.
	3-4	ELC/DLC mode setting		This circuit card is operated in 16 ELC mode.
				This circuit card is operated in 8 DLC mode.
			Do not set another combination.	
Details are shown in the next table.	5	Analog Port Adapter setting		Analog Port Adapter is available.
				Analog Port Adapter is not available.
	6-8	—		Fixed to all OFF.

	SW10-3: OFF, SW10-4: OFF	SW10-3: OFF, SW10-4: ON
SW10-5: OFF	• 16 sets of Dterms per card. • Voice communication only.	• Eight sets of Dterms per card. • Data Adapter is used.
SW10-5: ON	• 16 sets of Dterms per card. • Analog Port Adapter is used (Either Dterm or Analog terminal can be used at the same time).	• Eight sets of Dterms per card. • Analog Port Adapter is used (Both Dterm and Analog terminal can be used at the same time).

SWITCH	FUNCTION		SWITCH SETTING	MEANING
SW11	1-4	—		Fixed to all OFF.
	5-6	Terminal Mode Setting **Note 1**		Dterm Series *i* mode.
				Dterm Series E/Dterm 75 mode.
				Not used.
				DT400/DT300 Series mode. (Standard Setting)
	7-8	—		Fixed to all OFF.

Note 1: The conditions of Terminal Mode Setting are as follows.

- This setting should be kept in DT400/DT300 Series mode (Standard Setting: SW11-5=ON, SW11-6=ON) unless required for specific purposes.
- When Dterm Series i mode (SW11-5=OFF, SW11-6=OFF) is set, the Cordless Terminal (DT430/DT330 (12BT)) behaves as a Dterm Series i. Thus, the features supported by DT400/DT300 Series are not performed.
- The detailed terminal operation mode is determined by the combinations of Switch Setting, Terminal Type and System Type as shown below.

<Terminal Operation Mode>

SWITCH SETTING	TERMINAL TYPE	OPERATION MODE
SW11-5: OFF SW11-6: OFF	DT400/DT300 Series	Dterm Series *i* mode
	Dterm Series *i*	
SW11-5: ON SW11-6: OFF	DT400/DT300 Series	Unavailable
	Dterm Series *i*	Dterm Series E/Dterm 75 mode
SW11-5: OFF SW11-6: ON	DT400/DT300 Series	Unavailable
	Dterm Series *i*	
SW11-5: ON SW11-6: ON	DT400/DT300 Series	DT400/DT300 Series mode
	Dterm Series *i*	Dterm Series *i* mode

<Ringer Tone Selection>

Ringer Tone can be selected by pressing FEATURE key and Key Pad 3 consecutively. The following tone types can be selected.

TONE NUMBER	1st/2nd FREQUENCY (Hz)/TONE KIND	MODULATION (Hz)
Tone 1	520/660	16
Tone 2	520/660	8
Tone 3	1100/1400	16
Tone 4	660/760	16
Tone 5 **Note 2**	Door Phone Music Scale Tone	-
Tone 6 **Note 2**	Music Scale Tone 1	-
Tone 7 **Note 2**	Music Scale Tone 2	-
Tone 8 **Note 2**	Music Scale Tone 3	-
Tone 9 **Note 2**	Music Scale Tone 4	-
Tone 10 **Note 2**	Music Scale Tone 5	-

Note: The conditions of Ringer Tone Selection are as follows.

- While displaying the Bluetooth option menu, the Bluetooth Cradle of the Cordless Terminal (DT430/DT330 (12BT)) does not play the ringer tone. When the Bluetooth Handset is off from the Bluetooth Cradle, only the Bluetooth Handset plays the ringer tone unless displaying the Local menu.
- When selecting Tone 1-4, Ringer ON/OFF Pattern specified by the system data (ASYD, SYS3: Ringer Pattern) are valid. When selecting Tone 5-10, Ringer ON/OFF Pattern specified by the system data (ASYD, SYS3: Ringer Pattern) are invalid.

Note 2: The following conditions must be satisfied for Dterm Series i and DT400/DT300 Series.

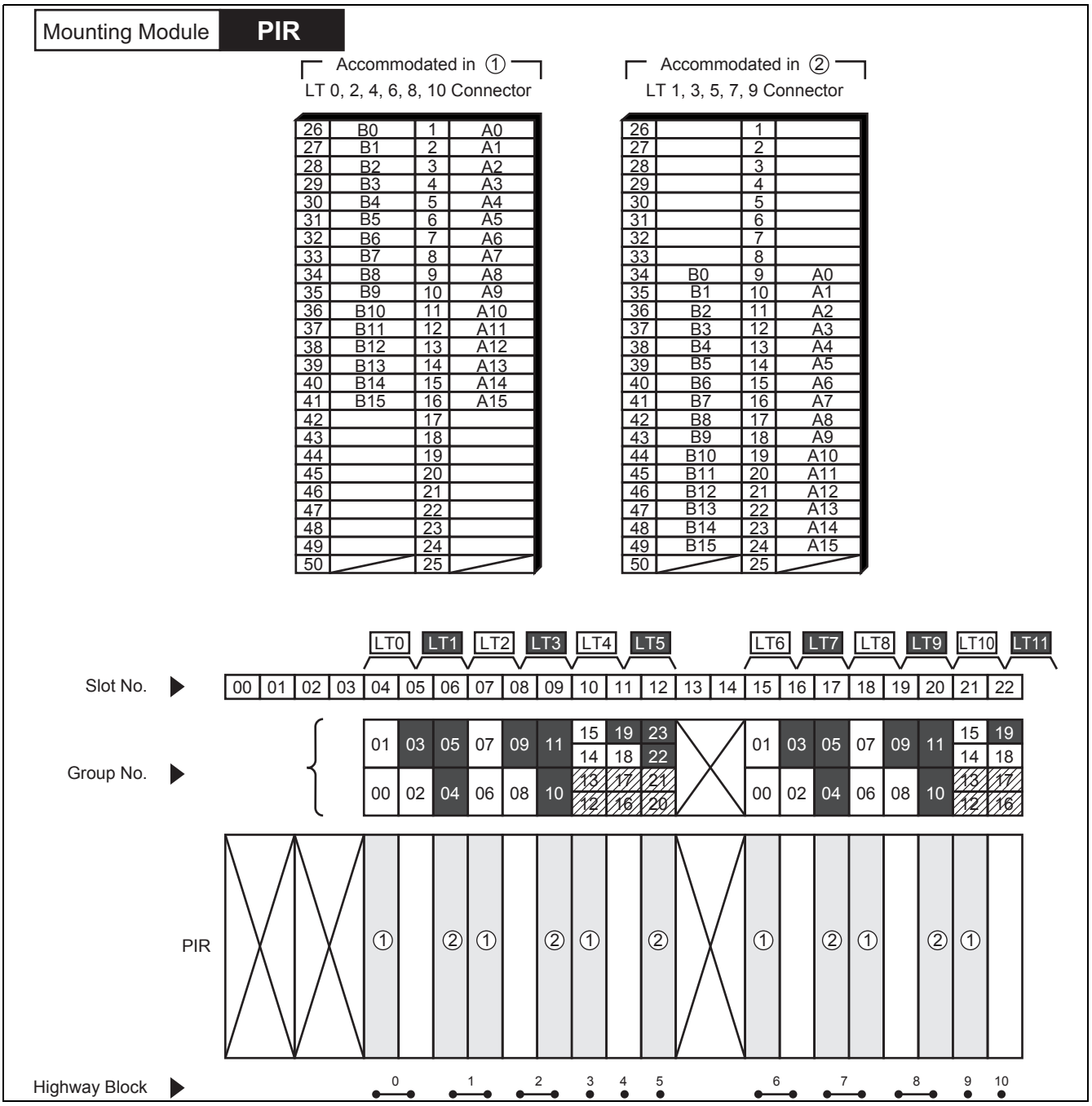
- Operation Mode: Dterm Series i mode and DT400/DT300 Series mode.

6. External Interface

Depending upon the applied mode (16 ELC/8 DLC mode), external interface leads appear on the LT connectors as follows.

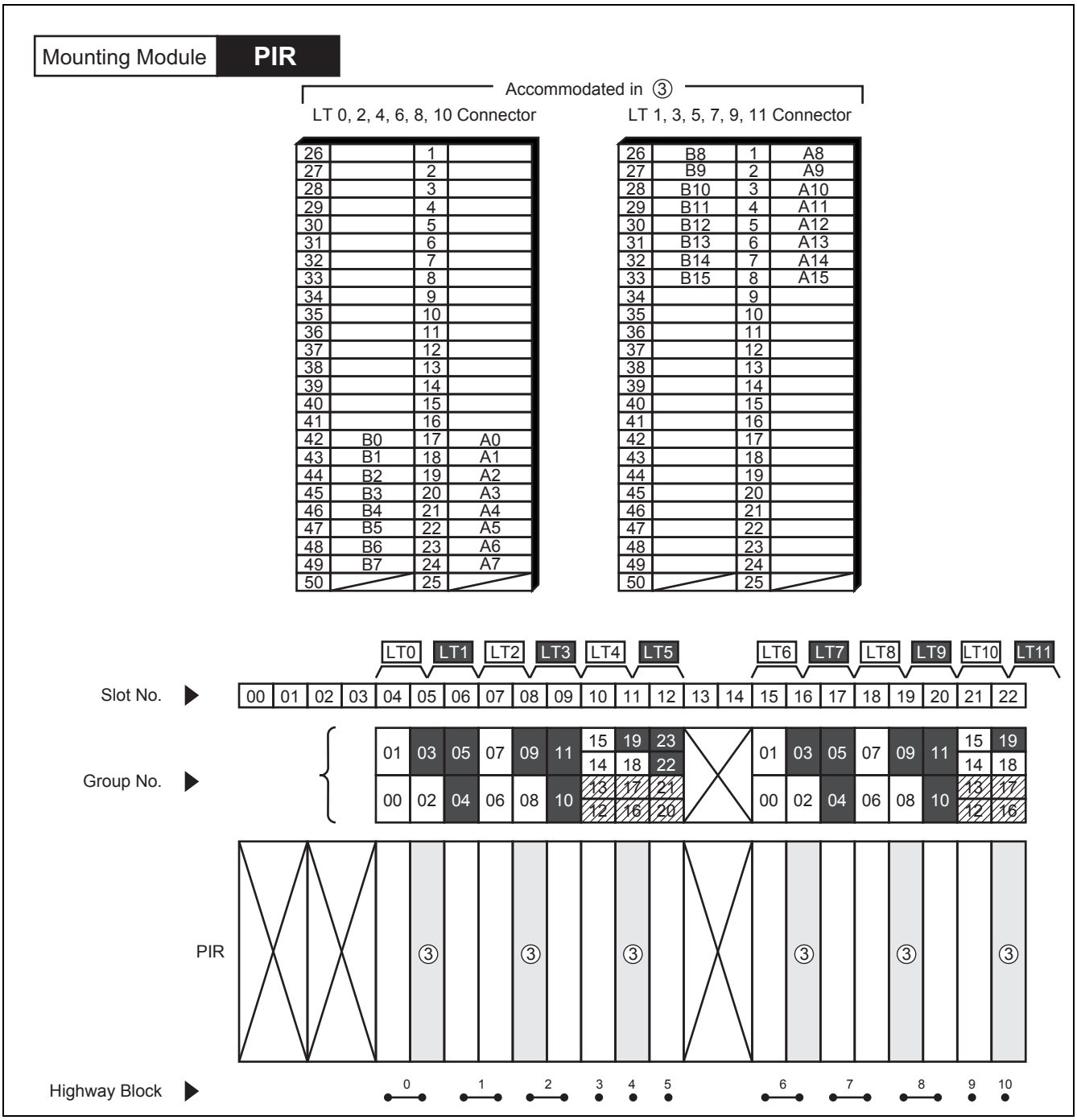
- 16 ELC mode

LT Connector Lead Accommodation (16ELC Mode) (1/2)



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (16 ELC Mode) (2/2)



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

- 8 DLC mode

LT Connector Lead Accommodation (8 DLC Mode)

Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

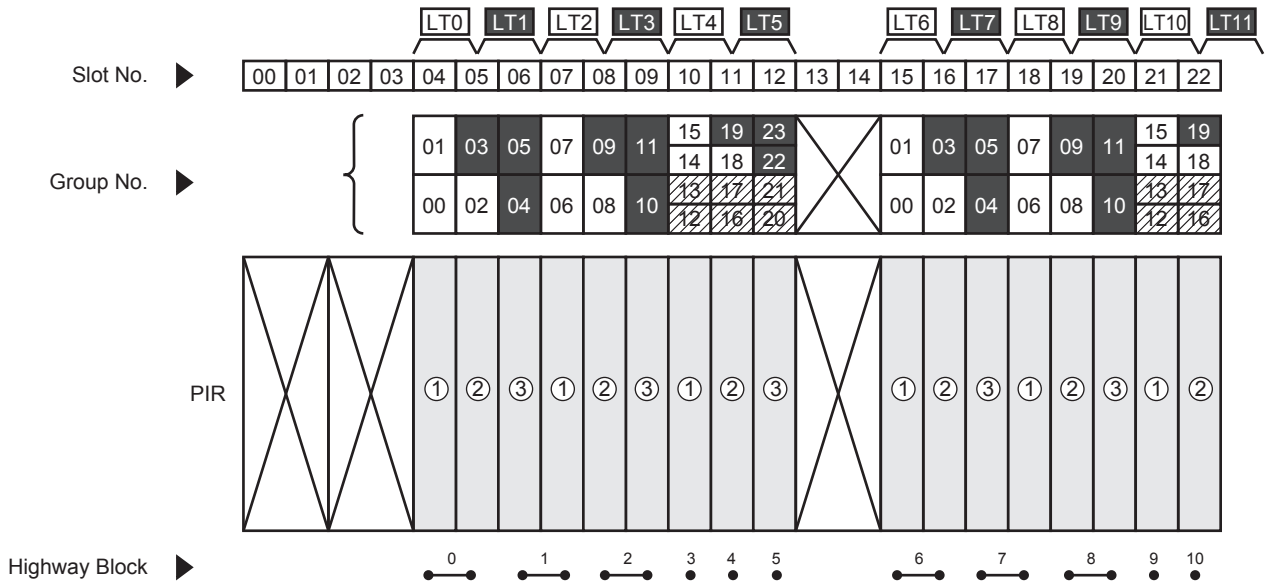
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9, 11 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ③
LT 1, 3, 5, 7, 9 Connector

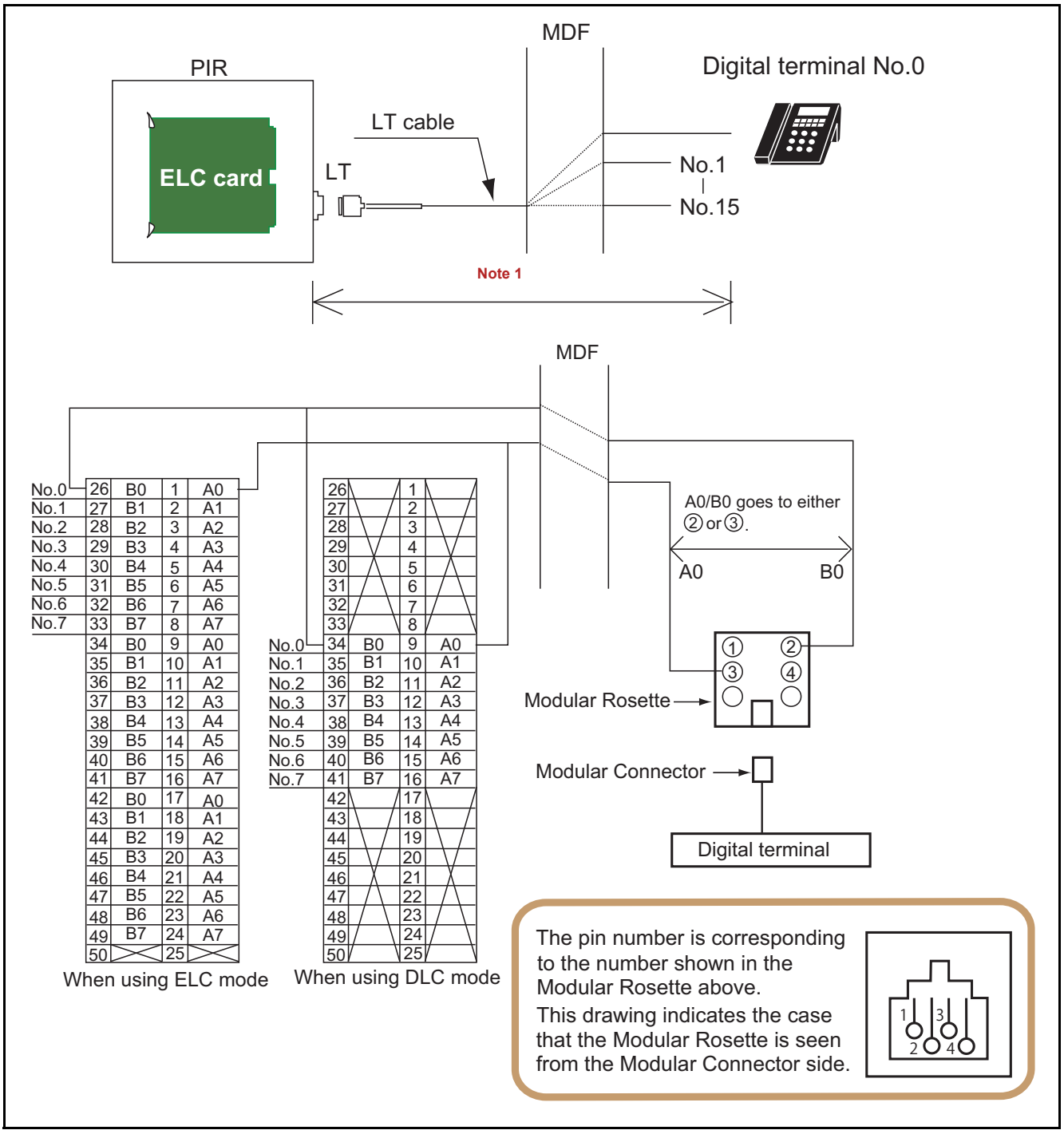
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

- Connection Diagram for Digital Terminal

  The following shows a connection diagram for digital terminals.



No.0	26	B0	1	A0	No.0	34	B0	9	A0
No.1	27	B1	2	A1	No.1	35	B1	10	A1
No.2	28	B2	3	A2	No.2	36	B2	11	A2
No.3	29	B3	4	A3	No.3	37	B3	12	A3
No.4	30	B4	5	A4	No.4	38	B4	13	A4
No.5	31	B5	6	A5	No.5	39	B5	14	A5
No.6	32	B6	7	A6	No.6	40	B6	15	A6
No.7	33	B7	8	A7	No.7	41	B7	16	A7
	34	B0	9	A0		42		17	
	35	B1	10	A1		43		18	
	36	B2	11	A2		44		19	
	37	B3	12	A3		45		20	
	38	B4	13	A4		46		21	
	39	B5	14	A5		47		22	
	40	B6	15	A6		48		23	
	41	B7	16	A7		49		24	
	42	B0	17	A0		50		25	
	43	B1	18	A1					
	44	B2	19	A2					
	45	B3	20	A3					
	46	B4	21	A4					
	47	B5	22	A5					
	48	B6	23	A6					
	49	B7	24	A7					
	50		25						

Note: Accommodation of connector leads is depending on LENS of the circuit card.

Note 1: Here shows the allowable cable distances.

Power supply from System (Without arrestor)

	DT400/DT300 Series	Dterm Series *i* *
ϕ 0.4	600 m	
ϕ 0.5	850 m	
ϕ 0.65	1400 m	
ϕ 0.9	1800 m	

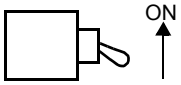
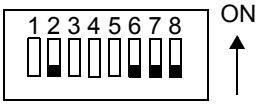
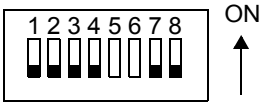
*: DSS Console is not available. AC Adapter is required for DSS Console.

Local power supply

	DT400/DT300 Series *	Dterm Series *i*
ϕ 0.4	700 m	
ϕ 0.5	1200 m	
ϕ 0.65	1800 m	
ϕ 0.9	1800 m	

*: Cordless Terminal (DT430/DT330 (12BT)) is available only for Local power supply.

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW10		
		SW11		

PA-FCHA
FCCS Call Control Handler

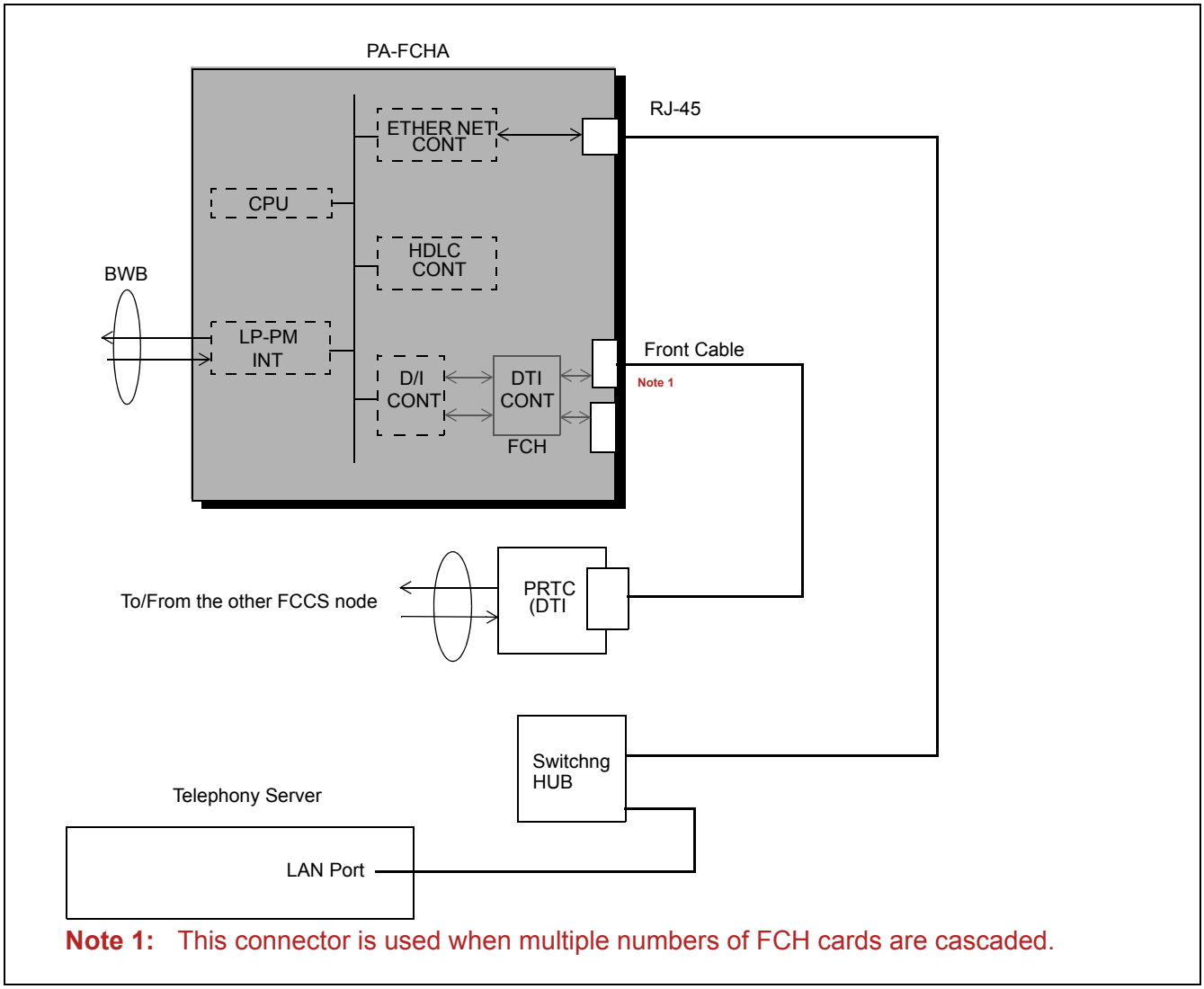
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

This circuit card is a protocol converter to carry the FCCS-Link-Data from/to the other node. The FCCS-Link-Data are received/transferred from/to the Telephony Server via a switching HUB across the TCP/IP interface. Once the FCH has received the FCCS-Link-Data from the Telephony Server, the HDLC CONT part of the FCH converts it to the High Level Data Link Controller (HDLC) format, then drops and inserts (D/I) onto a particular channel (or channels) of the ITU-T G.703 digital interface.

Note: FCCS means Fusion Call Control Signalling.

Location of PA-FCHA (FCH) Card in the System

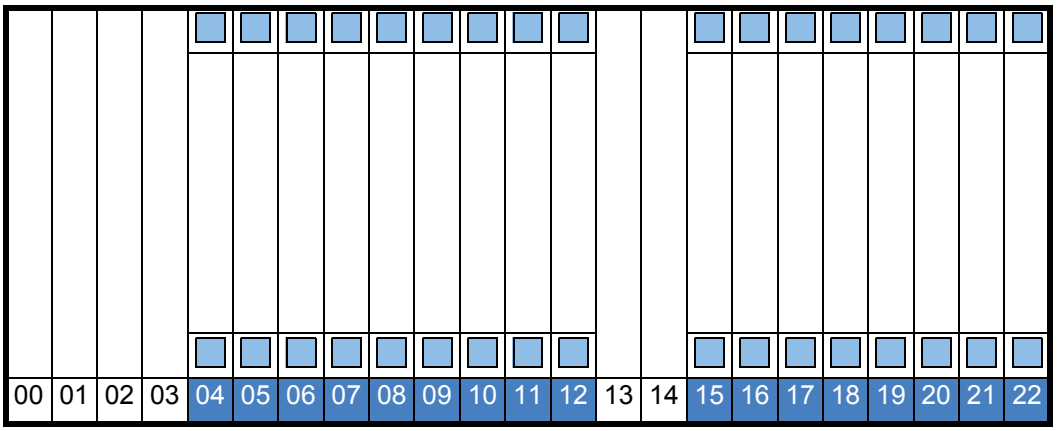


Note 1: This connector is used when multiple numbers of FCH cards are cascaded.

2. Mounting Location/ Condition

Mounting Location <8U-PIR>

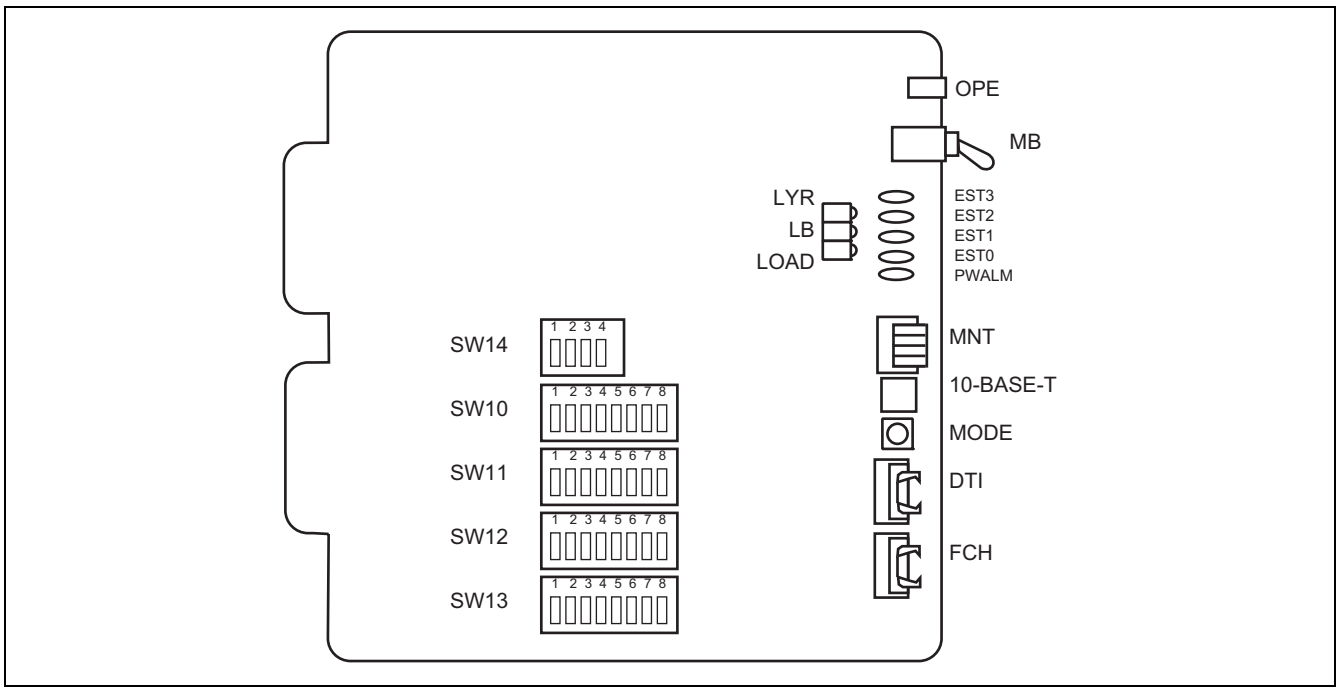
Universal Slot



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors is shown below.

Face Layout of PA-FCHA (FCH) Card



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating.
LYR	Green	Remains lit while the FCCS link is established.
	Flash	Flashes when the FCCS link test result is fair. (60 IPM)
	Off	Remains off when either the FCCS link is not established or the FCCS link test result is not fair.
LB	Green	Remains lit while 10BASE-T port is ready to use.
	Off	Remains off when 10BASE-T port is not ready.
LOAD	Green	Remains lit while this circuit card is ready to broadcast data packets. (Forwarding Status)
	Flash (60 IPM)	Remains lit while this circuit card is ready to broadcast data packets. (Blocking Status)
	Flash (120 IPM)	Remains lit while this circuit card is standby to broadcast data packets. (Learning Status)
	Off	Remains off when this circuit card is standby to broadcast data packets. (Null Status)
EST3	Green	Remains lit while sending data.
EST2	Green	Remains lit when receiving pair cable polarity is normal.
EST1	Green	Remains lit while receiving data.
EST0	Green	Remains lit while the link is established.
PWALM	Red	Remains lit when power supply failure (from the BWB) has occurred.

5. Switch setting

Standard settings for switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	DESCRIPTION
MB **Note 1**		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
MNT	1	OFF	×	Fixed to OFF
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
	4 **Note 1**	ON		Make-Busy request
		OFF	×	Cancel the Make-Busy request

Note 1: The following operations are required prior to extracting the card.
1. Turn on the MNT4 switch.
2. Flip the MB switch.

SWITCH NAME	SETTING	STANDARD SETTING	DESCRIPTION
MODE	0 - 7		Not used
	8	×	Standard setting. (When the DTI is connected with the card front cable.)
	9		FCCS link test mode. (When the DTI is connected with the card front cable.)
	A - F		Not used

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>DESCRIPTION</th></tr>
<tr><td rowspan="16">SW10</td><td rowspan="2">1
Note 2</td><td>ON</td><td></td><td>T203 timer value is variable.</td></tr>
<tr><td>OFF</td><td>×</td><td>T203 timer value is fixed at ten seconds.</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td rowspan="16">This SW designates the D-Channel of the FCCS-Link-Data. (The number of D channels = n)

Set the corresponding SW(s) to ON for D/I, OFF for denial.

Note: For 1.5 M, set all SWs to OFF.

<table><tr><th>SW10</th><th>D/I channel (1.5M)</th><th>SW10</th><th>D/I channel (2M)</th></tr><tr><td>SW10-2</td><td>-</td><td>SW10-2</td><td>CH 1</td></tr><tr><td>SW10-3</td><td>-</td><td>SW10-3</td><td>CH 2</td></tr><tr><td>SW10-4</td><td>-</td><td>SW10-4</td><td>CH 3</td></tr><tr><td>SW10-5</td><td>-</td><td>SW10-5</td><td>CH 4</td></tr><tr><td>SW10-6</td><td>-</td><td>SW10-6</td><td>CH 5</td></tr><tr><td>SW10-7</td><td>-</td><td>SW10-7</td><td>CH 6</td></tr><tr><td>SW10-8</td><td>-</td><td>SW10-8</td><td>CH 7</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
</table>

Note 2: T203 timer designates the maximum idle time that does not transmit any data frames. As a basic rule, the shorter T203 timer value, the earlier a link failure detection will be obtained.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>DESCRIPTION</th></tr>
<tr><td rowspan="16">SW11
Note 3</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="16">This SW designates the D-Channel of the FCCS-Link-Data.
(The number of D channels = n)

Set the corresponding SW(s) to ON for D/I, OFF for denial.

<table><tr><th>SW11</th><th>D/I channel (1.5M)</th><th>SW11</th><th>D/I channel (2M)</th></tr><tr><td>SW11-1</td><td>CH 0</td><td>SW11-1</td><td>CH 8</td></tr><tr><td>SW11-2</td><td>CH 1</td><td>SW11-2</td><td>CH 9</td></tr><tr><td>SW11-3</td><td>CH 2</td><td>SW11-3</td><td>CH 10</td></tr><tr><td>SW11-4</td><td>CH 3</td><td>SW11-4</td><td>CH 11</td></tr><tr><td>SW11-5</td><td>CH 4</td><td>SW11-5</td><td>CH 12</td></tr><tr><td>SW11-6</td><td>CH 5</td><td>SW11-6</td><td>CH 13</td></tr><tr><td>SW11-7</td><td>CH 6</td><td>SW11-7</td><td>CH 14</td></tr><tr><td>SW11-8</td><td>CH 7</td><td>SW11-8</td><td>CH 15</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
</table>

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>DESCRIPTION</th></tr>
<tr><td rowspan="16">SW12
Note 3</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="16">This SW designates the D-Channel of the FCCS-Link-Data. (The number of D channels = n)

Set the corresponding SW(s) to ON for D/I, OFF for denial.

<table><tr><th>SW12</th><th>D/I channel (1.5M)</th><th>SW12</th><th>D/I channel (2M)</th></tr><tr><td>SW12-1</td><td>CH 8</td><td>SW12-1</td><td>CH 16</td></tr><tr><td>SW12-2</td><td>CH 9</td><td>SW12-2</td><td>CH 17</td></tr><tr><td>SW12-3</td><td>CH 10</td><td>SW12-3</td><td>CH 18</td></tr><tr><td>SW12-4</td><td>CH 11</td><td>SW12-4</td><td>CH 19</td></tr><tr><td>SW12-5</td><td>CH 12</td><td>SW12-5</td><td>CH 20</td></tr><tr><td>SW12-6</td><td>CH 13</td><td>SW12-6</td><td>CH 21</td></tr><tr><td>SW12-7</td><td>CH 14</td><td>SW12-7</td><td>CH 22</td></tr><tr><td>SW12-8</td><td>CH 15</td><td>SW12-8</td><td>CH23</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
</table>

Note 3: When “n” is larger than 1, the Time Slot Sequence Integrity (TSSI) must be guaranteed at the network.
When “n” is one or more, the corresponding D-Channels as “n” must be designated by SW10-SW12.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>DESCRIPTION</th></tr>
<tr><td rowspan="16">SW13</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="16">This SW designates the D-Channel of the FCCS-Link-Data. (The number of D channels = n)

Set the corresponding SW(s) to ON for D/I, OFF for denial.

<table><tr><th>SW13</th><th>D/I channel (1.5M)</th><th>SW13</th><th>D/I channel (2M)</th></tr><tr><td>SW13-1</td><td>CH 16</td><td>SW13-1</td><td>CH 24</td></tr><tr><td>SW13-2</td><td>CH 17</td><td>SW13-2</td><td>CH 25</td></tr><tr><td>SW13-3</td><td>CH 18</td><td>SW13-3</td><td>CH 26</td></tr><tr><td>SW13-4</td><td>CH 19</td><td>SW13-4</td><td>CH 27</td></tr><tr><td>SW13-5</td><td>CH 20</td><td>SW13-5</td><td>CH 28</td></tr><tr><td>SW13-6</td><td>CH 21</td><td>SW13-6</td><td>CH 29</td></tr><tr><td>SW13-7</td><td>CH 22</td><td>SW13-7</td><td>CH 30</td></tr><tr><td>SW13-8</td><td>CH 23</td><td>SW13-8</td><td>CH 31</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="8">SW14</td><td rowspan="2">1
Note 4</td><td>ON</td><td></td><td>Negative logic for the D/I CONT</td></tr>
<tr><td>OFF</td><td>×</td><td>Positive logic for the D/I CONT</td></tr>
<tr><td rowspan="2">2
Note 5</td><td>ON</td><td>×</td><td rowspan="4">The FCCS data link speed inserted onto the T1 interface.
<table><tr><th>SW14-2</th><th>SW14-3</th><th>SPEED</th></tr><tr><td>ON</td><td>ON</td><td>64 kbps × n</td></tr><tr><td>ON</td><td>OFF</td><td>56 kbps × n</td></tr><tr><td>OFF</td><td>ON</td><td>48 kbps × n</td></tr><tr><td>OFF</td><td>OFF</td><td>Not used</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3
Note 5</td><td>ON</td><td>×</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4
Note 6</td><td>ON</td><td></td><td>Note: The corresponding D-Channels as “n” must be designated by SW10-SW12.
Link Access Protocol D-channel (LAPD) signal link performs as the network.</td></tr>
<tr><td>OFF</td><td></td><td>LAPD signal link performs as the user.</td></tr>
</table>

Note 4: The same switch setting as the opposite office is required.

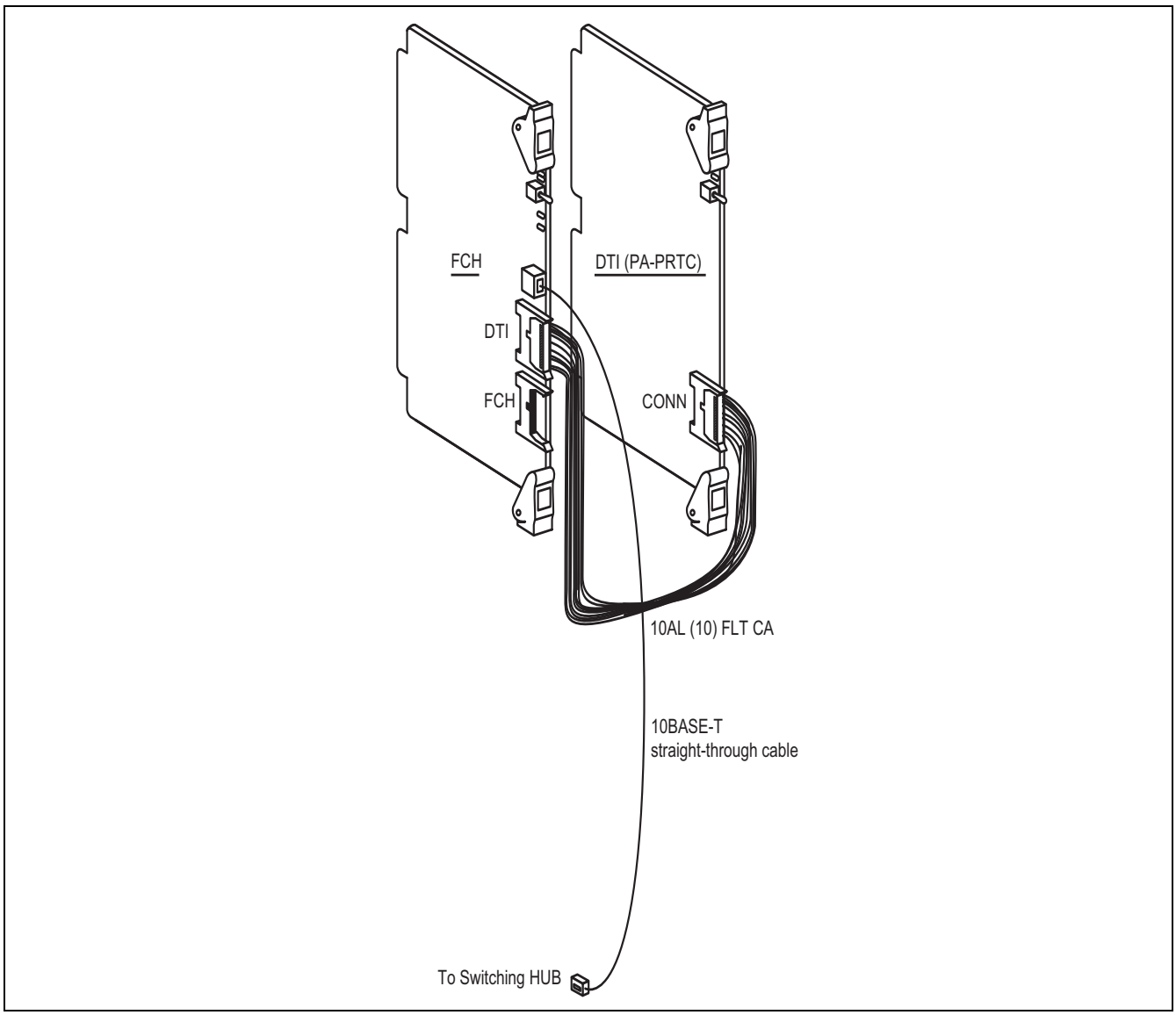
Note 5: Data speed 64 kbps is used for the T1 or E1 interface.
Data speed 56 kbps is used for the T1 interface with bit stealing.
Data speed 48 kbps is used for the T1 interface with both bit stealing and Zero Code Suppression (or Bit 7 Stuffing).

Note 6: When a node is set network, the distant node over the FCCS link should be set "user," and vice versa.

6. External Interface

The cable connections between FCH and DTI (PA-PRTC) are shown below.

DTI (PA-PRTC) Connection



See the following figure when multiple FCH circuit cards are connected to a DTI (PA-PRTC) as a cascade connection. The FCH can be combined with CCH/DCH on a cascade connection.

One DTI card can have a maximum of five Handler circuits cascaded on the FCH card, the CCH card, and/or DCH card. Since the FCH card contains one Handler circuit per card, a maximum of five FCH cards can be cascaded to a DTI card.

As an example, the following (a), (b) and (c) can coexist on a cascade connection.

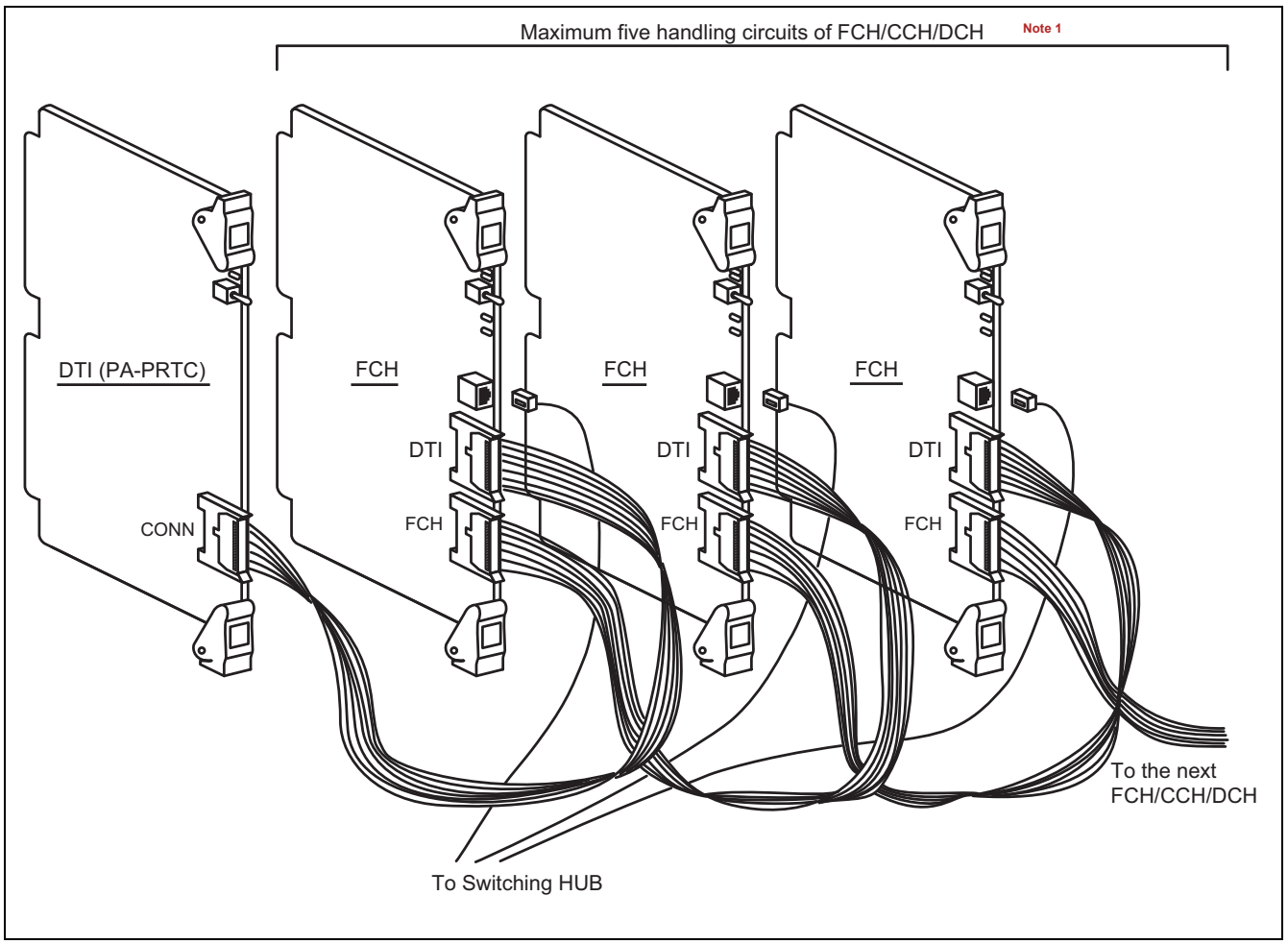
(a) FCH card (One Handler circuit card per card)

(b) CCH card (Two Handler circuits per card)

(c) DCH card (Two Handler circuits per card)

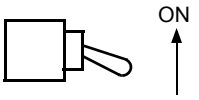
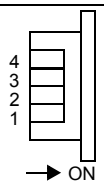
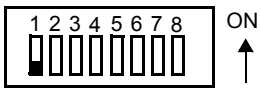
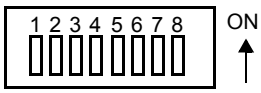
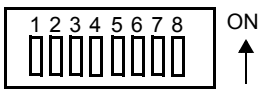
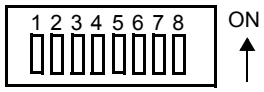
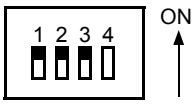
Also, the cascading cable length must be considered. (**Note 1**)

FCH Cascade Connection



Note 1: The maximum cable distance between DTI (PA-PRTC) and the last cascaded FCH (or CCH/DCH) is 50 cm (1 foot 7.6 inches).

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		
MNT		
MODE		
SW10		
SW11		
SW12		
SW13		
SW14		

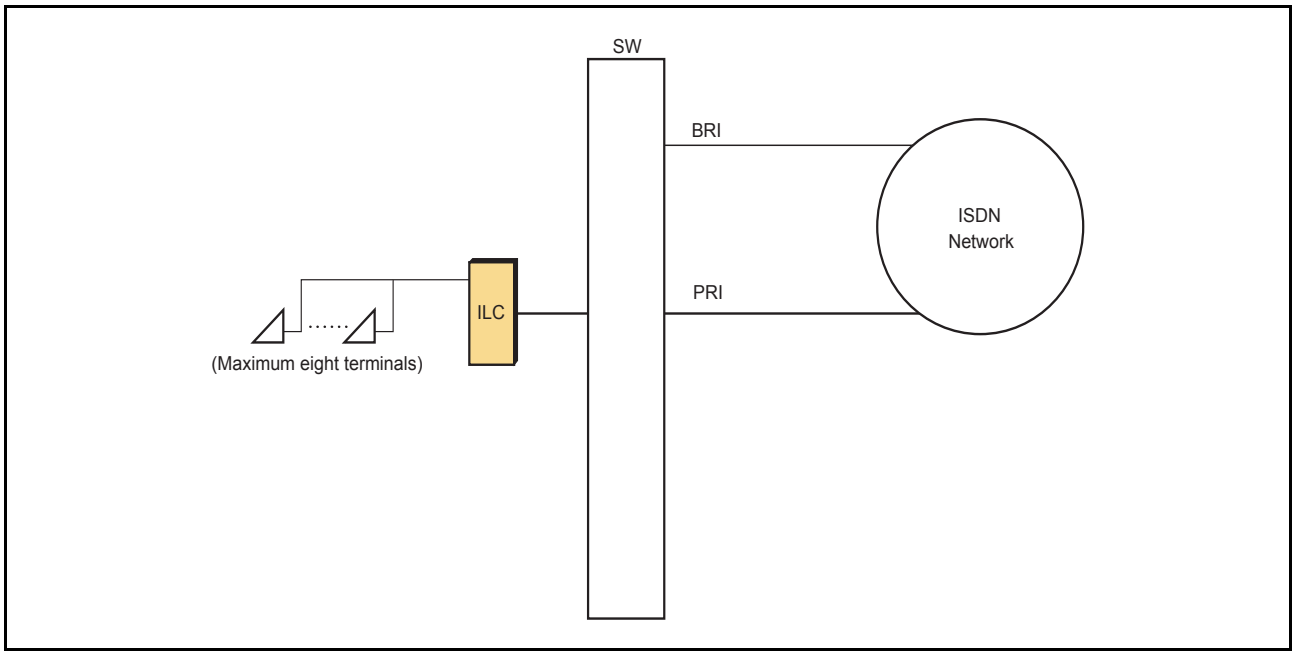
PA-8ILCG
ISDN Terminal Line Circuit

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

The PA-8ILCG (ILC) circuit card provides an interface between the system and a maximum of eight ISDN Basic Rate Interface (BRI) terminals. It allows the system to use eight ISDN BRIs, that are made up of two B-Channels at 64 kbps and one D-Channel at 16 kbps (2B+D × 8) on the same bus. D-channel packet function is not supported.

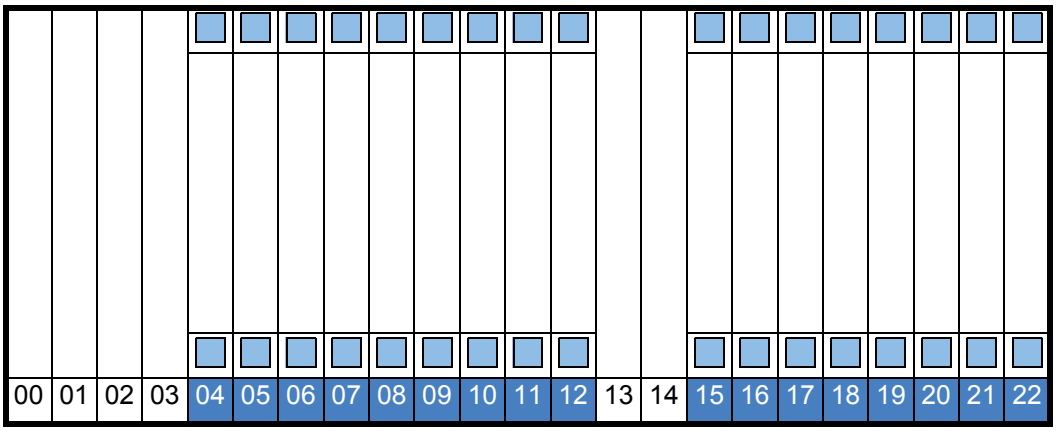
Location of PA-8ILCG (ILC) in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



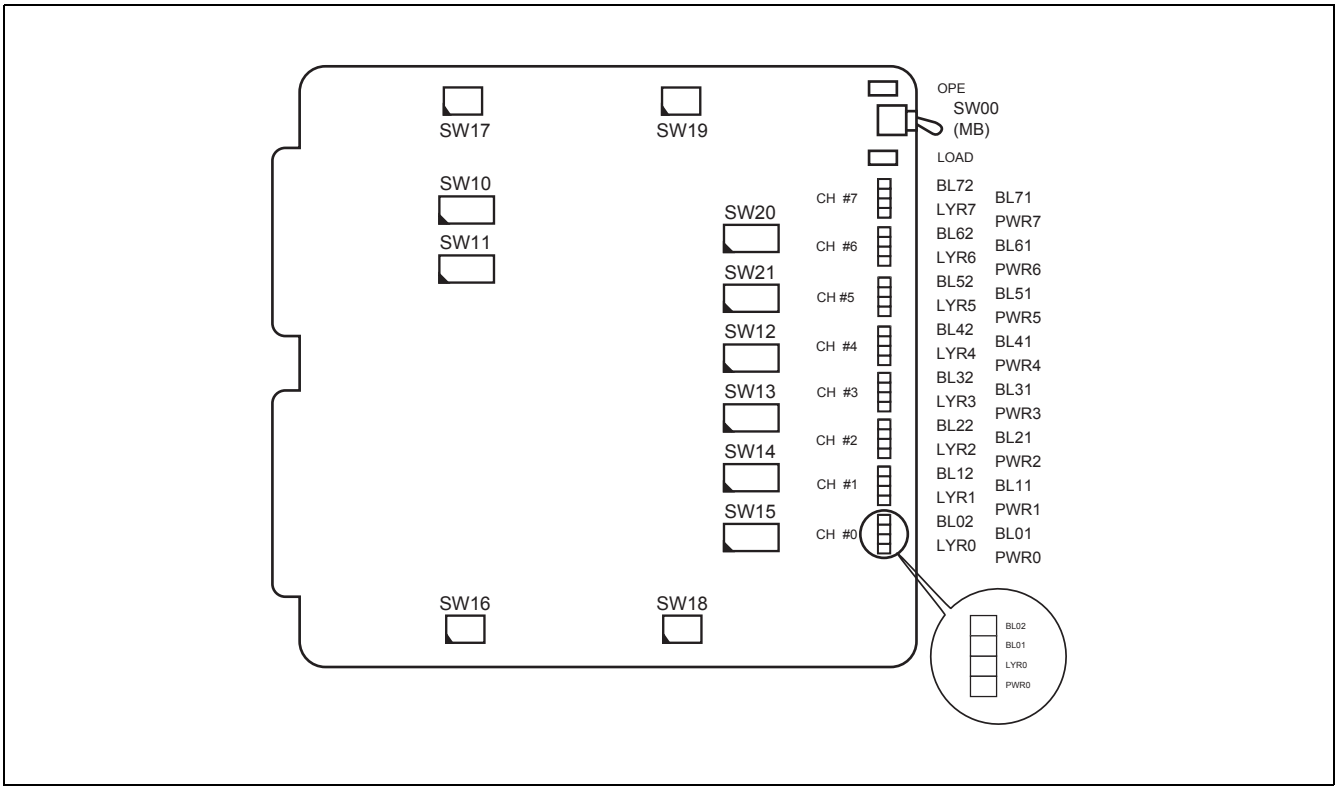
Mounting Conditions:

- This card cannot use Group 0 (G=00) of Unit 0 (U=0) of even-number Module Group.
- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on the circuit card is shown below.

Face Layout of PA-8ILCG (ILC)



4. Lamp Indications

The contents of lamp indications on the circuit card are shown in the table below.

LAMP NAME	COLOR	DESCRIPTION
OPE	Green	Remains lit while the circuit card is controlled by the CPU of the main unit.
LOAD	Green	Remains lit while program is transferred. (Flash memory → SRAM)
BL72 - BL02	Green	Remains lit while the corresponding circuits (#7 - #0) are communicating by B2-Channel.
		Flashes while the corresponding circuits (#7 - #0) are in Make-Busy. (60IPM)
		Remains off while the corresponding circuits (#7 - #0) are idle.

LAMP NAME	COLOR	DESCRIPTION
BL71 - BL01	Green	Remains lit while the corresponding circuits (#7 - #0) are communicating by B1-Channel.
		Flashes while the corresponding circuits (#7 - #0) are in Make-Busy. (60IPM)
		Remains off while the corresponding circuits (#7 - #0) are idle.
LYR7 - LYR0	Green	Remains lit while the corresponding circuits (#7 - #0) are establishing Layer 2 link. **Note 1**
		Flashes while the corresponding circuits (#7 - #0) are establishing Layer1 synchronization. (120IPM)
		Remains off while the corresponding circuits (#7 - #0) does not establish Layer 1 and Layer 2.
PWR7 - PWR0	Red	Remains lit when overcurrent protection function for the corresponding circuit (#7 - #0) is activated; the corresponding line is short-circuited.

Note 1: Depending on the type of the connected ISDN terminal whose Layer 2 is not sometimes active, this lamp may flash when the terminal is idle and light green when making a call.

5. Switch Settings

Standard settings of switches on the circuit card are shown in the table below.

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB		ON		Make-Busy of the circuit card.
		OFF	×	Normal setting
SW10	1	OFF	×	All fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	

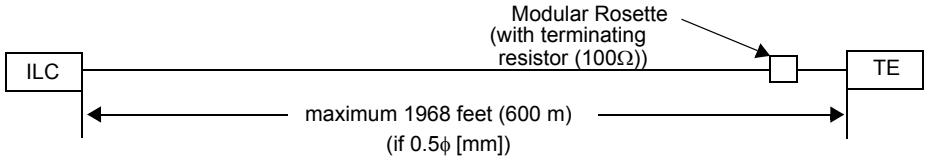
<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="9">SW11</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="4">Refer to the table below.</td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td colspan="4">Transferring PAD Level Setting (ILC → terminal):
<table>
<tr><th colspan="2" rowspan="2"></th><th colspan="2">Direction from main unit to turn the PAD on is received.</th><th colspan="2">Not received.</th></tr>
<tr><th colspan="2">8dB Gain PAD setting: SW3</th><th colspan="2">8dB Gain PAD setting: SW3</th></tr>
<tr><th>SW1</th><th>SW2</th><th>ON</th><th>OFF</th><th>ON</th><th>OFF</th></tr>
<tr><td>OFF</td><td>OFF</td><td>-8dB</td><td>0dB</td><td rowspan="4">-8dB</td><td rowspan="4">0dB</td></tr>
<tr><td>OFF</td><td>ON</td><td>-6dB</td><td>2dB</td></tr>
<tr><td>ON</td><td>OFF</td><td>-3dB</td><td>5dB</td></tr>
<tr><td>ON</td><td>ON</td><td>0dB</td><td>8dB</td></tr>
</table></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td rowspan="2">8dB Gain PAD (ILC → terminal)</td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td rowspan="4">Refer to the table below.</td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="3">SW11</td><td colspan="4">Receiving PAD Level Control (terminal → ILC):
<table>
<tr><th colspan="2"></th><th>Direction from main unit to turn the PAD on is received.</th><th>Not received.</th></tr>
<tr><th>SW5</th><th>SW6</th><th>PAD Level</th><th>PAD Level</th></tr>
<tr><td>OFF</td><td>OFF</td><td>0dB</td><td rowspan="4">0dB</td></tr>
<tr><td>OFF</td><td>ON</td><td>2dB</td></tr>
<tr><td>ON</td><td>OFF</td><td>5dB</td></tr>
<tr><td>ON</td><td>ON</td><td>8dB</td></tr>
</table></td></tr>
<tr><td rowspan="2">7</td><td>OFF</td><td>×</td><td rowspan="2">Fixed to OFF.</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td></tr>
</table>

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW12	1	OFF	×	Fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	
SW13 **Note 1**	1	ON		Circuit 0: Wiring other than Short Passive Connection
		OFF		Circuit 0: Short Passive Connection
	2	ON		Circuit 1: Wiring other than Short Passive Connection
		OFF		Circuit 1: Short Passive Connection
	3	ON		Circuit 2: Wiring other than Short Passive Connection
		OFF		Circuit 2: Short Passive Connection
	4	ON		Circuit 3: Wiring other than Short Passive Connection
		OFF		Circuit 3: Short Passive Connection
	5	ON		Circuit 4: Wiring other than Short Passive Connection
		OFF		Circuit 4: Short Passive Connection
	6	ON		Circuit 5: Wiring other than Short Passive Connection
		OFF		Circuit 5: Short Passive Connection
	7	ON		Circuit 6: Wiring other than Short Passive Connection
		OFF		Circuit 6: Short Passive Connection
	8	ON		Circuit 7: Wiring other than Short Passive Connection
		OFF		Circuit 7: Short Passive Connection

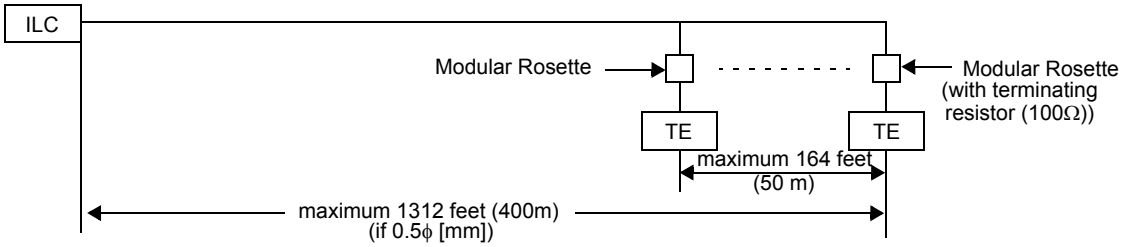
Note 1: Set the SW13 to determine the 4-wire bus mode referring to the following.

☐ **ON**

• Point-to-Point mode: In this mode one Terminal Equipment (TE) can be connected at the end of up to a maximum of 1968 feet (600 m) of cable as shown below.

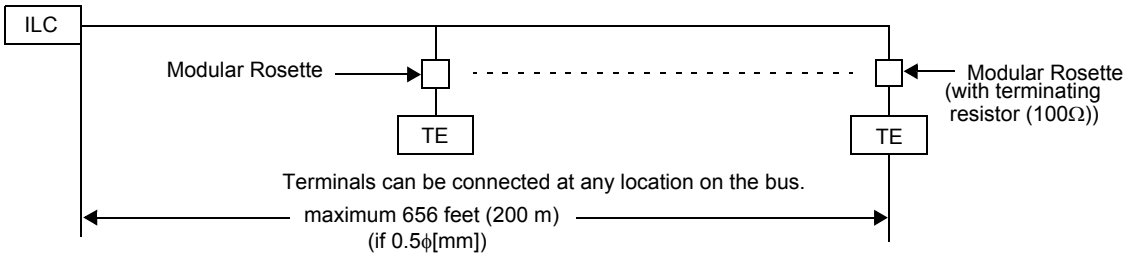


• Extended Passive Bus mode: This is a point-to-multipoint mode, where up to eight terminals can be connected. Note that the terminals must be connected within 164 feet (50 m) from the end of the bus cables as shown below.



☐ **OFF**

• Short Passive Bus mode: This is also a point-to-multipoint mode, where a maximum of eight terminals can be connected anywhere on the bus. Note that the bus length is limited to 656 feet (200 m) in this case.



SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW14 **Note 2**	1	ON		Bus mode in Layer 2 (Circuit 0): Point-to-Point
		OFF		Bus mode in Layer 2 (Circuit 0): Point-to-Multipoint
	2	ON		Bus mode in Layer 2 (Circuit 1): Point-to-Point
		OFF		Bus mode in Layer 2 (Circuit 1): Point-to-Multipoint
	3	ON		Bus mode in Layer 2 (Circuit 2): Point-to-Point
		OFF		Bus mode in Layer 2 (Circuit 2): Point-to-Multipoint
	4	ON		Bus mode in Layer 2 (Circuit 3): Point-to-Point
		OFF		Bus mode in Layer 2 (Circuit 3): Point-to-Multipoint
	5	ON		Bus mode in Layer 2 (Circuit 4): Point-to-Point
		OFF		Bus mode in Layer 2 (Circuit 4): Point-to-Multipoint
	6	ON		Bus mode in Layer 2 (Circuit 5): Point-to-Point
		OFF		Bus mode in Layer 2 (Circuit 5): Point-to-Multipoint
	7	ON		Bus mode in Layer 2 (Circuit 6): Point-to-Point
		OFF		Bus mode in Layer 2 (Circuit 6): Point-to-Multipoint
	8	ON		Bus mode in Layer 2 (Circuit 7): Point-to-Point
		OFF		Bus mode in Layer 2 (Circuit 7): Point-to-Multipoint
Note 2: The Point-to-Point connection wiring and Point-to-Multipoint connection wiring of wiring configuration differs from the Point-to-Point and Point-to-Multipoint above. Adjust each key according to the specification of each ISDN terminal.				
SW15	1	OFF	×	Fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	
SW16	1	ON	×	Fixed to ON.
	2	ON	×	
	3	ON	×	
	4	ON	×	
SW17	1	ON	×	Fixed to ON.
	2	ON	×	
	3	ON	×	
	4	ON	×	

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW18	1	ON	×	Fixed to ON.
	2	ON	×	
	3	ON	×	
	4	ON	×	
SW19	1	ON	×	Fixed to ON.
	2	ON	×	
	3	ON	×	
	4	ON	×	
SW20	1	ON		Layer 1 of circuit #0 is activated for every call.
		OFF	×	Layer 1 of circuit #0 is always activated.
	2	ON		Layer 1 of circuit #1 is activated for every call.
		OFF	×	Layer 1 of circuit #1 is always activated.
	3	ON		Layer 1 of circuit #2 is activated for every call.
		OFF	×	Layer 1 of circuit #2 is always activated.
	4	ON		Layer 1 of circuit #3 is activated for every call.
		OFF	×	Layer 1 of circuit #3 is always activated.
	5	ON		Layer 1 of circuit #4 is activated for every call.
		OFF	×	Layer 1 of circuit #4 is always activated.
	6	ON		Layer 1 of circuit #5 is activated for every call.
		OFF	×	Layer 1 of circuit #5 is always activated.
	7	ON		Layer 1 of circuit #6 is activated for every call.
		OFF	×	Layer 1 of circuit #6 is always activated.
	8	ON		Layer 1 of circuit #7 is activated for every call.
		OFF	×	Layer 1 of circuit #7 is always activated.
SW21	1	OFF	×	Fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	

6. External Interface

LT Connector Lead Accommodation (1/2)

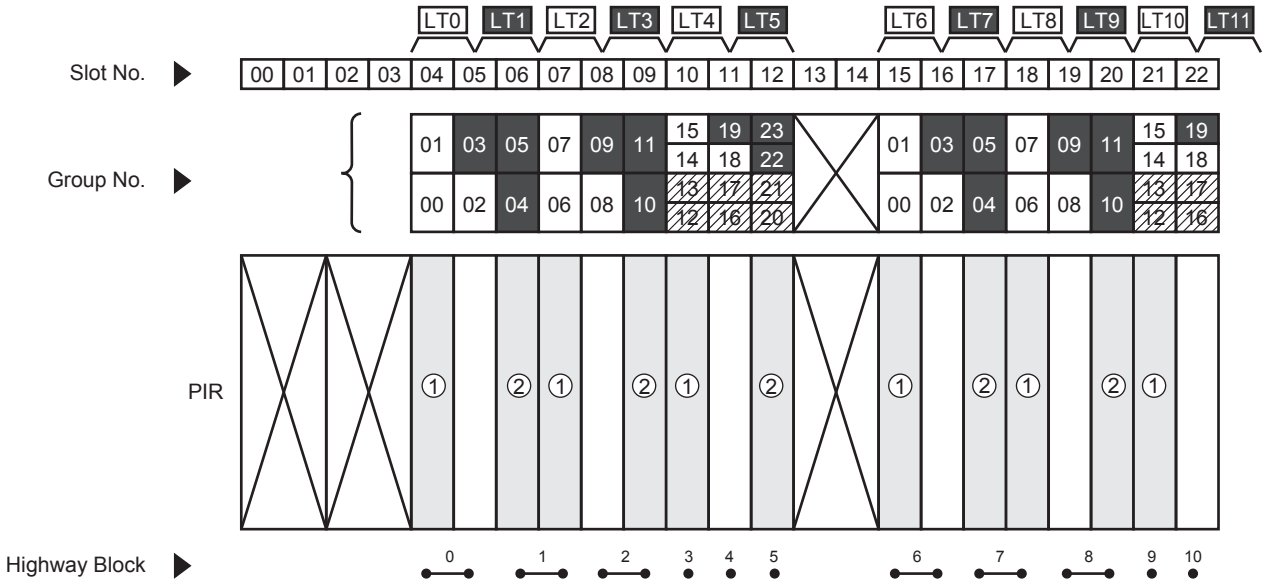
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	RB0	1	RA0
27	TB0	2	TA0
28	RB1	3	RA1
29	TB1	4	TA1
30	RB2	5	RA2
31	TB2	6	TA2
32	RB3	7	RA3
33	TB3	8	TA3
34	RB4	9	RA4
35	TB4	10	TA4
36	RB5	11	RA5
37	TB5	12	TA5
38	RB6	13	RA6
39	TB6	14	TA6
40	RB7	15	RA7
41	TB7	16	TA7
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	RB0	9	RA0
35	TB0	10	TA0
36	RB1	11	RA1
37	TB1	12	TA1
38	RB2	13	RA2
39	TB2	14	TA2
40	RB3	15	RA3
41	TB3	16	TA3
42	RB4	17	RA4
43	TB4	18	TA4
44	RB5	19	RA5
45	TB5	20	TA5
46	RB6	21	RA6
47	TB6	22	TA6
48	RB7	23	RA7
49	TB7	24	TA7
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (2/2)

Mounting Module **PIR**

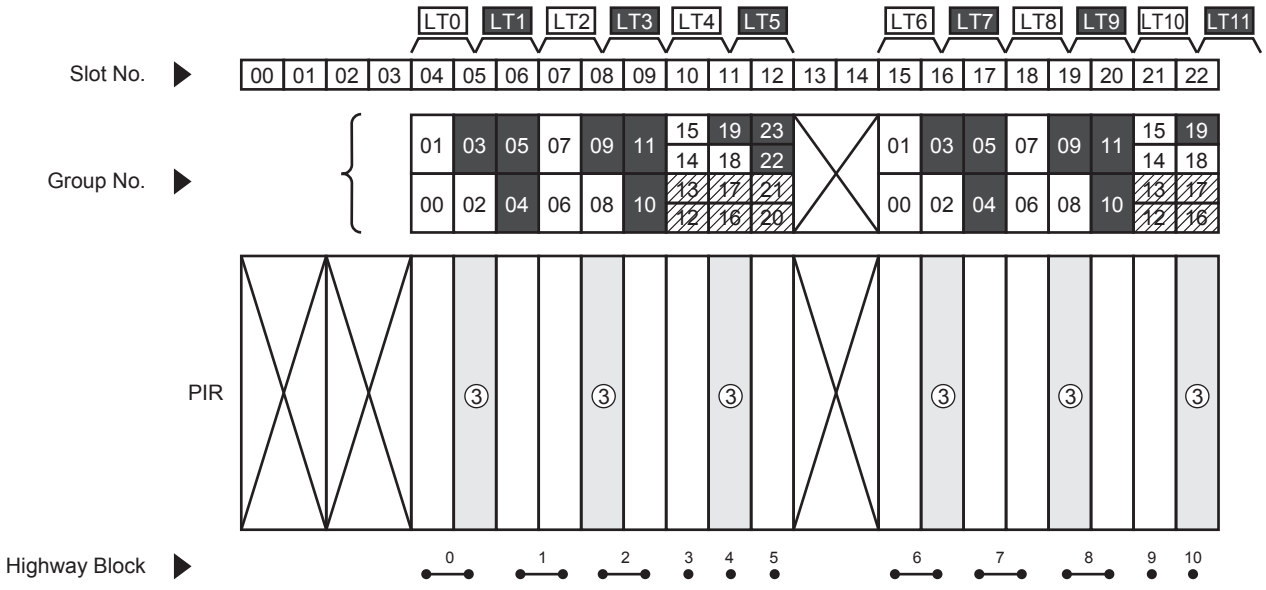
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	RB0	17	RA0
43	TB0	18	TA0
44	RB1	19	RA1
45	TB1	20	TA1
46	RB2	21	RA2
47	TB2	22	TA2
48	RB3	23	RA3
49	TB3	24	TA3
50		25	

LT 1, 3, 5, 7, 9, 11 Connector

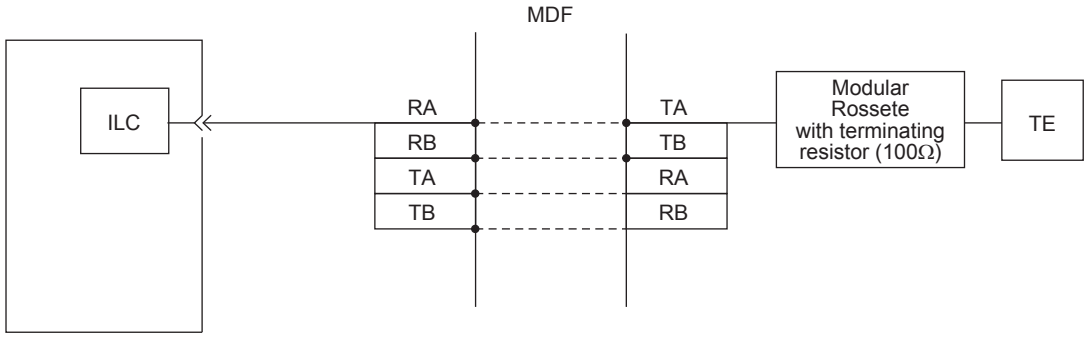
26	RB4	1	RA4
27	TB4	2	TA4
28	RB5	3	RA5
29	TB5	4	TA5
30	RB6	5	RA6
31	TB6	6	TA6
32	RB7	7	RA7
33	TB7	8	TA7
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	



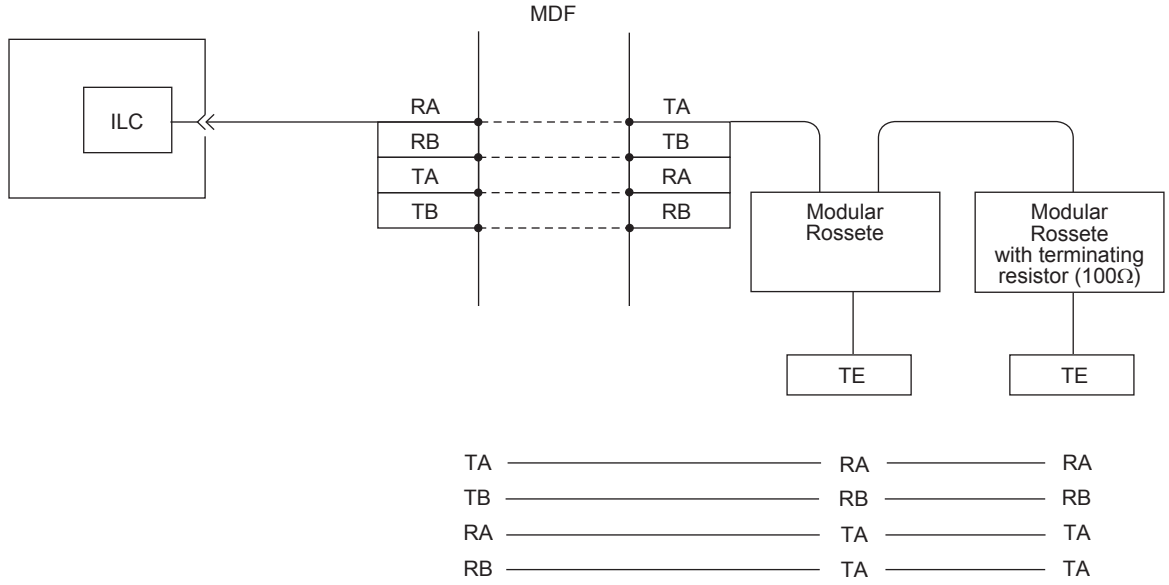
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram

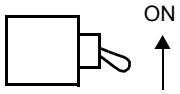
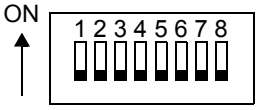
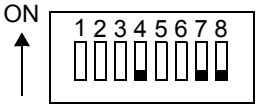
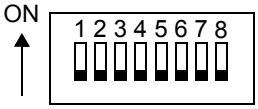
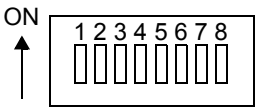
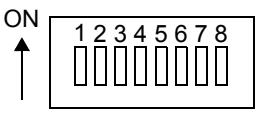
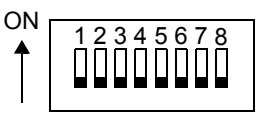
• Point-to-Point

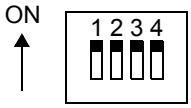
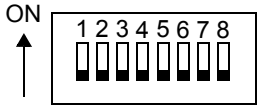
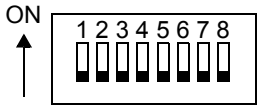


• Point-to-Multipoint



7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		MB		
		SW10		
		SW11		
		SW12		
		SW13		
		SW14		
		SW15		
		SW16		
		SW17		
		SW18		

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW19		
		SW20		
		SW21		

PA-8ILCE-A
ISDN Terminal Line Circuit

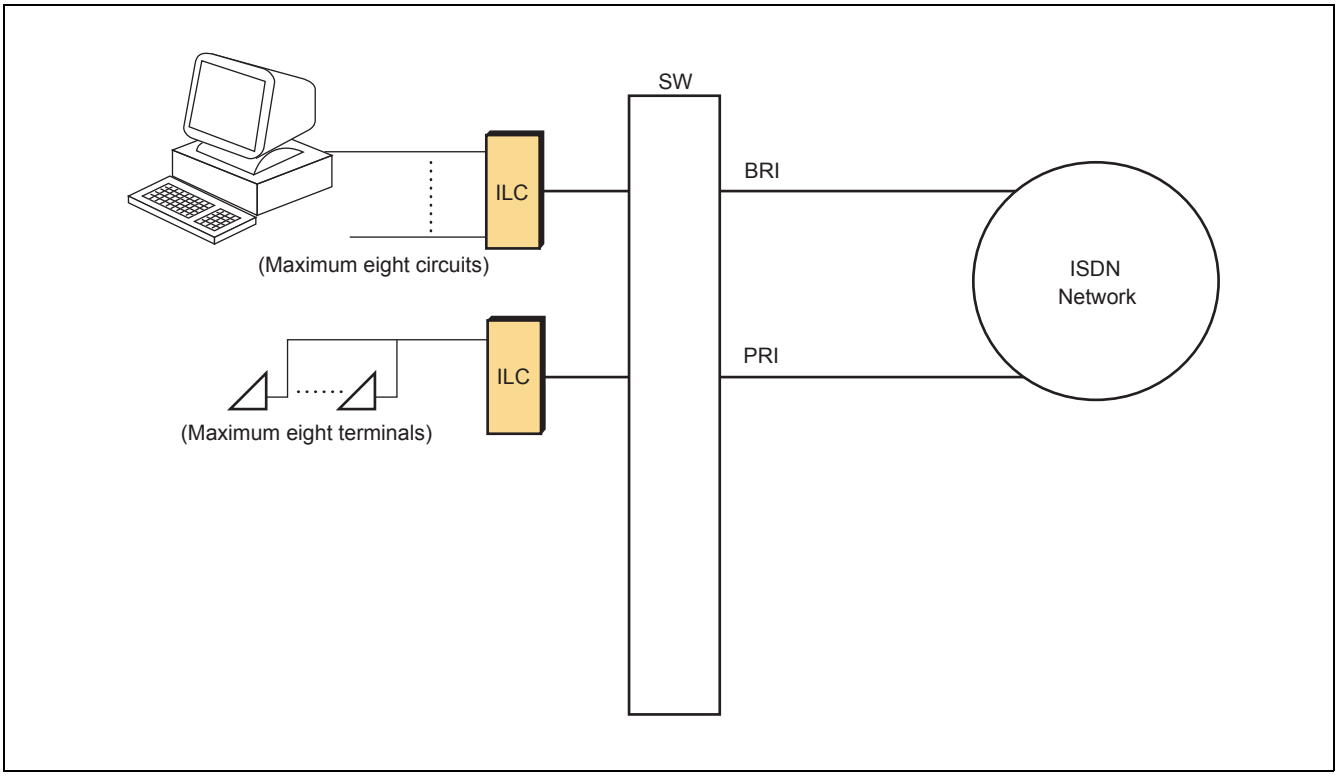
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	Note 1	X	X	X	X	-

1. General Function

The PA-8ILCE-A (ILC) circuit card provides an interface between the system and a maximum of eight ISDN Basic Rate Interface (BRI) terminals. It allows the system to use eight ISDN BRIs, that are made up of two B-Channels at 64 kbps and one D-Channel at 16 kbps (2B+D × 8) on the same bus. In addition, this card supports D-Channel packet functioning. For this feature, however, seven channels are available channels, ranging from 0 to 6.

Note 1: This circuit card is not available in China.

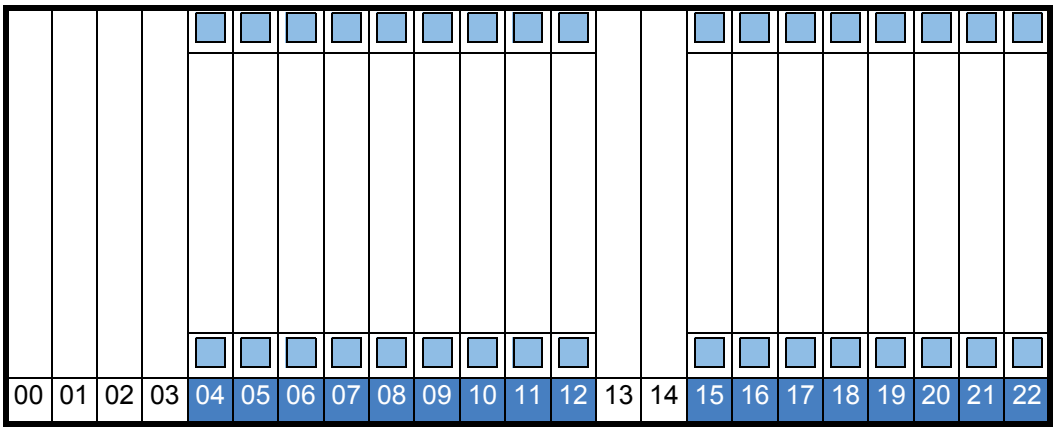
Location of PA-8ILCE-A (ILC) in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



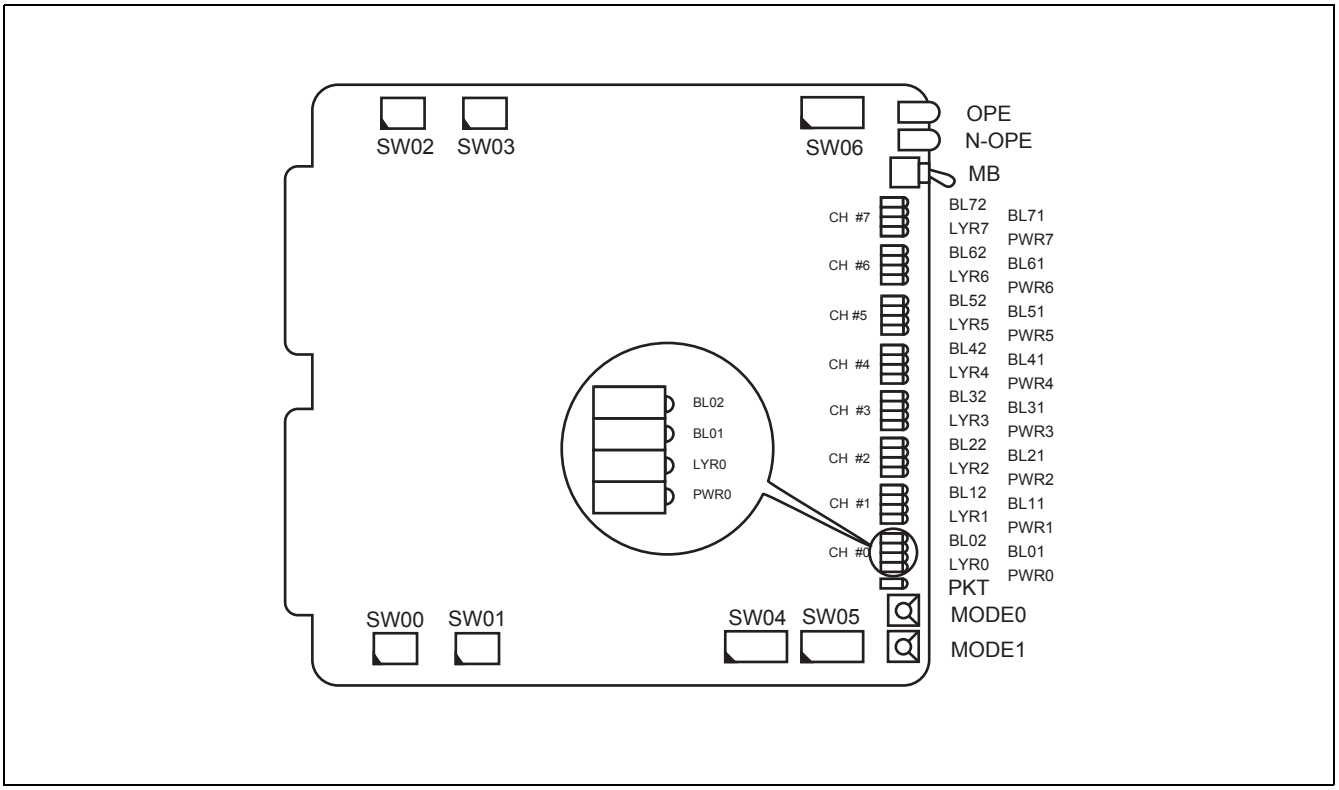
Mounting Conditions:

- This card cannot use Group 0 (G=00) of Unit 0 (U=0) of even-number Module Group.
- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on the circuit card is shown below.

Face Layout of PA-8ILCE-A (ILC)



4. Lamp Indications

The contents of lamp indications on the circuit card are shown in the table below.

LAMP NAME	COLOR	DESCRIPTION
OPE	Green	Remains lit while the circuit card is operating.
N-OPE	Red	Remains lit while the circuit card is in Make-Busy state.
BL n1 (n=0-7)	Green	Lights green when B1-Channel is being accessed and in operation.
	Flash (60 IPM)	The corresponding channel is in Make-Busy state.
	Off	The corresponding channel is idle.
BL n2 (n=0-7)	Green	Lights green when B2-Channel is being accessed and in operation.
	Flash (60IPM)	The corresponding channel is in Make-Busy state.
	Off	The corresponding channel is idle.
LYR n (n=0-7)	Green	Remains lit while Layer 2 of the corresponding channel is active. **Note 1**
	Flash (120 IPM)	Flashes while Layer1 synchronization of the corresponding channel is established.
	Off	Layer 1 and/or Layer 2 have not been established.
PWR n (n=0-7)	Red	Lights red when overvoltage protection function for the corresponding circuit is activated; the corresponding line is short-circuited.
PKT	Green	Lights green when D-Channel packet is in operation.
	Off	Remains off when D-Channel packet is not in operation.

Note 1: Depending on the type of the connected ISDN terminal, whose Layer 2 is not always active, this lamp may flash when the terminal is idle and light green at the time of call set-up.

5. Switch Settings

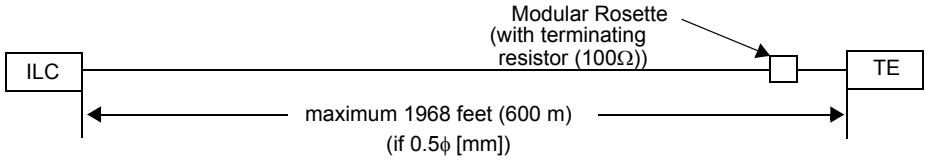
Standard settings of switches on the circuit card are shown in the table below.

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB		ON		Make-Busy of the circuit card.
		OFF	×	Normal setting
SW00	1	ON	×	All fixed to ON.
	2	ON	×	
	3	ON	×	
	4	ON	×	
SW01	1	ON	×	All fixed to ON.
	2	ON	×	
	3	ON	×	
	4	ON	×	
SW02	1	ON	×	All fixed to ON.
	2	ON	×	
	3	ON	×	
	4	ON	×	
SW03	1	ON	×	All fixed to ON.
	2	ON	×	
	3	ON	×	
	4	ON	×	
SW04 Note 1	1	ON		Circuit 0: Wiring other than Short Passive Connection
		OFF		Circuit 0: Short Passive Connection
	2	ON		Circuit 1: Wiring other than Short Passive Connection
		OFF		Circuit 1: Short Passive Connection
	3	ON		Circuit 2: Wiring other than Short Passive Connection
		OFF		Circuit 2: Short Passive Connection
	4	ON		Circuit 3: Wiring other than Short Passive Connection
		OFF		Circuit 3: Short Passive Connection
	5	ON		Circuit 4: Wiring other than Short Passive Connection
		OFF		Circuit 4: Short Passive Connection
	6	ON		Circuit 5: Wiring other than Short Passive Connection
		OFF		Circuit 5: Short Passive Connection
	7	ON		Circuit 6: Wiring other than Short Passive Connection
		OFF		Circuit 6: Short Passive Connection
	8	ON		Circuit 7: Wiring other than Short Passive Connection
		OFF		Circuit 7: Short Passive Connection

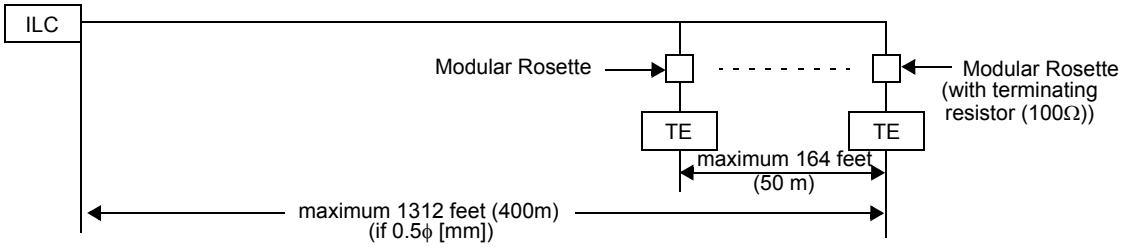
Note 1: Set the SW04 to determine the 4-wire bus mode referring to the following.

☐ **ON**

• Point-to-Point mode: In this mode one Terminal Equipment (TE) can be connected at the end of up to a maximum of 1968 feet (600 m) of cable as shown below.

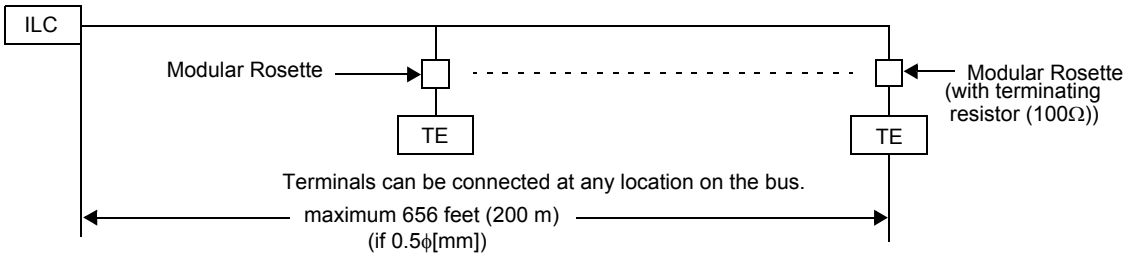


• Extended Passive Bus mode: This is a point-to-multipoint mode, where up to eight terminals can be connected. Note that the terminals must be connected within 164 feet (50 m) from the end of the bus cables as shown below.



☐ **OFF**

• Short Passive Bus mode: This is also a point-to-multipoint mode, where a maximum of eight terminals can be connected anywhere on the bus. Note that the bus length is limited to 656 feet (200 m) in this case.



<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="10">SW05</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="3">PAD Level Adjustment:
<table><tr><th>SW1</th><th>SW2</th><th>RECEIVE (dB)</th><th>SEND (dB)</th></tr><tr><td>OFF
OFF
ON
ON</td><td>OFF
ON
OFF
ON</td><td>0
0
0
0</td><td>0
2
5
8</td></tr></table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td><td></td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
<tr><td>6</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td>Packet Access via D-Channel: In service</td></tr>
<tr><td>OFF</td><td></td><td>Packet Access via D-Channel: Out of service</td></tr>
<tr><td>8</td><td>ON</td><td>×</td><td>Fixed to ON.</td></tr>
<tr><td rowspan="16">SW06
Note 2</td><td rowspan="2">1</td><td>ON</td><td></td><td>Bus mode in Layer 2 (Circuit 0): Point-to-Point</td></tr>
<tr><td>OFF</td><td></td><td>Bus mode in Layer 2 (Circuit 0): Point-to-Multipoint</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td>Bus mode in Layer 2 (Circuit 1): Point-to-Point</td></tr>
<tr><td>OFF</td><td></td><td>Bus mode in Layer 2 (Circuit 1): Point-to-Multipoint</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td>Bus mode in Layer 2 (Circuit 2): Point-to-Point</td></tr>
<tr><td>OFF</td><td></td><td>Bus mode in Layer 2 (Circuit 2): Point-to-Multipoint</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>Bus mode in Layer 2 (Circuit 3): Point-to-Point</td></tr>
<tr><td>OFF</td><td></td><td>Bus mode in Layer 2 (Circuit 3): Point-to-Multipoint</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td>Bus mode in Layer 2 (Circuit 4): Point-to-Point</td></tr>
<tr><td>OFF</td><td></td><td>Bus mode in Layer 2 (Circuit 4): Point-to-Multipoint</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td>Bus mode in Layer 2 (Circuit 5): Point-to-Point</td></tr>
<tr><td>OFF</td><td></td><td>Bus mode in Layer 2 (Circuit 5): Point-to-Multipoint</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td>Bus mode in Layer 2 (Circuit 6): Point-to-Point</td></tr>
<tr><td>OFF</td><td></td><td>Bus mode in Layer 2 (Circuit 6): Point-to-Multipoint</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Bus mode in Layer 2 (Circuit 7): Point-to-Point</td></tr>
<tr><td>OFF</td><td></td><td>Bus mode in Layer 2 (Circuit 7): Point-to-Multipoint</td></tr>
</table>

Note 2: Adjust each key according to the specification of each ISDN terminal.

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MODE0	—	0	×	Fixed to 0
		1 ⋮ F		Not used
MODE1	—	0 ⋮ 5		Not used
		6	×	Fixed to 6
		7 ⋮ F		Not used

6. External Interface

LT Connector Lead Accommodation (1/2)

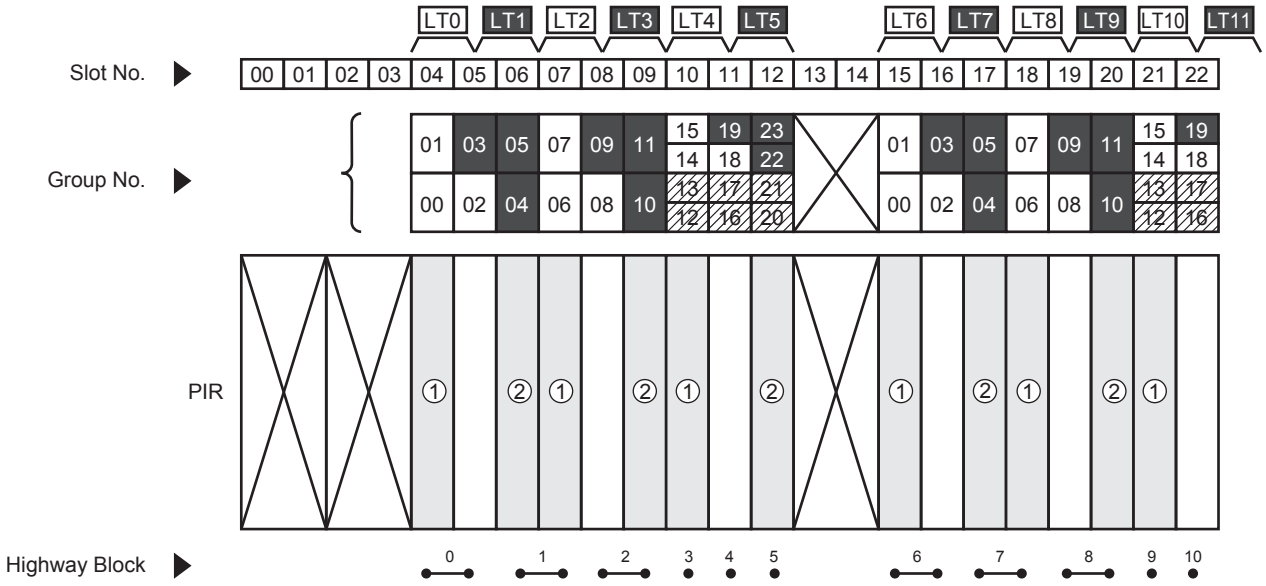
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	RB0	1	RA0
27	TB0	2	TA0
28	RB1	3	RA1
29	TB1	4	TA1
30	RB2	5	RA2
31	TB2	6	TA2
32	RB3	7	RA3
33	TB3	8	TA3
34	RB4	9	RA4
35	TB4	10	TA4
36	RB5	11	RA5
37	TB5	12	TA5
38	RB6	13	RA6
39	TB6	14	TA6
40	RB7	15	RA7
41	TB7	16	TA7
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	RB0	9	RA0
35	TB0	10	TA0
36	RB1	11	RA1
37	TB1	12	TA1
38	RB2	13	RA2
39	TB2	14	TA2
40	RB3	15	RA3
41	TB3	16	TA3
42	RB4	17	RA4
43	TB4	18	TA4
44	RB5	19	RA5
45	TB5	20	TA5
46	RB6	21	RA6
47	TB6	22	TA6
48	RB7	23	RA7
49	TB7	24	TA7
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (2/2)

Mounting Module **PIR**

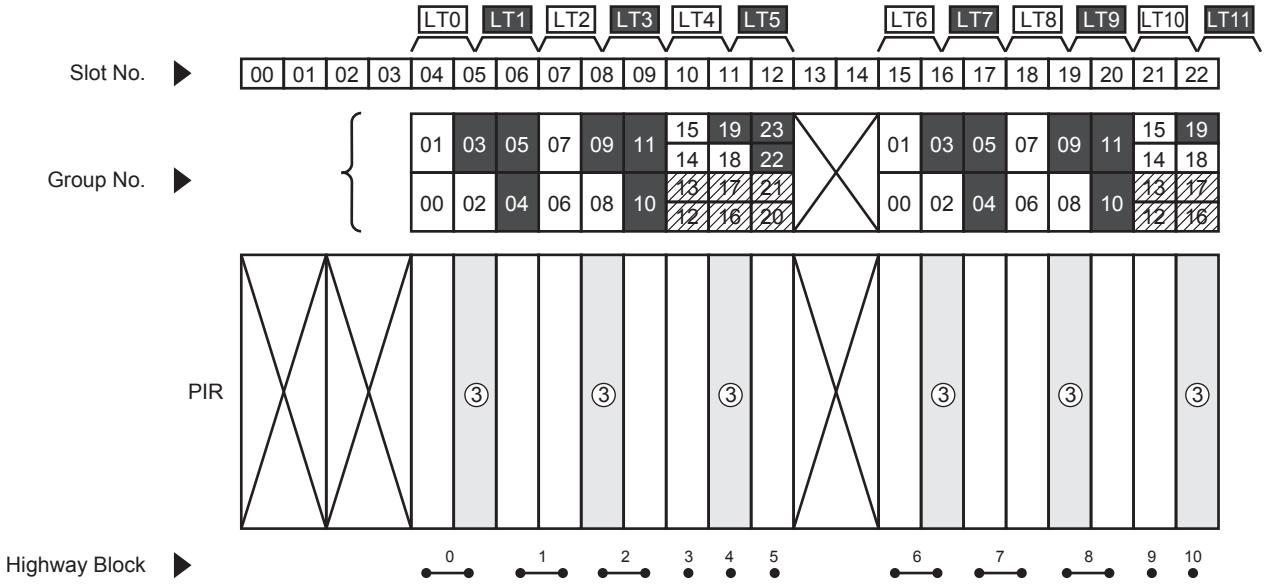
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	RB0	17	RA0
43	TB0	18	TA0
44	RB1	19	RA1
45	TB1	20	TA1
46	RB2	21	RA2
47	TB2	22	TA2
48	RB3	23	RA3
49	TB3	24	TA3
50		25	

LT 1, 3, 5, 7, 9, 11 Connector

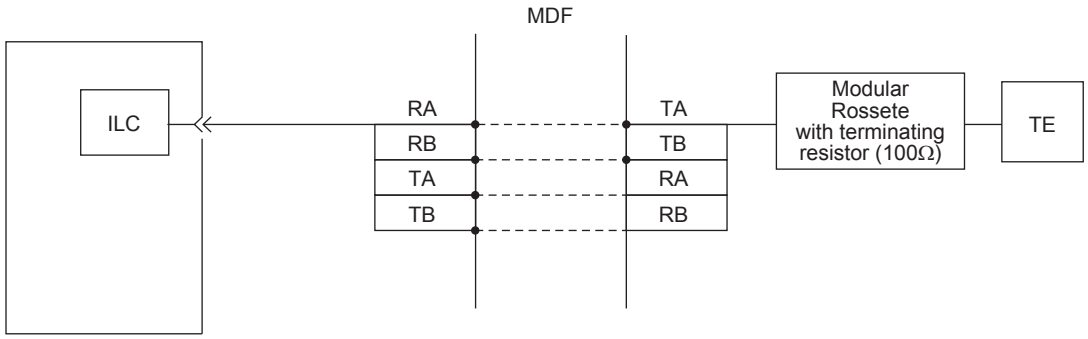
26	RB4	1	RA4
27	TB4	2	TA4
28	RB5	3	RA5
29	TB5	4	TA5
30	RB6	5	RA6
31	TB6	6	TA6
32	RB7	7	RA7
33	TB7	8	TA7
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	



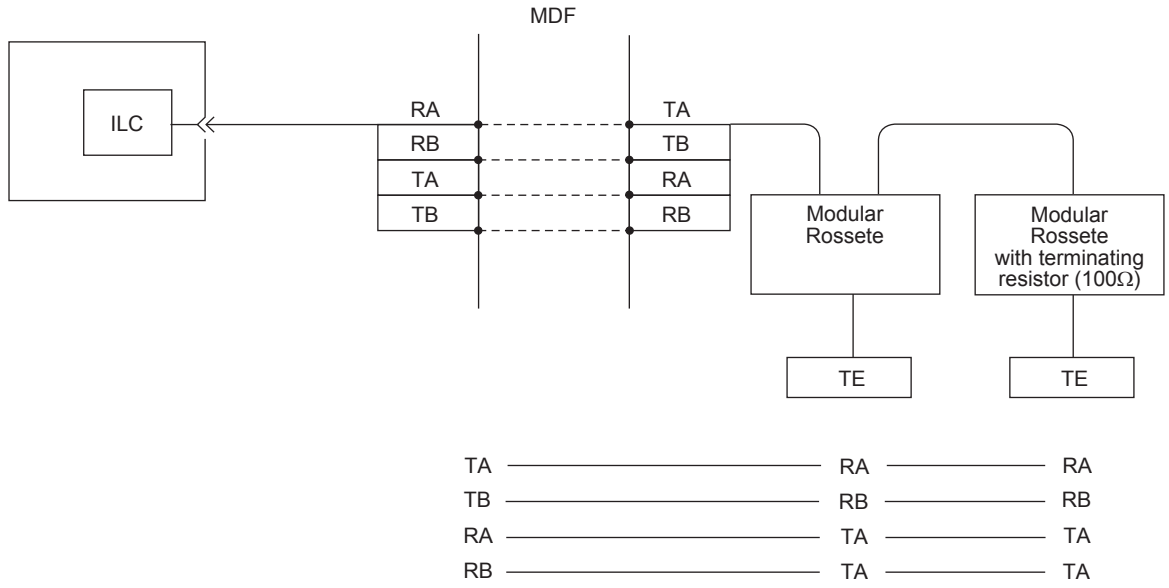
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram

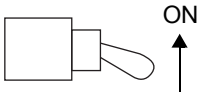
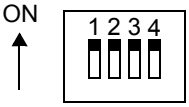
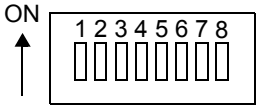
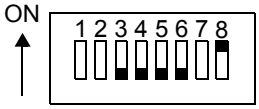
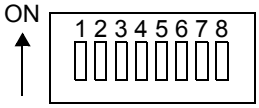
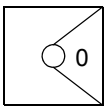
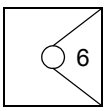
• Point-to-Point



• Point-to-Multipoint



7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		MB		
		SW00		
		SW01		
		SW02		
		SW03		
		SW04		
		SW05		
		SW06		
		MODE0		
		MODE1		

PA-32IPDA (IPPAD)

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

PA-32IPDA (IPPAD) card provides interface function between terminals/devices on LAN and conventional networks such as PSTN, ISDN, and private network. Maximum 32 lines (**Note 1**) of terminals/devices in private network (intranet) can be connected via a switching HUB. This circuit card provides the following functions:

- Voice Encoding/Decoding: G.711 (64 kbps), G.729a (8 kbps), G.723.1 (5.3 k/6.3 kbps) **Note 2**
- Fax Transmission: Fax Passthrough (G.711, G.726 (ADPCM))
  Fax Relay (T.30)
- Encryption: AES **Note 3**
- Echo Canceler: G.168 (64 milliseconds)
- IP Network Interface: 10/100 Mbps Ethernet Interface
- Payload: 10-40 milliseconds (10 millisecond step) **Note 4**
- Jitter Buffer: 10-300 milliseconds (10 millisecond step)
- PAD: 0-16 dB **Note 5**
- DTMF sending: Out-Band

Note 1: The number of channels that are processed depends on codec and payload cycle used by this card. Therefore, adjustments will be needed, such as placing unnecessary channels into the Make Busy status.
See “VoIP Encryption [V-27]” in Data Programming Manual - Business for the number of available channels on the encryption status of this card.

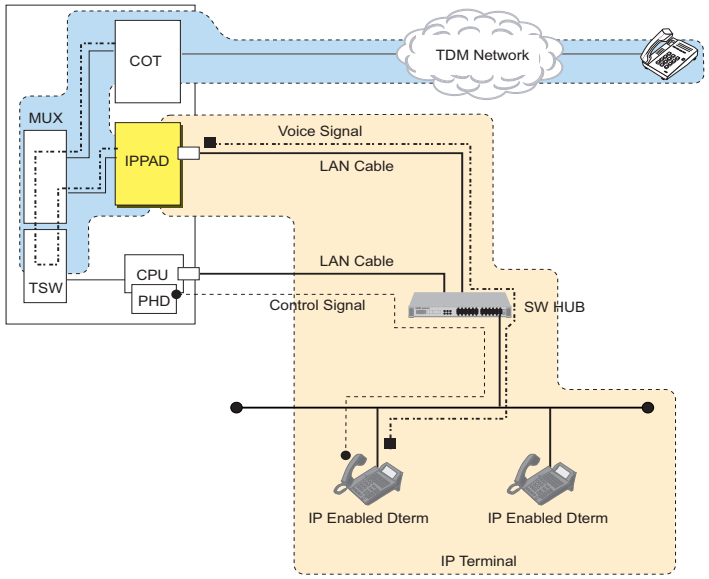
Note 2: G.729a (8 kbps) and G.723.1 (5.3 k/6.3 kbps) are used with voice compression.

Note 3: For assigning encryption data, please refer to “[V-27] VoIP Encryption” in the Data Programming Manual - Business.

Note 4: For the G.723.1 Payload Size, only 30 milliseconds can be assigned.

Note 5: For assigning PAD data, please refer to “IP Service PAD/Echo Canceler Data” in the Data Programming Manual - Business.

Location of PA-32IPDA (IPPAD)



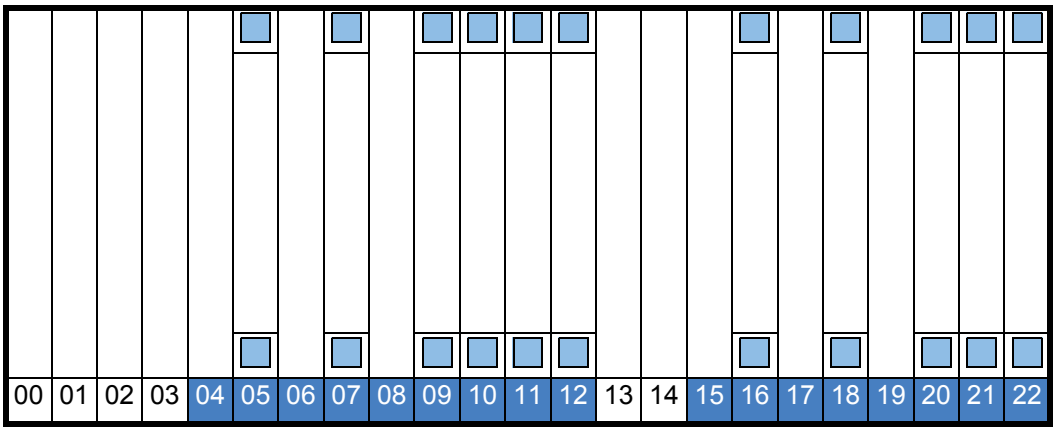
Specification of IPPAD (PA-32IPDA)

FUNCTION	SPECIFICATION	NOTE
Voice Encoding/Decoding	G.711	64 kbps: PCM
	G.729a	8 kbps: PCM
	G.723.1	5.3 k/6.3 kbps: PCM
LAN Interface	10 BASE-T/100 BASE-TX	RJ-45
QoS (Quality of Service)	ToS, IP Precedence	
Echo Canceler	G.168	Round Trip Delay = 64 milliseconds
Jitter/Buffer	Dynamic Jitter Buffer	10-300 milliseconds
	Static Jitter Buffer	
Number of Channels	Maximum 32 channels per card	

2. Mounting Location/Condition

Mounting Location <8U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-22



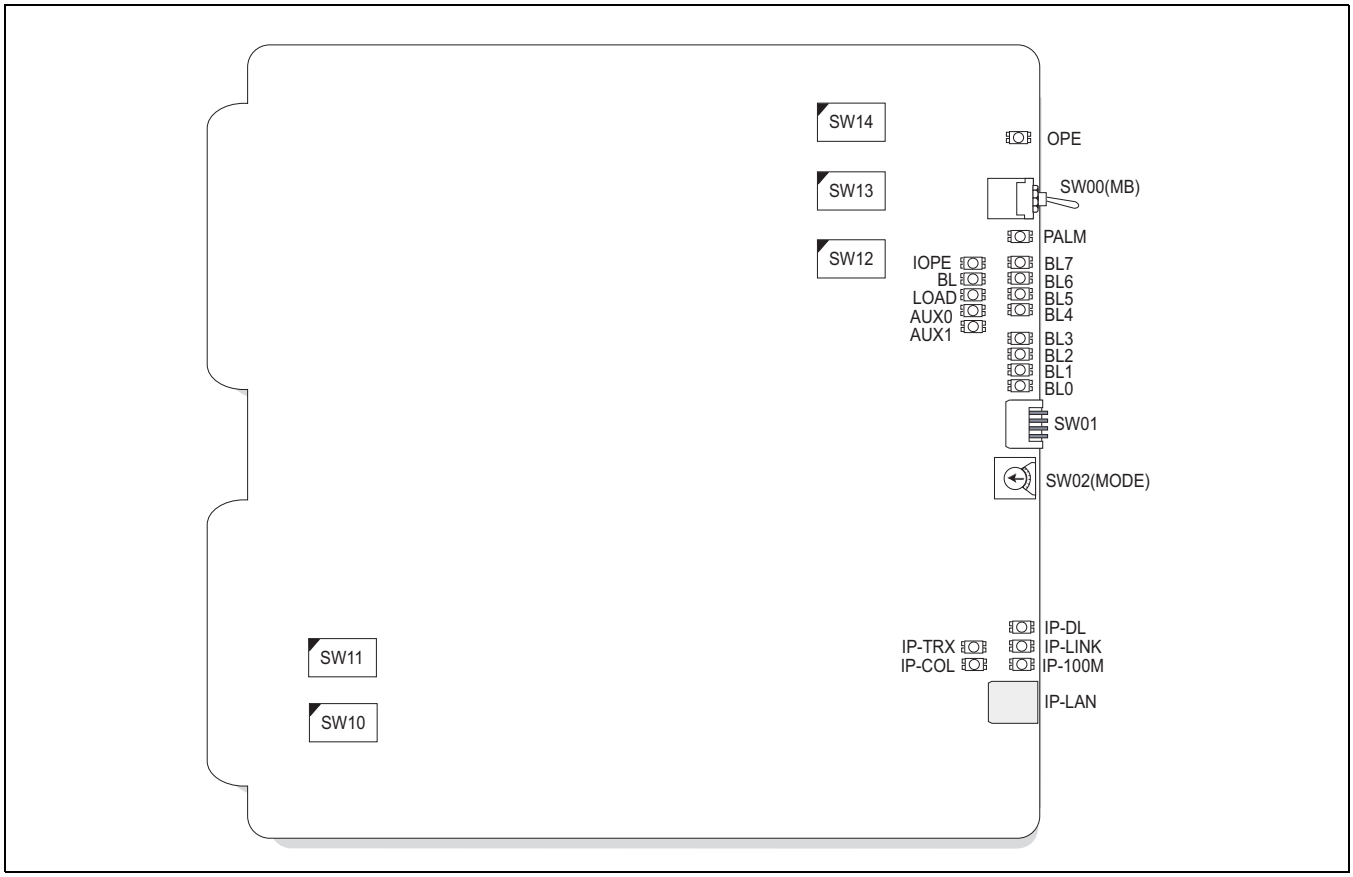
Mounting Conditions:

- There is no limit to the number of IPPAD cards.
- A card cannot be installed in MG00, Unit0, Group0.
- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot. When mounting on 32-port slot (Slot 10, 11, 12, 21, 22), it occupies all channels of the mounting slot.
- The card cannot be mounted in Slot 05 of PIR0. This card cannot use Port 0 (LV=0) of Group 0 (G=00). LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches and connectors on this circuit card is shown below.

Face Layout of PA-32IPDA (IPPAD) Card



4. Lamp Indications

The meaning of lamp indications on this card is shown below.

LAMP NAME	COLOR	MEANING OF INDICATION		
OPE	Green	Lights when this circuit card is on line operating normally.		
IOPE	Green	Lights when this circuit card is ready for operation.		
PALM	Red	Lights when DC-DC power does not work normally.		
BL	Green	Lights when any circuit is used.		
BL0	Green	Lights when Channel 0 (8, 16, 24) is used. **Note 3**	**Note 1**	**Note 2**
		Flashes when Channel 0 (8, 16, 24) is busy. **Note 3**		
BL1	Green	Lights when Channel 1 (9, 17, 25) is used. **Note 3**		
		Flashes when Channel 1 (9, 17, 25) is busy. **Note 3**		
BL2	Green	Lights when Channel 2 (10, 18, 26) is used.		
		Flashes when Channel 2 (10, 18, 26) is busy.		
BL3	Green	Lights when Channel 3 (11, 19, 27) is used.		
		Flashes when Channel 3 (11, 19, 27) is busy.		
BL4	Green	Lights when Channel 4 (12, 20, 28) is used.		
		Flashes when Channel 4 (12, 20, 28) is busy.		
BL5	Green	Lights when Channel 5 (13, 21, 29) is used.		
		Flashes when Channel 5 (13, 21, 29) is busy.		
BL6	Green	Lights when Channel 6 (14, 22, 30) is used.		
		Flashes when Channel 6 (14, 22, 30) is busy.		
BL7	Green	Lights when Channel 7 (15, 23, 31) is used.		
		Flashes when Channel 7 (15, 23, 31) is busy.		
LOAD	Green	Lights when loading program. **Note 3**		
IP-LINK	Green	Lights when establishing a connection (physically) with the IP network.		
IP-TRX	Green	Lights when sending/receiving data packets.		
IP-100M	Green	Lights when 100 Mbps interface is in use.		
IP-COL	Yellow	Lights when data packet collision is detected.		
AUX0	Green	Lights when any circuit activates the encryption function.		
AUX1	Green	Not used		
IP-DL	Green	Lights when loading program via the IP network.		

CAUTION: Do not turn on SW00 (MB) while IP-DL lamp lights green, and that indicates the card is writing the program into the flash ROM.
Twelve lamps of BL, BL0 - BL7, LOAD, AUX0 and AUX1 light if the firmware initial procedure does not correctly complete in a Dual Port Memory access failure. In this case, you need to turn on SW00 (MB) to release this failure.

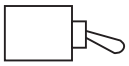
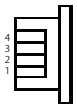
Note 1: The lamp indication settings of BL0 - BL3, shown here are for when the OPE lamp is ON.

Note 2: Indicates channel status specified by SW01.

Note 3: The lamp indicates firmware status.

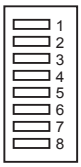
5. Switch Settings

The meaning of each switch on this card is shown below.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">SW00 (MB)
  </td><td></td><td>ON</td><td></td><td>Circuit card: Make-Busy</td></tr>
<tr><td></td><td>OFF</td><td>×</td><td>Circuit card: Make-Busy cancel</td></tr>
<tr><td rowspan="5">SW01
  </td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="3">BL0-7 Indications:
<table><tr><th>SW01-1</th><th>SW01-2</th><th>BL0-7</th></tr><tr><td>OFF</td><td>OFF</td><td>Indicates status of 0-7 Channel</td></tr><tr><td>ON</td><td>OFF</td><td>Indicates status of 8-15 Channel</td></tr><tr><td>OFF</td><td>ON</td><td>Indicates status of 16-23 Channel</td></tr><tr><td>ON</td><td>ON</td><td>Indicates status of 24-31 Channel</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td><td></td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
<tr><td rowspan="16">SW02 (MODE)
  </td><td></td><td>0</td><td>×</td><td>Automatic Negotiation ON (Standard Setting) Note 1, Note 2</td></tr>
<tr><td></td><td>1</td><td></td><td>100 M full-duplex Note 2</td></tr>
<tr><td></td><td>2</td><td></td><td>This setting is prohibited.</td></tr>
<tr><td></td><td>3</td><td></td><td>10 M half-duplex Note 2</td></tr>
<tr><td></td><td>4</td><td></td><td>100 M half-duplex Note 2</td></tr>
<tr><td></td><td>5</td><td></td><td rowspan="10">This setting is prohibited.</td></tr>
<tr><td></td><td>6</td><td></td></tr>
<tr><td></td><td>7</td><td></td></tr>
<tr><td></td><td>8</td><td></td></tr>
<tr><td></td><td>9</td><td></td></tr>
<tr><td></td><td>A</td><td></td></tr>
<tr><td></td><td>B</td><td></td></tr>
<tr><td></td><td>C</td><td></td></tr>
<tr><td></td><td>D</td><td></td></tr>
<tr><td></td><td>E</td><td></td><td>Program download mode (via LAN)</td></tr>
<tr><td></td><td>F</td><td></td><td>This setting is prohibited.</td></tr>
</table>

Note 1: Automatic Negotiation function automatically configures the LAN interface speed and communication mode (full-duplex or half-duplex) to operate at the maximum speed.

Note 2: The connected point must be set with the same settings as the circuit card. If the connected point has different settings, it may lead to faulty operation.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW10 	1	OFF	×	Fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	ON		See IPPAD Selection for IPPAD Selection.
		OFF		
	7	ON		
		OFF		
	8	OFF	×	Fixed to OFF.

IPPAD Selection

SW10-6	SW10-7	MEANING
OFF	OFF	PAD Pattern 1 (See the table below.)
ON	OFF	PAD Pattern 2 (See the table below.)
OFF	ON	PAD Pattern 3 (See the table below.)
ON	ON	PAD Pattern 4 (See the table below.)

• μ-Law Pattern 1

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	2
2	0	4
3	0	12
4	0	8

• A-Law Pattern 1

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	2
2	0	4
3	0	6
4	0	8

• μ-Law Pattern 2

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	16
2	0	4
3	0	12
4	0	8

• A-Law Pattern 2

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	2
2	0	4
3	0	12
4	0	8

• μ-Law Pattern 3

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	2
2	0	4
3	0	6
4	0	8

• A-Law Pattern 3

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	1
2	0	3
3	0	5
4	0	7

• μ-Law Pattern 4

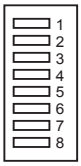
PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	3
2	0	3
3	0	6
4	0	9

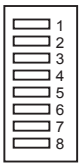
• A-Law Pattern 4

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	3
2	0	3
3	0	6
4	0	9

Note 3: μ-Law/A-Law depends on the settings of ASYD (SYS1, Index 64, bit 0).

Note 4: PAD No. can be specified by AIVCL/ACRD commands. For more information, refer to PAD/EC Control on a Location ID Basis in Chapter 2 of Data Programming Manual - Business.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW11 	1	OFF	×	Fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	ON	×	Fixed to ON.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW12 	1	OFF	×	Fixed to OFF.
	2	ON		NLP (Non Linear Processor) active range **Note 5**
		OFF	×	
	3	ON		
		OFF	×	
	4	ON		
		OFF	×	
	5	ON	×	Echo Canceler Operation (See Echo Canceler Operation for details.)
		OFF		
	6	ON		
		OFF	×	
	7	OFF	×	Fixed to OFF
	8	OFF	×	

Note 5: Refer to the table on the next page for NLP settings. NLP cuts off echo when echo return loss is lower than the value in the following table.

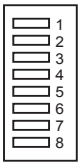
NLP Active Range

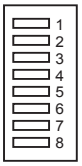
SW12-2	SW12-3	SW12-4	NLP Active Range
OFF	OFF	OFF	-33 dBm0 (Standard)
OFF	OFF	ON	-24 dBm0
OFF	ON	OFF	-27 dBm0
OFF	ON	ON	-30 dBm0
ON	OFF	OFF	-36 dBm0
ON	OFF	ON	-39 dBm0
ON	ON	OFF	-42 dBm0
ON	ON	ON	-45 dBm0

Table 0-1 Echo Canceler Operation

Circuit Card Initial Value		AIVCL Data Assignment	Echo Canceler Operation
When SW12-5 is ON (Conforms to SW12-6 setting)	SW12-6 = OFF (Echo Canceler is forcibly ON)	Not Assigned	ON
		EC is OFF	
		EC is ON	
	SW12-6 = ON (Echo Canceler is forcibly OFF)	Not Assigned	OFF
		EC is OFF	
		EC is ON	
When SW12-5 is OFF (Conforms to the Telephony Server Data Assignment)	ACRD CDN 8 = 1 (Echo Canceler is ON)	Not Assigned	ON
		EC is OFF	OFF
		EC is ON	ON
	ACRD CDN 8 = 0 (Echo Canceler is OFF)	Not Assigned	OFF
		EC is OFF	
		EC is ON	ON

Note: When using APDIL command, the assignment of APDIL will be available regardless of the above settings.

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW13 	1	OFF	×	Fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	ON		Echo Canceler is bypassed when FAX answer tone is detected. (2100 Hz)
		OFF	×	Echo Canceler is not bypassed when FAX answer tone is detected. (2100 Hz)
	6	OFF	×	Fixed to OFF.
	7	ON	×	Fixed to ON.
	8	OFF	×	Fixed to OFF.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="8">SW14
 
</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="8">FAX Error Detection Timer
<table><tr><th>SW14-1</th><th>SW14-2</th><th>SW14-3</th><th>TIMER</th><th>REMARKS</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>1 minute</td><td>Standard Setting</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>2 minutes</td><td></td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>3 minutes</td><td></td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>4 minutes</td><td></td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>5 minutes</td><td></td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>0 minute</td><td>Fixed to Voice Mode</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>No Timer</td><td>Voice/FAX automatic distinction</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>-</td><td>This setting is prohibited.</td></tr></table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td>×</td><td rowspan="2">Setting of maximum voice level sent to TSW.
When connected with the 2-wire trunk, refer to Table 3.

Note: This setting is controlled upon each call basis.</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td>×</td><td rowspan="2">Setting of maximum voice level sent to TSW.
When connected with an extension or trunk except 2-wire trunk, refer to Table 4.
Note: This setting is controlled upon each call basis.</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>EC Training function not available</td></tr>
<tr><td>OFF</td><td>×</td><td>EC Training function available.</td></tr>
</table>

Table 3

SW14-4	SW14-5	Maximum Voice Level
OFF	OFF	No setting is neccesary
ON	OFF	+3dB limit (Standard)
OFF	ON	0dB limit
ON	ON	+2dB limit

Table 4

SW14-6	SW14-7	Maximum Voice Level
OFF	OFF	No setting is neccesary
ON	OFF	+3dB limit (Standard)
OFF	ON	0dB limit
ON	ON	+2dB limit

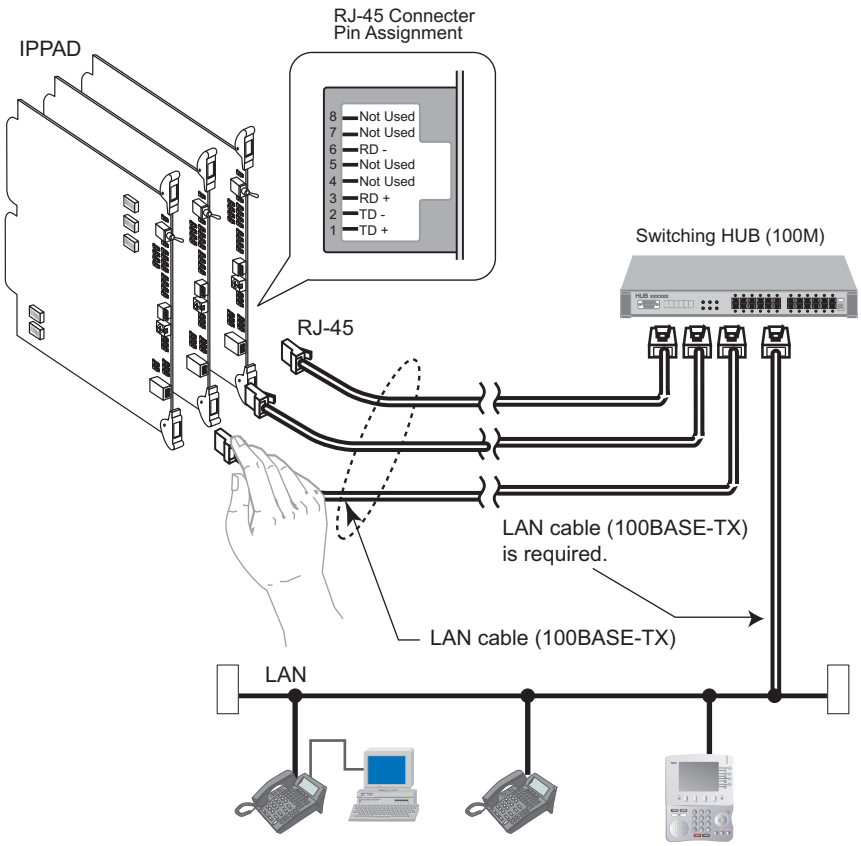
External Interface

Referring to the figure below, connect the IPPAD cards and the switching HUB with LAN cables (100BASE-TX).

Cable Connections for IPPAD

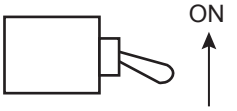
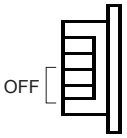
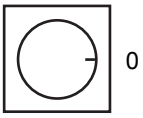
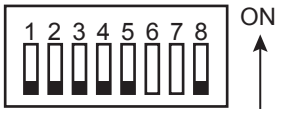
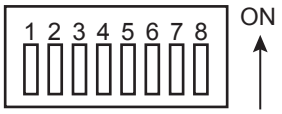
When using multiple IPPAD cards, use a 100M-Switching HUB to separate the LAN ports for each IPPAD card.





Warning: Be sure to use a switching HUB when connecting IPPAD cards to the LAN.

6. Switch Setting Sheet

MODULE	SLOT No.	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW01		
		SW02 (MODE)		
		SW10		
		SW11		
		SW12		
		SW13		
		SW14		

7. PAD Setting for other circuit cards

When this PA-32IPDA circuit card and the following circuit cards are used, set the data as follows.

- COT

  Send (TSW -> PSTN direction): 3dB, etc.
  Receive (PSTN -> TSW direction): 0dB, etc.

  Example: For the case of PA-16COTBD-B/PA-16COTBH

  - SW-12-4:OFF
  - Set the command data referring to "PAD Value Reference" tables in PA-16COTBD-B/PA-16COT-BH.

- PRT

  Send (TSW -> PSTN direction): 0dB
  Receive (PSTN -> TSW direction): 8dB

PA-32IPDB (IPPAD)

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	-	X	X	-

1. General Function

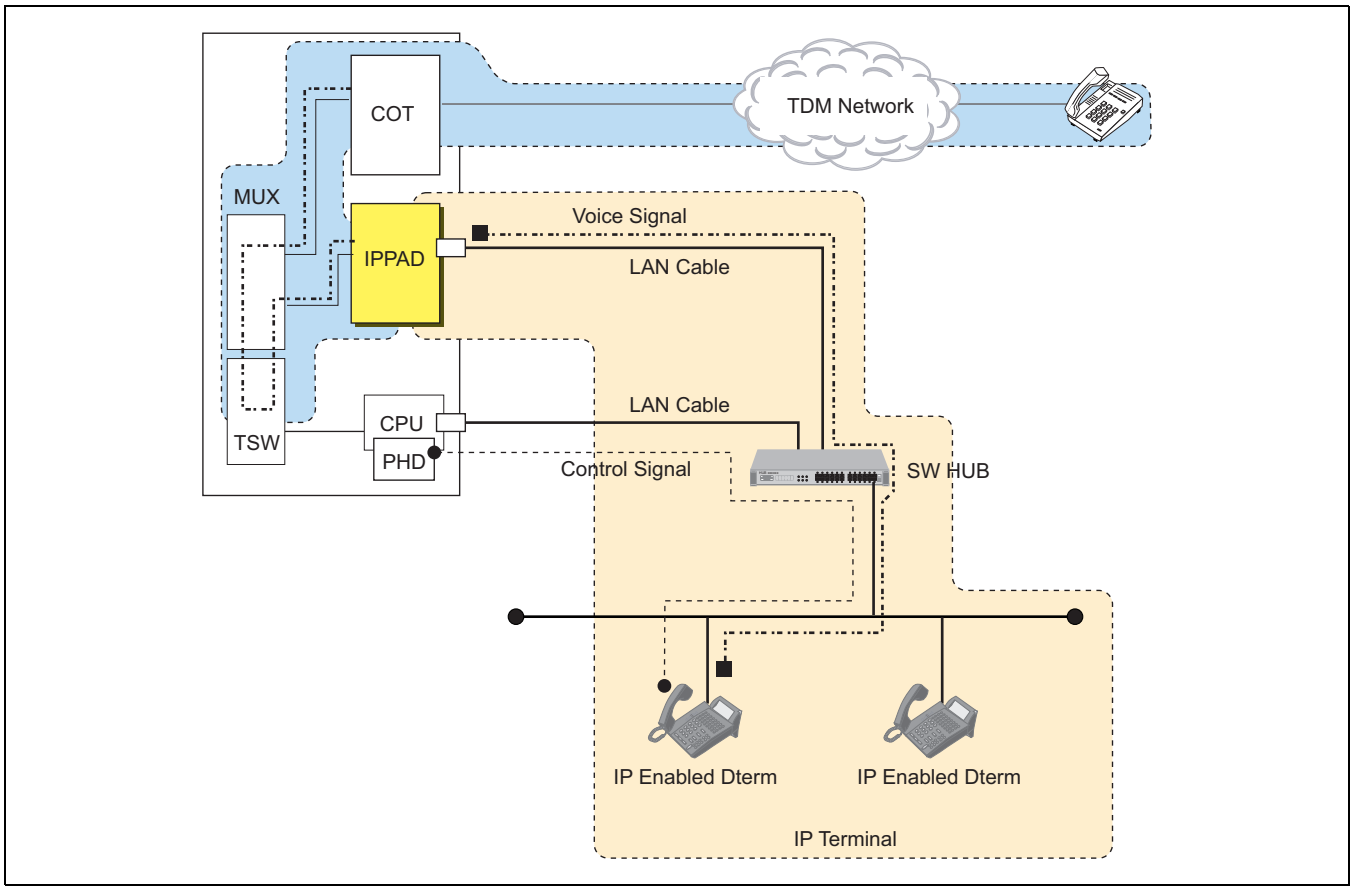
PA-32IPDB (IPPAD) card provides interface function between terminals/devices on LAN and conventional networks such as PSTN, ISDN, and private network. Maximum 32 lines of terminals/devices in private network (intranet) can be connected via a switching HUB. This circuit card provides the following functions:

- Voice Encoding/Decoding: G.711 (64 kbps) **Note 1**
- Fax Transmission: Fax Passthrough (G.711)
- Echo Canceler: G.168 (64 milliseconds)
- IP Network Interface: 10/100 Mbps Ethernet Interface
- Payload: 20-40 milliseconds (10 millisecond step)
- Jitter Buffer: 10-300 milliseconds (10 millisecond step)
- PAD: 0-16 dB **Note 2**
- DTMF sending: In-Band

Note 1: Voice compression and encryption are not supported.

Note 2: For assigning PAD data, please refer to “IP Service PAD/Echo Canceler Data” in the Data Programming Manual - Business.

Location of PA-32IPDB (IPPAD)



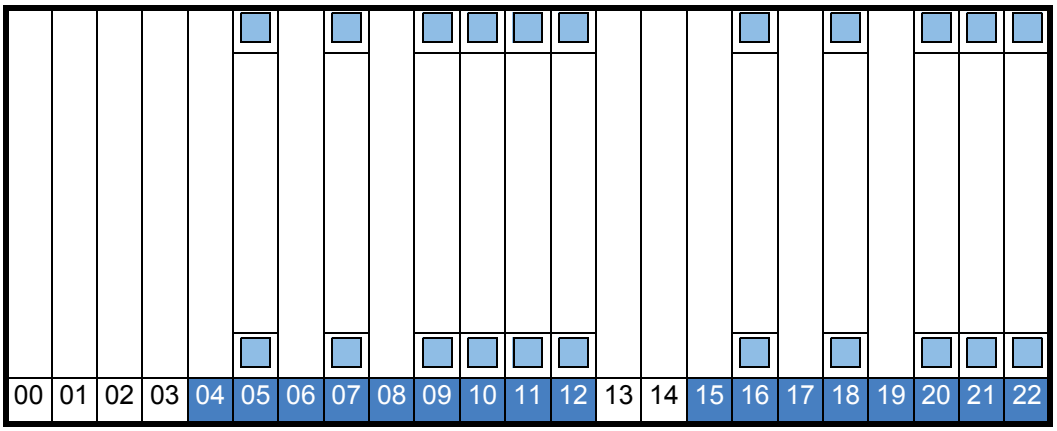
Specification of IPPAD (PA-32IPDB)

FUNCTION	SPECIFICATION	NOTE
Voice Encoding/Decoding	G.711	64 kbps: PCM
LAN Interface	10 BASE-T/100 BASE-TX	RJ-45
QoS (Quality of Service)	ToS, IP Precedence	
Echo Canceler	G.168	Round Trip Delay = 64 milliseconds
Jitter/Buffer	Dynamic Jitter Buffer	10-300 milliseconds
	Static Jitter Buffer	
Number of Channels	Maximum 32 channels per card	

2. Mounting Location/Condition

Mounting Location <8U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-22



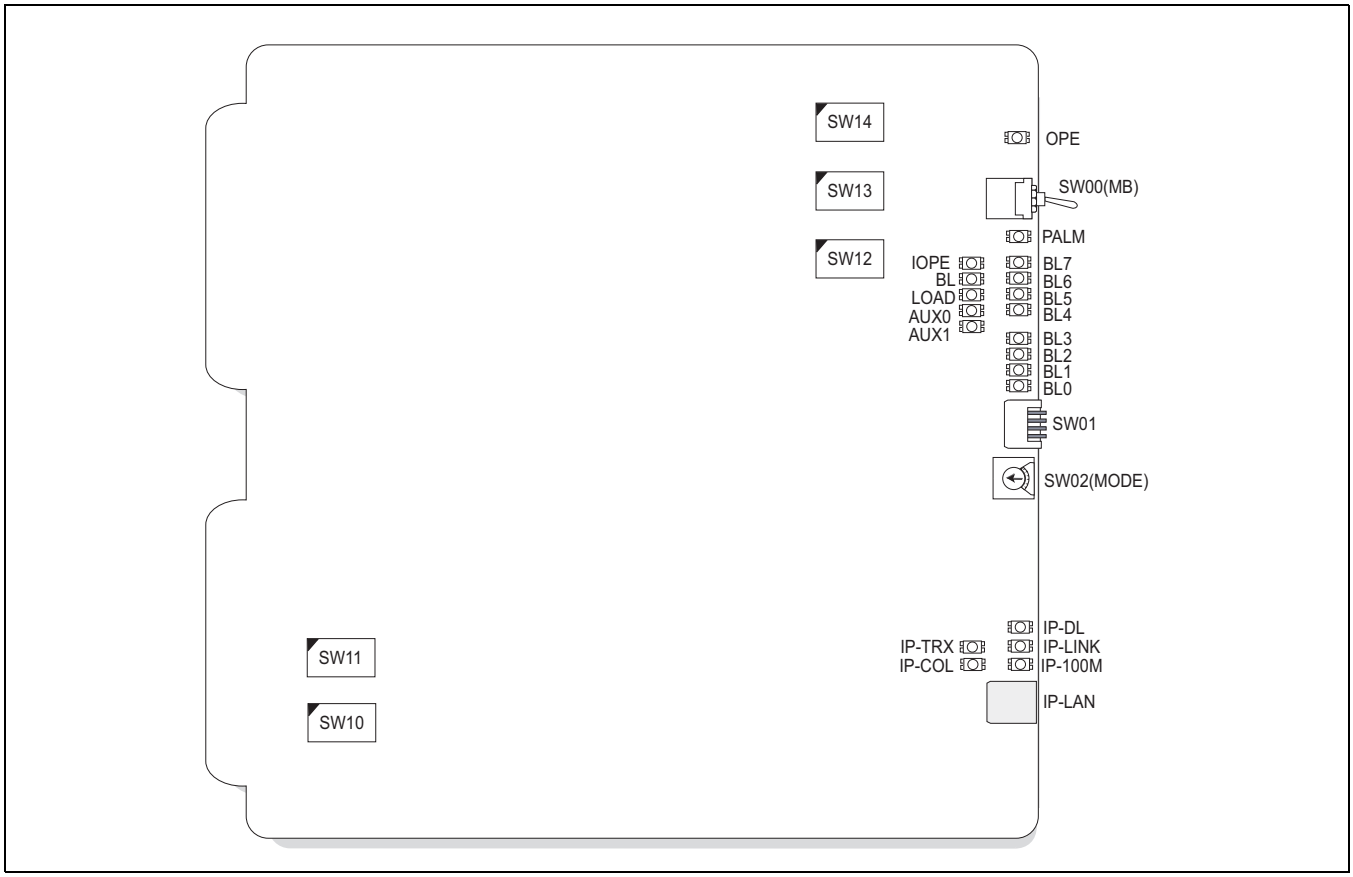
Mounting Conditions:

- There is no limit to the number of IPPAD cards.
- A card cannot be installed in MG00, Unit0, Group0.
- This card seizes 32 ports (four logical Groups). Do not mount other card on the left slot of this card when mounting on 16-port slot (Slot 05, 07, 09, 16, 18, 20), because it occupies the channels of the left slot. When mounting on 32-port slot (Slot 10, 11, 12, 21, 22), it occupies all channels of the mounting slot.
- The card cannot be mounted in Slot 05 of PIR0. This card cannot use Port 0 (LV=0) of Group 0 (G=00). LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches and connectors on this circuit card is shown below.

Face Layout of PA-32IPDB (IPPAD) Card



4. Lamp Indications

The meaning of lamp indications on this card is shown below.

LAMP NAME	COLOR	MEANING OF INDICATION		
OPE	Green	Lights when this circuit card is on line operating normally.		
IOPE	Green	Lights when this circuit card is ready for operation.		
PALM	Red	Lights when DC-DC power does not work normally.		
BL	Green	Lights when any circuit is used.		
BL0	Green	Lights when Channel 0 (8, 16, 24) is used. **Note 3**	**Note 1**	**Note 2**
		Flashes when Channel 0 (8, 16, 24) is busy. **Note 3**		
BL1	Green	Lights when Channel 1 (9, 17, 25) is used. **Note 3**		
		Flashes when Channel 1 (9, 17, 25) is busy. **Note 3**		
BL2	Green	Lights when Channel 2 (10, 18, 26) is used.		
		Flashes when Channel 2 (10, 18, 26) is busy.		
BL3	Green	Lights when Channel 3 (11, 19, 27) is used.		
		Flashes when Channel 3 (11, 19, 27) is busy.		
BL4	Green	Lights when Channel 4 (12, 20, 28) is used.		
		Flashes when Channel 4 (12, 20, 28) is busy.		
BL5	Green	Lights when Channel 5 (13, 21, 29) is used.		
		Flashes when Channel 5 (13, 21, 29) is busy.		
BL6	Green	Lights when Channel 6 (14, 22, 30) is used.		
		Flashes when Channel 6 (14, 22, 30) is busy.		
BL7	Green	Lights when Channel 7 (15, 23, 31) is used.		
		Flashes when Channel 7 (15, 23, 31) is busy.		
LOAD	Green	Lights when loading program. **Note 3**		
IP-LINK	Green	Lights when establishing a connection (physically) with the IP network.		
IP-TRX	Green	Lights when sending/receiving data packets.		
IP-100M	Green	Lights when 100 Mbps interface is in use.		
IP-COL	Yellow	Lights when data packet collision is detected.		
AUX0	Green	Not used		
AUX1	Green	Not used		
IP-DL	Green	Lights when loading program via the IP network.		

CAUTION: Do not turn on SW00 (MB) while IP-DL lamp lights green, and that indicates the card is writing the program into the flash ROM.
Twelve lamps of BL, BL0 - BL7, LOAD, AUX0 and AUX1 light if the firmware initial procedure does not correctly complete in a Dual Port Memory access failure. In this case, you need to turn on SW00 (MB) to release this failure.

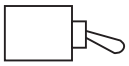
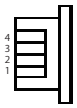
Note 1: The lamp indication settings of BL0 - BL3, shown here are for when the OPE lamp is ON.

Note 2: Indicates channel status specified by SW01.

Note 3: The lamp indicates firmware status.

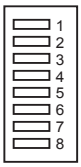
5. Switch Settings

The meaning of each switch on this card is shown below.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">SW00
(MB)
  </td><td></td><td>ON</td><td></td><td>Circuit card: Make-Busy</td></tr>
<tr><td></td><td>OFF</td><td>×</td><td>Circuit card: Make-Busy cancel</td></tr>
<tr><td rowspan="5">SW01
  </td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="4">BL0-7 Indications:
<table><tr><th>SW01-1</th><th>SW01-2</th><th>BL0-7</th></tr><tr><td>OFF</td><td>OFF</td><td>Indicates status of 0-7 Channel</td></tr><tr><td>ON</td><td>OFF</td><td>Indicates status of 8-15 Channel</td></tr><tr><td>OFF</td><td>ON</td><td>Indicates status of 16-23 Channel</td></tr><tr><td>ON</td><td>ON</td><td>Indicates status of 24-31 Channel</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
<tr><td rowspan="16">SW02
(MODE)
  </td><td></td><td>0</td><td>×</td><td>Automatic Negotiation ON (Standard Setting) Note 1, Note 2</td></tr>
<tr><td></td><td>1</td><td></td><td>100 M full-duplex Note 2</td></tr>
<tr><td></td><td>2</td><td></td><td>This setting is prohibited.</td></tr>
<tr><td></td><td>3</td><td></td><td>10 M half-duplex Note 2</td></tr>
<tr><td></td><td>4</td><td></td><td>100 M half-duplex Note 2</td></tr>
<tr><td></td><td>5</td><td></td><td rowspan="10">This setting is prohibited.</td></tr>
<tr><td></td><td>6</td><td></td></tr>
<tr><td></td><td>7</td><td></td></tr>
<tr><td></td><td>8</td><td></td></tr>
<tr><td></td><td>9</td><td></td></tr>
<tr><td></td><td>A</td><td></td></tr>
<tr><td></td><td>B</td><td></td></tr>
<tr><td></td><td>C</td><td></td></tr>
<tr><td></td><td>D</td><td></td></tr>
<tr><td></td><td>E</td><td></td><td>Program download mode (via LAN)</td></tr>
<tr><td></td><td>F</td><td></td><td>This setting is prohibited.</td></tr>
</table>

Note 1: Automatic Negotiation function automatically configures the LAN interface speed and communication mode (full-duplex or half-duplex) to operate at the maximum speed.

Note 2: The connected point must be set with the same settings as the circuit card. If the connected point has different settings, it may lead to faulty operation.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW10 	1	OFF	×	Fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	ON		See IPPAD Selection for IPPAD Selection.
		OFF		
	7	ON		
		OFF		
	8	OFF	×	Fixed to OFF.

IPPAD Selection

SW10-6	SW10-7	MEANING
OFF	OFF	PAD Pattern 1 (See the table below.)
ON	OFF	PAD Pattern 2 (See the table below.)
OFF	ON	PAD Pattern 3 (See the table below.)
ON	ON	PAD Pattern 4 (See the table below.)

• μ-Law Pattern 1

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	2
2	0	4
3	0	12
4	0	8

• A-Law Pattern 1

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	2
2	0	4
3	0	6
4	0	8

• μ-Law Pattern 2

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	16
2	0	4
3	0	12
4	0	8

• A-Law Pattern 2

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	2
2	0	4
3	0	12
4	0	8

• μ-Law Pattern 3

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	2

• A-Law Pattern 3

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	1

• μ-Law Pattern 1

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
2	0	4
3	0	6
4	0	8

• A-Law Pattern 1

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
2	0	3
3	0	5
4	0	7

• μ-Law Pattern 4

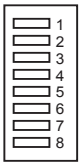
PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	3
2	0	3
3	0	6
4	0	9

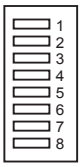
• A-Law Pattern 4

PAD No.	TSW → IP[dB]	IP → TSW[dB]
7	0	0
1	0	3
2	0	3
3	0	6
4	0	9

Note: μ-Law/A-Law depends on the settings of ASYD (SYS1, Index 64, bit 0).

Note: PAD No. can be specified by AIVCL/ACRD commands. For more information, refer to PAD/EC Control on a Location ID Basis in Chapter 2 of Data Programming Manual - Business.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW11 	1	OFF	×	Fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	ON	×	Fixed to ON.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW12 	1	OFF	×	Fixed to OFF.
	2	ON		NLP (Non Linear Processor) active range **Note 3**
		OFF	×	
	3	ON		
		OFF	×	
	4	ON		
		OFF	×	
	5	ON	×	Echo Canceler Operation (See Echo Canceler Operation for details.)
		OFF		
	6	ON		
		OFF	×	
	7	OFF	×	Fixed to OFF
	8	OFF	×	

Note 3: Refer to the table on the next page for NLP settings. NLP cuts off echo when echo return loss is lower than the value in the following table.

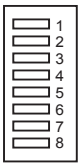
NLP Active Range

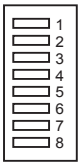
SW12-2	SW12-3	SW12-4	NLP Active Range
OFF	OFF	OFF	-33 dBm0 (Standard)
OFF	OFF	ON	-24 dBm0
OFF	ON	OFF	-27 dBm0
OFF	ON	ON	-30 dBm0
ON	OFF	OFF	-36 dBm0
ON	OFF	ON	-39 dBm0
ON	ON	OFF	-42 dBm0
ON	ON	ON	-45 dBm0

Table 0-1 Echo Canceler Operation

Circuit Card Initial Value		AIVCL Data Assignment	Echo Canceler Operation
When SW12-5 is ON (Conforms to SW12-6 setting)	SW12-6 = OFF (Echo Canceler is forcibly ON)	Not Assigned	ON
		EC is OFF	
		EC is ON	
	SW12-6 = ON (Echo Canceler is forcibly OFF)	Not Assigned	OFF
		EC is OFF	
		EC is ON	
When SW12-5 is OFF (Conforms to the Telephony Server Data Assignment)	ACRD CDN 8 = 1 (Echo Canceler is ON)	Not Assigned	ON
		EC is OFF	OFF
		EC is ON	ON
	ACRD CDN 8 = 0 (Echo Canceler is OFF)	Not Assigned	OFF
		EC is OFF	
		EC is ON	ON

Note: When using APDIL command, the assignment of APDIL will be available regardless of the above settings.

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW13 	1	OFF	×	Fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	ON		Echo Canceler is bypassed when FAX answer tone is detected. (2100 Hz)
		OFF	×	Echo Canceler is not bypassed when FAX answer tone is detected. (2100 Hz)
	6	OFF	×	Fixed to OFF.
	7	ON	×	Fixed to ON.
	8	OFF	×	Fixed to OFF.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="9">SW14
 
</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="9">FAX Error Detection Timer
<table><tr><th>SW14-1</th><th>SW14-2</th><th>SW14-3</th><th>TIMER</th><th>REMARKS</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>1 minute</td><td>Standard Setting</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>2 minutes</td><td></td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>3 minutes</td><td></td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>4 minutes</td><td></td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>5 minutes</td><td></td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>0 minute</td><td>Fixed to Voice Mode</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>No Timer</td><td>Voice/FAX automatic distinction</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>-</td><td>This setting is prohibited.</td></tr></table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td rowspan="2">Setting of maximum voice level sent to TSW.
When connected with the 2-wire trunk, refer to Table 3

Note: This setting is controlled upon each call basis.</td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td>×</td></tr>
<tr><td>OFF</td><td></td><td></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td>×</td><td rowspan="2">Setting of maximum voice level sent to TSW.
When connected with an extension or trunk except 2-wire trunk, refer to Table 4
Note: This setting is controlled upon each call basis.</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td>×</td><td rowspan="2"></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>EC Training function not available</td></tr>
<tr><td>OFF</td><td>×</td><td>EC Training function available.</td></tr>
</table>

Table 3

SW14-4	SW14-5	Maximum Voice Level
OFF	OFF	No setting is neccesary
ON	OFF	+3dB limit (Standard)
OFF	ON	0dB limit
ON	ON	+2dB limit

Table 4

SW14-6	SW14-7	Maximum Voice Level
OFF	OFF	No setting is neccesary
ON	OFF	+3dB limit (Standard)
OFF	ON	0dB limit
ON	ON	+2dB limit

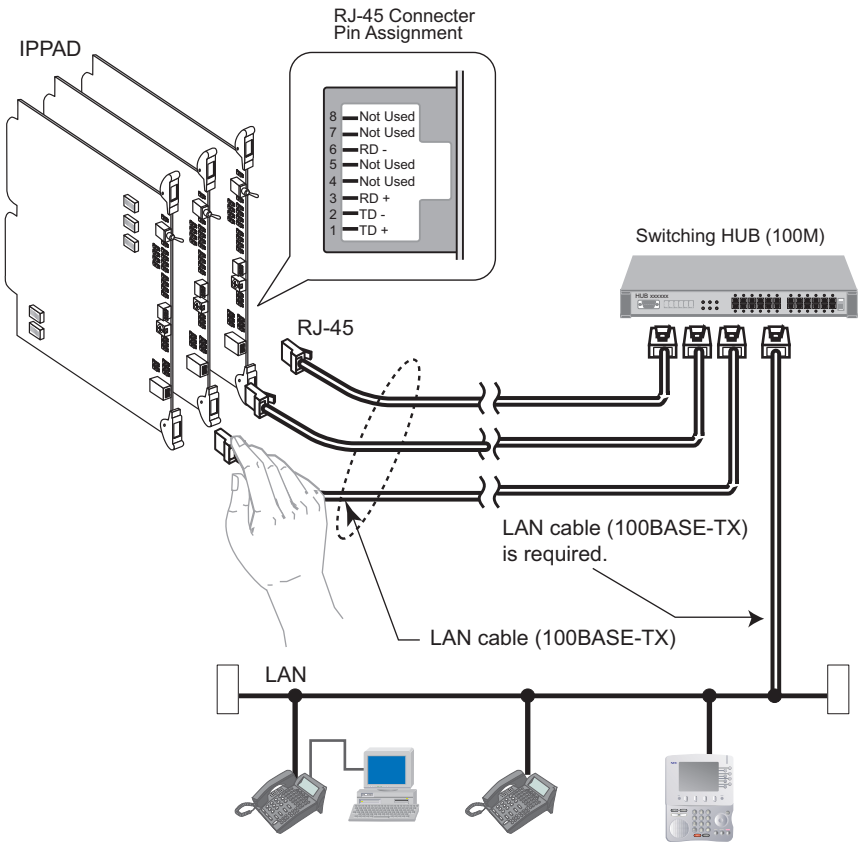
External Interface

Referring to the figure below, connect the IPPAD cards and the switching HUB with LAN cables (100BASE-TX).

Cable Connections for IPPAD

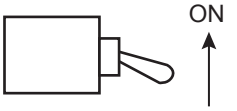
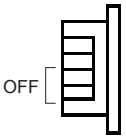
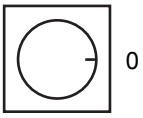
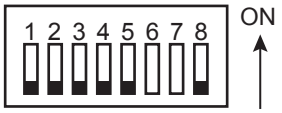
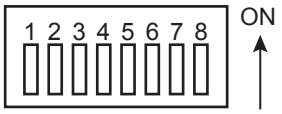
When using multiple IPPAD cards, use a 100M-Switching HUB to separate the LAN ports for each IPPAD card.





Warning: Be sure to use a switching HUB when connecting IPPAD cards to the LAN.

6. Switch Setting Sheet

MODULE	SLOT No.	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW01		
		SW02 (MODE)		
		SW10		
		SW11		
		SW12		
		SW13		
		SW14		

7. PAD Setting for other circuit cards

When this PA-32IPDB circuit card and the following circuit cards are used, set the data as follows.

- COT

  Send (TSW -> PSTN direction): 3dB, etc.
  Receive (PSTN -> TSW direction): 0dB, etc.

  Example: For the case of PA-16COTBD-B/PA-16COTBH

  - SW-12-4:OFF
  - Set the command data referring to "PAD Value Reference" tables in PA-16COTBD-B/PA-16COT-BH.

- PRT

  Send (TSW -> PSTN direction): 0dB
  Receive (PSTN -> TSW direction): 8dB

PA-16IPTC (IPTRK)

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	-	X	X	-

1. General Function

PA-16IPTC (IPTRK) (equipped with a total of 16 ports **Note 1**) is a Line/Trunk circuit card that is used for CCIS/FCCS over the Intranet. This card provides the following functions to send/receive voice or FAX (G3) information over IP:

a. Voice Data Processing
   - Voice data compression/decompression
   - FAX data encoding/multiplexing
   - DTMF (analog signal) detection/transmission
   - Echo Canceller

b. IP Network Interface (10/100 Mbps Ethernet interface to send/receive voice/signal information)

c. FCCS Link Interface

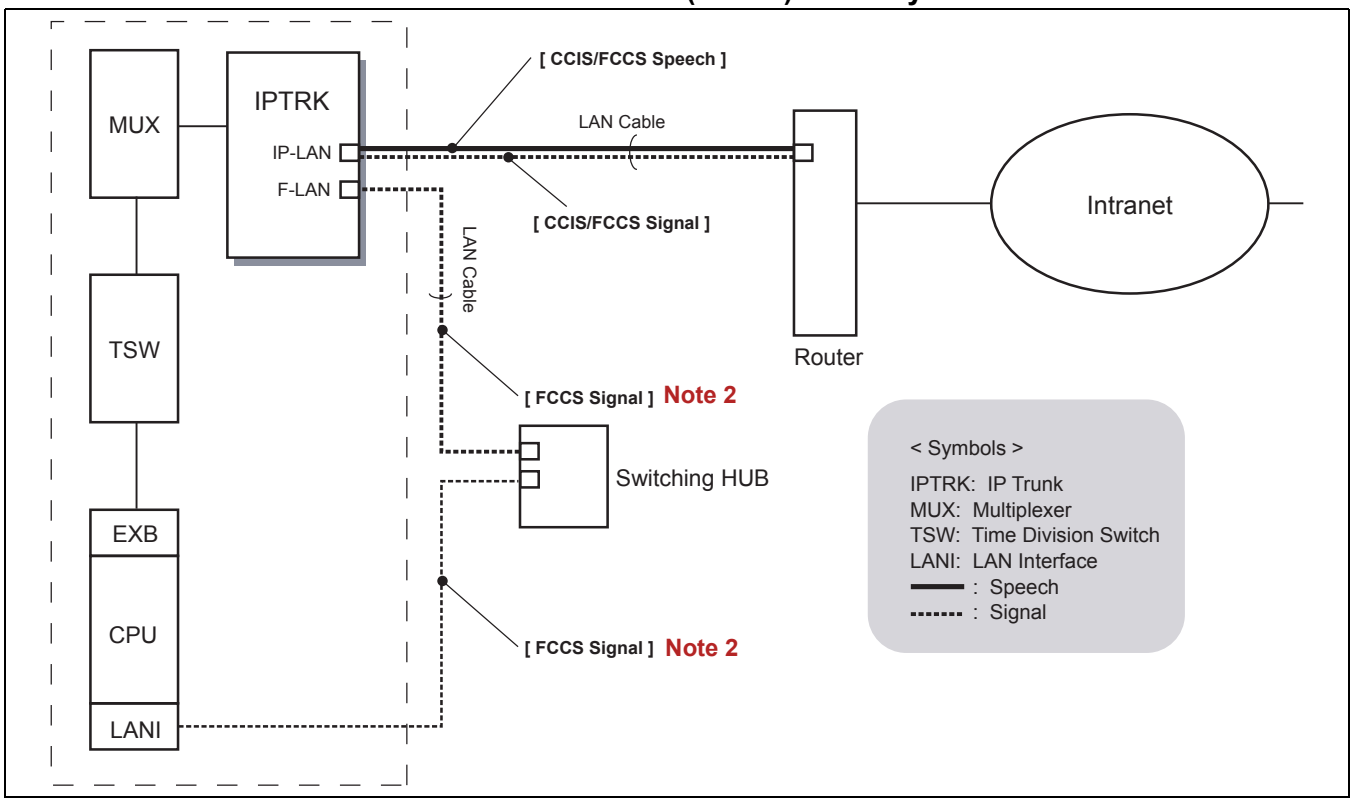
d. LP-PM Bus Interface

e. Sub Board (PZ-16VCTB): One sub board can be mounted on this card. For more information, refer to PZ-16VCTB (page 1328).

Note: FCCS Networking via IP (by IPTRK) is available only for a migrated system from IPX/SV7000/SV8500. For a newly installed SV9500 system, use FCCS Networking via IP (Peer-to-Peer).

Note 1: A single PA-16IPTC can use a total of 32 ports, when used with a "PZ-16VCTB" Sub Board (main board 16 ports + Sub Board 16 ports). See PZ-16VCTB for more details.
(main board 16 ports: PA-16IPTC; Sub Board 16 ports: Option)

Location of PA-16IPTC (IPTRK) in the System



Note 2: Used for FCCS only.

Specification of IPTRK (PA-16IPTC)

FUNCTION	SPECIFICATION	NOTE
Voice Encoding/ Decoding	G.711	64 kbps PCM
	G.729a	8 kbps CS-ACELP
	G.723.1	Dual rate speech coder for multimedia communications 5.3kbps: ACELP/6.3kbps: MP-MLQ
FAX	FAX Relay (T.30/T.38) **Note 3**	G3 FAX (V.17, V.21, V.27ter, V.29, V.33): Available **Note 4** Super G3 (V.34, etc.): Not Available
INTER-OFFICE SIGNAL LINK		MP: Point-to-Multipoint PP: Point-to-Point
NEAX2400 IPX → NEAX2400 IPX		
FCCS	MP/P-P	
CCIS	MP/P-P	
NEAX2400 IPX → NEAX2400 IVS^2		
CCIS	MP/P-P	
NEAX2400 IPX → GW Terminal		
Jitter	Dynamic Jitter Buffer	Buffer Value (40-300 milliseconds)
LAN Interface	10 BASE-T/100 BASE-TX	
QoS (Quality of Service)	WFQ by ToS	Use Router of Cisco Systems, Inc.
Echo Canceler	G.168	Round Trip Delay = 64 milliseconds **Note 5**

Note 3: Maximum Transmission Speed is 14.4 kbps.

Note 4: T.30 is available for CCIS.

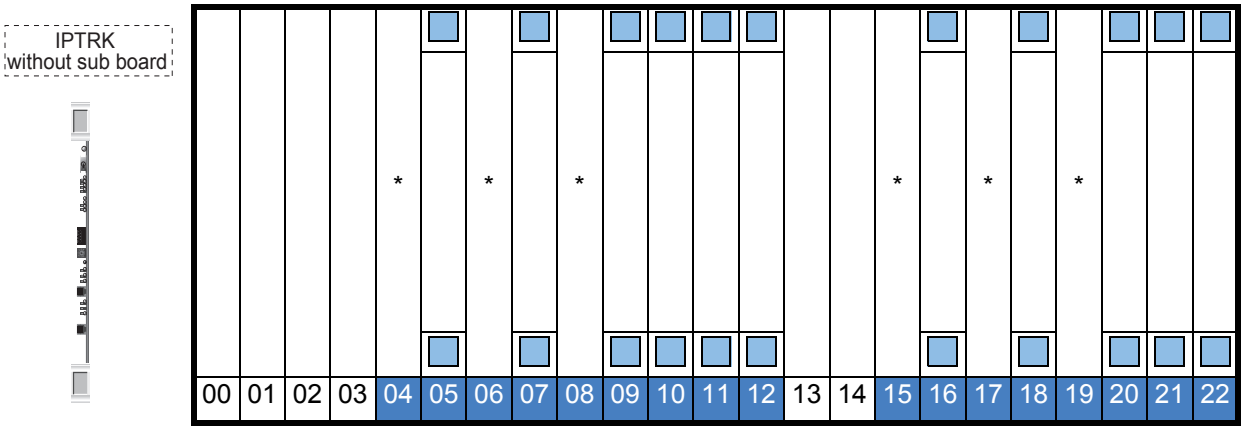
Note 5: Echo Canceller does not affect a conference call via IPTRK depending on the kind of telephone set (primarily analog telephones).

Caution: While this circuit card is in use, some LSIs may get hot. Handle this card with care to avoid touching the heated LSI surfaces.

2. Mounting Location/Condition

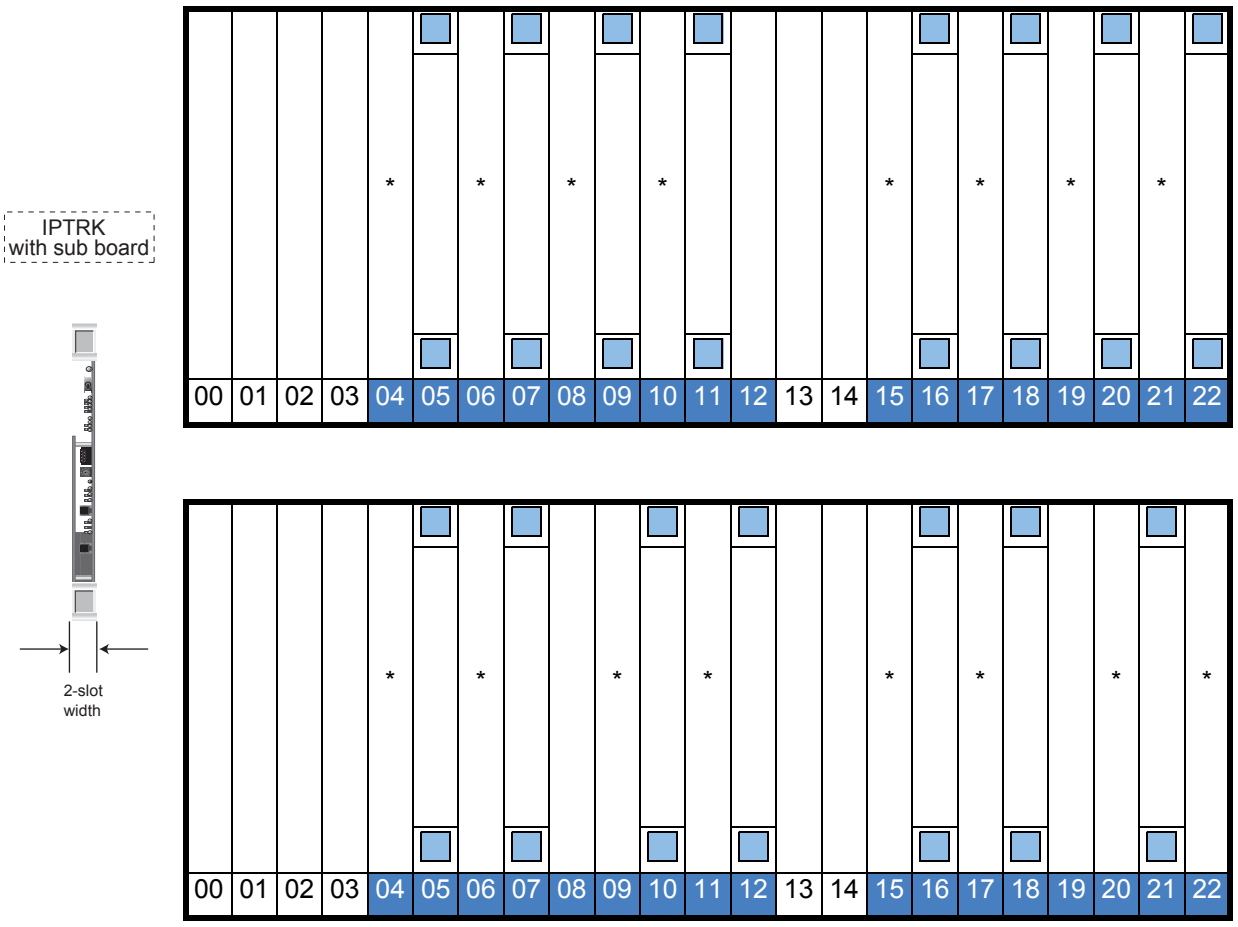
Mounting Location <8U-PIR>

- When mounting no sub board, the card can be mounted in the following slots



Note: A circuit card cannot be mounted in a slot marked with an asterisk(*) when IP-TRK is mounted in the right slot. (PCM of the marked slot is occupied by the IP-TRK.)

- When mounting sub board(s), the card can be mounted in the following slots



Note: A circuit card cannot be mounted in a slot marked with an asterisk(*) when IP-TRK is mounted in the right slot. (IPTRK with sub board occupies two slots.)

Mounting Conditions:

- When this card is used with no Sub Board (PZ-16VCTB), and is mounted in any Universal Slots 05, 07, 09, 16, 18 or 20:

  Though this card physically occupies a single slot only, actual ports used are those in the even-number Group of just left of each sub highway (see the figure on the next page).

- When this card is used with no Sub Board (PZ-16VCTB) and is mounted in any Universal Slots 10, 11, 12, 21 or 22:

  This card occupies only a single slot. For the port accommodation, see the figure on the next page.

- When this card is used with a Sub Board (PZ-16VCTB):

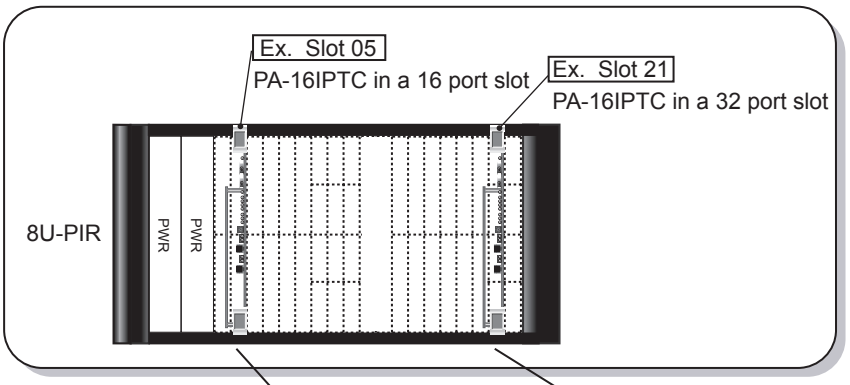
  This card physically occupies a total of two slots. For the port accommodation, see the figure on the next page.

- When this card is used as “CCIS/FCCS via IP,” maximum two IPTRK cards per UNIT (= Slots 04~12 / Slots 15~22) are allowed. Therefore, the third IPTRK must be accommodated in a different UNIT of the same/other PIR.

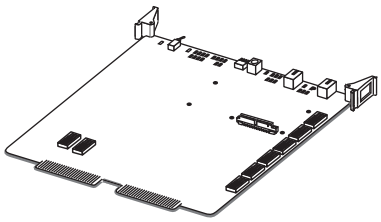
- The card cannot be mounted in Slot 05 of PIR0. This card cannot use Port 0 (LV=0) of Group 0 (G=00). LENS:000000 is not available for the users.

Port Assignment for PA-16IPTC Card

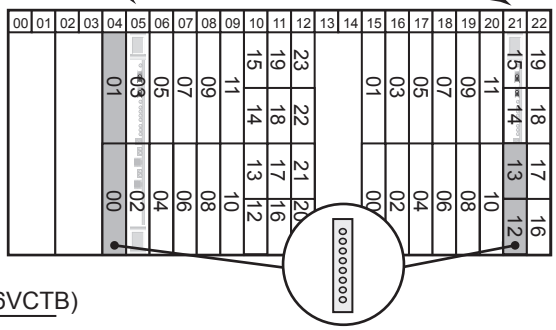
Examples of port accommodation, of PA-16IPTC, with no Sub Board (PZ-16VCTB) or with one Sub Board, are shown below.



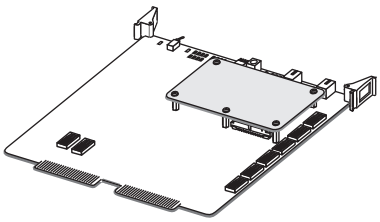
・ When PA-16IPTC is furnished with no Sub Board (PZ-16VCTB)



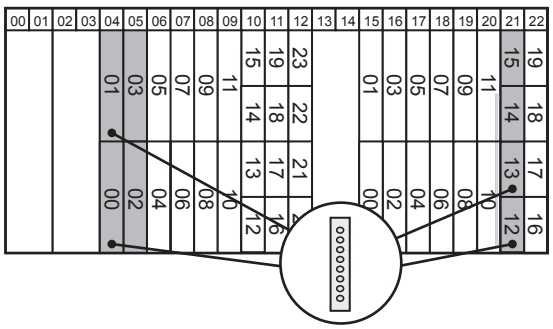
16 Ports



・ When PA-16IPTC is furnished with one Sub Board (PZ-16VCTB)



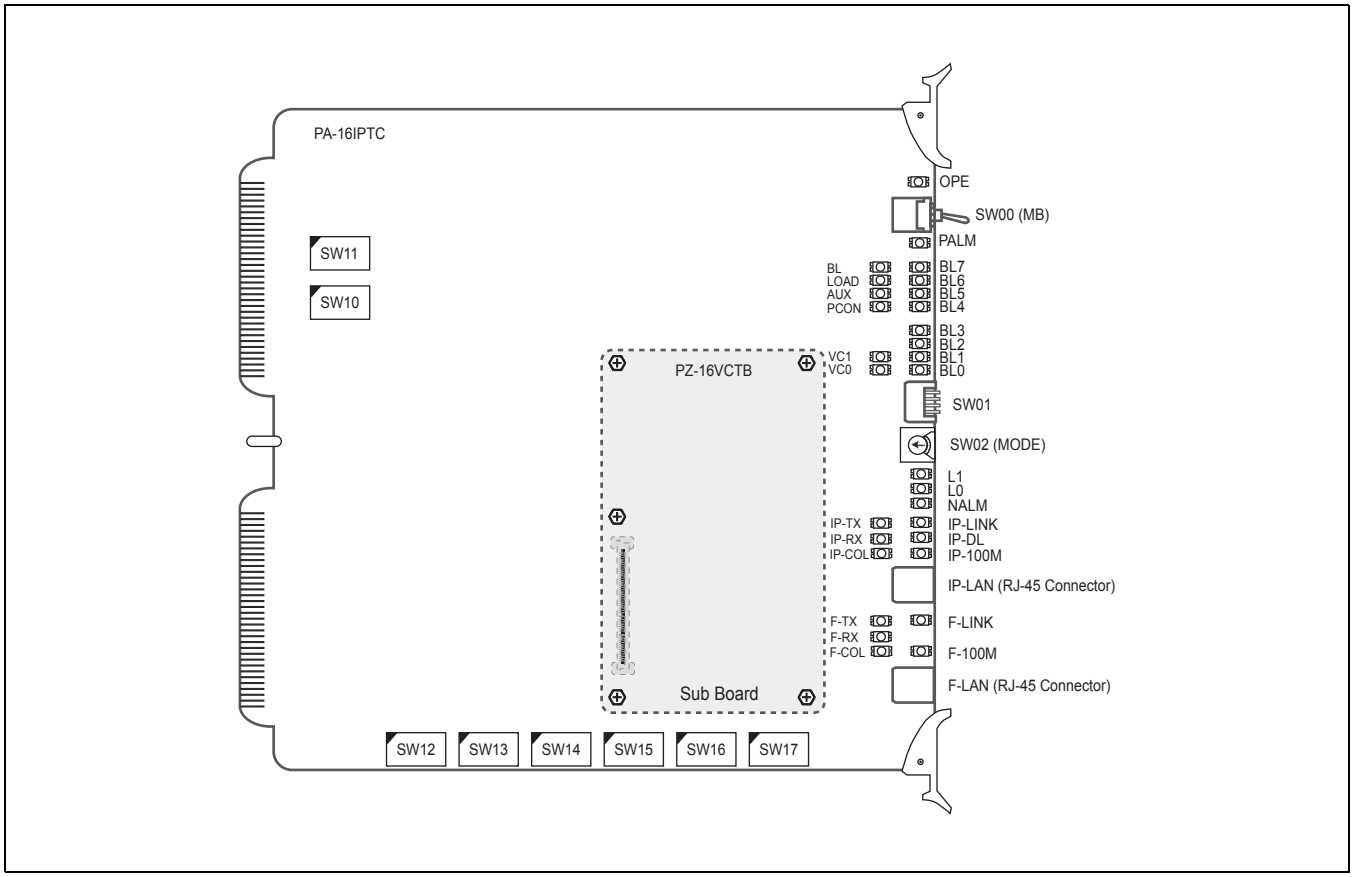
32 Ports



3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches and connectors on this circuit card is shown below:

Face Layout of PA-16IPTC (IPTRK) Card



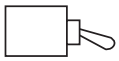
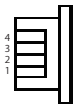
4. Lamp Indications

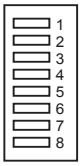
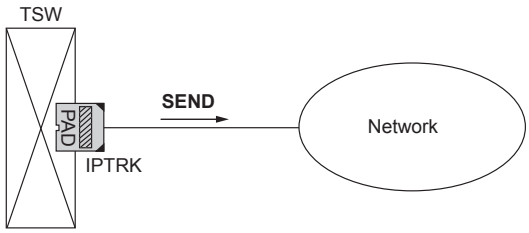
The meaning of lamp indications on this card is shown below.

LAMP NAME	COLOR	MEANING OF INDICATION	
OPE	Green	Lights when this circuit card is operating normally.	
PALM	Red	Lights when DC-DC power does not work normally.	
BL	Green	Lights when any circuit is used.	
BL0	Green	Lights when 0 (8, 16, 24) channel is used.	Indicated channel status is specified by SW01.
BL1	Green	Lights when 1 (9, 17, 25) channel is used.	
BL2	Green	Lights when 2 (10, 18, 26) channel is used.	
BL3	Green	Lights when 3 (11, 19, 27) channel is used.	
BL4	Green	Lights when 4 (12, 20, 28) channel is used.	
BL5	Green	Lights when 5 (13, 21, 29) channel is used.	
BL6	Green	Lights when 6 (14, 22, 30) channel is used.	
BL7	Green	Lights when 7 (15, 23, 31) channel is used.	
LOAD	Green	Lights when loading program.	
VC0	Green	Lights when Voice Compression is operational.	
VC1	Green	Lights when Voice Compression (expansion board) is operational.	
L0	Green	Lights when communication is available (for FCCS, CCIS).	
L1	Green	Flashes when GK registration is being performed or deleted.	
NALM	Yellow	Lights when Network Alarm occurs.	
IP-DL	Green	Lights while downloading from the network.	External LAN
IP-LINK	Green	Lights when physically connected to the network.	
IP-TX	Green	Lights when sending data packets.	
IP-RX	Green	Lights when receiving data packets.	
IP-100M	Green	Lights when 100 Mbps interface is in use.	
IP-COL	Yellow	Lights when data packet collision is detected.	
F-LINK	Green	Lights when physically connected to the network.	Internal LAN
F-TX	Green	Lights when sending data packets.	
F-RX	Green	Lights when receiving data packets.	
F-100M	Green	Lights when 100 Mbps interface is in use.	
F-COL	Yellow	Lights when data packet collision is detected.	
AUX	Green	Not used	
PCON	Green	Not used	

5. Switch Settings

The meanings of each switch on this card is shown below.

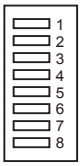
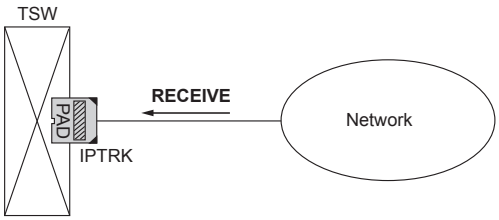
<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">SW00
(MB)
  </td><td></td><td>ON</td><td></td><td>Circuit card: Make-Busy</td></tr>
<tr><td></td><td>OFF</td><td>×</td><td>Circuit card: Make-Busy cancel</td></tr>
<tr><td rowspan="5">SW01
  </td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="4">BL0-7 Indications:
<table><tr><th>SW01-1</th><th>SW01-2</th><th>BL0-7</th></tr><tr><td>OFF</td><td>OFF</td><td>Indicates status of 0-7channel</td></tr><tr><td>ON</td><td>OFF</td><td>Indicates status of 8-15channel</td></tr><tr><td>OFF</td><td>ON</td><td>Indicates status of 16-23channel</td></tr><tr><td>ON</td><td>ON</td><td>Indicates status of 24-31channel</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>Circuit card: Make-Busy request</td></tr>
<tr><td>OFF</td><td>×</td><td>Circuit card: Make-Busy request cancel</td></tr>
<tr><td rowspan="16">SW02
(MODE)
  </td><td rowspan="16"></td><td>0</td><td>×</td><td rowspan="16">LAN Operation Mode
<table><tr><th rowspan="2">VALUE</th><th colspan="2">MEANING</th></tr><tr><th>EXTERNAL LAN</th><th>INTERNAL LAN</th></tr><tr><td>0</td><td>Automatic Negotiation</td><td>Automatic Negotiation</td></tr><tr><td>1</td><td>100 Mbps Full Duplex fixed</td><td>Automatic Negotiation</td></tr><tr><td>2</td><td colspan="2">Prohibited</td></tr><tr><td>3</td><td>10 Mbps Half Duplex fixed</td><td>Automatic Negotiation</td></tr><tr><td>4</td><td>100 Mbps Half Duplex fixed</td><td>Automatic Negotiation</td></tr><tr><td>5</td><td>Automatic Negotiation</td><td>10 Mbps Half Duplex fixed</td></tr><tr><td>6</td><td>Automatic Negotiation</td><td>100 Mbps Half Duplex fixed</td></tr><tr><td>7</td><td>10 Mbps Half Duplex fixed</td><td>10 Mbps Half Duplex fixed</td></tr><tr><td>8</td><td>10 Mbps Half Duplex fixed</td><td>100 Mbps Half Duplex fixed</td></tr><tr><td>9</td><td>100 Mbps Half Duplex fixed</td><td>10 Mbps Half Duplex fixed</td></tr><tr><td>A</td><td>100 Mbps Half Duplex fixed</td><td>100 Mbps Half Duplex fixed</td></tr><tr><td>B</td><td>100 Mbps Full Duplex fixed</td><td>10 Mbps Half Duplex fixed</td></tr><tr><td>C</td><td colspan="2" rowspan="3">Prohibited</td></tr><tr><td>D</td></tr><tr><td>E</td></tr><tr><td>F</td><td>100 Mbps Full Duplex fixed</td><td>100 Mbps Half Duplex fixed</td></tr></table></td></tr>
<tr><td>1</td><td></td></tr>
<tr><td>2</td><td></td></tr>
<tr><td>3</td><td></td></tr>
<tr><td>4</td><td></td></tr>
<tr><td>5</td><td></td></tr>
<tr><td>6</td><td></td></tr>
<tr><td>7</td><td></td></tr>
<tr><td>8</td><td></td></tr>
<tr><td>9</td><td></td></tr>
<tr><td>A</td><td></td></tr>
<tr><td>B</td><td></td></tr>
<tr><td>C</td><td></td></tr>
<tr><td>D</td><td></td></tr>
<tr><td>E</td><td></td></tr>
<tr><td>F</td><td></td></tr>
</table>

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW10 	1	ON		Flexible PAD Value Selection (SEND: TSW → Network). See the table on the next page. **Note:** This PAD becomes effective when SW10-7 is ON and PAD = 4 is set by MAT command. 
		OFF		
	2	ON		
		OFF		
	3	ON		
		OFF		
	4	ON		
		OFF		
	5	ON		
		OFF		
	6	ON		
		OFF		
	7	ON		Flexible PAD is valid.
		OFF	×	Flexible PAD is invalid.
	8	OFF	×	Fixed to OFF.

Flexible PAD Value (SEND: TSW → Network)

SW10						Loss [dB]	
SW10-1	SW10-2	SW10-3	SW10-4	SW10-5	SW10-6		
OFF	OFF	OFF	OFF	OFF	OFF	-16	Gain
ON	OFF	OFF	OFF	OFF	OFF	-15	
OFF	ON	OFF	OFF	OFF	OFF	-14	
ON	ON	OFF	OFF	OFF	OFF	-13	
OFF	OFF	ON	OFF	OFF	OFF	-12	
ON	OFF	ON	OFF	OFF	OFF	-11	
OFF	ON	ON	OFF	OFF	OFF	-10	
ON	ON	ON	OFF	OFF	OFF	-9	
OFF	OFF	OFF	ON	OFF	OFF	-8	
ON	OFF	OFF	ON	OFF	OFF	-7	
OFF	ON	OFF	ON	OFF	OFF	-6	
ON	ON	OFF	ON	OFF	OFF	-5	
OFF	OFF	ON	ON	OFF	OFF	-4	
ON	OFF	ON	ON	OFF	OFF	-3	
OFF	ON	ON	ON	OFF	OFF	-2	
ON	ON	ON	ON	OFF	OFF	-1	
OFF	OFF	OFF	OFF	ON	OFF	0	
ON	OFF	OFF	OFF	ON	OFF	1	Loss
OFF	ON	OFF	OFF	ON	OFF	2	
ON	ON	OFF	OFF	ON	OFF	3	
OFF	OFF	ON	OFF	ON	OFF	4	
ON	OFF	ON	OFF	ON	OFF	5	
OFF	ON	ON	OFF	ON	OFF	6	
ON	ON	ON	OFF	ON	OFF	7	
OFF	OFF	OFF	ON	ON	OFF	8	
ON	OFF	OFF	ON	ON	OFF	9	
OFF	ON	OFF	ON	ON	OFF	10	
ON	ON	OFF	ON	ON	OFF	11	
OFF	OFF	ON	ON	ON	OFF	12	
ON	OFF	ON	ON	ON	OFF	13	
OFF	ON	ON	ON	ON	OFF	14	
ON	ON	ON	ON	ON	OFF	15	
OFF	OFF	OFF	OFF	OFF	ON	16	
ON	OFF	OFF	OFF	OFF	ON	17	
OFF	ON	OFF	OFF	OFF	ON	18	
ON	ON	OFF	OFF	OFF	ON	19	
OFF	OFF	ON	OFF	OFF	ON	20	

SW10						Loss [dB]
SW10-1	SW10-2	SW10-3	SW10-4	SW10-5	SW10-6	
Others						Prohibited

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW11 	1	ON		Flexible PAD Value Selection (RECEIVE: Network → TSW) See the table on the next page. **Note:** This PAD becomes effective when SW10-7 is ON and PAD = 4 is set by MAT command. 
		OFF		
	2	ON		
		OFF		
	3	ON		
		OFF		
	4	ON		
		OFF		
	5	ON		
		OFF		
	6	ON		
		OFF		
	7	ON		Direction of PAD Insertion (Send, Receive, Send and Receive)
		OFF		
	8	ON		
		OFF		

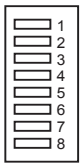
SW11-7	SW11-8	PAD Insertion
OFF	OFF	PAD is assigned by ARTD/ACRD **Note 1**
ON	OFF	Send: TSW → Network **Note 2**
OFF	ON	Receive: Network →TSW **Note 2**
ON	ON	Send/Receive **Note 2**

Note 1: PAD value is set as specified by ARTD (for CCIS) or ACRD (for FCCS). PAD value specified by APAD (for CCIS), AFPD (for FCCS), AIPDL or AIPDN is not effective in this case.

Note 2: Although the default value is the data specified by ARTD or ACRD, the data specified by APAD or AFPD has precedence when assigned. Furthermore, the data specified by AIPDL or AIPDN has precedence. Note that this PAD Insertion Direction Control is also valid when flexible PAD is used.

Flexible PAD Value (Receive: Network → TSW)

SW11						Loss [dB]	
SW11-1	SW11-2	SW11-3	SW11-4	SW11-5	SW11-6		
OFF	OFF	OFF	OFF	OFF	OFF	-16	Gain
ON	OFF	OFF	OFF	OFF	OFF	-15	
OFF	ON	OFF	OFF	OFF	OFF	-14	
ON	ON	OFF	OFF	OFF	OFF	-13	
OFF	OFF	ON	OFF	OFF	OFF	-12	
ON	OFF	ON	OFF	OFF	OFF	-11	
OFF	ON	ON	OFF	OFF	OFF	-10	
ON	ON	ON	OFF	OFF	OFF	-9	
OFF	OFF	OFF	ON	OFF	OFF	-8	
ON	OFF	OFF	ON	OFF	OFF	-7	
OFF	ON	OFF	ON	OFF	OFF	-6	
ON	ON	OFF	ON	OFF	OFF	-5	
OFF	OFF	ON	ON	OFF	OFF	-4	
ON	OFF	ON	ON	OFF	OFF	-3	
OFF	ON	ON	ON	OFF	OFF	-2	
ON	ON	ON	ON	OFF	OFF	-1	
OFF	OFF	OFF	OFF	ON	OFF	0	
ON	OFF	OFF	OFF	ON	OFF	1	Loss
OFF	ON	OFF	OFF	ON	OFF	2	
ON	ON	OFF	OFF	ON	OFF	3	
OFF	OFF	ON	OFF	ON	OFF	4	
ON	OFF	ON	OFF	ON	OFF	5	
OFF	ON	ON	OFF	ON	OFF	6	
ON	ON	ON	OFF	ON	OFF	7	
OFF	OFF	OFF	ON	ON	OFF	8	
ON	OFF	OFF	ON	ON	OFF	9	
OFF	ON	OFF	ON	ON	OFF	10	
ON	ON	OFF	ON	ON	OFF	11	
OFF	OFF	ON	ON	ON	OFF	12	
ON	OFF	ON	ON	ON	OFF	13	
OFF	ON	ON	ON	ON	OFF	14	
ON	ON	ON	ON	ON	OFF	15	
OFF	OFF	OFF	OFF	OFF	ON	16	
ON	OFF	OFF	OFF	OFF	ON	17	
OFF	ON	OFF	OFF	OFF	ON	18	
ON	ON	OFF	OFF	OFF	ON	19	
OFF	OFF	ON	OFF	OFF	ON	20	
Others						Prohibited	

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="10">SW12
  </td><td rowspan="2">1</td><td>ON</td><td>×</td><td>Dynamic Jitter Buffer Selection: valid</td></tr>
<tr><td>OFF</td><td></td><td>Dynamic Jitter Buffer Selection: invalid</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td rowspan="8">Voice Encoding/Decoding
<table><tr><th rowspan="2">SW 12-2</th><th rowspan="2">SW 12-3</th><th rowspan="2">SW 12-4</th><th colspan="4">Selection Order: High ← → Low</th><th rowspan="2">MEANING</th></tr><tr><th>1</th><th>2</th><th>3</th><th>4</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>G.729a</td><td>G.723.1 (6.3k)</td><td>G.723.1 (5.3k)</td><td>G.711</td><td>Standard Setting</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>G.723.1 (5.3k)</td><td>G.723.1 (6.3k)</td><td>G.729a</td><td>G.711</td><td>Band Precedence Mode 1</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>G.711</td><td>G.729a</td><td>G.723.1 (6.3k)</td><td>G.723.1 (5.3k)</td><td>Voice Quality Precedence Mode</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>G.723.1 (6.3k)</td><td>G.723.1 (5.3k)</td><td>G.729a</td><td>G.711</td><td>Band Precedence Mode 2</td></tr><tr><td colspan="8">Other than above setting is prohibited.</td></tr></table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td rowspan="4">PAD Pattern Selection. See the table listed below.</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
</table>

PAD Pattern Selection

SW12			Purpose
SW12-6	SW12-7	SW12-8	
OFF	OFF	OFF	μ-law PAD Pattern 1
ON	OFF	OFF	μ-law PAD Pattern 2
OFF	ON	OFF	μ-law PAD Pattern 3
ON	ON	OFF	μ-law PAD Pattern 4
OFF	OFF	ON	μ-law → A-law Conversion Pattern 1
ON	OFF	ON	μ-law → A-law Conversion Pattern 2
OFF	ON	ON	μ-law → A-law Conversion Pattern 3
ON	ON	ON	μ-law → A-law Conversion Pattern 4

μ-law Pattern 1

PAD value (APAD/ AIPDL/ AIPDN)	PAD No. (ARTD)	SEND	RECEIVE
15	7	0 [dB]	0 [dB]
1	1	2 [dB]	2 [dB]
2	2	4 [dB]	4 [dB]
3	3	12 [dB]	12 [dB]
4	4	8 [dB] or Flexible PAD	8 [dB] or Flexible PAD
5	5	64 kbps Data Through	64 kbps Data Through

μ-law Pattern 2

PAD value (APAD/ AIPDL/ AIPDN)	PAD No. (ARTD)	SEND	RECEIVE
15	7	0 [dB]	0 [dB]
1	1	8 [dB]	16 [dB]
2	2	8 [dB]	4 [dB]
3	3	4 [dB]	12 [dB]
4	4	0 [dB] or Flexible PAD	8 [dB] or Flexible PAD
5	5	64 kbps Data Through	64 kbps Data Through

μ-law Pattern 3

PAD value (APAD/ AIPDL/ AIPDN)	PAD No. (ARTD)	SEND	RECEIVE
15	7	0 [dB]	0 [dB]
1	1	2 [dB]	2 [dB]
2	2	4 [dB]	4 [dB]
3	3	8 [dB]	8 [dB]
4	4	8 [dB] or Flexible PAD	8 [dB] or Flexible PAD
5	5	64 kbps Data Through	64 kbps Data Through

μ-law Pattern 4

PAD value (APAD/ AIPDL/ AIPDN)	PAD No. (ARTD)	SEND	RECEIVE
15	7	0 [dB]	0 [dB]
1	1	-3 [dB]	3 [dB]
2	2	3 [dB]	3 [dB]
3	3	0 [dB]	6 [dB]
4	4	3 [dB] or Flexible PAD	9 [dB] or Flexible PAD
5	5	64 kbps Data Through	64 kbps Data Through

μ-law → A-law Conversion Pattern 1

PAD value (APAD/ AIPDL/ AIPDN)	PAD No. (ARTD)	SEND	RECEIVE
15	7	64 kbps Data Through	64 kbps Data Through
1	1	0 [dB]	0 [dB]
2	2	4 [dB]	4 [dB]
3	3	6 [dB]	6 [dB]
4	4	8 [dB] or Flexible PAD	8 [dB] or Flexible PAD
5	5	64 kbps Data Through	64 kbps Data Through

μ-law → A-law Conversion Pattern 2

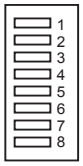
PAD value (APAD/ AIPDL/ AIPDN)	PAD No. (ARTD)	SEND	RECEIVE
15	7	64 kbps Data Through	64 kbps Data Through
1	1	0 [dB]	0 [dB]
2	2	0 [dB]	4 [dB]
3	3	0 [dB]	12 [dB]
4	4	0 [dB] or Flexible PAD	8 [dB] or Flexible PAD
5	5	64 kbps Data Through	64 kbps Data Through

μ-law → A-law Conversion Pattern 3

PAD value (APAD/ AIPDL/ AIPDN)	PAD No. (ARTD)	SEND	RECEIVE
15	7	0 [dB]	0 [dB]
1	1	2 [dB]	2 [dB]
2	2	4 [dB]	4 [dB]
3	3	6 [dB]	6 [dB]
4	4	8 [dB] or Flexible PAD	8 [dB] or Flexible PAD
5	5	64 kbps Data Through	64 kbps Data Through

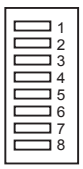
μ-law → A-law Conversion Pattern 4

PAD value (APAD/ AIPDL/ AIPDN)	PAD No. (ARTD)	SEND	RECEIVE
15	7	0 [dB]	0 [dB]
1	1	2 [dB]	2 [dB]
2	2	4 [dB]	4 [dB]
3	3	12 [dB]	12 [dB]
4	4	8 [dB] or Flexible PAD	8 [dB] or Flexible PAD
5	5	64 kbps Data Through	64 kbps Data Through

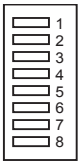
<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="16">SW13
  </td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="16">Payload Size Selection Note 3, Note 4
<table>
<tr><th>SW13-1</th><th>SW13-2</th><th>SW13-3</th><th>SW13-4</th><th>MEANING</th></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>10 [ms] (1 block)</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>20 [ms] (2 blocks)</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>30 [ms] (3 blocks)</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>40 [ms] (4 blocks)</td></tr>
</table>
Switch Setting other than above is prohibited.</td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td>×</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td>2100 Hz Phase Reverse Control: Detect when Phase is reversed</td></tr>
<tr><td>OFF</td><td>×</td><td>2100 Hz Phase Reverse Control: Detect when Phase is returned to normal</td></tr>
<tr><td>6</td><td>ON</td><td>×</td><td>Fixed to ON.</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
</table>

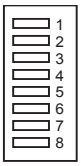
Note 3: When no data has been assigned using the AVIPS command, Payload Size conforms to the key setting of SW13.

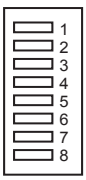
Note 4: If the switch setting of IPTRK of the counter node differs from that of self-node, smaller block number type is used (for FCCS or CCIS).

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="16">SW14
  </td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="2">FAX Error Detection Timer
<table>
<tr><th>SW14-1</th><th>SW14-2</th><th>SW14-3</th><th>TIMER</th><th>REMARKS</th></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>1 min</td><td>Standard Setting</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>2 min</td><td></td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>3 min</td><td></td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>4 min</td><td></td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>5 min</td><td></td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>0 min</td><td>Fixed to Voice Mode</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>No Timer</td><td>Voice/FAX automatic distinction</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>Not Used</td><td></td></tr>
</table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td>FAX mode: ECM ON Note 5</td></tr>
<tr><td>OFF</td><td>×</td><td>FAX mode: ECM OFF</td></tr>
<tr><td>6</td><td>ON</td><td>×</td><td>Fixed to ON.</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td><td>Fixed to OFF.</td></tr>
</table>

Note 5: ECM (Error Correction Mode) is used to correct errors such as data loss during FAX data send/receive.

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW15 	1	OFF	×	Fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW16 	1	OFF	×	Fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	

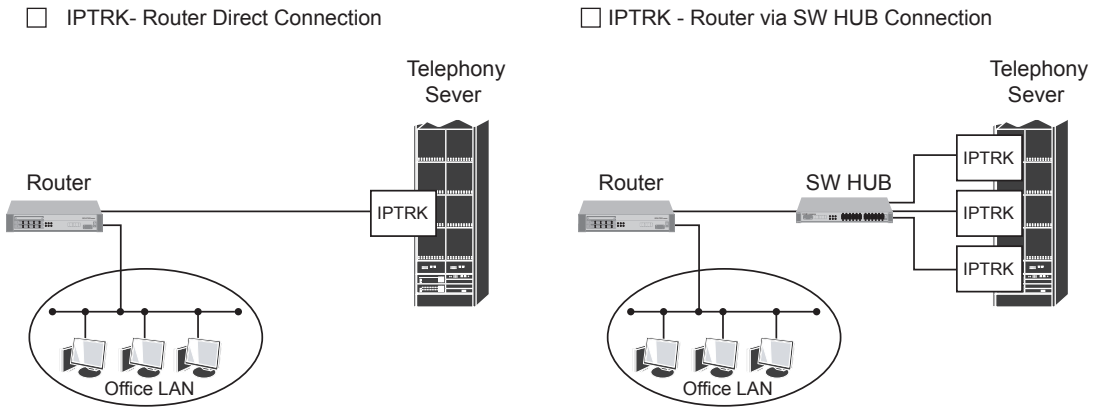
SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW17 	1	OFF	×	Fixed to OFF.
	2	OFF	×	
	3	OFF	×	
	4	OFF	×	
	5	OFF	×	
	6	OFF	×	
	7	OFF	×	
	8	OFF	×	

6. External Interface

The following are cable connections required for IP related features such as CCIS Networking via IP, FCCS Networking via IP, and IP Enabled Dterm. To connect IPTRK to the Intranet, be sure to use a router. Depending on the system configuration, install a switching HUB between the IPTRK and the router. See the figure below.

IPTRK - Intranet Basic Connection Patterns

Depending on system configuration, multiple IPTRK cards can be connected to the router via a switching HUB.



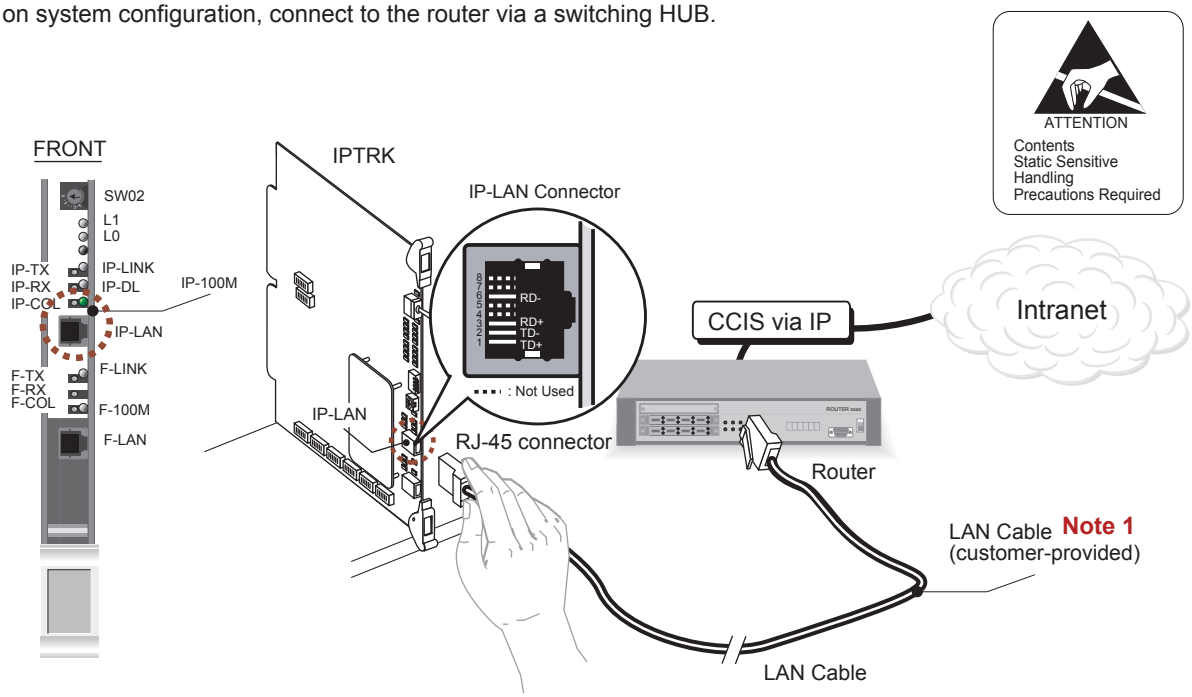
CCIS Networking via IP

Referring to the figure below, connect the IPTRK and the router with a customer-provided LAN cable (10BASE-T/100BASE-TX straight-through).

Note: IP-100M lamp lights when LAN cable (100BASE-TX) is connected.

Cable Connections for CCIS Networking via IP

Connect the LAN cable (10BASE-T/100BASE-TX straight-through) from IP-LAN connector to the router. Depending on system configuration, connect to the router via a switching HUB.



Note 1: When using a LAN cable (100BASE-TX), IP-100M lamp lights green.

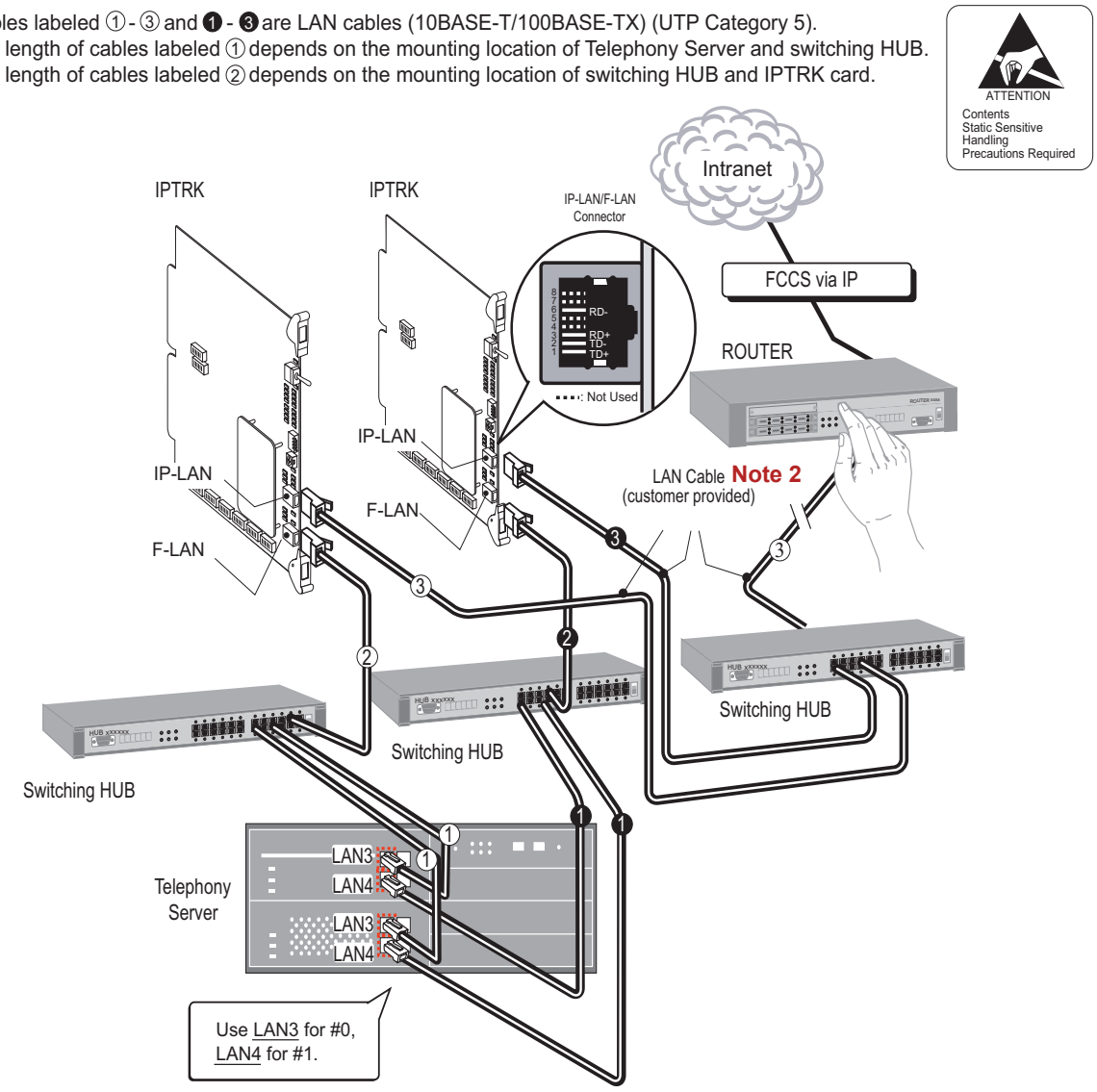
Warning: Be sure to use a router when connecting IPTRK card to the IP network.

FCCS Networking via IP

Referring to the figure below, connect the necessary LAN cables. As an example, the figure shows a system having IPTRKs in dual configuration. For single configuration, the cables labeled in black background are not required. Note that IP-100M or F-100M lamp lights green when using LAN cable (100BASE-TX). The lamps do not light when using LAN cable (10BASE-T).

Cable Connections for FCCS Networking via IP

- Cables labeled ①-③ and ❶-❸ are LAN cables (10BASE-T/100BASE-TX) (UTP Category 5).
- The length of cables labeled ① depends on the mounting location of Telephony Server and switching HUB.
- The length of cables labeled ② depends on the mounting location of switching HUB and IPTRK card.

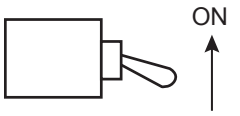
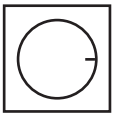
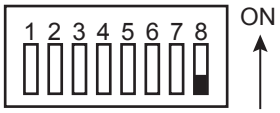
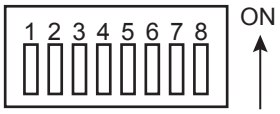
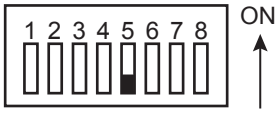
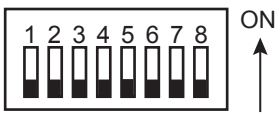


❶ : For Dual Configuration only.

Note 2: When using a LAN cable (100BASE-TX), IP-100M or F-100M lamp lights green.

Warning: Be sure to use a router when connecting IPTRK card to the IP network.

7. Switch Setting Sheet

MODULE	SLOT No.	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW01		SW01-3: Fixed to OFF
		SW02 (MODE)		
		SW10		
		SW11		
		SW12		
		SW13		
		SW14		
		SW15		
		SW16		
		SW17		

PA-16LCBJ-B
Line Circuit

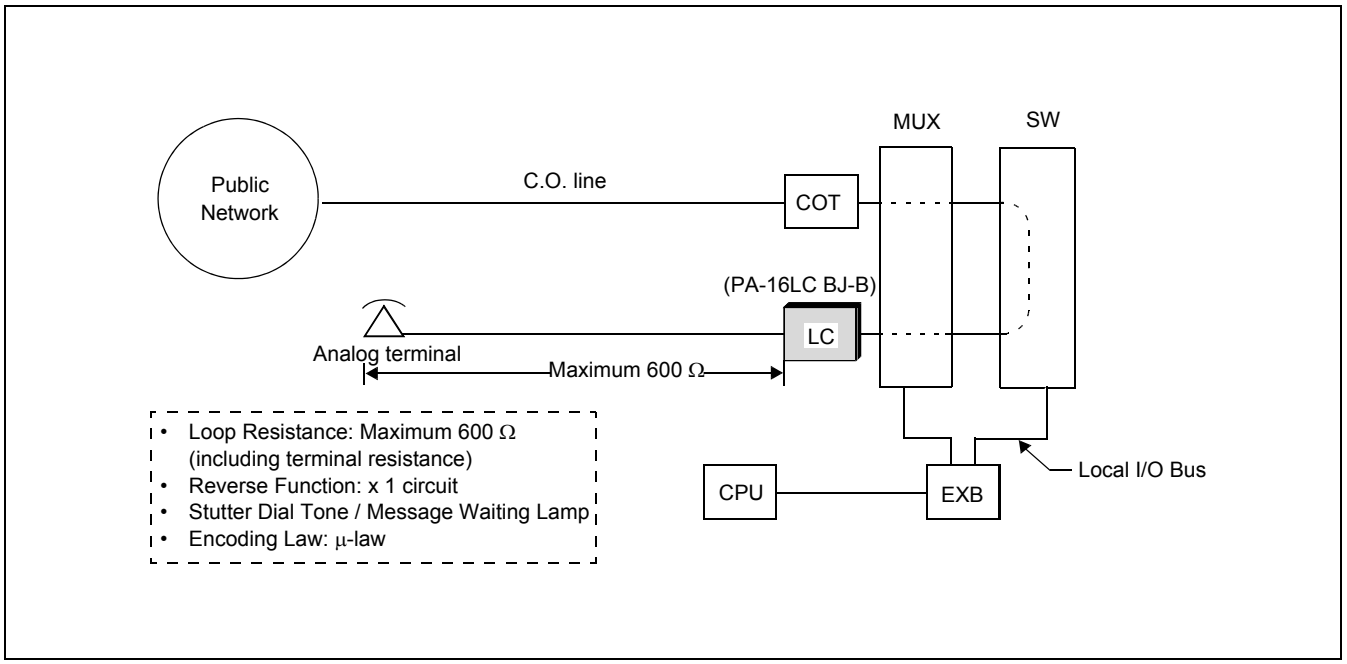
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	-	-	X	-	-

1. General Function

The PA-16LCBJ-B circuit card, that is used exclusively in a μ-law system, provides an interface between a maximum of 16 analog terminals and the system with a range of 600 Ω, including terminal resistance.

This card also can send Stutter Dial Tone, that is not a continuous tone, to an associated terminal that has no Message Waiting Lamp (MWL) instead of activating the MWL if required.

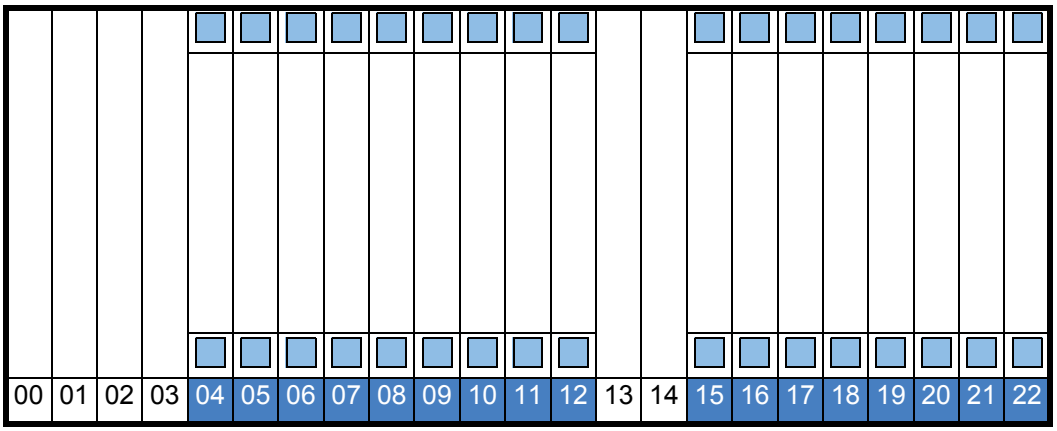
Location of PA-16LCBJ-B (16LC) Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



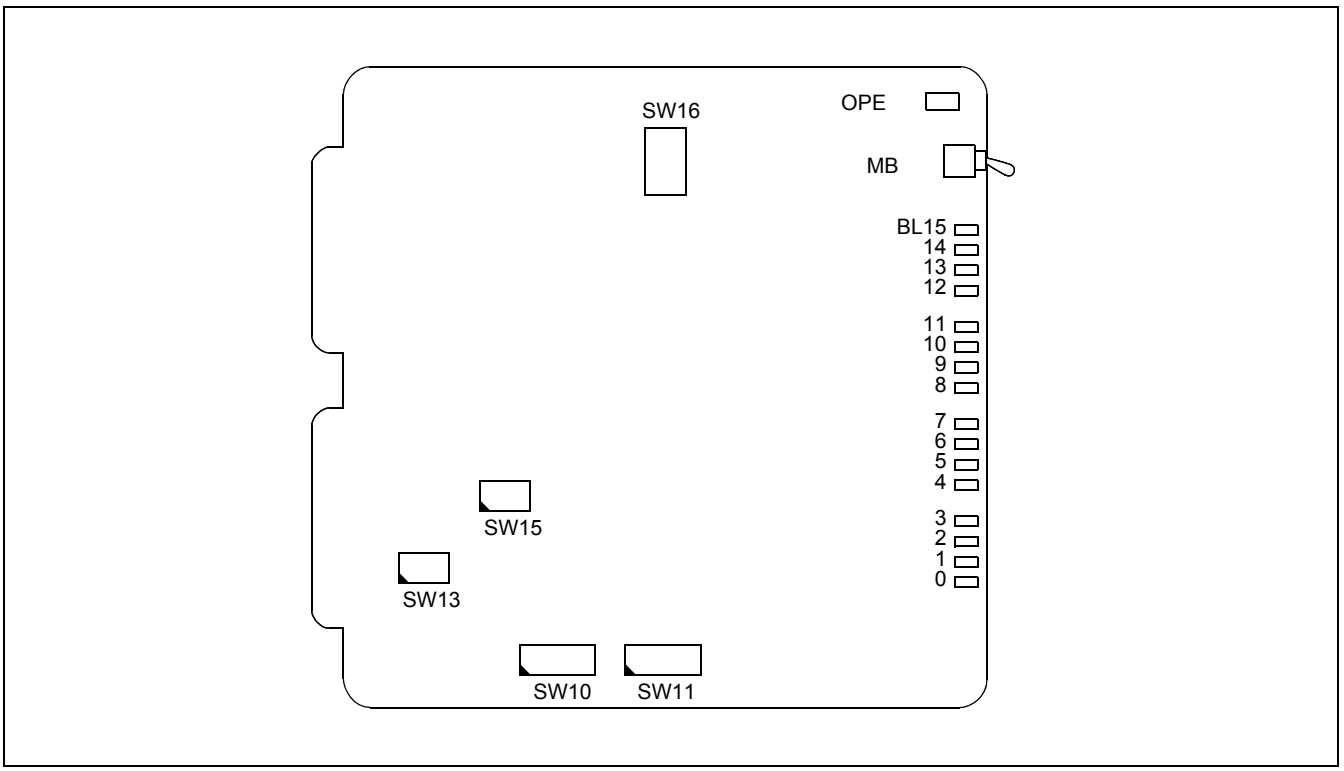
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps and switches on this circuit card is shown below.

Face Layout of PA-16LCBJ-B (16LC)



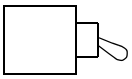
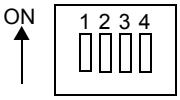
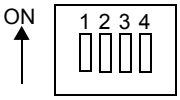
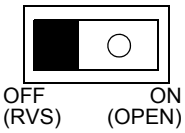
4. Lamp Indications

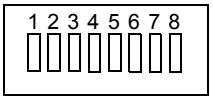
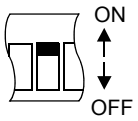
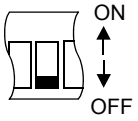
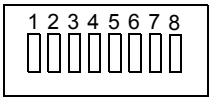
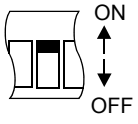
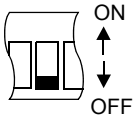
The contents of lamp indications of this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE	MEANING
OPE	Green	Constant Light	The circuitry of the circuit card is operating normally.
BL0 ~ BL15	Green	Constant Light	Line loop exists.
		Flashing	1) Ringing signal is being transmitted. Busy LED flashes in synchronization with on/off of the ringing signal. 2) Dial pulses are received. While dial pulses from a line are received, Busy LED flashes in synchronization with the dial pulses coming from the line. 3) Line is in Make-Busy state. Busy LED keeps flashes at 60 IPM.

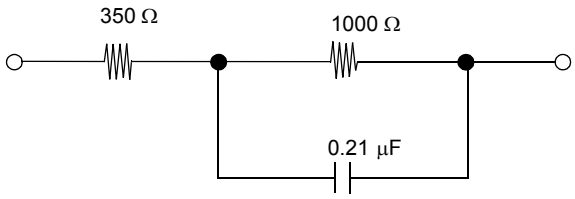
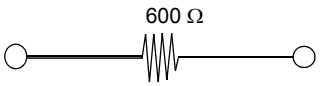
5. Switch Settings

Switches on the PA-16LC BJ-B card have the following meanings.

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW00 (MB) 		UP		Circuit card: Make-Busy
		DOWN		Circuit card: Make-Busy cancel
SW13 	1	OFF	×	Fixed to OFF
	2	ON		Stutter Dial Tone is available
		OFF	×	Stutter Dial Tone is not available
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF
SW15 	1	OFF	×	Fixed to OFF
	2	OFF	×	Fixed to OFF
	3	ON		Message waiting lamp flashes (One-second ON/One-second OFF)
		OFF	×	Message waiting lamp lights or flashes (controlled by software)
	4	OFF	×	Fixed to OFF
SW16 		ON		Momentary open
		OFF	×	Polarity reverse

SWITCH NAME	FUNCTION	SETTING	MEANING
SW-10 (BNW0 - 7) 	Balancing Network designation • Each element corresponds to Circuits 0 - 7.		BNW: Compromise Impedance (EIA/TIA-464A) ◀ for long distance
			BNW: 600 Ω ◀ for short distance
SW-11 (BNW8 - 15) 	Balancing Network designation • Each element corresponds to Circuits 8 - 15.		BNW: Compromise Impedance (EIA/TIA-464A) ◀ for long distance
			BNW: 600 Ω ◀ for short distance

Note: Compromise Impedance (EIA/TIA-464A) and 600 Ω are composed as follows.

ON	OFF
 compromise impedance (EIA/TIA-464A)	

6. External Interface

Accommodation of the LT connector leads of this circuit card and connecting route diagram are shown below.

LT Connector Leads Accommodation (1/2)

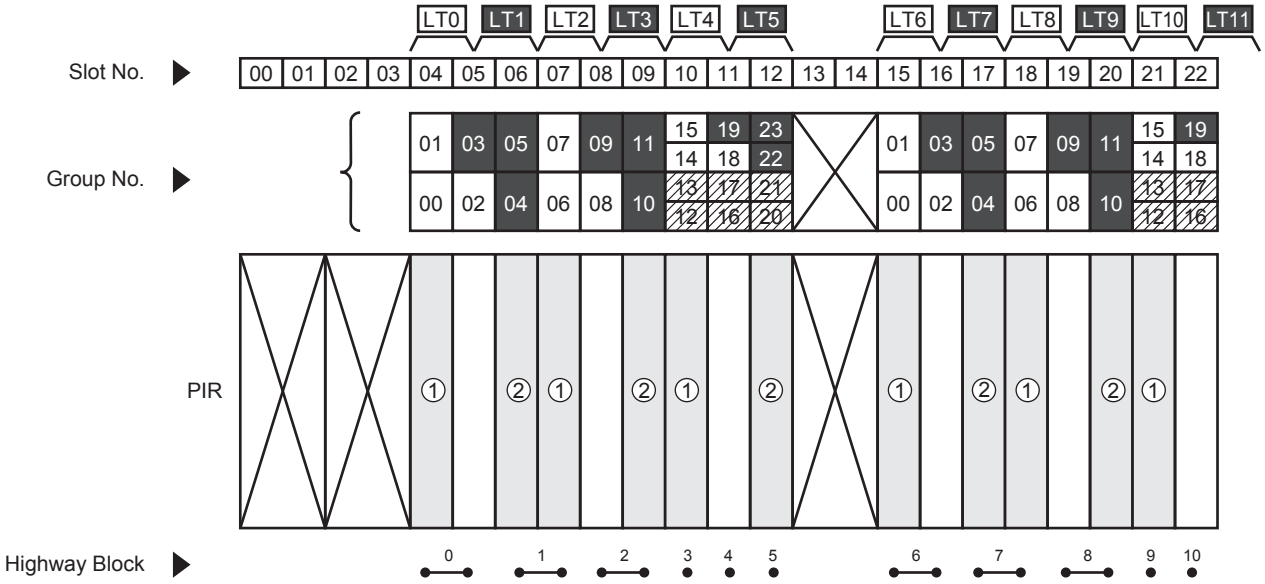
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42	B8	17	A8
43	B9	18	A9
44	B10	19	A10
45	B11	20	A11
46	B12	21	A12
47	B13	22	A13
48	B14	23	A14
49	B15	24	A15
50		25	



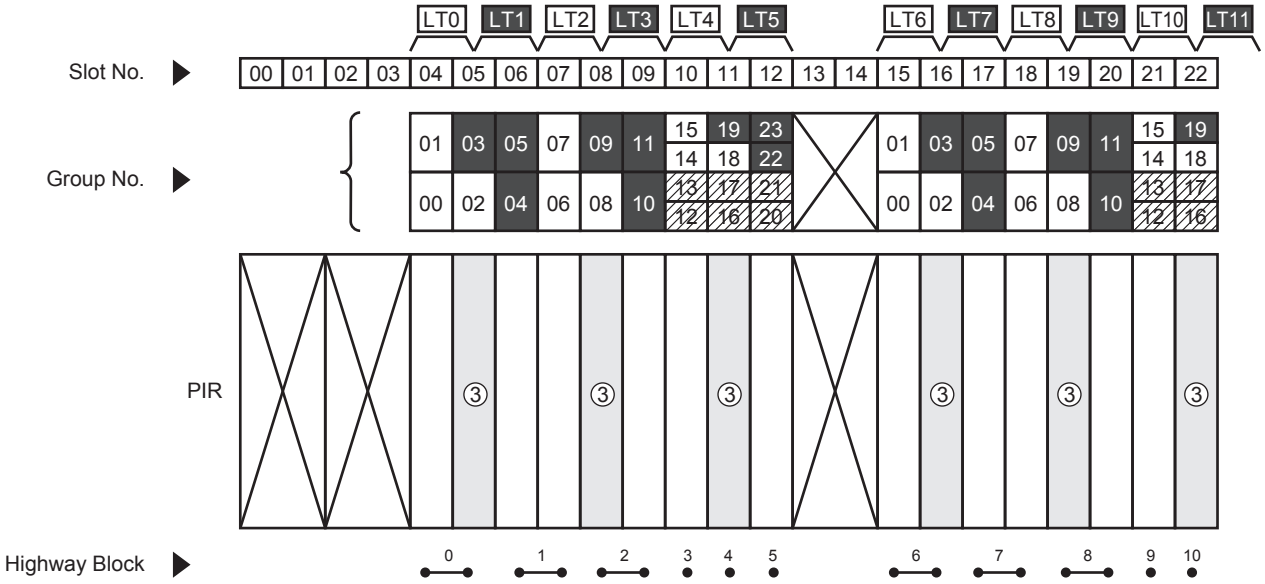
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Leads Accommodation (2/2)

Mounting Module **PIR**

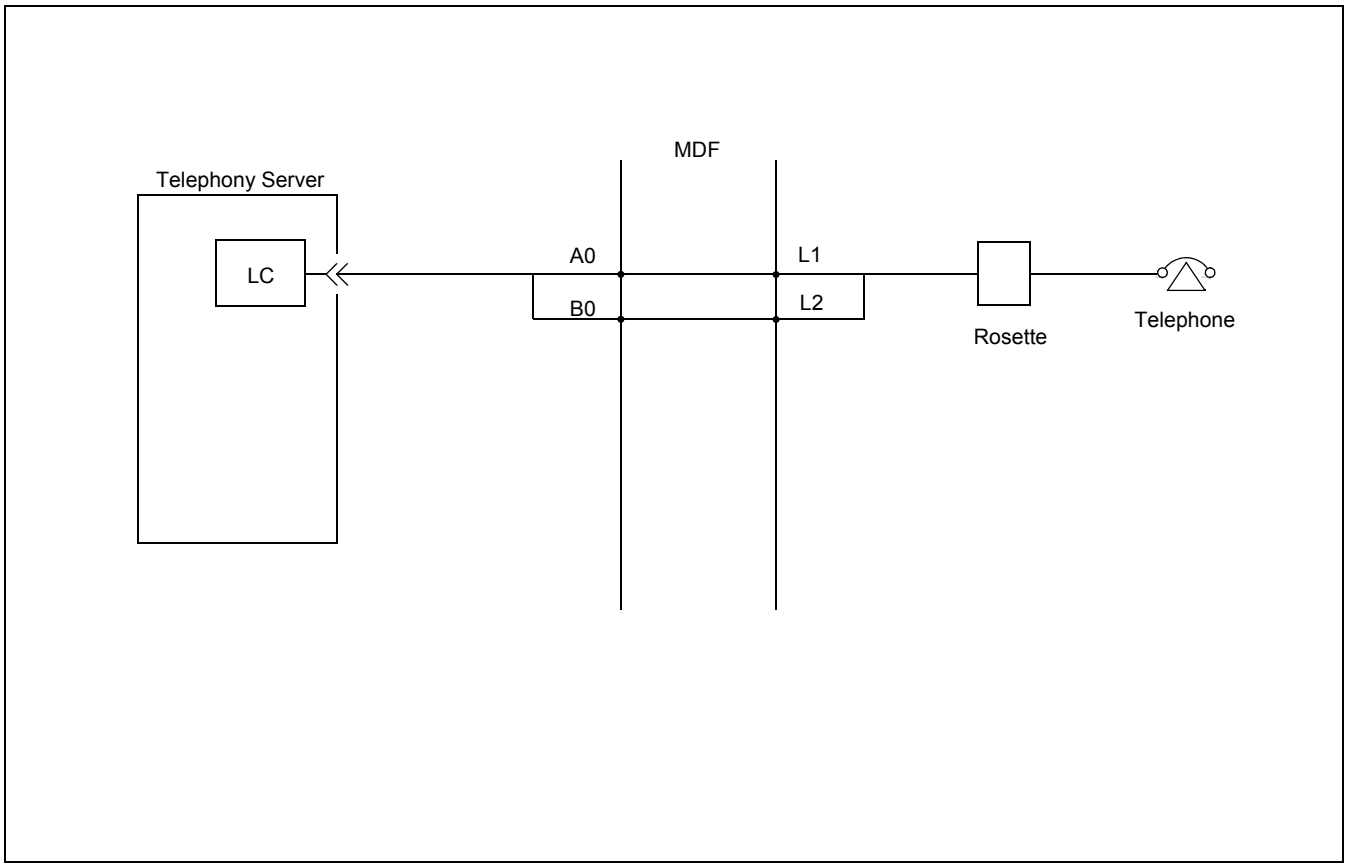
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector				LT 1, 3, 5, 7, 9, 11 Connector			
26		1		26	B8	1	A8
27		2		27	B9	2	A9
28		3		28	B10	3	A10
29		4		29	B11	4	A11
30		5		30	B12	5	A12
31		6		31	B13	6	A13
32		7		32	B14	7	A14
33		8		33	B15	8	A15
34		9		34		9	
35		10		35		10	
36		11		36		11	
37		12		37		12	
38		13		38		13	
39		14		39		14	
40		15		40		15	
41		16		41		16	
42	B0	17	A0	42		17	
43	B1	18	A1	43		18	
44	B2	19	A2	44		19	
45	B3	20	A3	45		20	
46	B4	21	A4	46		21	
47	B5	22	A5	47		22	
48	B6	23	A6	48		23	
49	B7	24	A7	49		24	
50		25		50		25	

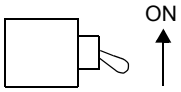
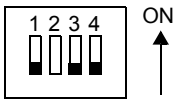
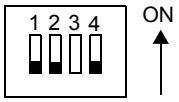
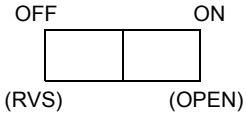
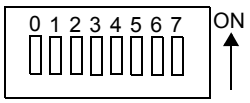
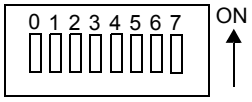


Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram



7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW13		
		SW15		
		SW16		
		SW10 (BNW0-7)		
		SW11 (BNW8-15)		

PA-16LCBK-B
Line Circuit

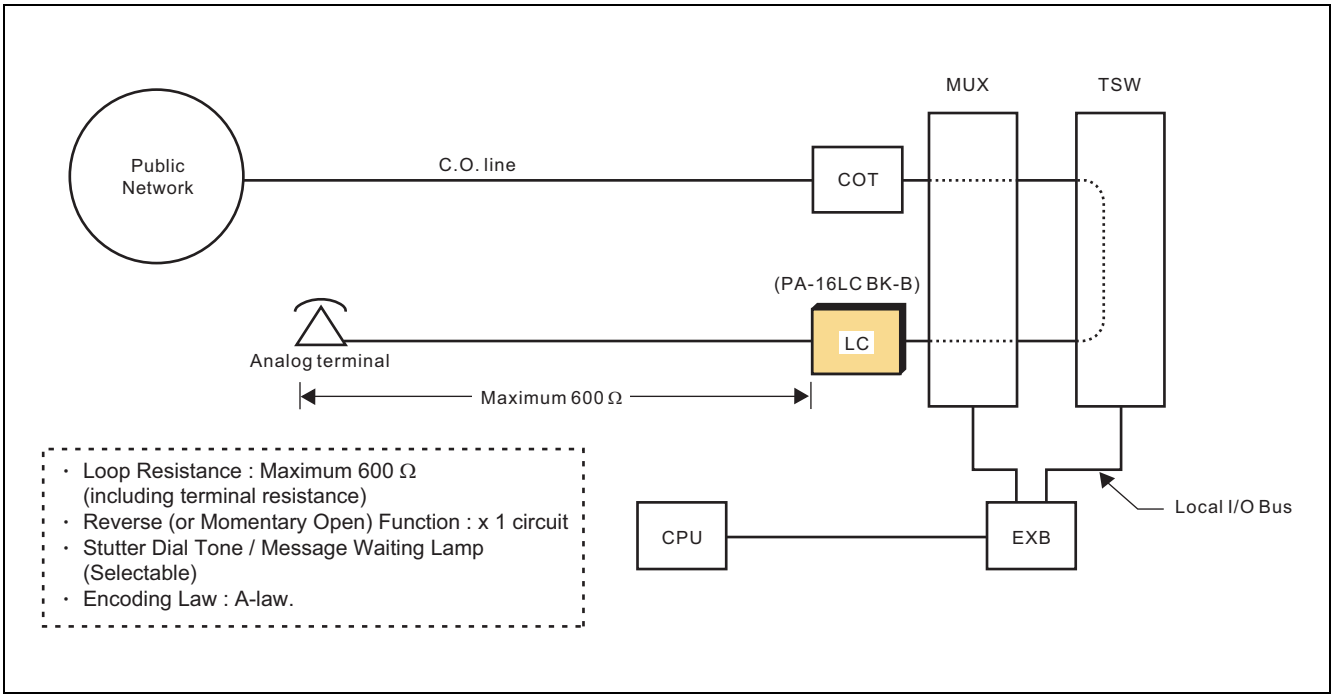
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	X	X	-	X	X

1. General Function

The PA-16LCBK-B circuit card, that is exclusively used in an A-law system, provides an interface between a maximum of 16 analog terminals and the system with a range of 600 Ω inclusive of terminal resistance.

This card also can send Stutter Dial Tone, which is not a continuous tone, to an associated terminal that has no Message Waiting Lamp (MWL) instead of activating the MWL if required.

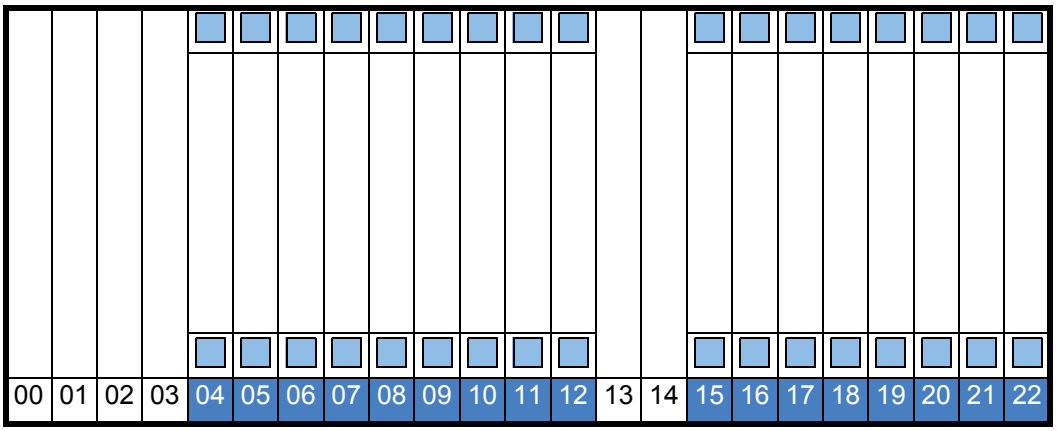
Location of PA-16LCBK-B (LC) in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



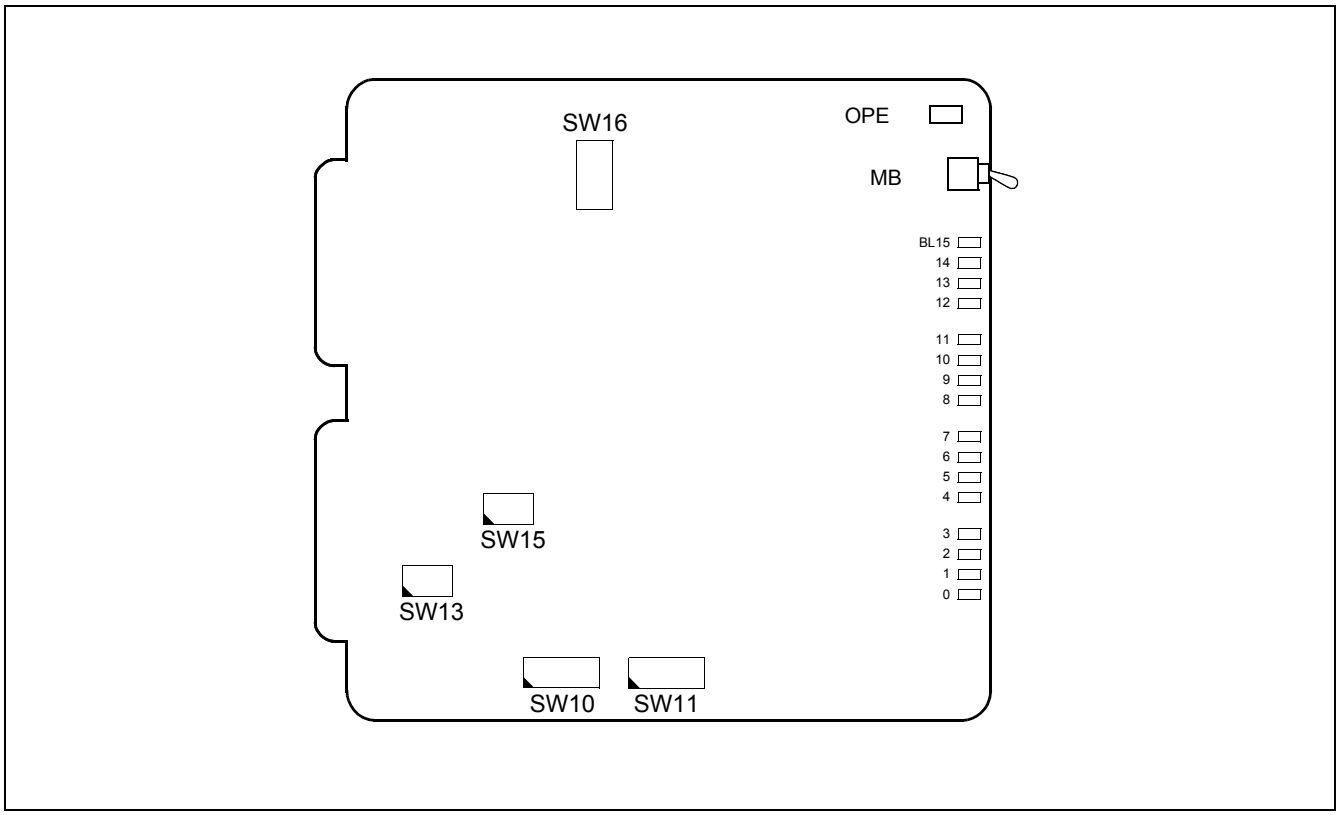
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps and switches on this card is shown below.

Face Layout of PA-16LCBK-B (LC)



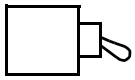
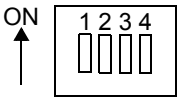
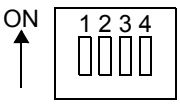
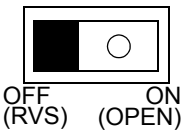
4. Lamp Indications

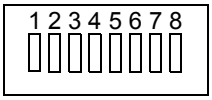
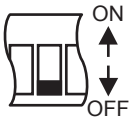
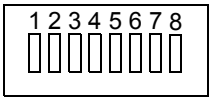
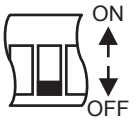
The contents of lamp indications on this card are shown below.

LED NAME	LED COLOR	LED STATUS	MEANING OF INDICATION
OPE	Green	Constant Light	The circuitry of the circuit card is operating normally.
BL0 ' BL15	Green	Constant Light	Line loop exists.
		Flashing	1) Ringing signal is being transmitted. Busy LED keeps flashing in synchronization with on/off of the ringing signal. 2) Dial pulses are being received. While dial pulses from a line are being received, busy LED keeps flashing in synchronization with the dial pulses coming from the line. 3) Line is in make-busy state. Busy LED keeps flashing at 60 IPM.

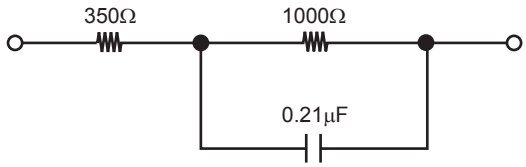
5. Switch Settings

Switches on the PA-16LC BK-B card have the following meanings.

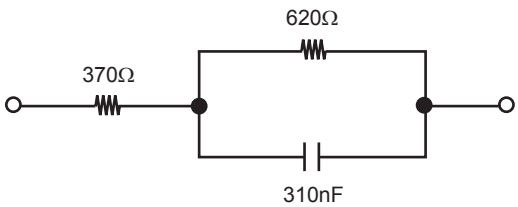
SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	FUNCTION
SW00(MB) 		UP		Circuit card: Make-Busy
		DOWN		Circuit card: Make-Busy cancel
SW13 	1	ON		When used in U.K.
		OFF		Other than above
	2	ON		Stutter Dial Tone is available
		OFF	×	Stutter Dial Tone is not available
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF
SW15 	1	OFF	×	Fixed to OFF
	2	OFF	×	Fixed to OFF
	3	ON		Message waiting lamp flashes (One second ON/one second OFF)
		OFF	×	Message waiting lamp lit or flashes (Controlled by software)
	4	OFF	×	Fixed to OFF
SW16 		ON		Momentary open (Circuit 15 only)
		OFF	×	Polarity reverse (Circuit 15 only)

SWITCH NAME		SETTING	
SW-10 (BNW0 - 7) 	Balancing Network Designation • Each element corresponds to Circuits 0 - 7.		◀ for long distance Refer to the following **Note 1** and **Note 2**.
			◀ for short distance Refer to the following **Note 1** and **Note 2**.
SW-11 (BNW8 - 15) 	Balancing Network Designation • Each element corresponds to Circuits 8 - 15.		◀ for long distance Refer to the following **Note 1** and **Note 2**.
			◀ for short distance Refer to the following **Note 1** and **Note 2**.

Note 1: Compromise Impedance (EIA/TIA-464A) and 600 Ω are as follows when SW13-1 is set to "OFF" (when used in countries other than U.K.).

ON	OFF
 Compromise Impedance (EIA/TIA-464A)	

Note 2: It is as follows when SW13-1 is set to "ON". (When used in U.K.)

ON	OFF
Not used	

6. External Interface

Accommodation of the LT connector leads for this circuit card is shown below.

LT Connector Lead Accommodation (1/2)

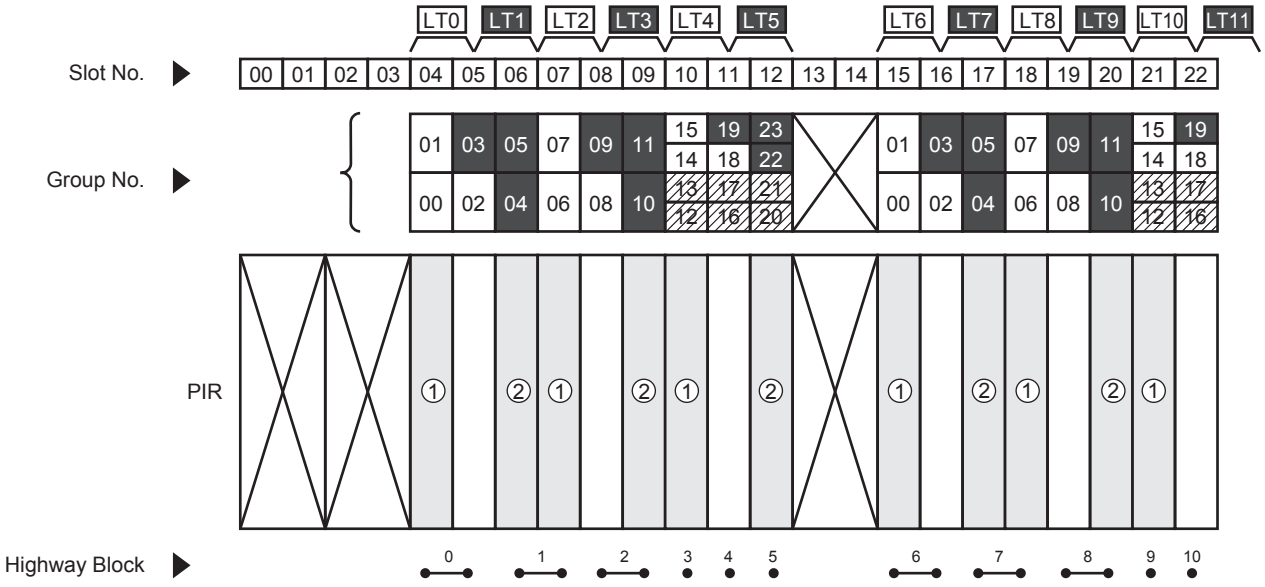
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42	B8	17	A8
43	B9	18	A9
44	B10	19	A10
45	B11	20	A11
46	B12	21	A12
47	B13	22	A13
48	B14	23	A14
49	B15	24	A15
50		25	



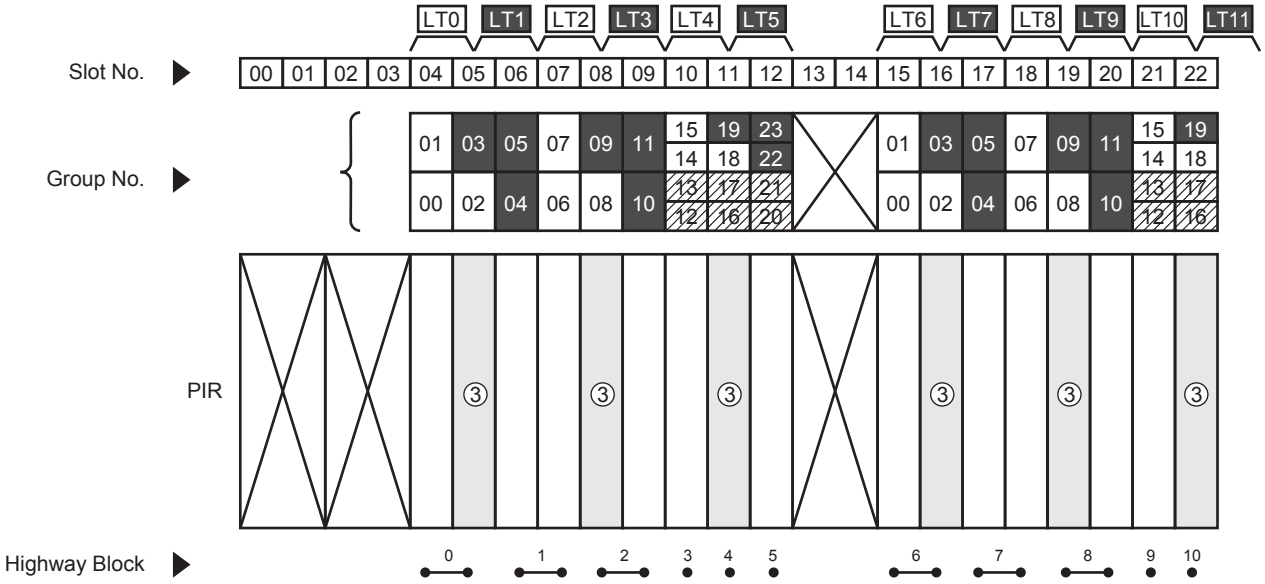
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (2/2)

Mounting Module **PIR**

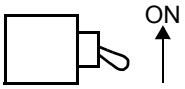
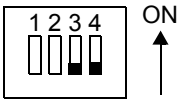
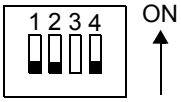
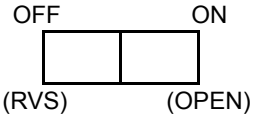
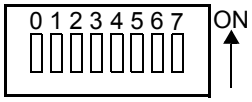
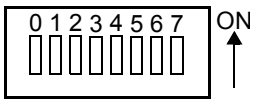
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector				LT 1, 3, 5, 7, 9, 11 Connector			
26		1		26	B8	1	A8
27		2		27	B9	2	A9
28		3		28	B10	3	A10
29		4		29	B11	4	A11
30		5		30	B12	5	A12
31		6		31	B13	6	A13
32		7		32	B14	7	A14
33		8		33	B15	8	A15
34		9		34		9	
35		10		35		10	
36		11		36		11	
37		12		37		12	
38		13		38		13	
39		14		39		14	
40		15		40		15	
41		16		41		16	
42	B0	17	A0	42		17	
43	B1	18	A1	43		18	
44	B2	19	A2	44		19	
45	B3	20	A3	45		20	
46	B4	21	A4	46		21	
47	B5	22	A5	47		22	
48	B6	23	A6	48		23	
49	B7	24	A7	49		24	
50		25		50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW13		
		SW15		
		SW16		
		SW10 (BNW 0 - 7)		
		SW11 (BNW 8 - 15)		

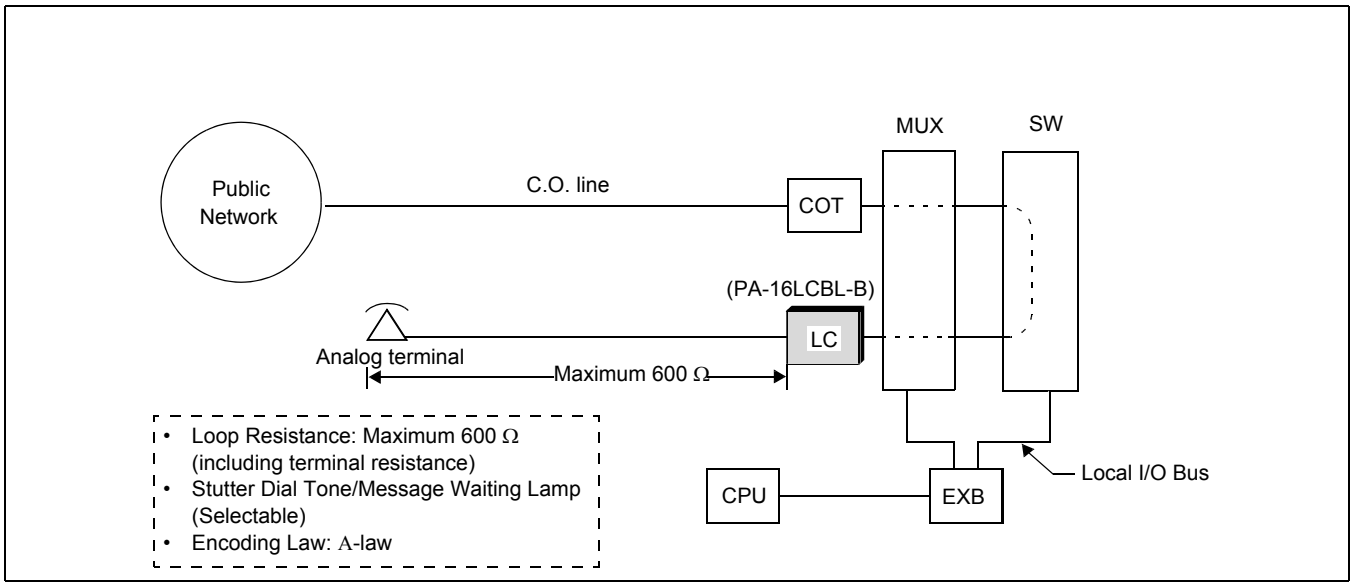
PA-16LCBL-B
Line Circuit

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	-	-	-	-	-	-

1. General Function

The PA-16LCBL-B circuit card, that is exclusively used in the A-law system, provides an interface between a maximum of 16 analog voice terminals and the system. This card can also send Stutter Dial Tone, that is not a continuous tone, to an associated terminal that has no Message Waiting Lamp (MWL) instead of activating the MWL if required.

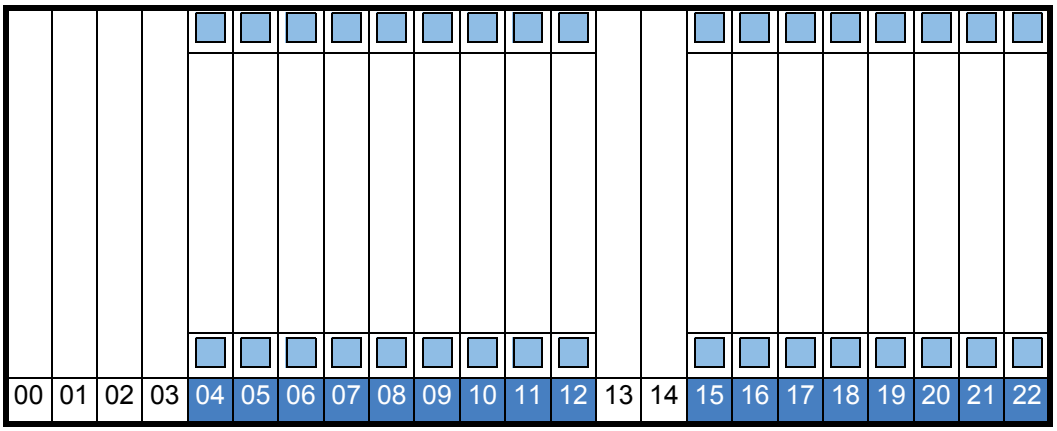
Location of PA-16LCBL-B Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



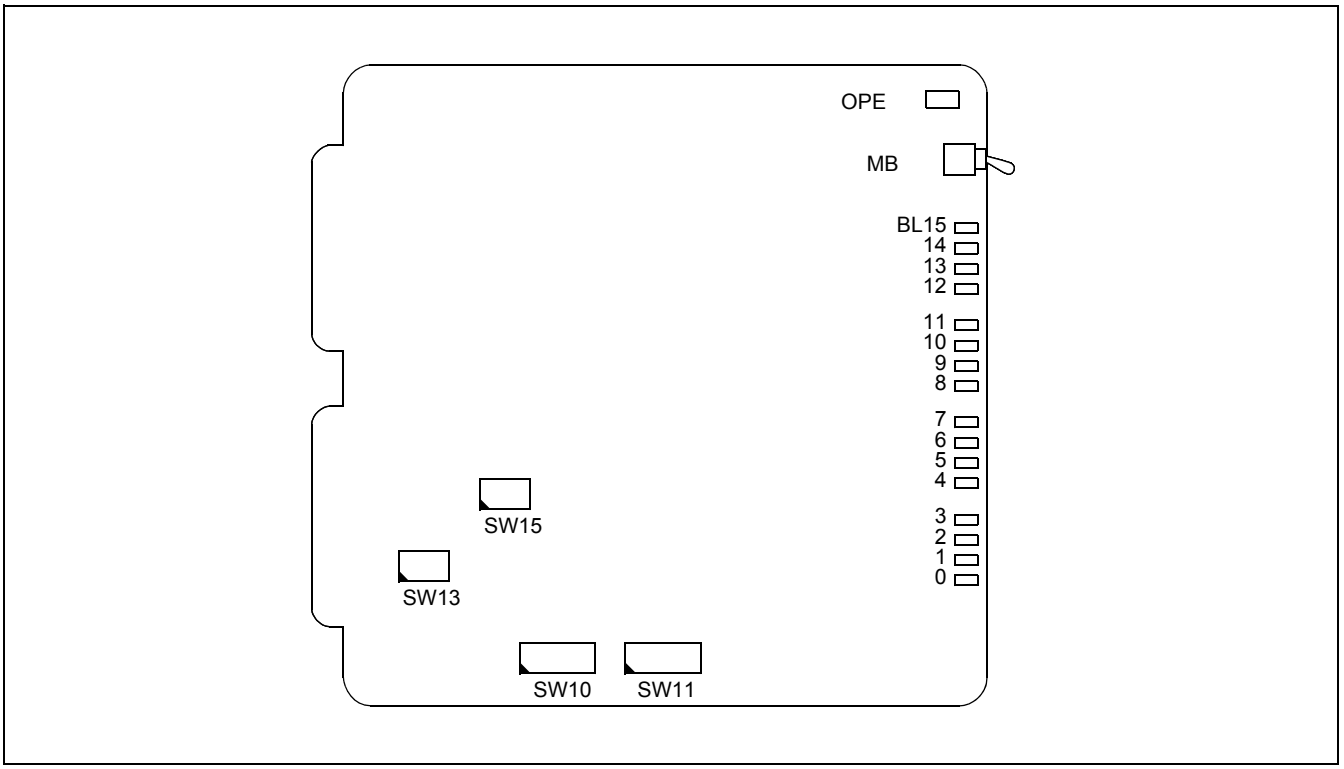
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps and switches on this circuit card is shown below.

Face Layout of PA-16LCBL-B (16LC)



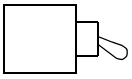
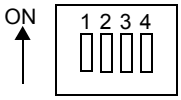
4. Lamp Indications

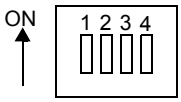
The contents of lamp indications of this circuit card are shown in the table below.

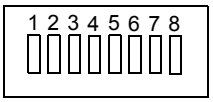
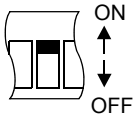
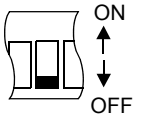
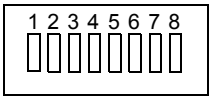
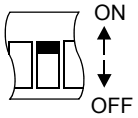
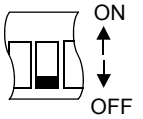
LAMP NAME	COLOR	STATE	MEANING
OPE	Green	Steady Lighting	The circuitry of the circuit card is operating normally.
BL0 ~ BL15	Green	Steady Lighting	Extension line loop is closed.
		Flashing	1) Ringing signal is being transmitted. Busy LED keeps flashing in synchronization with ON/OFF of the ringing signal. 2) Dial pulses are being received. While dial pulses from a line are being received, busy LED keeps flashing in synchronization with the dial pulses coming from the line. 3) Line is in make-busy state Busy LED keeps flashing at 60 IPM.

5. Switch Settings

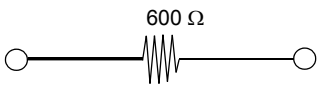
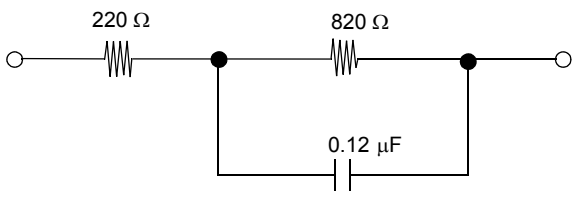
Switches on the PA-16LC BJ-B card have the following meanings.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00(MB) 		UP		Circuit card: Make-Busy
		DOWN		Circuit card: Make-Busy cancel
SW13 	1	ON		Transmission level set for old (SPEC 1301) level plan A to D: 0 dB D to A: 0 or 9 dB
		OFF		Transmission level set for new (AS/ACIF S003) level plan A to D: 0 dB D to A: 6 or 9 dB
	2	ON		Stutter Dial Tone is available
		OFF	×	Stutter Dial Tone is not available
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW15 	1	OFF	×	Fixed to OFF
	2	OFF	×	Fixed to OFF
	3	ON		Message Waiting Lamp flashes (1-second ON/1-second OFF)
		OFF	×	Message Waiting Lamp lights or flashes (controlled by software)
	4	OFF	×	Fixed to OFF

SWITCH NAME	FUNCTION	SETTING	MEANING
SW-10 (BNW0 - 7) 	Balancing Network Designation • Each element corresponds to Circuit 0 - 7.		BNW: 600 Ω ◀ for optional use
			BNW: COMPLEX ◀ for standard use
SW-11 (BNW8 - 15) 	Balancing Network Designation • Each element corresponds to Circuit 8 - 15.		BNW: 600 Ω ◀ for optional use
			BNW: COMPLEX ◀ for standard use

Note: Each Balancing Network is composed as follows.

ON	OFF
	

6. External Interface

Accommodation of the LT connector leads of this circuit card and connecting route diagram are shown below.

LT Connector Leads Accommodation (1/2)

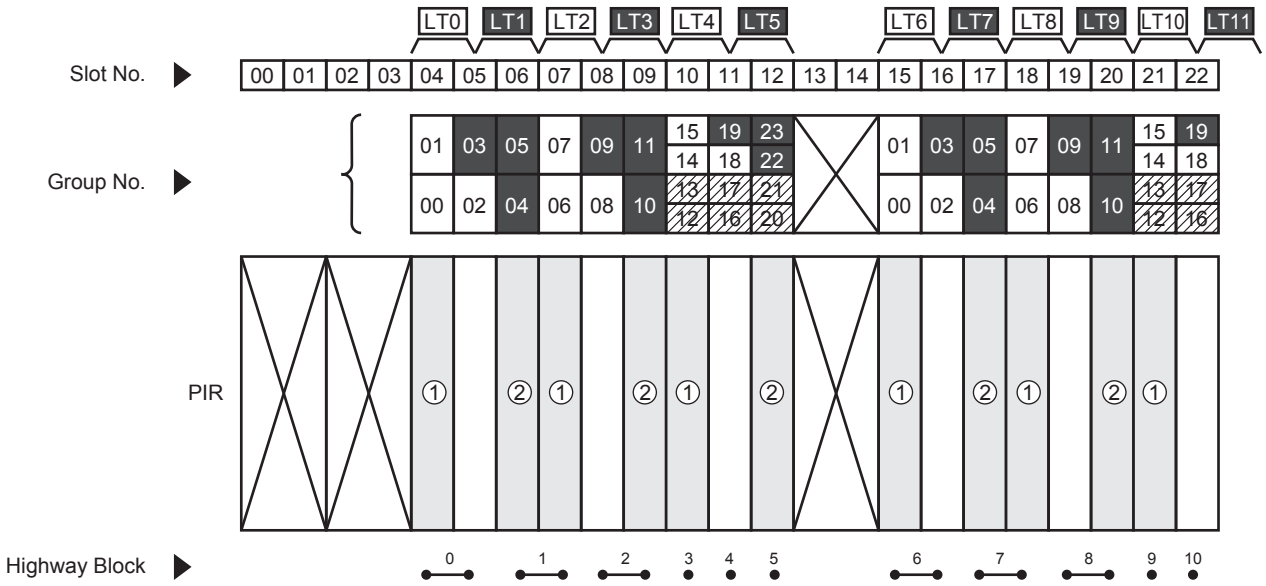
Mounting Module **PIR**

Accommodated in ① LT 0, 2, 4, 6, 8, 10 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ② LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42	B8	17	A8
43	B9	18	A9
44	B10	19	A10
45	B11	20	A11
46	B12	21	A12
47	B13	22	A13
48	B14	23	A14
49	B15	24	A15
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Leads Accommodation (2/2)

Mounting Module **PIR**

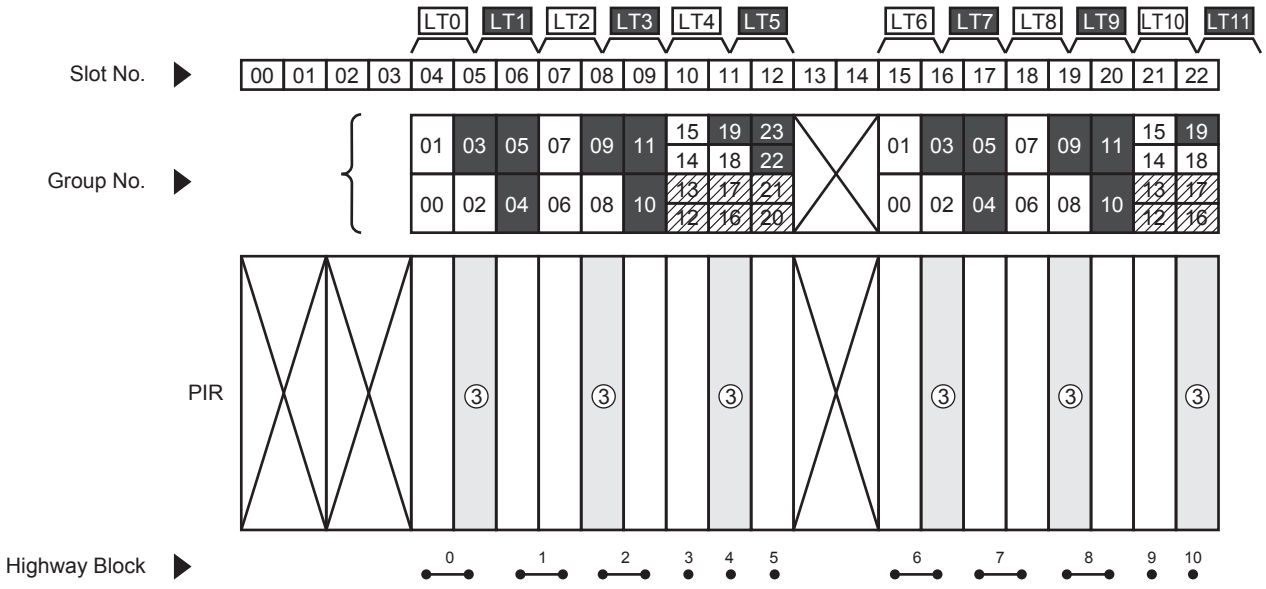
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	

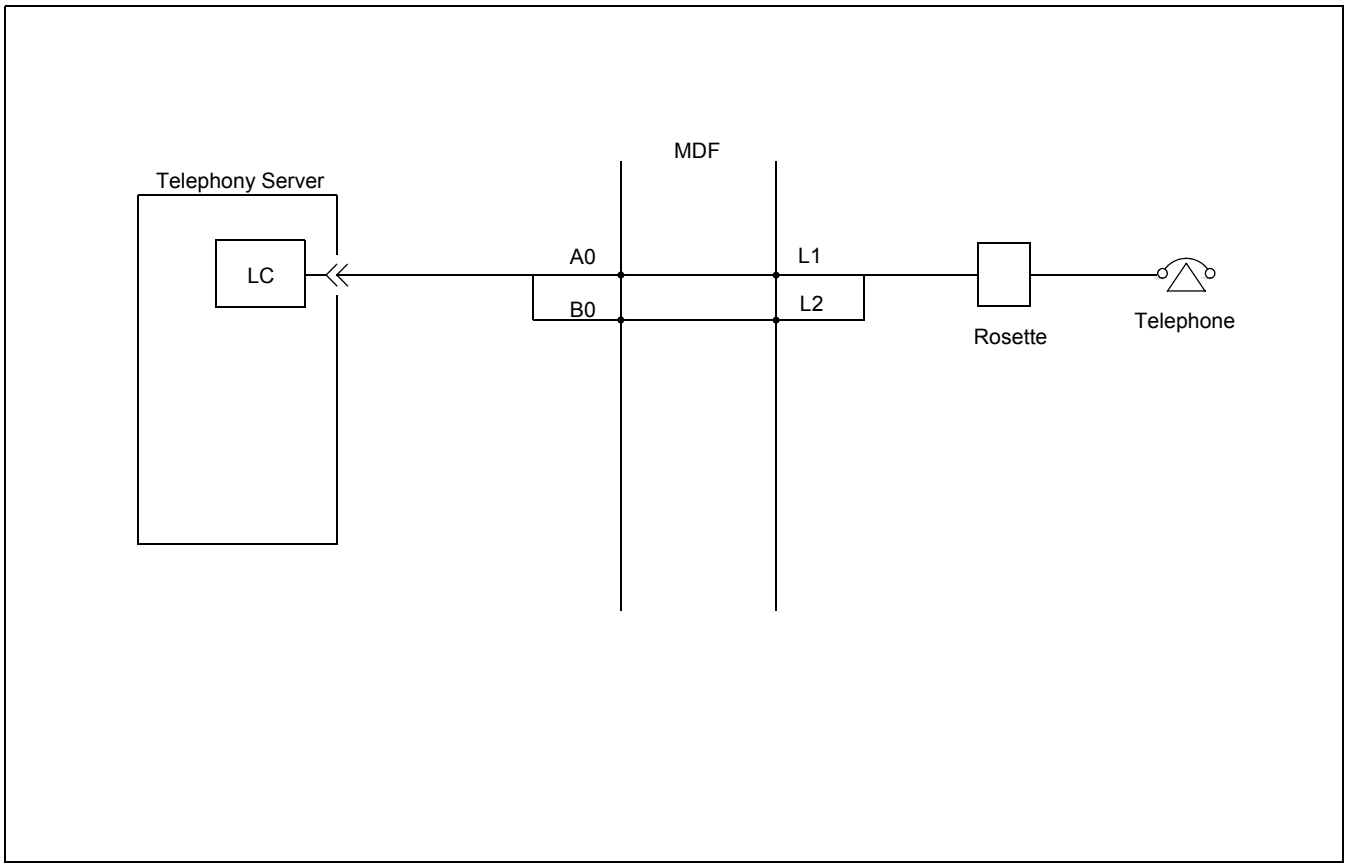
LT 1, 3, 5, 7, 9, 11 Connector

26	B8	1	A8
27	B9	2	A9
28	B10	3	A10
29	B11	4	A11
30	B12	5	A12
31	B13	6	A13
32	B14	7	A14
33	B15	8	A15
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

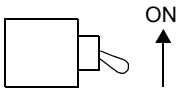
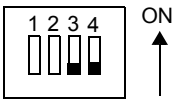
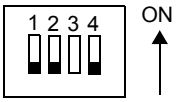
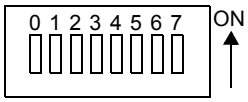
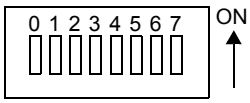


Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram



7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW13		
		SW15		
		SW10 (BNW0-7)		
		SW11 (BNW8-15)		

PA-16LCBV
Line Circuit

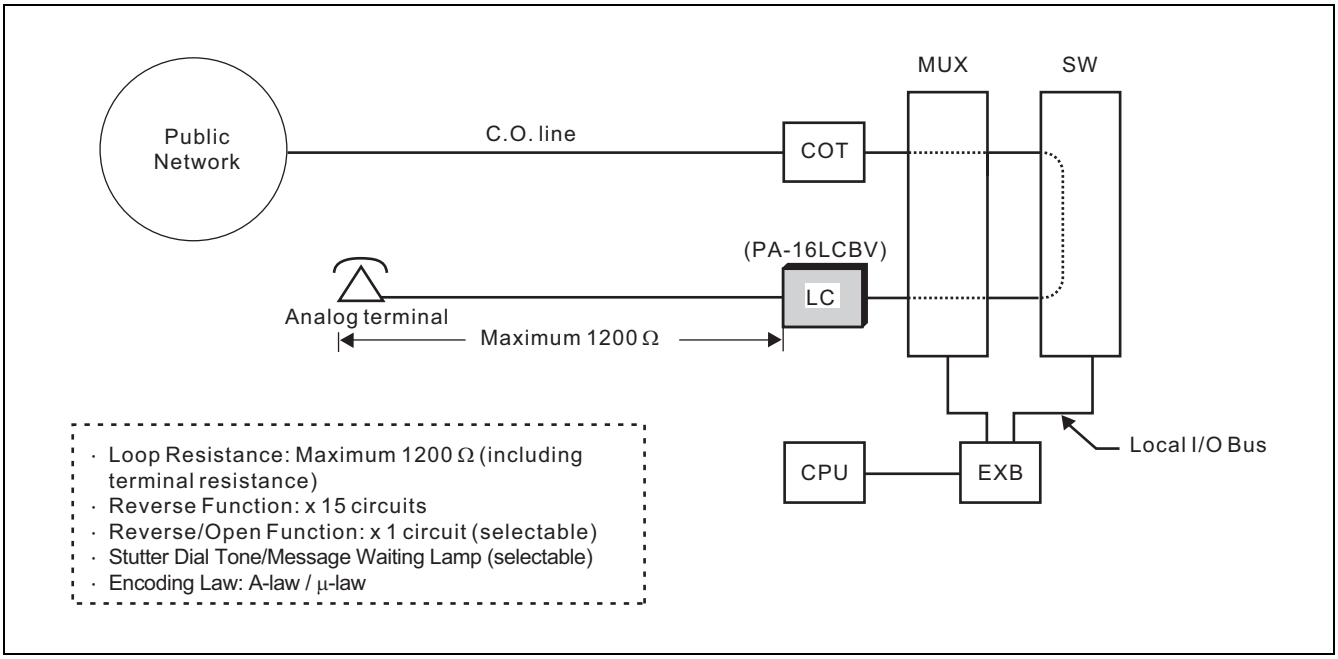
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	Note 1	X	X	-	X	-

1. General Function

The PA-16LCBV circuit card provides an interface between a maximum of 16 analog voice terminals and the system with a range of 1200 Ω inclusive of terminal resistance. This card also can send Stutter Dial Tone, which is not a continuous tone, to an associated terminal that has no Message Waiting Lamp (MWL) instead of activating the MWL if required. In addition polarity reverse function is provided for 16 channels on this card.

Note 1: This circuit card is not available in China.

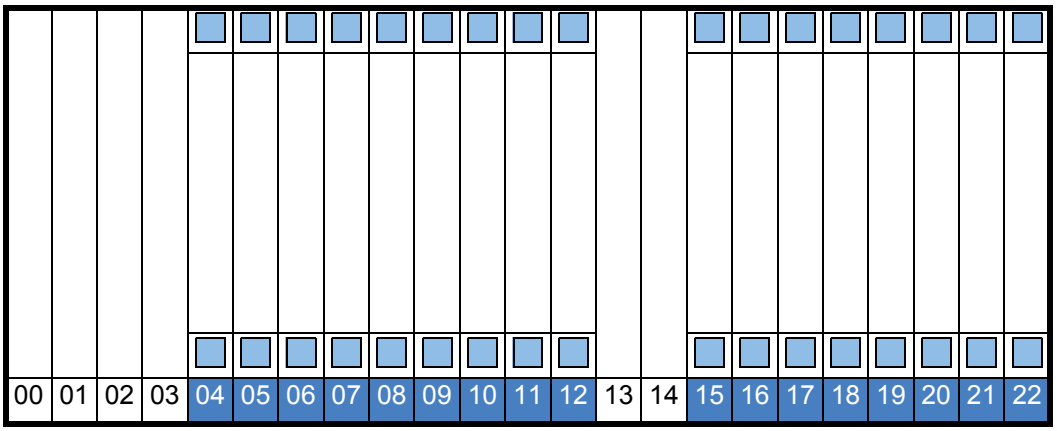
Location of PA-16LCBV (LC) Circuit Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



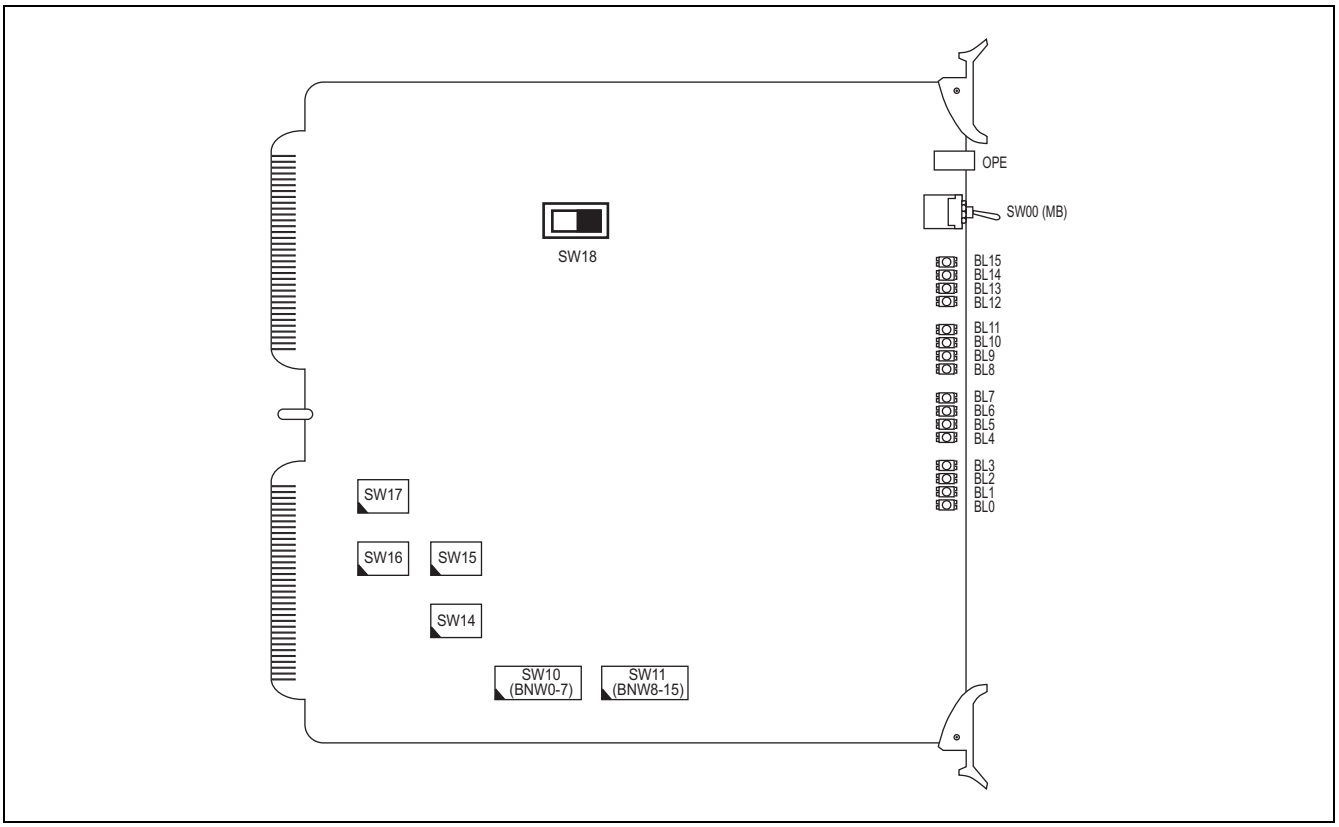
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches on this card is shown below.

Face Layout of PA-16LCBV (LC) card



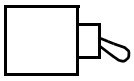
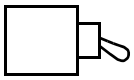
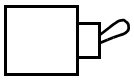
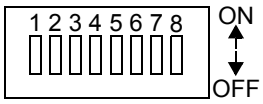
4. Lamp Indications

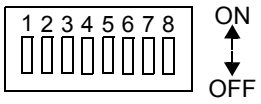
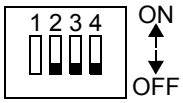
The contents of lamp indications of this circuit card are shown in the table below.

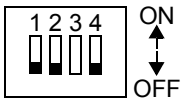
LAMP NAME	LAMP COLOR	LAMP STATUS	MEANING OF INDICATION
OPE	Green	Constant Light	The circuitry of the circuit card is operating normally.
BL0 ≀ BL15	Green	Constant Light	Line loop exists.
		Flashing	1) Ringing signal is transmitted. Busy Lamp keeps flashing in synchronization with on/off of the ringing signal. 2) Dial pulses are received. While dial pulses from a line are being received, busy lamp flashes in synchronization with the dial pulses from the line. 3) Line is in Make-Busy state. Busy lamp flashes 60 IPM.

5. Switch Settings

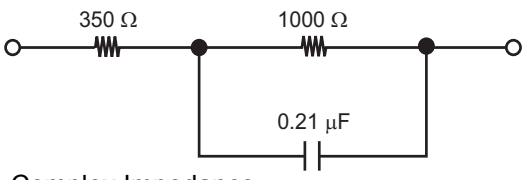
Switches on the PA-16LCBV (LC) card have the following meanings.

SWITCH	FUNCTION	SWITCH SETTING		MEANING
SW00 (MB) 	Circuit Card Make-Busy key	OFF		Circuit card: Make-Busy cancel.
		ON		Circuit card: Make-Busy.
SW10 (BNW0-7) 	Balancing Network Designation • Each element on this switch corresponds to Circuits 0-7. When this switch has been set, see SW14.	ON		Other Countries (A/μ Law) BNW: Complex Impedance for short distance. (**Note 1**)
				Australia BNW: 600Ω for short distance. (**Note 2**)
		OFF		Other Countries (A/μ Law) BNW: 600Ω for short distance. (**Note 1**)
				Australia BNW: Complex Impedance for standard use. (**Note 2**)

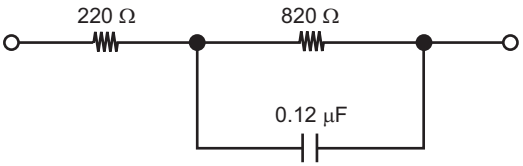
<table>
<tr><th>SWITCH</th><th>NUMBER</th><th>FUNCTION</th><th colspan="2">SWITCH SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="4">SW11
(BNW8-15)
 
</td><td rowspan="4"></td><td rowspan="4">Balancing Network Designation
• Each element on this switch corresponds to Circuit 8-15.</td><td rowspan="2">ON</td><td rowspan="2">  </td><td>Other Country (A/μ Law)
BNW: Complex Impedance for short distance. (Note 1)</td></tr>
<tr><td>Australia
BNW: 600Ω for short distance. (Note 2)</td></tr>
<tr><td rowspan="2">OFF</td><td rowspan="2">  </td><td>Other Country (A/μ Law)
BNW: 600Ω for short distance. (Note 1)</td></tr>
<tr><td>Australia
BNW: Complex Impedance for standard use. (Note 2)</td></tr>
<tr><td>SW14
 
</td><td></td><td>Selection of the User.</td><td colspan="3"><table><tr><th>SW14-1</th><th>SW14-2</th><th>SW14-3</th><th>SW14-4</th><th>User</th></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>Other country (μ-LAW)</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>Other country (A-LAW)</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>Australia</td></tr></table></td></tr>
<tr><td rowspan="5">SW15
 
</td><td rowspan="2">1</td><td>Other country</td><td colspan="2">OFF</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">PAD
(Australia Only)</td><td>ON</td><td>PAD other than ICS-Telephony Server PAD
(Note 3)
PAD ON/OFF = 9 dB/0 dB</td></tr>
<tr><td>OFF</td><td>ICS-Telephony Server PAD
(Note 3)
PAD ON/OFF = 9 dB/6 dB</td></tr>
<tr><td rowspan="2">2</td><td rowspan="2">Stutter Dial Tone</td><td>ON</td><td>Stutter Dial Tone available</td></tr>
<tr><td>OFF</td><td>Stutter Dial Tone not available</td></tr>
<tr><td>3</td><td></td><td>OFF</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td></td><td>OFF</td><td>Fixed to OFF</td></tr>
</table>

SWITCH	NUMBER	FUNCTION	SWITCH SETTING	MEANING
SW16 	1		OFF	Fixed to OFF
	2		OFF	Fixed to OFF
	3		OFF	Fixed to OFF
	4		OFF	Fixed to OFF
SW17 	1		OFF	Fixed to OFF
	2		OFF	Fixed to OFF
	3	Message Waiting Lamp	ON	Message Waiting Lamp flashing (Controlled by firmware)
			OFF	Message Waiting Lamp constant lit or flashing (Selected and controlled by software)
	4		OFF	Fixed to OFF
SW18 	-		ON	
			OFF	Fixed to OFF

Note 1: Complex Impedance and 600Ω.

ON	OFF
 Complex Impedance	

Note 2: Complex Impedance and 600 Ω.

ON	OFF
	

Note 3: Selection of PAD (Australia only)

6. External Interface

Accommodation of the LT connector leads for this circuit card is shown below.

LT Connector Lead Accommodation (PIR) (1/2)

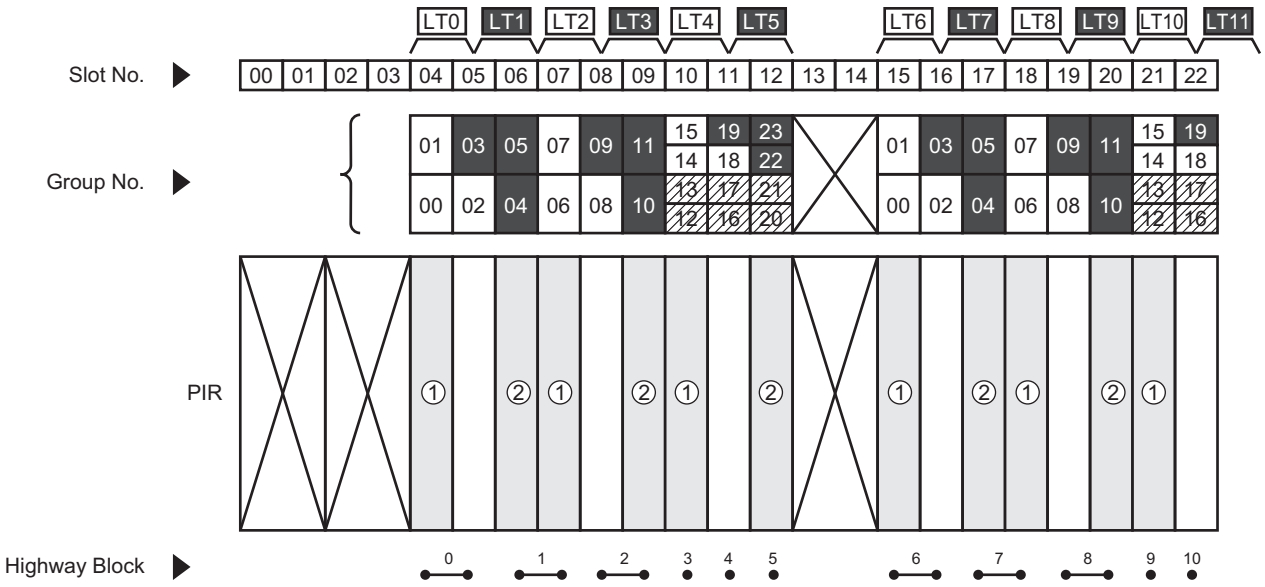
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42	B8	17	A8
43	B9	18	A9
44	B10	19	A10
45	B11	20	A11
46	B12	21	A12
47	B13	22	A13
48	B14	23	A14
49	B15	24	A15
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (PIR) (2/2)

Mounting Module **PIR**

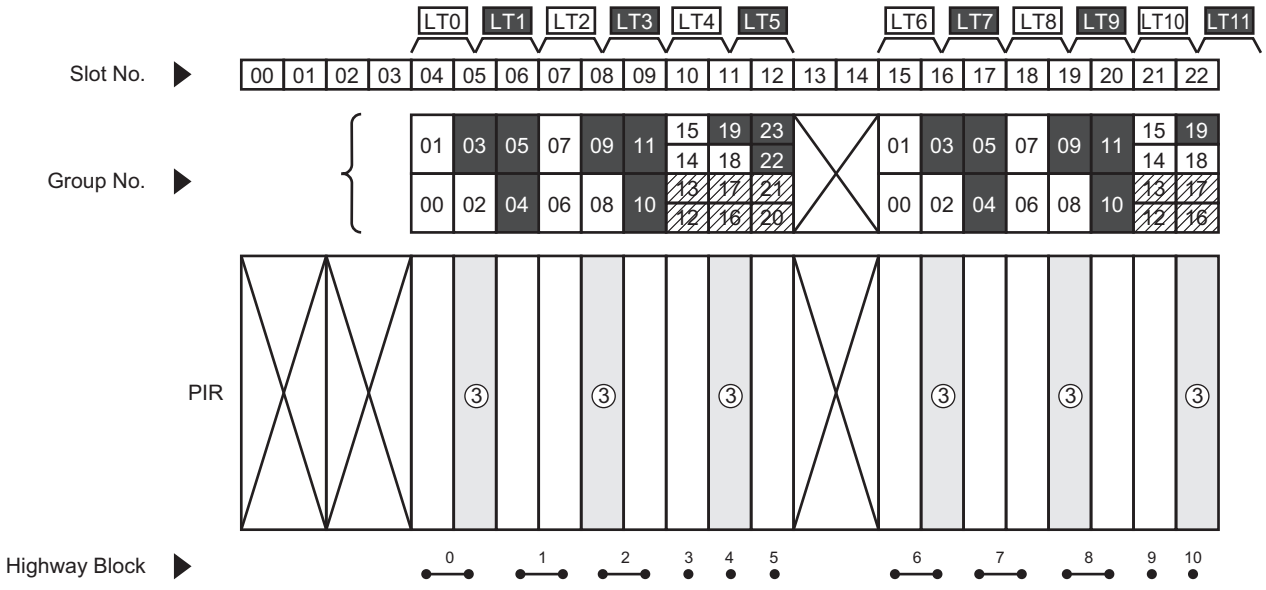
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	

LT 1, 3, 5, 7, 9, 11 Connector

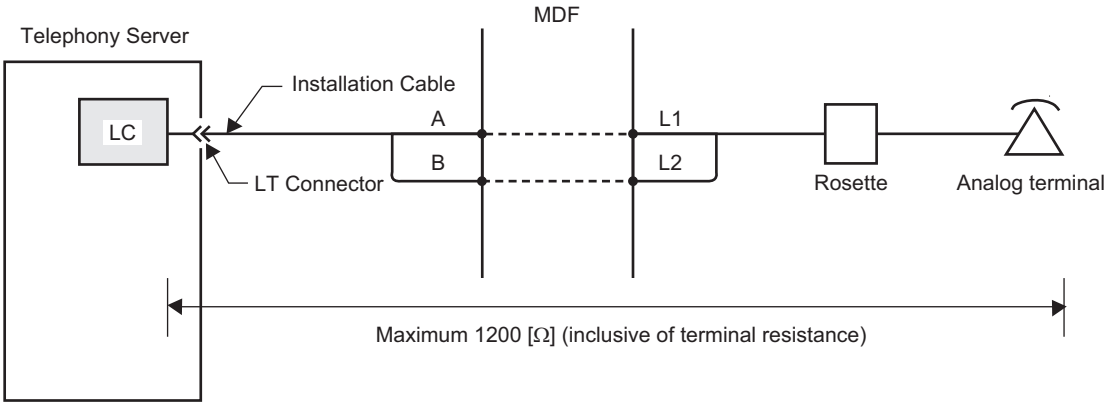
26	B8	1	A8
27	B9	2	A9
28	B10	3	A10
29	B11	4	A11
30	B12	5	A12
31	B13	6	A13
32	B14	7	A14
33	B15	8	A15
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	



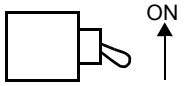
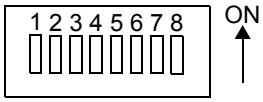
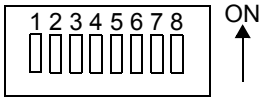
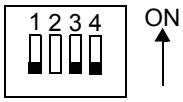
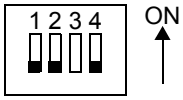
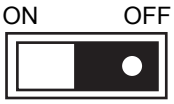
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram

Connecting Route Diagram for the PA-16LCBV (LC) is as follows.



7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW10 (BNW0-7)		
		SW11 (BNW8-15)		
		SW14		
		SW15		
		SW16		
		SW17		
		SW18		Fixed to OFF

PA-16LCBW
Line Circuit

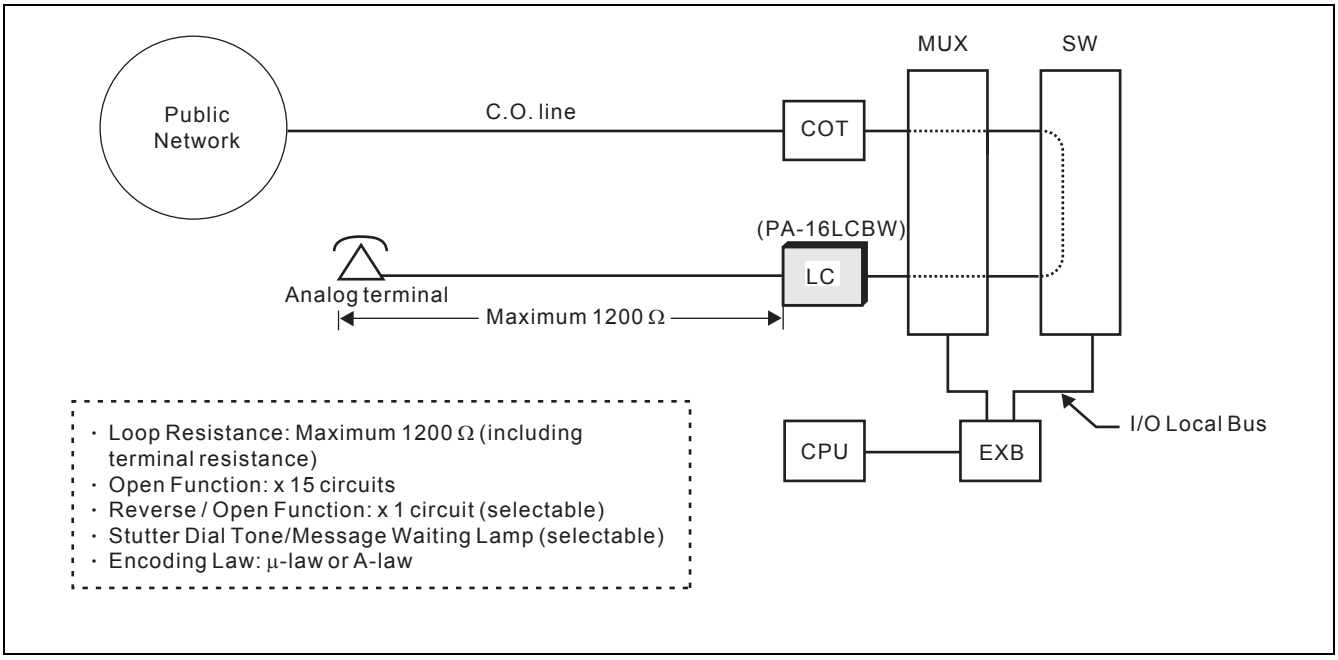
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	Note 1	X	X	X	X	-

1. General Function

The PA-16LCBW circuit card provides an interface between a maximum of 16 analog voice terminals and the system with a range of 1200 Ω including terminal resistance. This card also can send Stutter Dial Tone, that is not a continuous tone, to an associated terminal that has no Message Waiting Lamp (MWL) instead of activating the MWL, if required. In addition, momentary open/reverse battery function is provided for 16 channels on this card (only No.15 port supports reverse function). This is a -48 V card.

Note 1: This circuit card is not available in China.

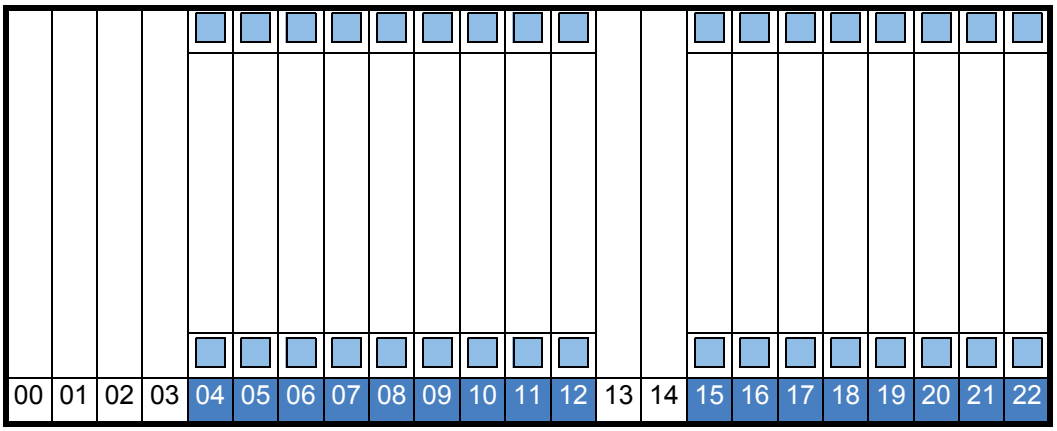
Location of PA-16LCBW (LC) in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



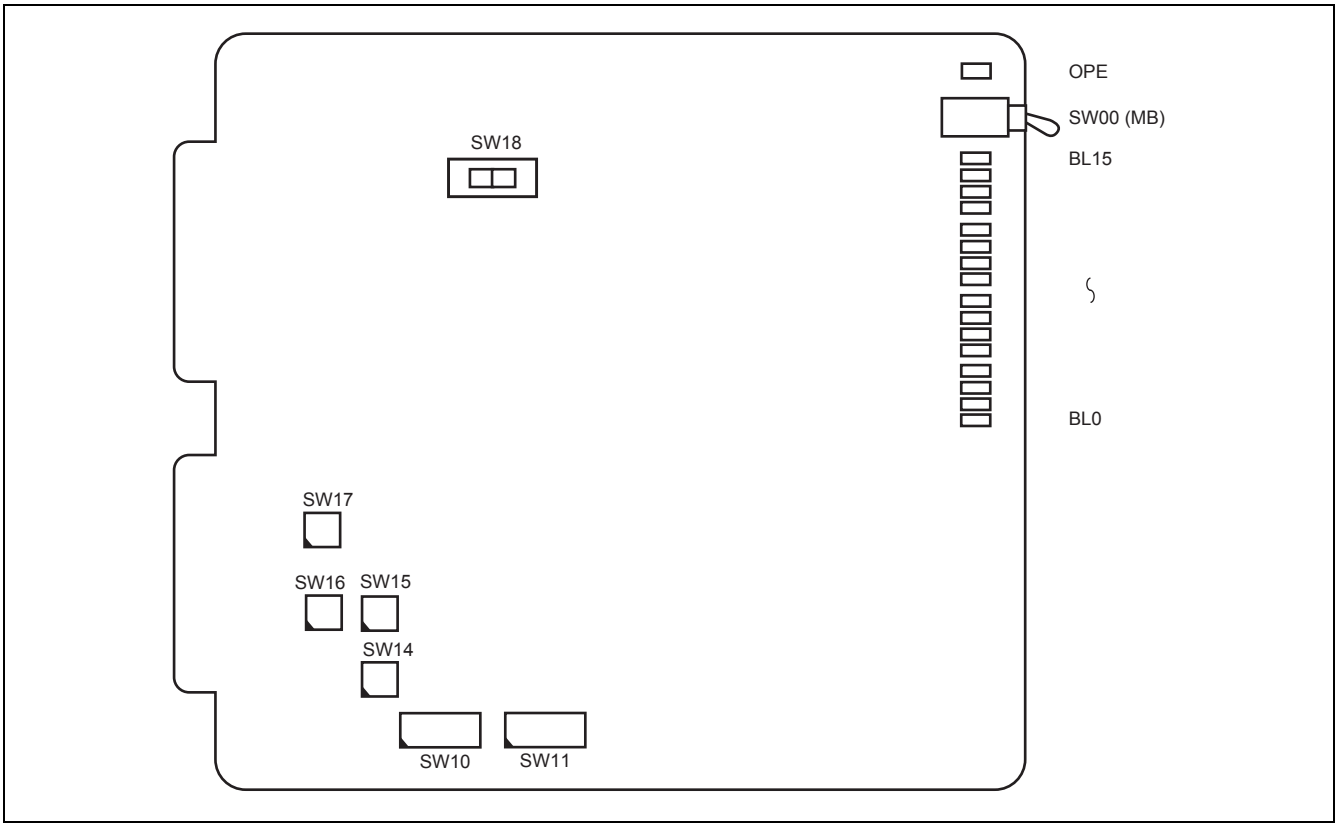
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches on this circuit card is shown below.

Face Layout of PA-16LCBW (LC)



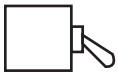
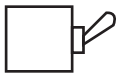
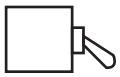
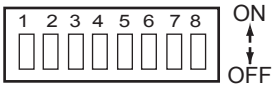
4. Lamp Indications

The contents of lamp indications of this circuit card are shown in the table below.

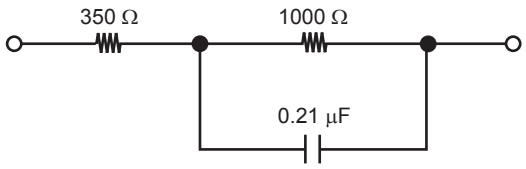
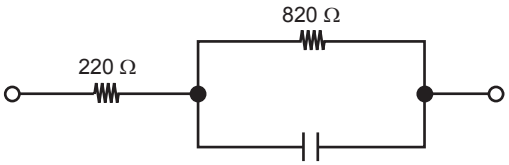
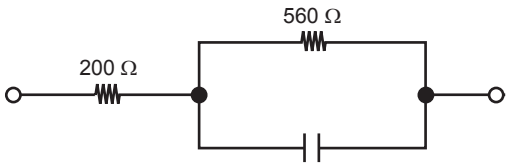
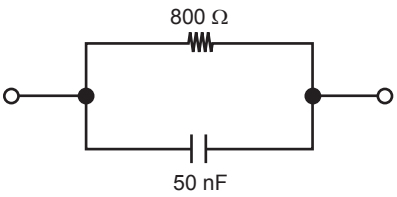
LAMP NAME	LAMP COLOR	LAMP STATUS	MEANING OF INDICATION
OPE	Green	Constant Light	The circuitry of the circuit card is operating normally.
BL0 ~ BL15	Green	Constant Light	Line loop exists.
		Flashing	1) Ringing signal is transmitted. Busy Lamp flashes in synchronization with on/off of the ringing signal. 2) Dial pulses are received. While dial pulses from a line are received, Busy Lamp flashes in synchronization with the dial pulses coming from the line. 3) Line is in Make-Busy state. Busy Lamp flashes at 60 IPM.

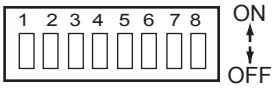
5. Switch Settings

Switches on the PA-16LCBW card have the following meanings.

SWITCH	FUNCTION	SWITCH SETTING		MEANING
SW00 (MB) 	Circuit Card Make-Busy key	ON		Circuit card: Make-Busy
		OFF		Circuit card: Make-Busy cancel (Normal operating mode)
SW10 (BNW0-7) 	Balancing Network designation • Each element on this switch corresponds to Circuits 0-7.	ON		BNW2
		OFF		BNW1

Note: Each Balancing Network is composed as follows.

	BNW2 (ON)	BNW1 (OFF)
North America Other countries	 Compromise Impedance (EIA/TIA-464B)	
Australia		 (for standard use)
China		
Brazil		

<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>FUNCTION</th><th colspan="2">SWITCH SETTING</th><th>MEANING</th></tr>
<tr><td>SW11
(BNW8-15)
 
</td><td></td><td>Balancing Network designation
• Each element on this switch corresponds to Circuit 8-15.</td><td colspan="2">(same as previous)</td><td></td></tr>
<tr><td rowspan="4">SW14
 
</td><td>1</td><td colspan="4" rowspan="4">Selection of the user.
<table><tr><th>SW14-2</th><th>SW14-3</th><th>SW14-4</th><th>User</th></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>North America, Other countries (μ-law)</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>Other countries (A-law)</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>Australia (A-law)</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>Brazil (A-law)</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>China (A-law)</td></tr></table>SW14-1 is fixed to OFF.</td></tr>
<tr><td>2</td></tr>
<tr><td>3</td></tr>
<tr><td>4</td></tr>
<tr><td rowspan="5">SW15
 
</td><td rowspan="2">1</td><td rowspan="2">PAD setting
(Australia Only)

Other users are fixed to OFF.</td><td>ON</td><td>Transmission levels set for old (SPEC 1301) level plan.
A to D: 0dB
D to A: 0 or 9 dB</td></tr>
<tr><td>OFF</td><td>Transmission levels set for new (AS/ACIF S003) level plan.
A to D: 0 dB
D to A: 6 or 9 dB</td></tr>
<tr><td rowspan="2">2</td><td rowspan="2"></td><td>ON</td><td>Stutter Dial Tone Available</td></tr>
<tr><td>OFF</td><td>Stutter Dial Tone not Available</td></tr>
<tr><td>3</td><td></td><td>OFF</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td></td><td>OFF</td><td>Fixed to OFF</td></tr>
</table>

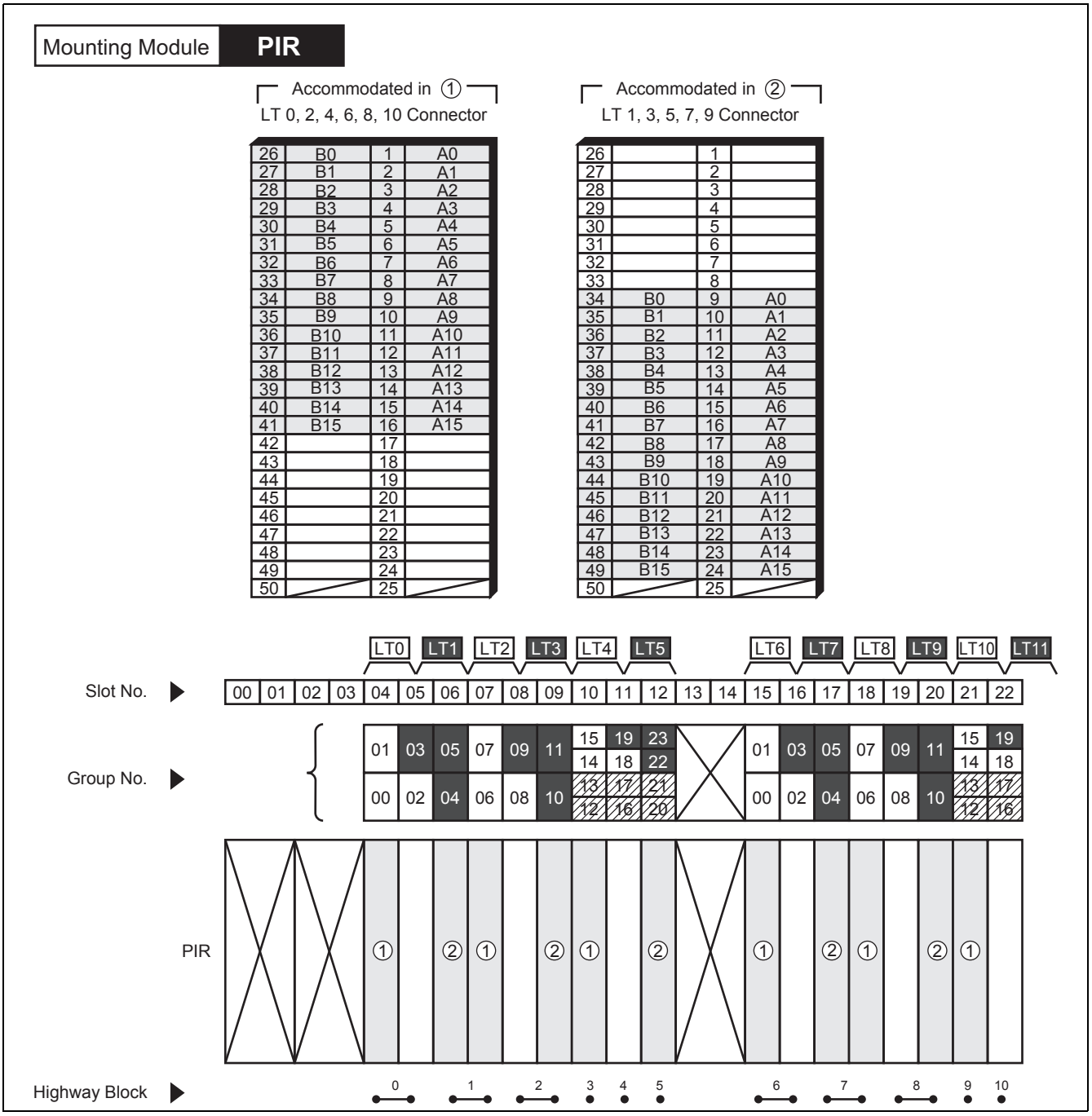
SWITCH	SWITCH NUMBER	FUNCTION	SWITCH SETTING	MEANING
SW16 	1		OFF	Fixed to OFF
	2		OFF	Fixed to OFF
	3		OFF	Fixed to OFF
	4		OFF	Fixed to OFF
SW17 	1		OFF	Fixed to OFF
	2		OFF	Fixed to OFF
	3	Message Waiting Lamp	ON	Message Waiting Lamp Flashing (ON: one sec, OFF: one sec)
			OFF	Message Waiting Lamp constantly lit or flashing (Selected and controlled by software)
	4		OFF	Fixed to OFF
SW18  Slide switch	Polarity reverse or Momentary Open (Circuit 15 Only)		ON	Momentary open
			OFF	Polarity reverse

Note: Only Circuit 15 can use a Polarity Reverse function. When SW18 is OFF, Momentary Open function and Polarity Reverse function of the Circuit 0-14 is not available.

6. External Interface

Accommodation of the LT connector leads for this circuit card is shown below.

LT Connector Lead Accommodation (1/2)



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (2/2)

Mounting Module **PIR**

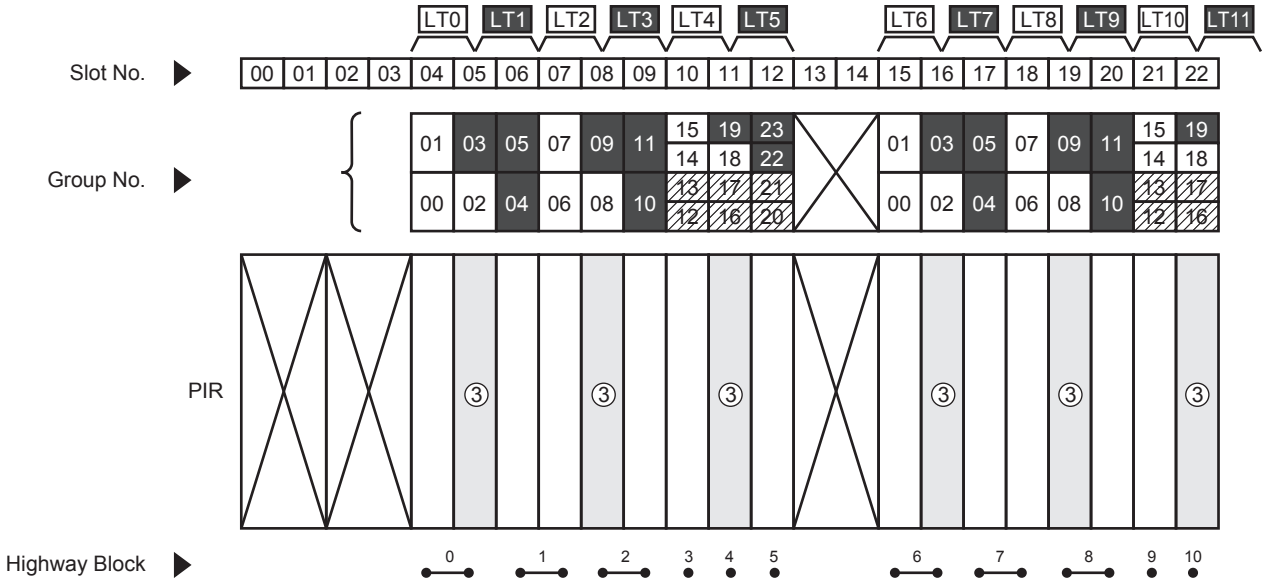
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	

LT 1, 3, 5, 7, 9, 11 Connector

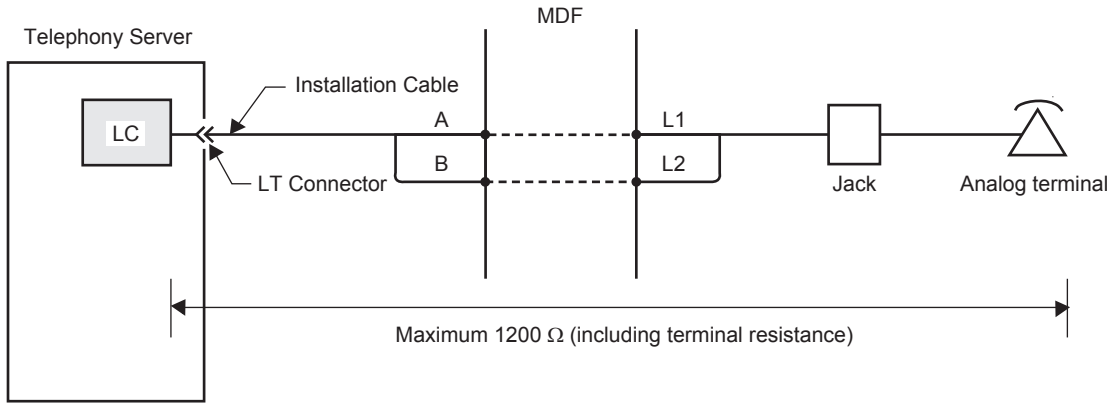
26	B8	1	A8
27	B9	2	A9
28	B10	3	A10
29	B11	4	A11
30	B12	5	A12
31	B13	6	A13
32	B14	7	A14
33	B15	8	A15
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
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47		22	
48		23	
49		24	
50		25	



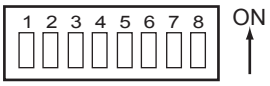
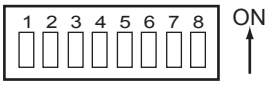
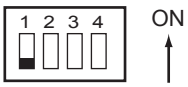
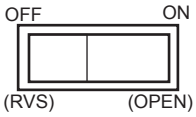
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram

Connecting Route Diagram for the PA-16 LCBW (LC) is as follows.



7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW10 (BNW0-7)		
		SW11 (BNW8-15)		
		SW14		
		SW15		
		SW16		
		SW17		
		SW18		

PA-16LCBX
Line Circuit

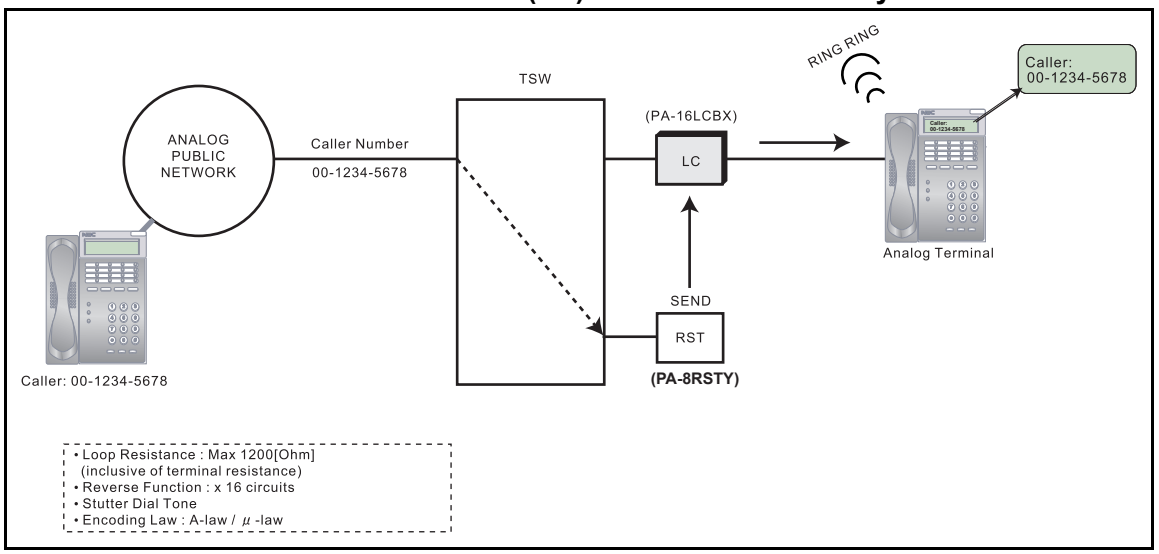
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	Note 1	X	X	-	X	-

1. General Function

The PA-16LCBX circuit card provides an interface between a maximum of 16 analog voice terminals and the system with a range of 1200 Ω inclusive of terminal resistance. This card also can send Stutter Dial Tone, which is not a continuous tone, to an associated terminal that has no Message Waiting Lamp (MWL). In addition, polarity reverse function is provided for 16 channels on this card. The card can be used for Caller ID service. Use the number display capable terminal for the station, where this feature is assigned. Normal operation cannot be performed by connecting the ordinary terminal. It is possible to use the ordinary terminal when the terminal is assigned as an ordinary station.This is a -48V card.

Note 1: This circuit card is not available in China.

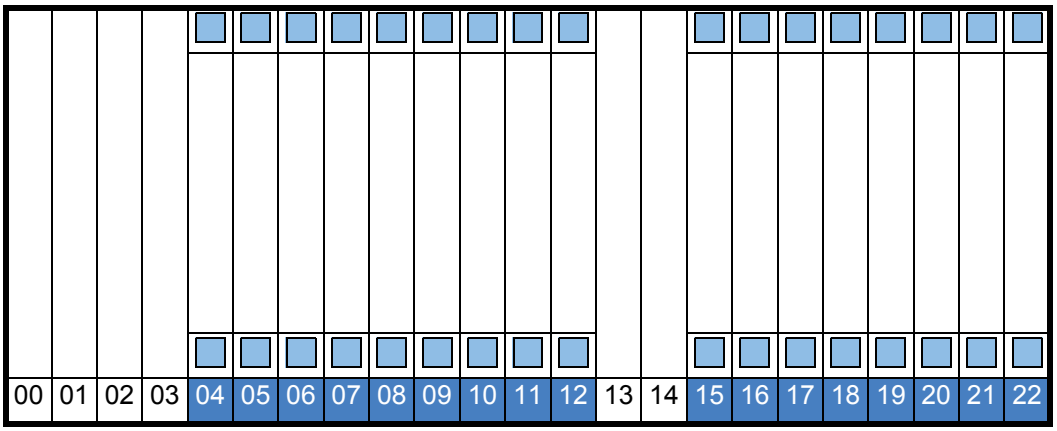
Location of PA-16LCBX(LC) Circuit Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot

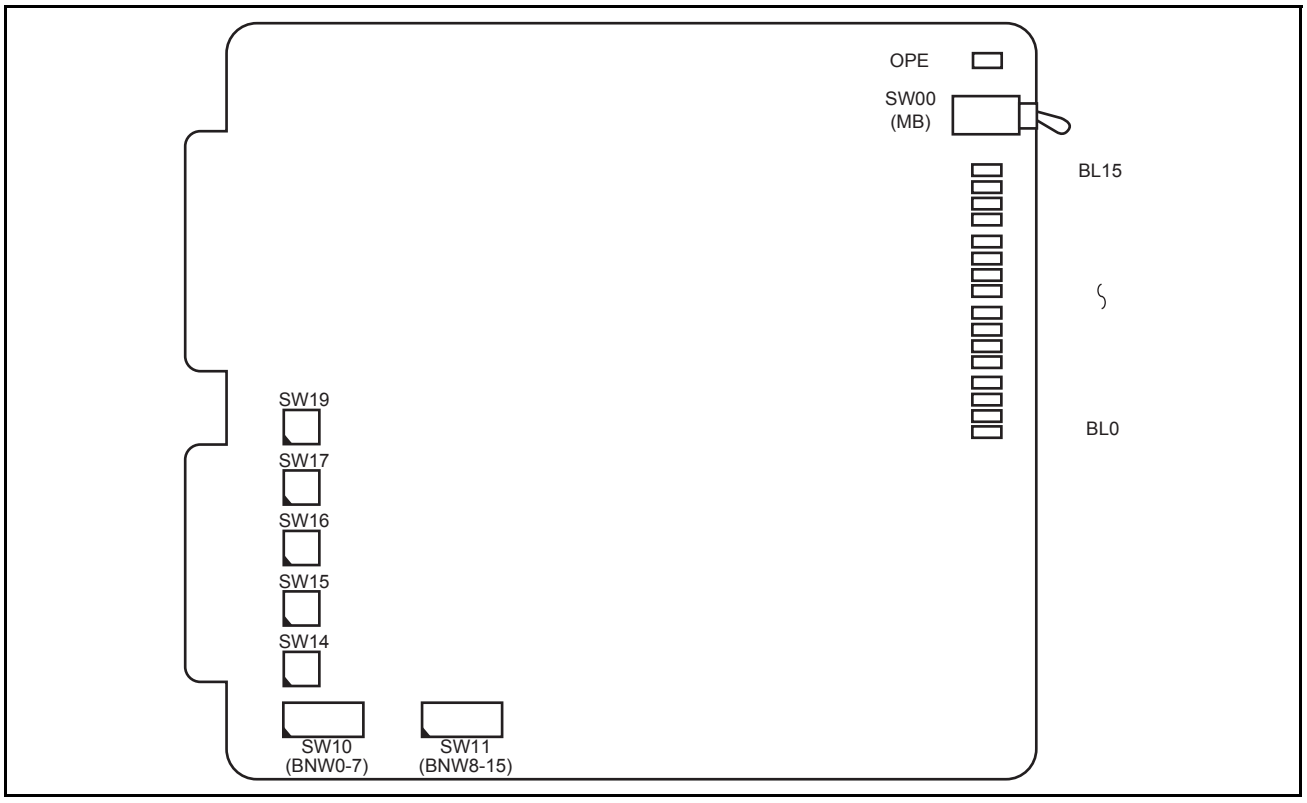


Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. The Face Layout of Lamps, Switches, and Connectors

Face Layout of PA-16LCBX (LC) Card



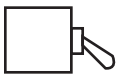
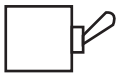
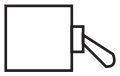
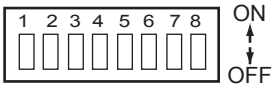
4. Lamp Indications

The contents of lamp indications of this circuit card are shown in the table below.

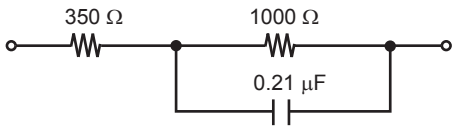
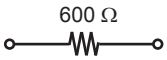
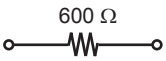
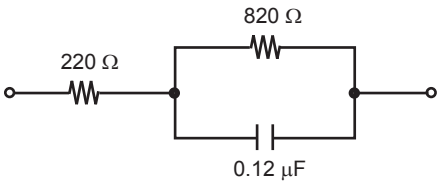
LAMP NAME	LAMP COLOR	LAMP STATUS	MEANING OF INDICATION
OPE	Green	Steady Lighting	The circuitry of the circuit card is operating normally.
		OFF	The circuitry of the circuit card is in Make-Busy state.
BL0 ≀ BL15	Green	Steady Lighting	Line loop exists.
		Flashing	1) Dial pulses are being received. While dial pulses from a line are received, Busy Lamp flashes in synchronization with the dial pulses coming from the line. 2) Line is in Make-Busy state. Busy Lamp flashes at 60 IPM.
		OFF	Idle state.

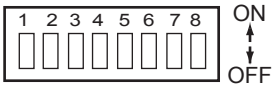
5. Switch Settings

Switches on the PA-16LCBX (LC) card have the following meanings.

SWITCH	FUNCTION	SWITCH SETTING		STANDARD SETTING	MEANING
SW00 (MB) 	Circuit Card Make-Busy Key	ON			Circuit card: Make-Busy
		OFF		×	Circuit card: Make-Busy cancel (Normal operation mode)
SW10 (BNW0-7) 	Balancing Network designation • Each element on this switch corresponds to Circuit 0-7. When this switch has been set, see SW14.	ON			(See the chart in the **Note 1** following this chart)
		OFF		×	(See the chart in the **Note 1** following this chart)

Note 1: Each Balancing Network is composed as follows.

	BNW2 (ON)	BNW1 (OFF)
Countries except Australia	 Compromised Impedance (EIA/TIA-464B)	
Australia		 (for standard use)

<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>FUNCTION</th><th>SWITCH SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td>SW11
(BNW8-15)
 
</td><td>-</td><td>Balancing Network designation
• Each element on this switch corresponds to Circuit 8-15.</td><td>Same as previous</td><td></td><td></td></tr>
<tr><td>SW14
 
</td><td colspan="4"><table>
<tr><th>Setting No.</th><th>SW14</th><th></th><th></th><th></th><th>Released country</th></tr>
<tr><th></th><th>-1</th><th>-2</th><th>-3</th><th>-4</th><th></th></tr>
<tr><td>3, 4</td><td rowspan="3">OFF</td><td>ON</td><td>OFF</td><td rowspan="3">OFF</td><td>Other countries (μ-law)</td></tr>
<tr><td>5, 6</td><td>OFF</td><td>ON</td><td>Other countries (A-law)</td></tr>
<tr><td>7, 8</td><td>ON</td><td>ON</td><td>Australia (A-law)</td></tr>
</table>
Spare part is set as the other μ-law countries until any other country is added in the future.</td><td></td><td></td></tr>
<tr><td rowspan="5">SW15
 
</td><td rowspan="2">1</td><td rowspan="2">Refer to SW14 for the function for Australia.</td><td>ON</td><td></td><td>Transmission levels set for old (SPEC1301) level plan.
A to D = 0dB
D to A = 0 or 9dB</td></tr>
<tr><td>OFF</td><td></td><td>Transmission levels set for new (AS/ACIF S003) level plan.
A to D = 0dB
D to A = 6 or 9dB</td></tr>
<tr><td rowspan="2">2</td><td rowspan="2">Stutter Dial Tone</td><td>ON</td><td></td><td>Stutter Dial Tone Available</td></tr>
<tr><td>OFF</td><td>×</td><td>Stutter Dial Tone not Available</td></tr>
<tr><td>3</td><td>-</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td>-</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

SWITCH	SWITCH NUMBER	FUNCTION	SWITCH SETTING	STANDARD SETTING	MEANING
SW16 	1	-	OFF	×	Fixed to OFF
	2	-	OFF	×	Fixed to OFF
	3	-	OFF	×	Fixed to OFF
	4	-	OFF	×	Fixed to OFF
SW17 	1	-	OFF	×	Fixed to OFF
	2	-	OFF	×	Fixed to OFF
	3	Message Waiting Lamp	ON		Message Waiting Lamp Flashing ON: 1 sec / OFF: 1 sec
			OFF	×	Message Waiting Lamp lit or Flashing (Selected and Controlled by Software)
	4		OFF	×	Fixed to OFF
SW19 	1	-	OFF	×	Fixed to OFF
	2	-	OFF	×	Fixed to OFF
	3	Reverse or Momentary Open	ON		Momentary Open
			OFF		Reverse
	4	-	OFF	×	Fixed to OFF

6. External Interface

Accommodation of the LT connector leads for this circuit card is shown below.

LT Connector Lead Accommodation (1/2)

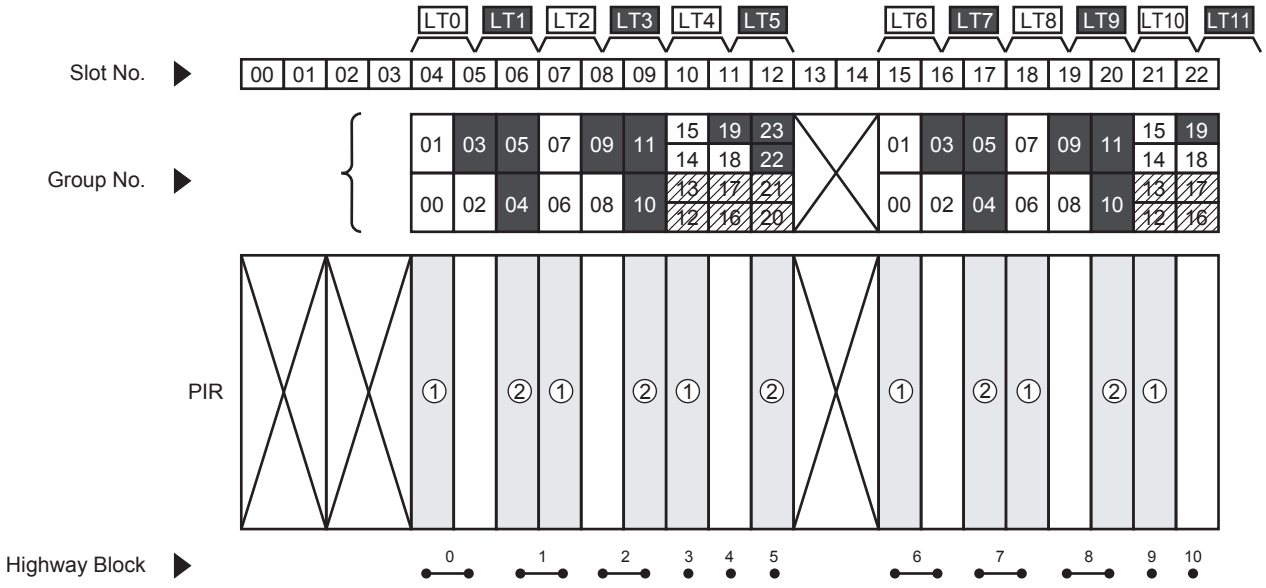
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42	B8	17	A8
43	B9	18	A9
44	B10	19	A10
45	B11	20	A11
46	B12	21	A12
47	B13	22	A13
48	B14	23	A14
49	B15	24	A15
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (2/2)

Mounting Module **PIR**

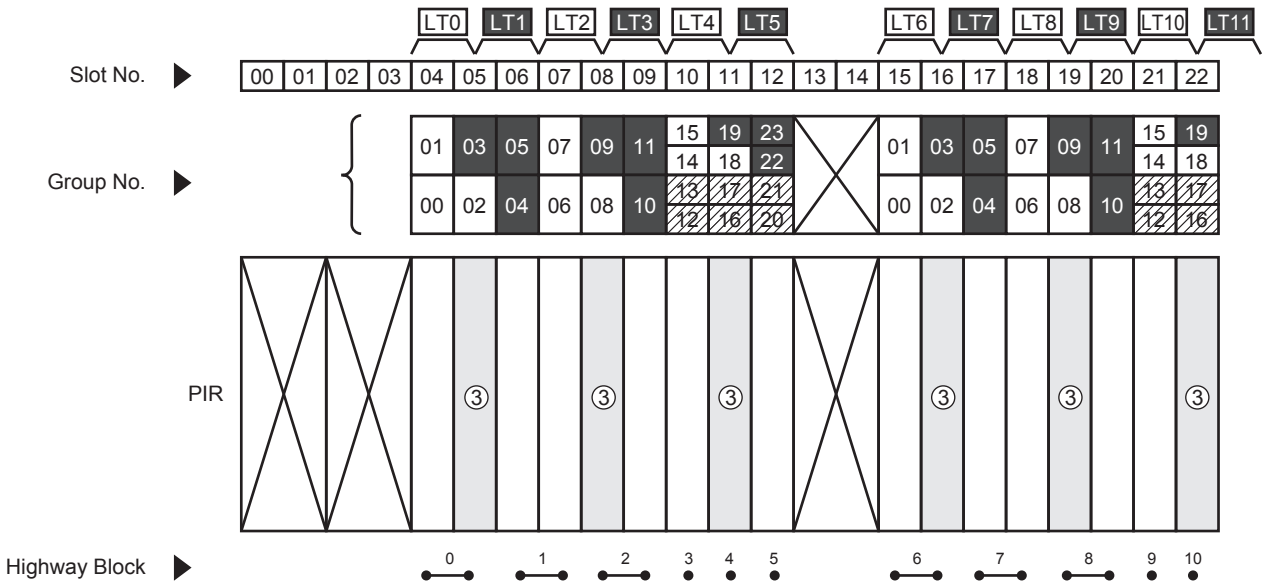
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	

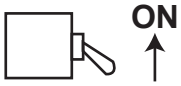
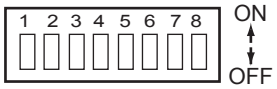
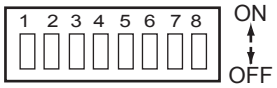
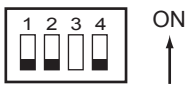
LT 1, 3, 5, 7, 9, 11 Connector

26	B8	1	A8
27	B9	2	A9
28	B10	3	A10
29	B11	4	A11
30	B12	5	A12
31	B13	6	A13
32	B14	7	A14
33	B15	8	A15
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW10 (BNW0-7)		
		SW11 (BNW8-15)		
		SW14		
		SW15		
		SW16		
		SW17		
		SW19		

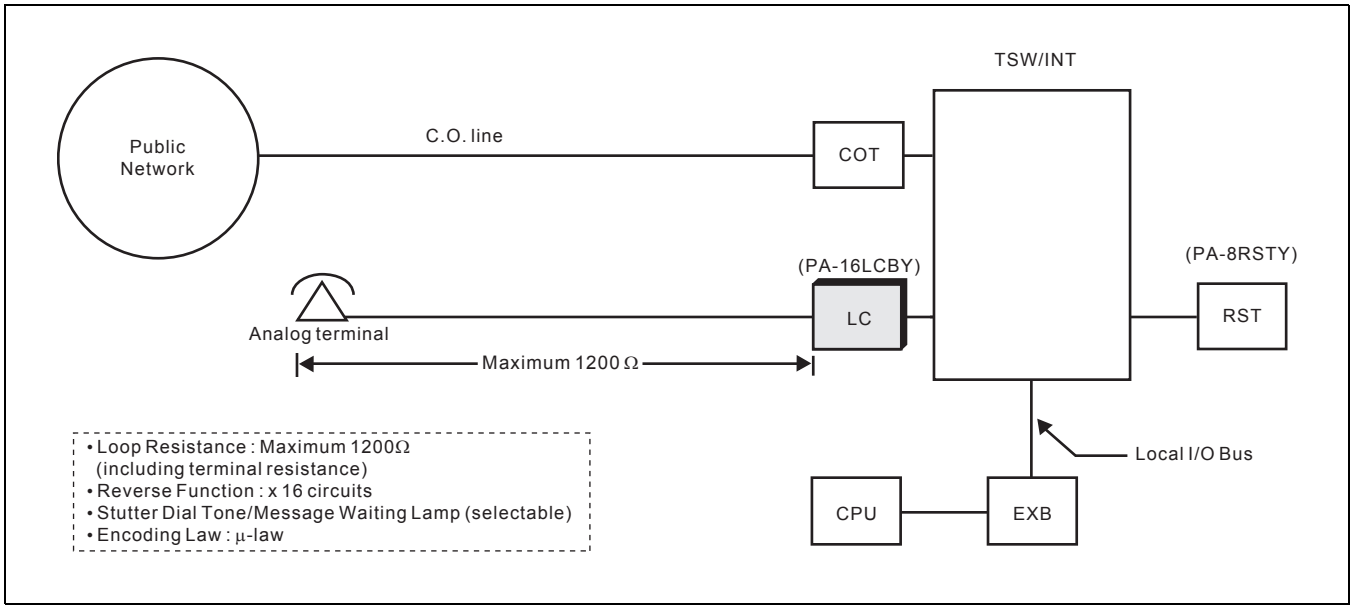
PA-16LCBY
Line Circuit

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	-	-	-	X	-	-

1. General Function

The PA-16LCBY circuit card provides an interface between a maximum of 16 analog voice terminals and the system with a range of 1200 Ω, including terminal resistance. This card also can send Stutter Dial Tone, that is not a continuous tone, to an associated terminal that has no Message Waiting Lamp (MWL) instead of activating the MWL if required. In addition, polarity reverse or momentary open function is provided for 16 channels on this card. The card can be used for Caller ID service. This is a -48 V card.

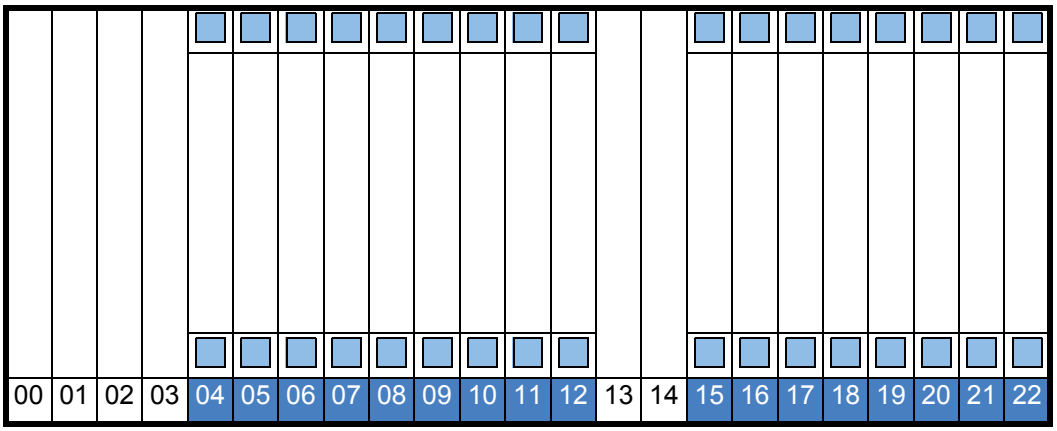
Location of PA-16LCBY(LC) Circuit Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



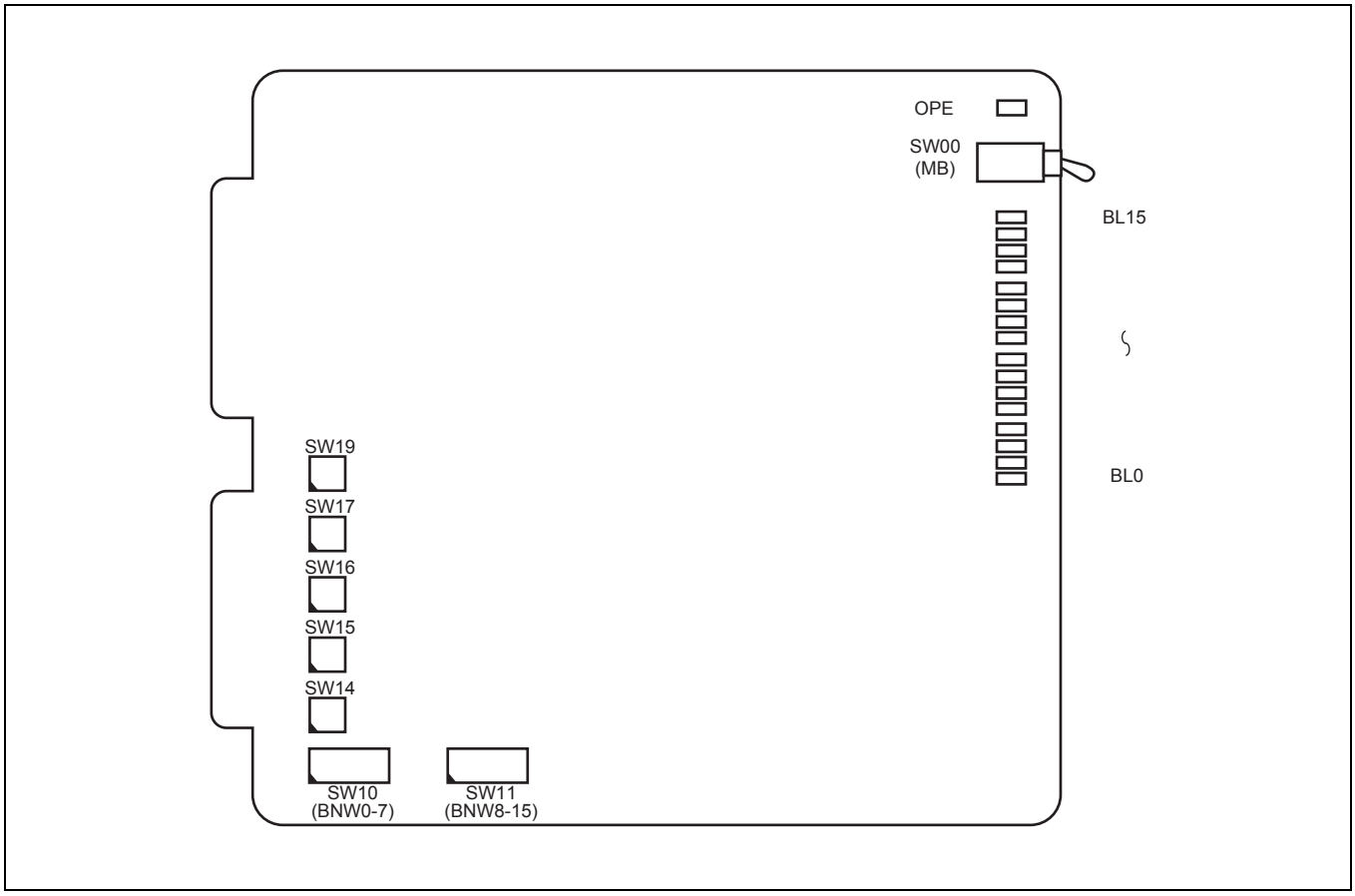
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches on this card is shown below.

Face Layout of PA-16LCBY(LC) Card



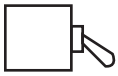
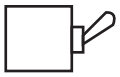
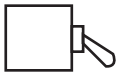
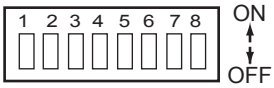
4. Lamp Indications

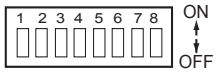
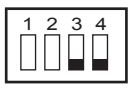
The contents of lamp indications of this circuit card are shown in the table below.

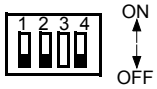
LAMP NAME	LAMP COLOR	LAMP STATUS	MEANING OF INDICATION
OPE	Green	Constant Light	The circuitry of the circuit card is operating normally.
BL0 ~ BL15	Green	Constant Light	Line loop exists.
		Flashing	1) Ringing signal is being transmitted. Busy Lamp keeps flashing in synchronization with on/off of the ringing signal. 2) Dial pulses are being received. While dial pulses from a line are being received, Busy Lamp keeps flashing in synchronization with the dial pulses coming from the line. 3) Line is in Make-Busy state. Busy Lamp keeps flashing at 60 IPM.

5. Switch Settings

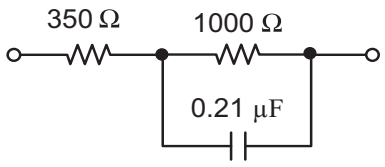
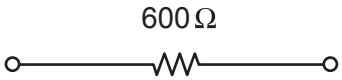
Switches on the PA-16LCBY (LC) card have the following meanings.

SWITCH	FUNCTION	SWITCH SETTING		MEANING
SW00 (MB) 	Circuit Card Make-Busy key	ON		Circuit card: Make-Busy
		OFF		Circuit card: Make-Busy cancel
SW10 (BNW0-7) 	Balancing Network designation • Each element on this switch corresponds to Circuit 0-7. When this switch has been set, see SW14.	ON		North America, other countries (μ-Law) BNW: Compromise Impedance (EIA/TIA-464B) for long distance (**Note 1**)
		OFF		North America, other countries (μ-Law) BNW: 600 Ω for short distance (**Note 1**)

<table>
<tr><th>SWITCH</th><th>NUMBER</th><th>FUNCTION</th><th colspan="2">SWITCH SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">SW11
(BNW8-15)
 
</td><td rowspan="2"></td><td rowspan="2">Balancing Network designation
• Each element on this switch corresponds to Circuits 8-15.</td><td>ON</td><td>  </td><td>North America, other countries (μ-law)
BNW: Compromise Impedance (EIA/TIA-464B) for long distance (Note 1)</td></tr>
<tr><td>OFF</td><td>  </td><td>North America, other countries (μ-law)
BNW: 600 Ω for short distance (Note 1)</td></tr>
<tr><td rowspan="4">SW14
 
</td><td>1</td><td rowspan="4"></td><td colspan="3" rowspan="4">Countries and Terminal Impedance Setting
<table><tr><th colspan="3">SW14</th><th colspan="2">MEANING</th></tr><tr><th>2</th><th>3</th><th>4</th><th>Countries</th><th>Terminal Impedance</th></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>μ-Law Countries</td><td>600Ω</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>A-Law Countries</td><td>600Ω</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>Australia</td><td>220Ω+ (820Ω//0.12μF)</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>Brazil</td><td>900Ω</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>China</td><td>200Ω+ (560Ω//0.1μF)</td></tr><tr><td colspan="3">Other Combinations</td><td colspan="2">Inhibited</td></tr></table></td></tr>
<tr><td>2</td></tr>
<tr><td>3</td></tr>
<tr><td>4</td></tr>
<tr><td rowspan="6">SW15
 
</td><td rowspan="2">1</td><td>North America
Brazil
China
Other Country</td><td colspan="2">OFF</td><td>Fixed to OFF</td></tr>
<tr><td>PAD
(Australia Only)</td><td colspan="2">ON</td><td>PAD other than ICS-Telephony Server PAD
PAD ON/OFF = 9 dB/0 dB</td></tr>
<tr><td rowspan="2">2</td><td rowspan="2"></td><td colspan="2">OFF</td><td>ICS-Telephony Server PAD
PAD ON/OFF = 9 dB/6 dB</td></tr>
<tr><td colspan="2">ON</td><td>Stutter Dial Tone available</td></tr>
<tr><td>2</td><td colspan="2">OFF</td><td>Stutter Dial Tone not available</td></tr>
<tr><td>3</td><td></td><td colspan="2">OFF</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td></td><td colspan="2">OFF</td><td>Fixed to OFF</td></tr>
</table>

SWITCH	NUMBER	FUNCTION	SWITCH SETTING	MEANING
SW16 	1		OFF	Fixed to OFF
	2		OFF	Fixed to OFF
	3		OFF	Fixed to OFF
	4		OFF	Fixed to OFF
SW17 	1		OFF	Fixed to OFF
	2		OFF	Fixed to OFF
	3	Message Waiting Lamp	ON	Message Waiting Lamp Flashing (Controlled by firmware)
			OFF	Message Waiting Lamp constantly lit or flashing (Selected and controlled by software)
	4		OFF	Fixed to OFF
SW19 	1		OFF	Fixed to OFF
	2		OFF	Fixed to OFF
	3	Disconnect Signal	ON	Momentary Open
			OFF	Battery Reversal
	4		OFF	Fixed to OFF

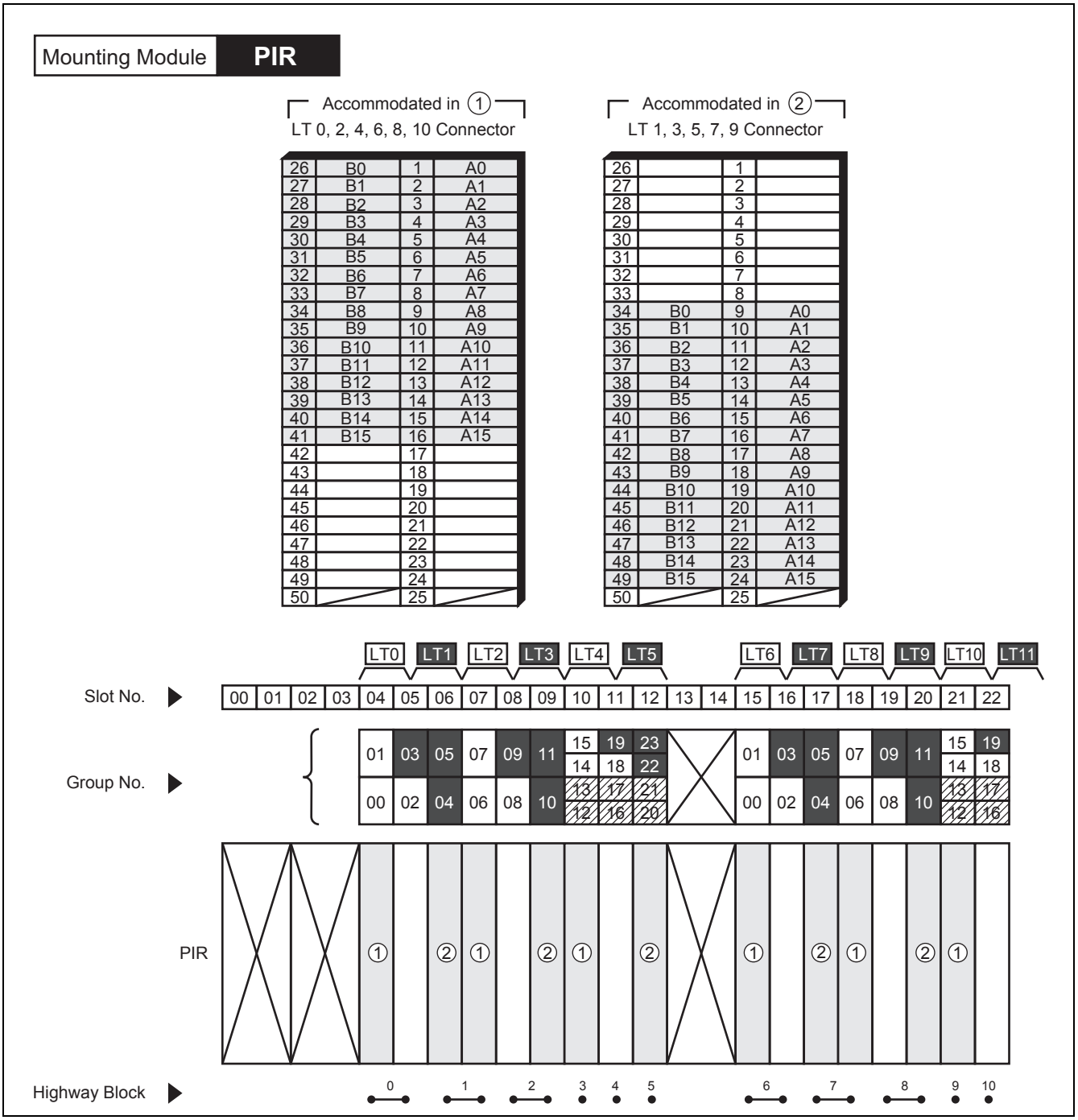
Note 1: Compromise Impedance (EIA/TIA-464B) and 600 Ω.
[For North America, other countries (μ-law)]

ON	OFF
 Compromise Impedance(EIA/TIA-464B)	

6. External Interface

Accommodation of the LT connector leads for this circuit card is shown below.

LT Connector Lead Accommodation (1/2)



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

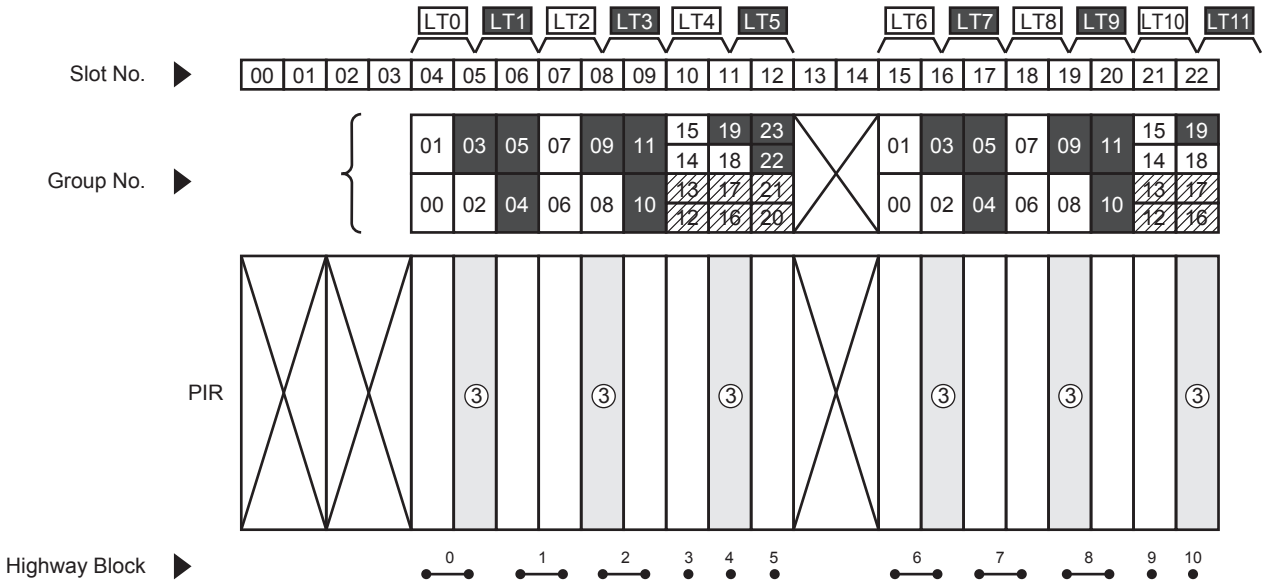
LT Connector Lead Accommodation (2/2)

Mounting Module **PIR**

Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector			
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	

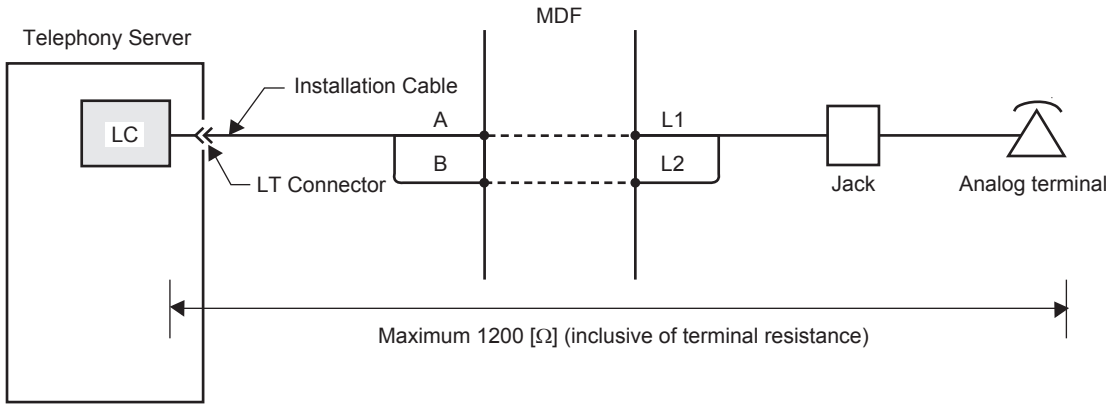
LT 1, 3, 5, 7, 9, 11 Connector			
26	B8	1	A8
27	B9	2	A9
28	B10	3	A10
29	B11	4	A11
30	B12	5	A12
31	B13	6	A13
32	B14	7	A14
33	B15	8	A15
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	



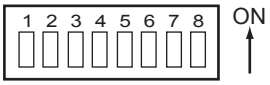
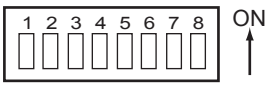
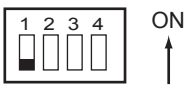
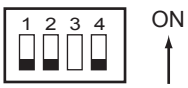
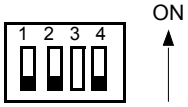
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram

Connecting Route Diagram for the PA-16 LCBY (LC) is as follows.



7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW10 (BNW0-7)		
		SW11 (BNW8-15)		
		SW14		
		SW15		
		SW16		
		SW17		
		SW19		

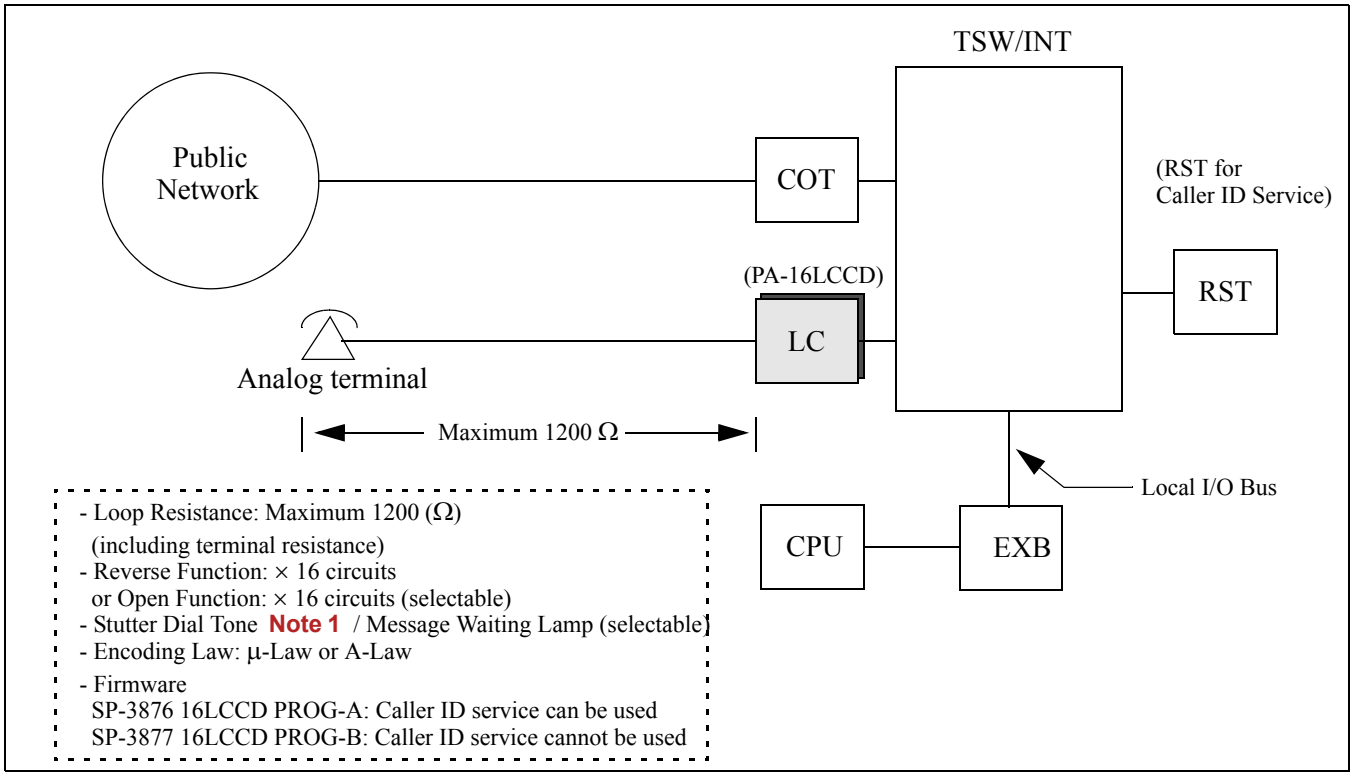
PA-16LCCD
Line Circuit

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

The PA-16LCCD circuit card provides an interface between a maximum of 16 analog voice terminals and the system with a range of 1200 Ω, including terminal resistance. This card also can send Stutter Dial Tone, which is not a continuous tone, to an associated terminal that has no Message Waiting Lamp (MWL) instead of activating the MWL if required. In addition, momentary open / polarity reverse function is provided for 16 channels on this card. The card can be used for Caller ID service. (When Firmware SP-3876 is used.) This is a -48 V card.

Location of PA-16LCCD(LC) Circuit Card in the System

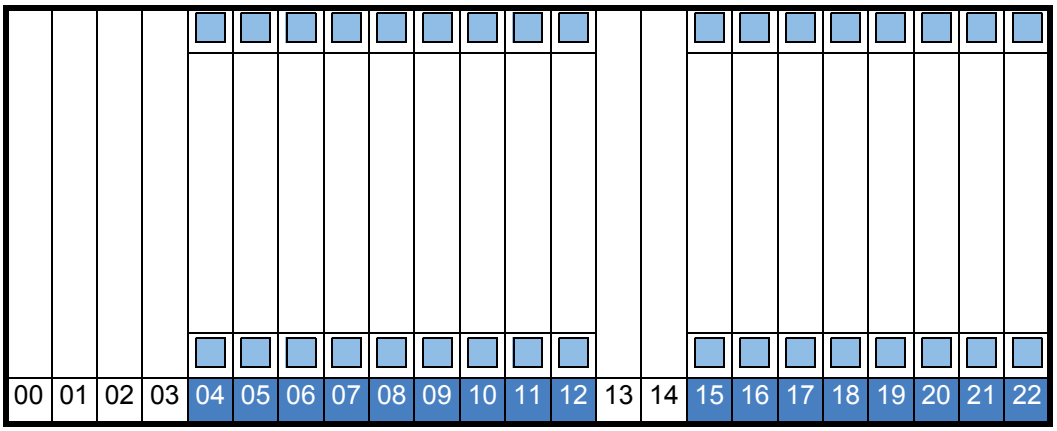


Note 1: Valid when SP-3876 Issue 2 or later or SP-3877 Issue 2 or later are used.

2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



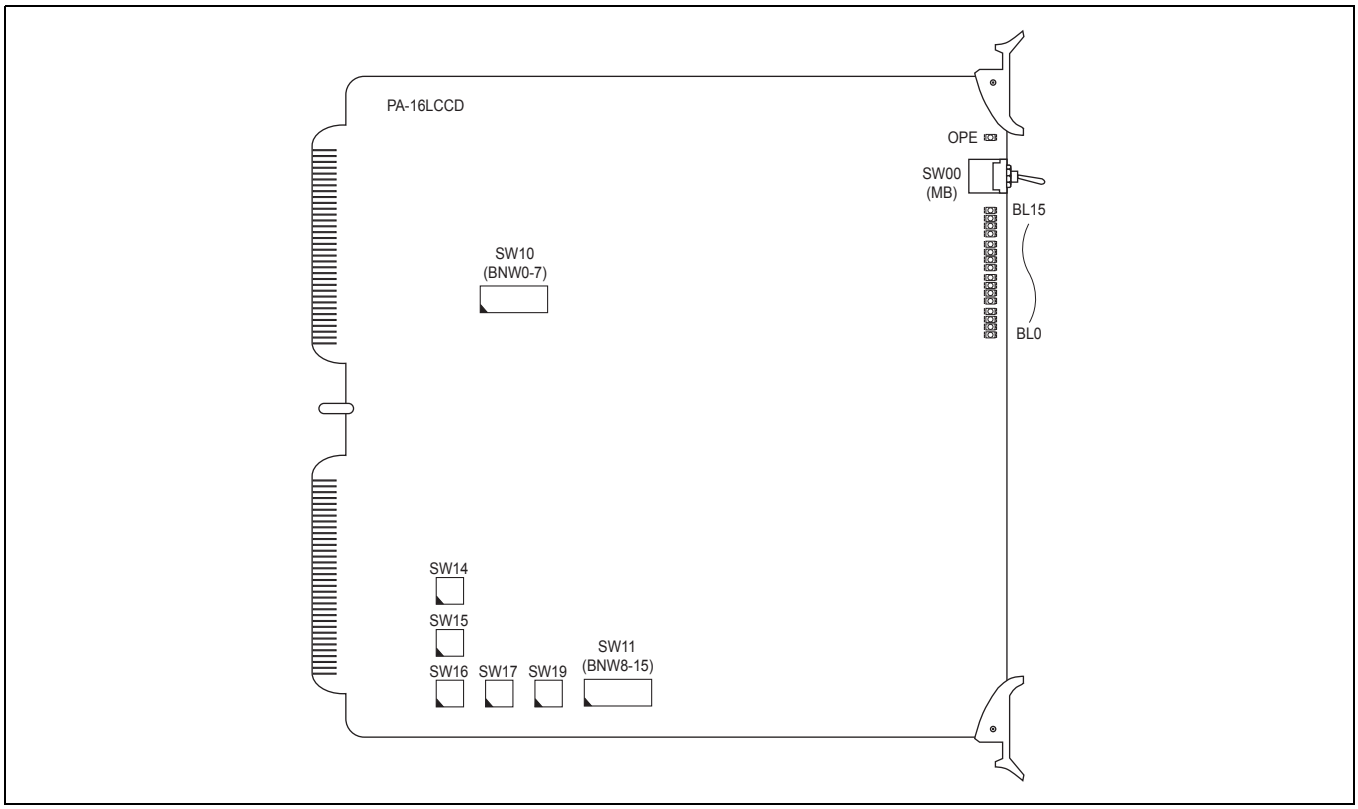
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches on this card is shown below.

Face Layout of PA-16LCCD(LC) Card



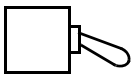
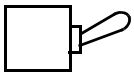
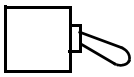
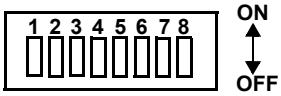
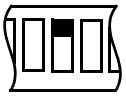
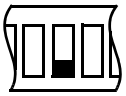
4. Lamp Indications

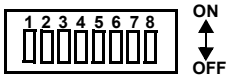
The contents of lamp indications of this circuit card are shown in the table below.

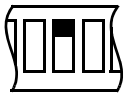
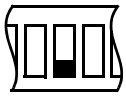
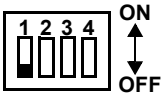
LAMP NAME	LAMP COLOR	LAMP STATUS	MEANING OF INDICATION
OPE	Green	Constant Light	The circuitry of the circuit card is operating normally.
BL0 ≀ BL15	Green	Constant Light	Line loop exists.
		Flashing	1) Ringing signal is being transmitted. Busy Lamp keeps flashing in synchronization with on/off of the ringing signal. 2) Dial pulses are being received. While dial pulses from a line are being received, Busy Lamp keeps flashing in synchronization with the dial pulses coming from the line. 3) Line is in Make-Busy state. Busy Lamp keeps flashing at 60 IPM.

5. Switch Settings

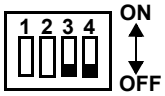
Switches on the PA-16LCCD (LC) card have the following meanings.

SWITCH	FUNCTION	SWITCH SETTING		MEANING
SW00 (MB) 	Circuit Card Make-Busy key	ON		Circuit card: Make-Busy
		OFF		Circuit card: Make-Busy cancel
SW10 (BNW0-7) 	Balancing Network designation • Each element on this switch corresponds to Circuit 0-7. When this switch has been set, see SW14.	ON		BNW2 (For more information, refer to Balancing Network Detailed Information on **<Jump> (page 1117)**.)
		OFF		BNW1 (For more information, refer to Balancing Network Detailed Information on **<Jump> (page 1117)**.)

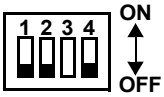
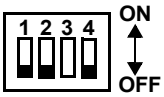
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<tr><th>SWITCH</th><th>NUMBER</th><th>FUNCTION</th><th colspan="2">SWITCH SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">SW11
(BNW8-15)
 
</td><td rowspan="2"></td><td rowspan="2">Balancing Network designation
• Each element on this switch corresponds to Circuits 8-15.

When this switch has been set, see SW14.</td><td>ON</td><td>  </td><td>BNW2
(For more information, refer to Balancing Network Detailed Information on <Jump> (page 1117).)</td></tr>
<tr><td>OFF</td><td>  </td><td>BNW1
(For more information, refer to Balancing Network Detailed Information on <Jump> (page 1117).)</td></tr>
<tr><td rowspan="4">SW14
 
</td><td>1</td><td colspan="3">SW14-1 is fixed to OFF.</td></tr>
<tr><td>2</td><td colspan="3" rowspan="3">Selection of the user.

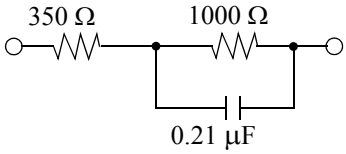
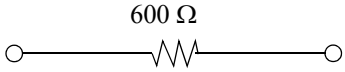
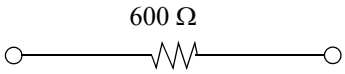
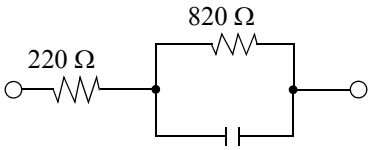
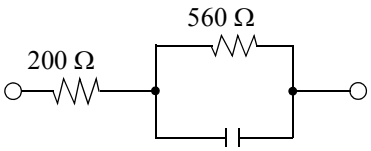
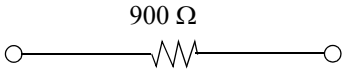
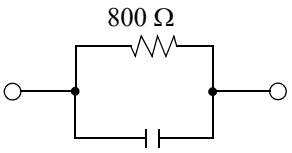
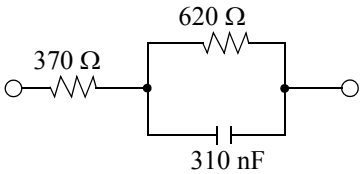
<table><tr><th>SW-14-2</th><th>SW14-3</th><th>SW14-4</th><th>User</th></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>North America, Other countries (μ-law)</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>Other countries (A-law)</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>Australia (A-law)</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>Brazil (A-law)</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>China (A-law)</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>UK (A-law)</td></tr></table></td></tr>
<tr><td>3</td></tr>
<tr><td>4</td></tr>
</table>

SWITCH	NUMBER	FUNCTION	SWITCH SETTING	MEANING
SW15 	1	PAD setting (Australia Only)	ON	Transmission levels set for old (SPEC 1301) level plan. A to D: 0dB D to A: 0 or 9dB
			OFF	Transmission levels set for new (AS/ACIF S003) level plan. A to D: 0dB D to A: 6 or 9dB
		Message Waiting Lamp Control (UK Only) **Note 1**	ON	High Voltage
			OFF	Polarity Reverse
		Other users	OFF	Fixed to OFF
	2	**Note 1**	ON	Stutter Dial Tone Available
			OFF	Stutter Dial Tone not Available
	3		OFF	Fixed to OFF
	4		OFF	Fixed to OFF

Note 1: Valid when SP-3876 Issue 2 or later or SP-3877 Issue 2 or later are used.

SWITCH	NUMBER	FUNCTION	SWITCH SETTING	MEANING
SW16 	1		OFF	Fixed to OFF
	2		OFF	Fixed to OFF
	3		OFF	Fixed to OFF
	4		OFF	Fixed to OFF
SW17 	1		OFF	Fixed to OFF
	2		OFF	Fixed to OFF
	3	Message Waiting Lamp	ON	Message Waiting Lamp Flashing (Controlled by firmware)
			OFF	Message Waiting Lamp constantly lit or flashing (Selected and controlled by software)
	4		OFF	Fixed to OFF
SW19 	1		OFF	Fixed to OFF
	2 **Note 6, Note 7**		ON	(Test mode)
			OFF	Fixed to OFF (Operation mode)
	Note6: SW19-2 is for a maintenance only. At the time of normal operation mode, it must be fixed to OFF. **Note7:** To upgrade SP-3876/SP-3877 Issue 3 or earlier firmware to Issue 4 or later firmware, change SW19-2 setting to OFF (Operation mode) if SW19-2 has been set to ON (Test mode).			
	3	Polarity Reverse or Momentary Open	ON	Momentary Open
			OFF	Polarity Reverse
	4		OFF	Fixed to OFF

Balancing Network Detailed Information

	BNW2 (ON)	BNW1 (OFF)
North America Other countries	 Compromise Impedance (EIA/TIA-464C)	
Australia		 (For Standard use)
China	Not used	
Brazil		
UK	Not used	

6. External Interface

Accommodation of the LT connector leads for this circuit card is shown below.

LT Connector Lead Accommodation (1/2)

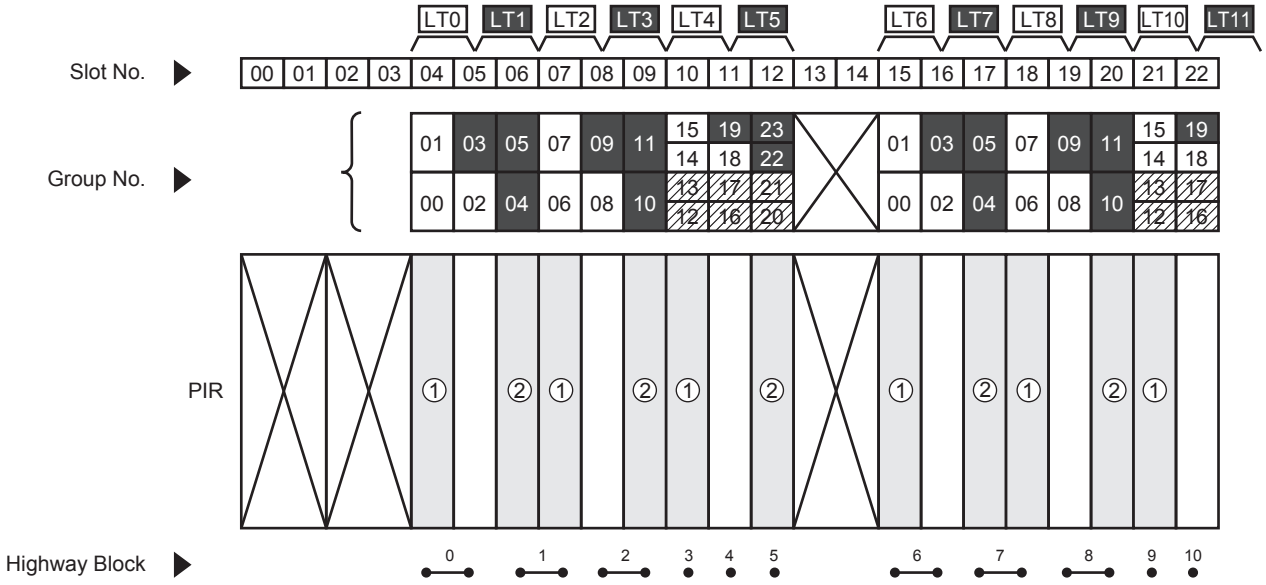
Mounting Module **PIR**

Accommodated in ① LT 0, 2, 4, 6, 8, 10 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ② LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42	B8	17	A8
43	B9	18	A9
44	B10	19	A10
45	B11	20	A11
46	B12	21	A12
47	B13	22	A13
48	B14	23	A14
49	B15	24	A15
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (2/2)

Mounting Module **PIR**

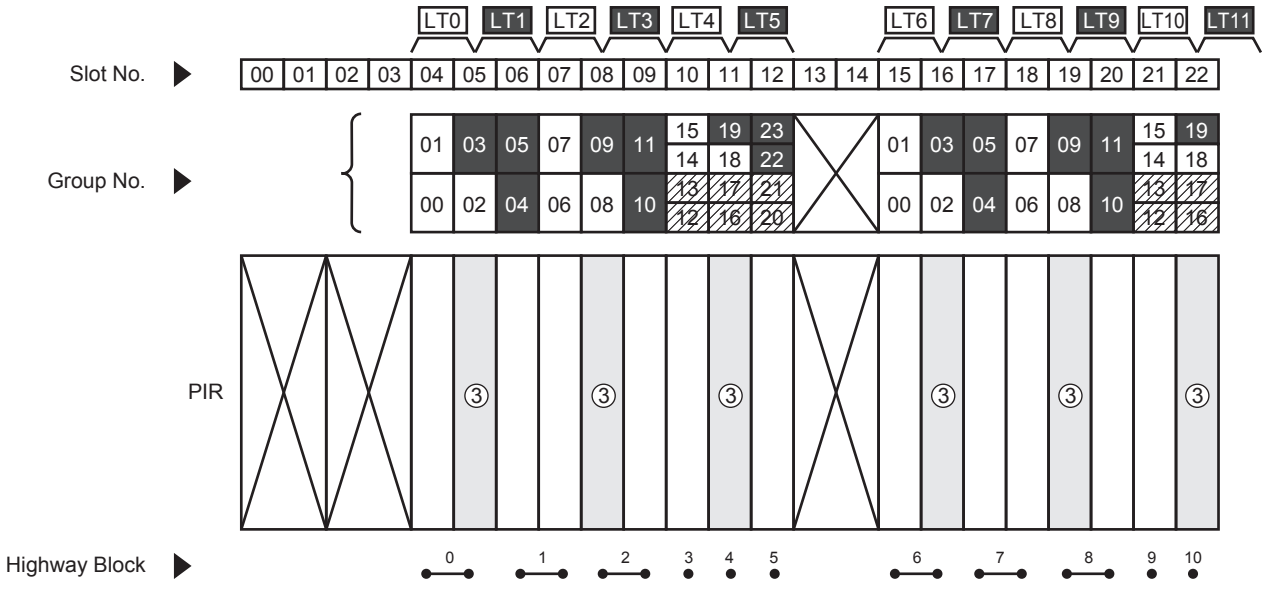
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	

LT 1, 3, 5, 7, 9, 11 Connector

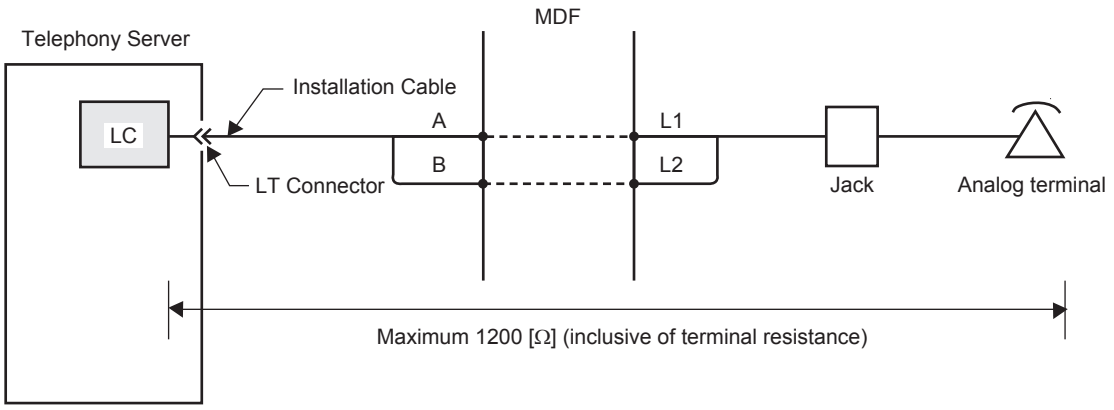
26	B8	1	A8
27	B9	2	A9
28	B10	3	A10
29	B11	4	A11
30	B12	5	A12
31	B13	6	A13
32	B14	7	A14
33	B15	8	A15
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
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45		20	
46		21	
47		22	
48		23	
49		24	
50		25	



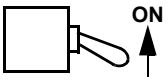
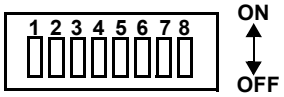
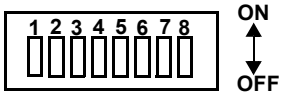
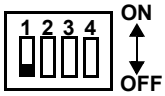
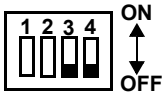
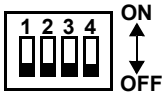
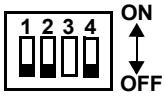
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram

Connecting Route Diagram for the PA-16 LCCD (LC) is as follows.



7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW10 (BNW0-7)		
		SW11 (BNW8-15)		
		SW14		
		SW15		
		SW16		
		SW17		
		SW19		

PA-16LCCF
Line Circuit

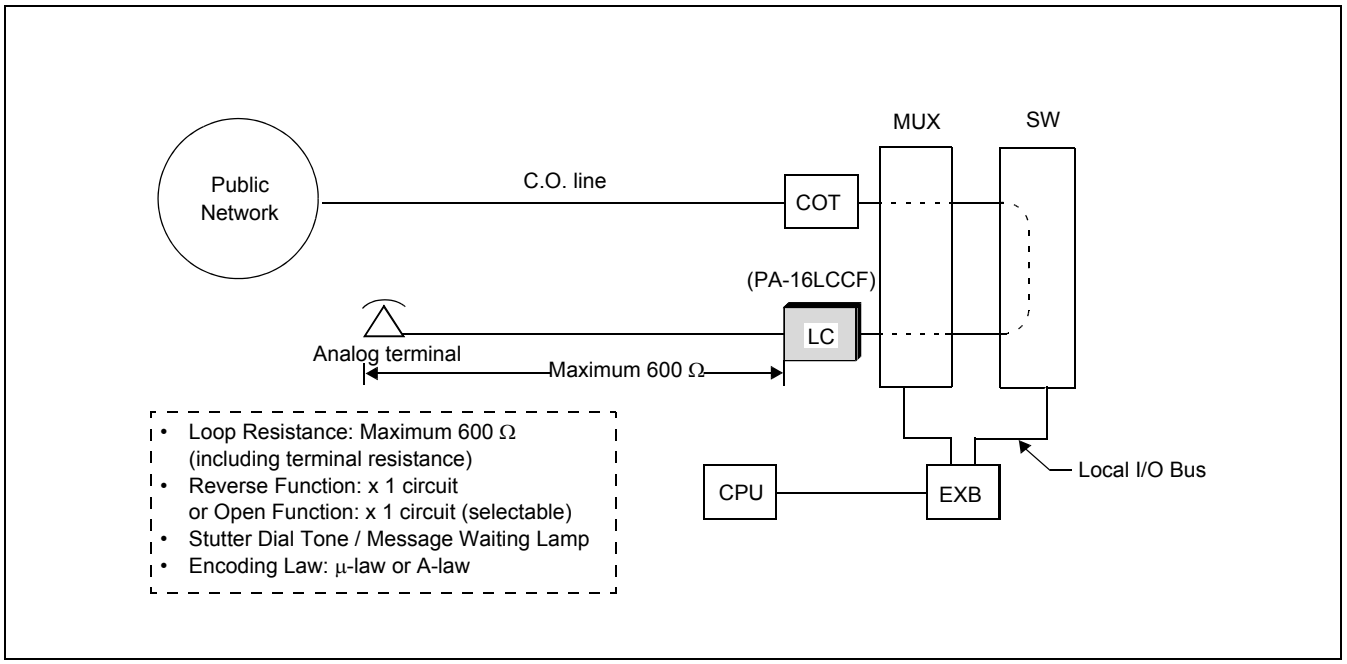
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

The PA-16LCCF circuit card provides an interface between a maximum of 16 analog terminals and the system with a range of 600 Ω, including terminal resistance.

This card also can send Stutter Dial Tone, that is not a continuous tone, to an associated terminal that has no Message Waiting Lamp (MWL) instead of activating the MWL if required.

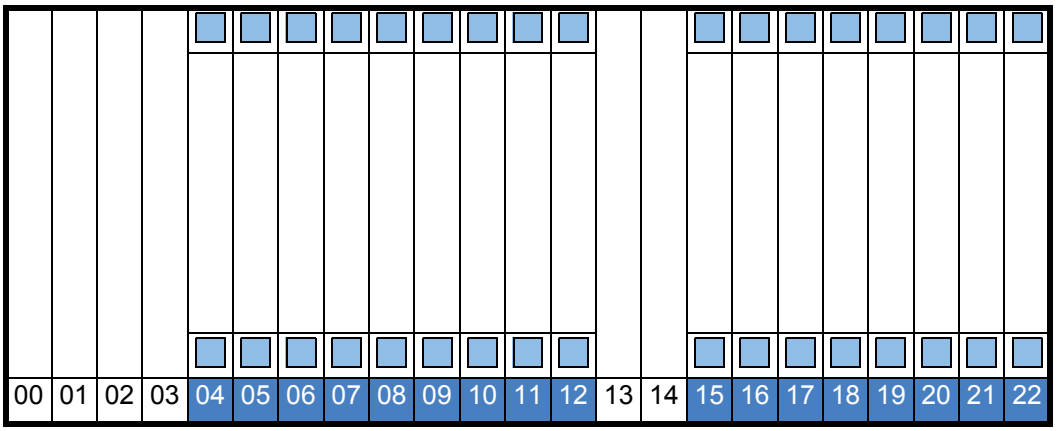
Location of PA-16LCCF (16LC) Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



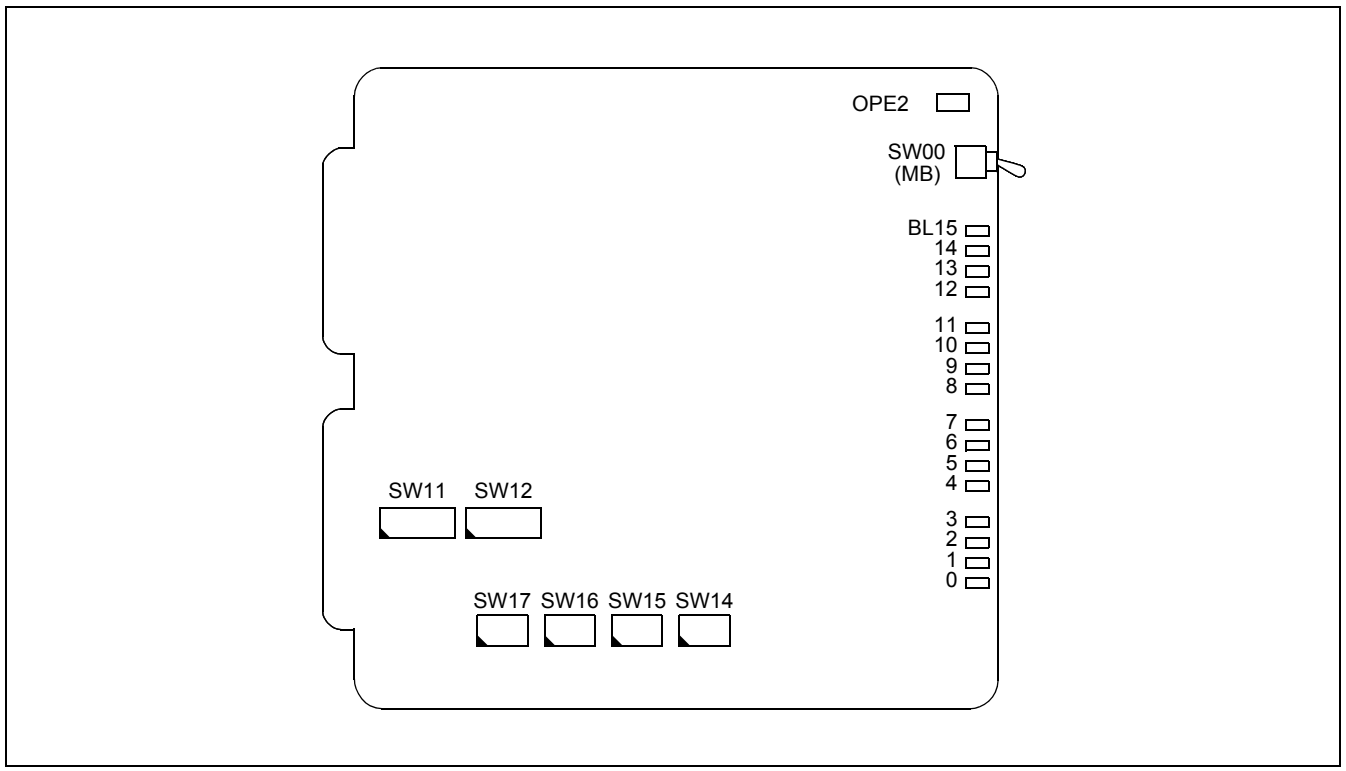
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps and switches on this circuit card is shown below.

Face Layout of PA-16LCCF(16LC)



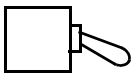
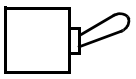
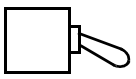
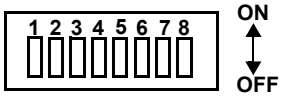
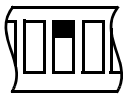
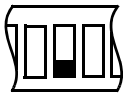
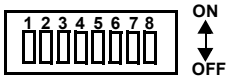
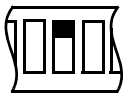
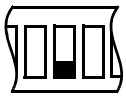
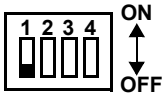
4. Lamp Indications

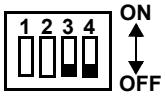
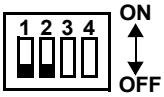
The contents of lamp indications of this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE	MEANING
OPE2	Green	Constant Light	The circuitry of the circuit card is operating normally.
BL0 ~ BL15	Green	Constant Light	Line loop exists.
		Flashing	1) Ringing signal is being transmitted. Busy LED flashes in synchronization with on/off of the ringing signal. 2) Dial pulses are received. While dial pulses from a line are received, Busy LED flashes in synchronization with the dial pulses coming from the line. 3) Line is in Make-Busy state. Busy LED keeps flashes at 60 IPM.

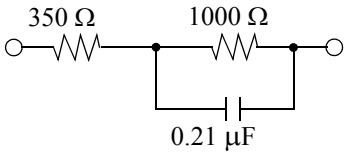
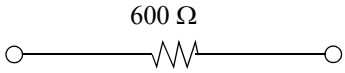
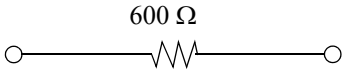
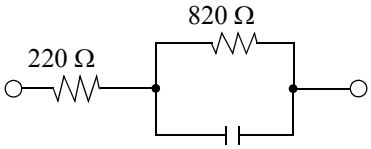
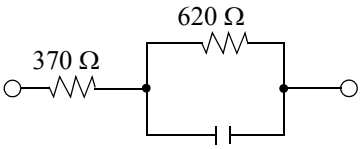
5. Switch Settings

Switches on the PA-16LCCF (LC) card have the following meanings.

<table>
<tr><th>SWITCH</th><th></th><th>FUNCTION</th><th colspan="2">SWITCH SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">SW00
(MB)
  </td><td rowspan="2"></td><td rowspan="2">Circuit Card Make-Busy key</td><td>ON</td><td>  </td><td>Circuit card: Make-Busy</td></tr>
<tr><td>OFF</td><td>  </td><td>Circuit card: Make-Busy cancel</td></tr>
<tr><td rowspan="2">SW11
(BNW0-7)
  </td><td rowspan="2"></td><td rowspan="2">Balancing Network designation
• Each element on this switch corresponds to Circuit 0-7.
When this switch has been set, see SW14.</td><td>ON</td><td>  </td><td>BNW2
(For more information, refer to Balancing Network Detailed Information on <Jump> (page 1117).)</td></tr>
<tr><td>OFF</td><td>  </td><td>BNW1
(For more information, refer to Balancing Network Detailed Information on <Jump> (page 1117).)</td></tr>
<tr><td rowspan="2">SW12
(BNW8-15)
  </td><td rowspan="2"></td><td rowspan="2">Balancing Network designation
• Each element on this switch corresponds to Circuits 8-15.
When this switch has been set, see SW14.</td><td>ON</td><td>  </td><td>BNW2
(For more information, refer to Balancing Network Detailed Information on <Jump> (page 1117).)</td></tr>
<tr><td>OFF</td><td>  </td><td>BNW1
(For more information, refer to Balancing Network Detailed Information on <Jump> (page 1117).)</td></tr>
<tr><td rowspan="4">SW14
  </td><td>1</td><td></td><td colspan="2">OFF</td><td>Fixed to OFF</td></tr>
<tr><td>2</td><td colspan="4" rowspan="3">Selection of the user.
<table><tr><th>SW-14-2</th><th>SW14-3</th><th>SW14-4</th><th>USER SELECTION</th></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>North America, μ-law countries
(PA-16LCBJ-B Compatible setting)</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>A-law countries
(PA-16LCBK-B Compatible setting)</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>Australia
(PA-16LCBL-B Compatible setting)</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>UK
(PA-16LCBK-B Compatible setting)</td></tr></table></td></tr>
<tr><td>3</td></tr>
<tr><td>4</td></tr>
</table>

SWITCH	NUMBER	FUNCTION	SWITCH SETTING	MEANING
SW15 	1	PAD setting (Australia Only)	ON	Transmission levels set for old (SPEC 1301) level plan. A to D: 0dB D to A: 0 or 9dB
			OFF	Transmission levels set for new (AS/ACIF S003) level plan. A to D: 0dB D to A: 6 or 9dB
		Other users	OFF	Fixed to OFF
	2		ON	Stutter Dial Tone Available
			OFF	Stutter Dial Tone not Available
	3		OFF	Fixed to OFF
	4		OFF	Fixed to OFF
SW16 	1		OFF	Fixed to OFF
	2		OFF	Fixed to OFF
	3		OFF	Fixed to OFF
	4		OFF	Fixed to OFF
SW17 	1		OFF	Fixed to OFF
	2		OFF	Fixed to OFF
	3	Message Waiting Lamp	ON	Message Waiting Lamp Flashing (ON: 1 sec / OFF: 1 sec)
			OFF	Message Waiting Lamp constantly lit or flashing (Selected and controlled by software)
	4	Polarity Reverse or Momentary Open (No.15 Circuit only)	ON	Momentary Open
			OFF	Polarity Reverse

Balancing Network Detailed Information

	BNW2 (ON)	BNW1 (OFF)
North America μ-law countries A-law countries	 Compromise Impedance (EIA/TIA-464C)	
Australia		 (For Standard use)
UK	Not used	

6. External Interface

Accommodation of the LT connector leads of this circuit card and connecting route diagram are shown below.

LT Connector Leads Accommodation (1/2)

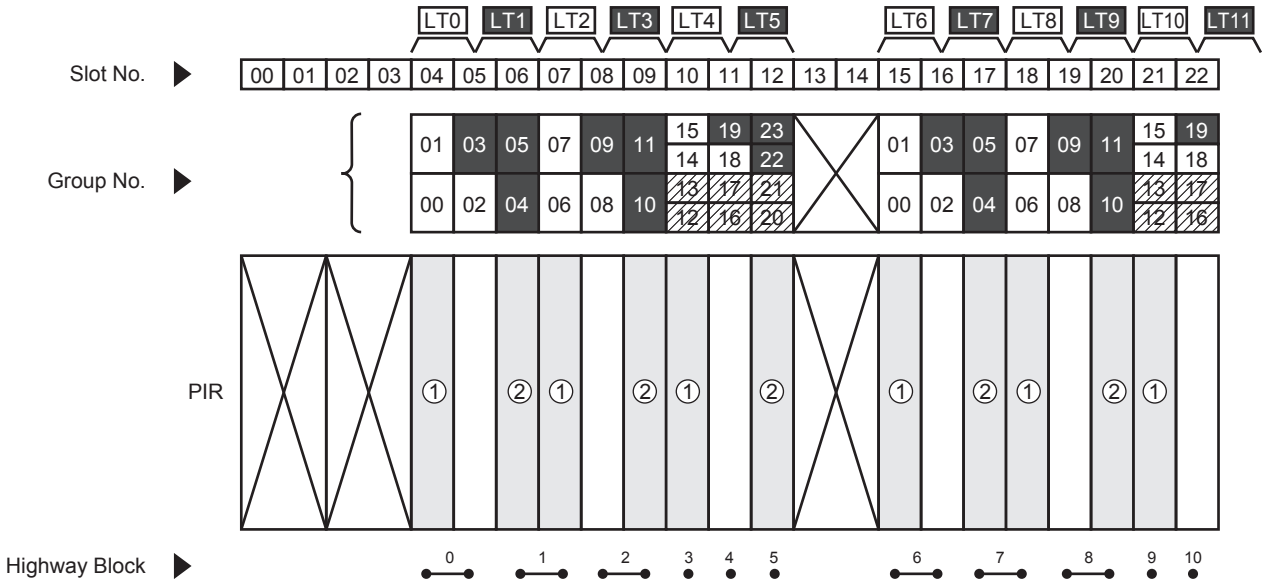
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	B0	1	A0
27	B1	2	A1
28	B2	3	A2
29	B3	4	A3
30	B4	5	A4
31	B5	6	A5
32	B6	7	A6
33	B7	8	A7
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0	9	A0
35	B1	10	A1
36	B2	11	A2
37	B3	12	A3
38	B4	13	A4
39	B5	14	A5
40	B6	15	A6
41	B7	16	A7
42	B8	17	A8
43	B9	18	A9
44	B10	19	A10
45	B11	20	A11
46	B12	21	A12
47	B13	22	A13
48	B14	23	A14
49	B15	24	A15
50		25	



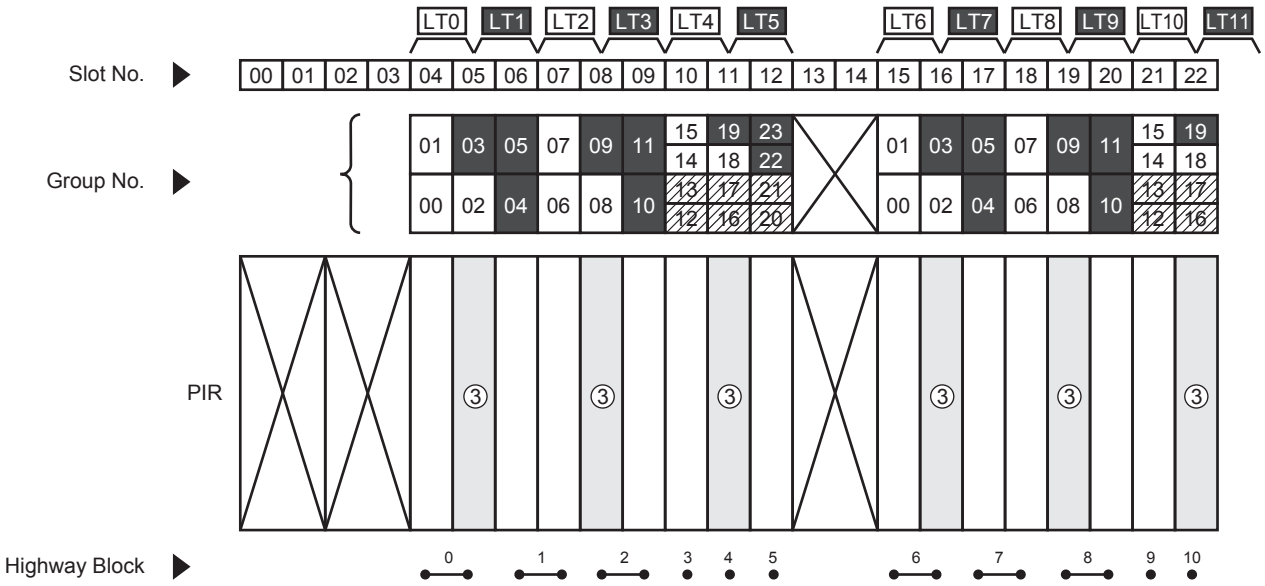
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Leads Accommodation (2/2)

Mounting Module **PIR**

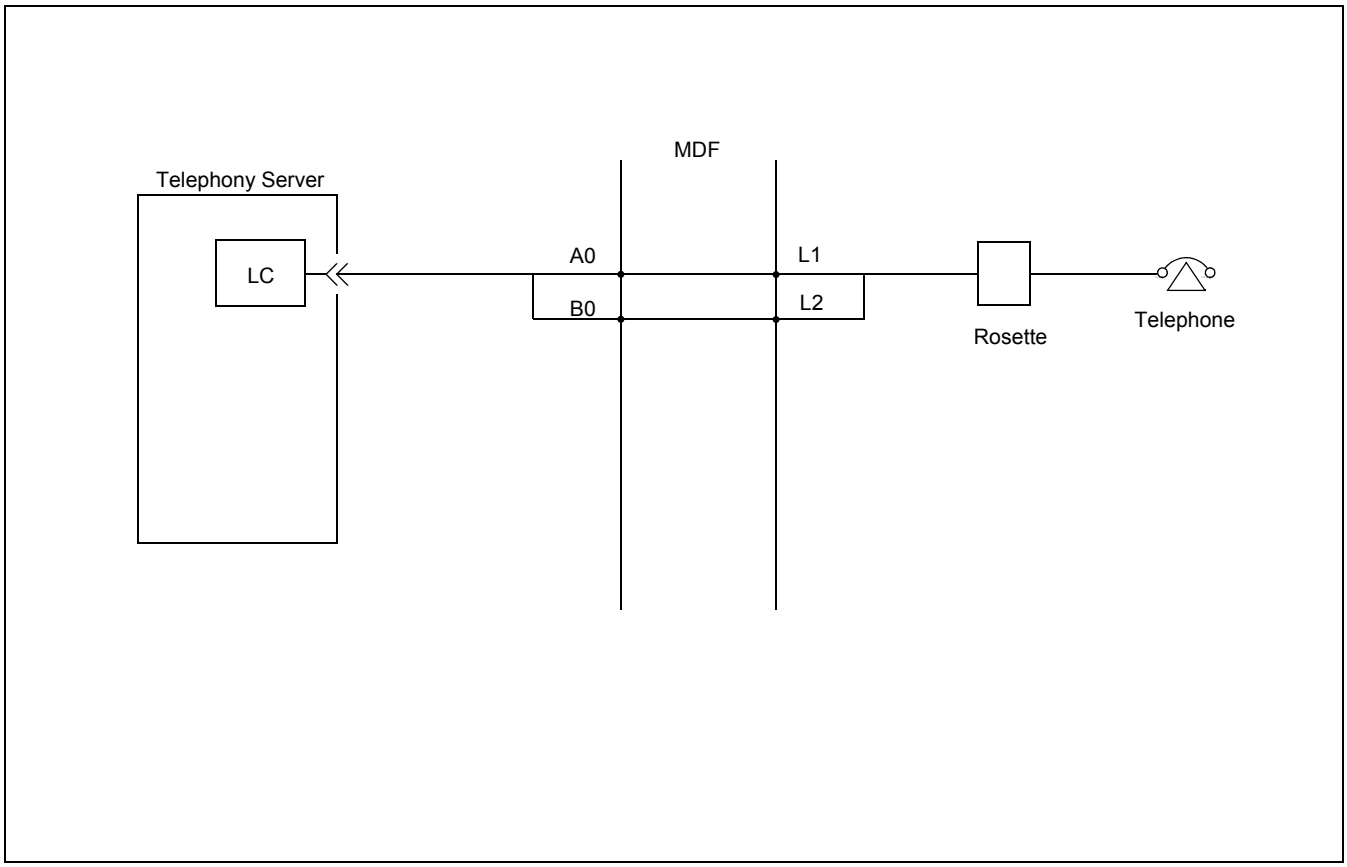
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector				LT 1, 3, 5, 7, 9, 11 Connector			
26		1		26	B8	1	A8
27		2		27	B9	2	A9
28		3		28	B10	3	A10
29		4		29	B11	4	A11
30		5		30	B12	5	A12
31		6		31	B13	6	A13
32		7		32	B14	7	A14
33		8		33	B15	8	A15
34		9		34		9	
35		10		35		10	
36		11		36		11	
37		12		37		12	
38		13		38		13	
39		14		39		14	
40		15		40		15	
41		16		41		16	
42	B0	17	A0	42		17	
43	B1	18	A1	43		18	
44	B2	19	A2	44		19	
45	B3	20	A3	45		20	
46	B4	21	A4	46		21	
47	B5	22	A5	47		22	
48	B6	23	A6	48		23	
49	B7	24	A7	49		24	
50		25		50		25	

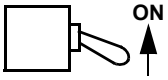
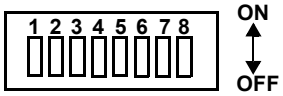
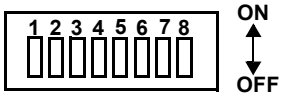
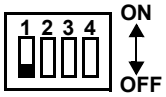
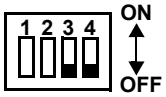
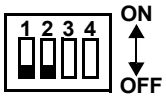


Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram



7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW11 (BNW0-7)		
		SW12 (BNW8-15)		
		SW14		
		SW15		
		SW16		
		SW17		

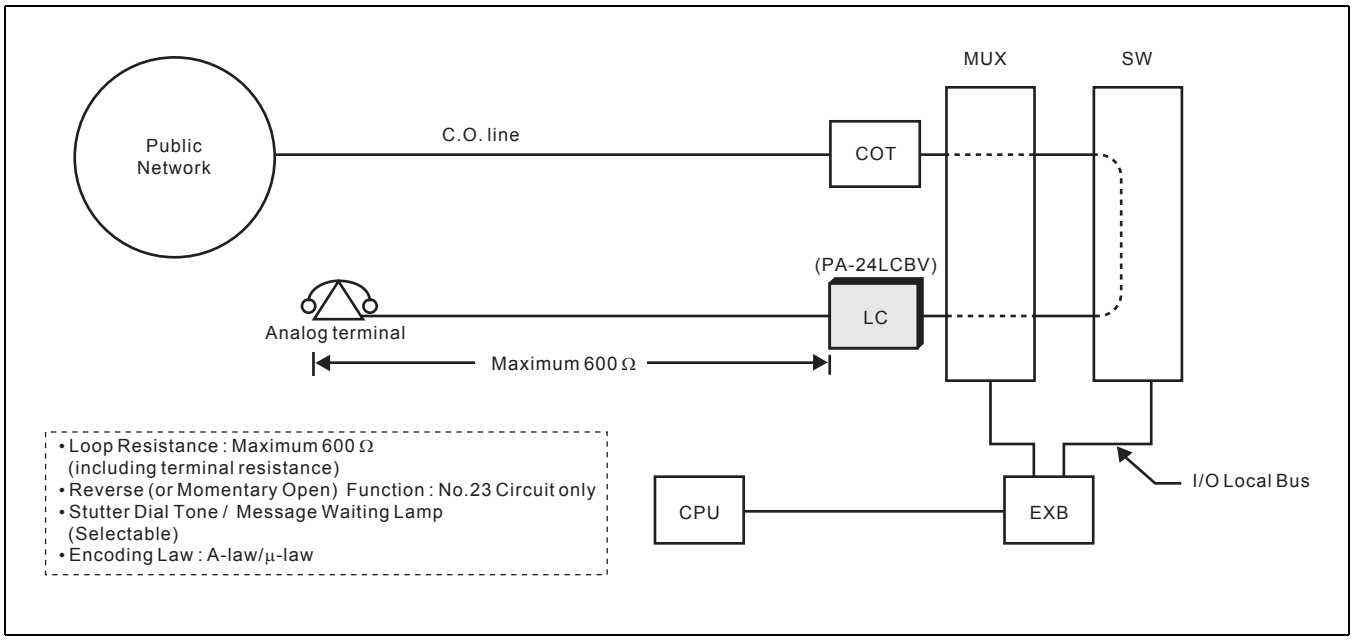
PA-24LCBV
Line Circuit

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	X	X	X	X	-

1. General Function

The PA-24LCBV circuit card provides an interface between a maximum of 24-analog terminals and the system with a range of 600 Ω, including terminal resistance. This card also can send Stutter Dial Tone, that is not a continuous tone, to an associated terminal that has no Message Waiting Lamp (MWL) instead of activating the MWL if required.

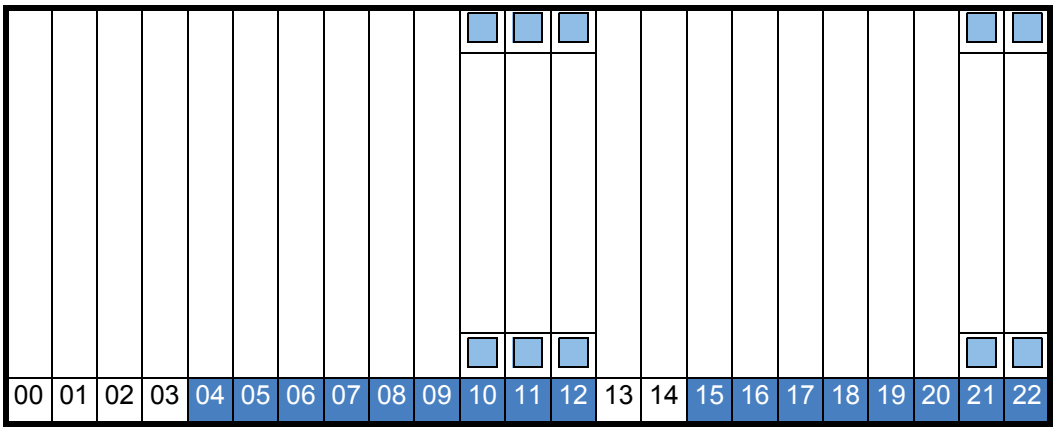
Location of PA-24LCBV (LC) Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

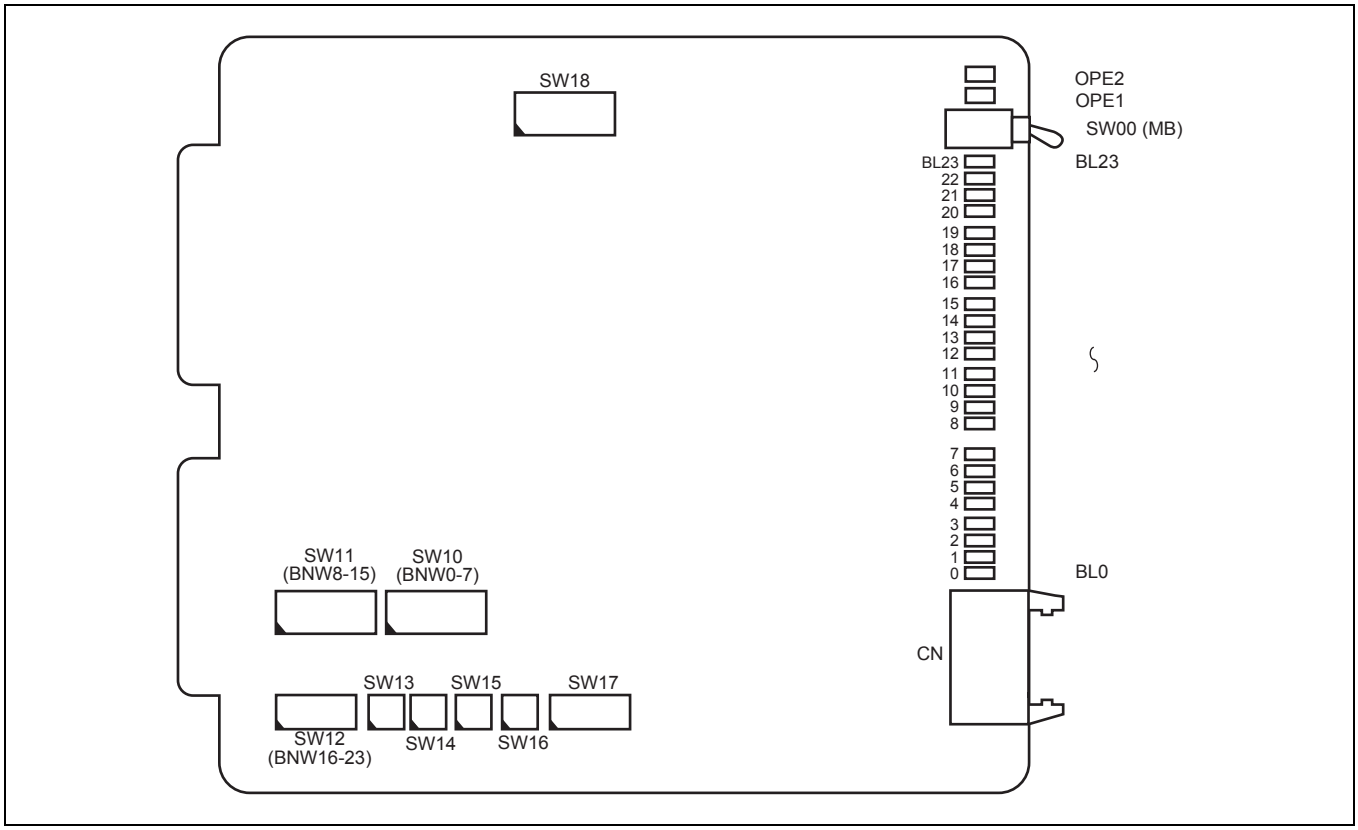
Slots 10-12, 21-22



3. Face Layout of Lamps, Switches and Connectors

The face layout of lamps, switches on this card is shown below.

Face Layout of PA-24LCBV (LC) Card



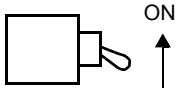
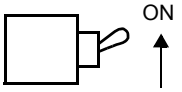
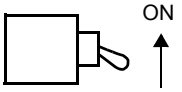
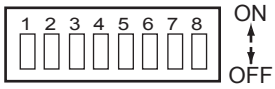
4. Lamp Indications

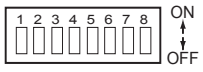
Lamp indications for this card are shown below.

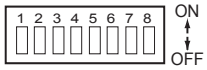
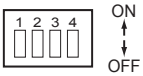
LED NAME	COLOR	LED STATUS	DESCRIPTION
OPE1	Green	Constant Light	The circuitry of Circuit 0-7 is operating normally.
OPE2	Green	Constant Light	The circuitry of Circuit 8-23 is operating normally.
BL0 ≀ BL23	Green	Constant Light	Line loop exists.
		Flashing	1. Ringing signal is being transmitted. Busy LED keeps flashing in synchronization with on/off of the ringing signal. 2. Dial pulses are being received while dial pulses from a line are being received. Busy LED keeps flashing in synchronization with the dial pulses coming from the line. 3. Line is in Make-Busy state. 4. Busy LED keeps flashing at 60 IPM.

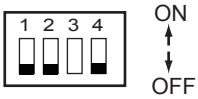
5. Switch Settings

Switches on the PA-24LCBV (LC) card have the following meanings.

SWITCH	FUNCTION	SWITCH SETTING		MEANING
SW00 (MB) 	Circuit Card Make-Busy key	ON		Circuit card: Make-Busy
		OFF		Circuit card: Make-Busy cancel
SW10 (BNW0-7) 	Balancing Network designation • Each element on this switch corresponds to Circuit 0-7.	ON		North America, other countries (A/μ-law) BNW: Compromise Impedance (EIA/TIA-464A) (**Note 1**) for long distance.
		OFF		North America, other countries (A/μ-law) BNW: 600 Ω (**Note 1**) for short distance

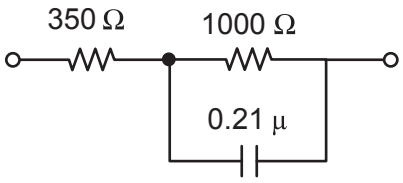
SWITCH	NUMBER	FUNCTION	SWITCH SETTING	MEANING
SW11 (BNW8-15) 		Balancing Network designation • Each element on this switch corresponds to Circuit 8-15.	Same as previous table.	

<table>
<tr><th>SWITCH</th><th>NUMBER</th><th>FUNCTION</th><th>SWITCH SETTING</th><th>MEANING</th></tr>
<tr><td>SW12
(BMW16-23)
 
</td><td></td><td>Balancing Network designation
• Each element on this switch corresponds to Circuit 16-23.</td><td colspan="2">Same as previous table.</td></tr>
<tr><td>SW13
 
</td><td></td><td colspan="3">Selection of the user
<table>
<tr><th>SW13-1</th><th>SW13-2</th><th>SW13-3</th><th>SW13-4</th><th>USER SELECTION</th></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>μ-law countries</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>A-law countries</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>Australia</td></tr>
</table></td></tr>
<tr><td rowspan="5">SW14
 
</td><td>1</td><td>-</td><td>OFF</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">2</td><td rowspan="2">Stutter Dial Tone</td><td>ON</td><td>Stutter Dial Tone available</td></tr>
<tr><td>OFF</td><td>Stutter Dial Tone not available</td></tr>
<tr><td>3</td><td>-</td><td>OFF</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td>-</td><td>OFF</td><td>Fixed to OFF</td></tr>
</table>

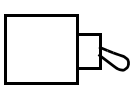
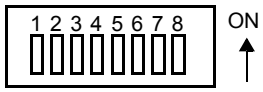
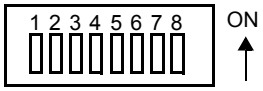
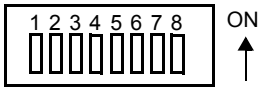
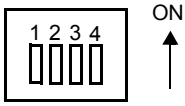
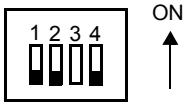
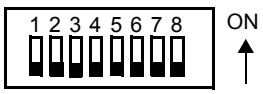
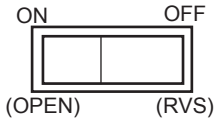
SWITCH	NUMBER	FUNCTION	SWITCH SETTING	MEANING
SW15 	1	-	OFF	Fixed to OFF
	2	-	OFF	Fixed to OFF
	3	-	OFF	Fixed to OFF
	4	-	OFF	Fixed to OFF
SW16 	1	-	OFF	Fixed to OFF
	2	-	OFF	Fixed to OFF
	3	Message Waiting Lamp (High Voltage Only)	ON	Message Waiting Lamp Flashing (Controlled by firmware)
			OFF	Message Waiting Lamp lit or Flashing (Selected and controlled by software)
	4	-	OFF	Fixed to OFF

SWITCH	NUMBER	FUNCTION	SWITCH SETTING	MEANING
SW17 1 2 3 4 5 6 7 8 ON OFF	1	-	OFF	Fixed to OFF
	2	-	OFF	Fixed to OFF
	3	-	OFF	Fixed to OFF
	4	-	OFF	Fixed to OFF
	5	-	OFF	Fixed to OFF
	6	-	OFF	Fixed to OFF
	7	-	OFF	Fixed to OFF
	8	-	OFF	Fixed to OFF
SW18 OFF (RVS) ON (OPEN) Slide switch	Polarity reverse or Momentary Open (No.23 Circuit only)		ON	Momentary open
			OFF	Polarity reverse

Note 1: Compromise Impedance (EIA/TIA-464A) and 600 Ω are as follows.

ON	OFF
 Compromise Impedance (EIA/TIA-464A)	

6. Switch Setting Sheet

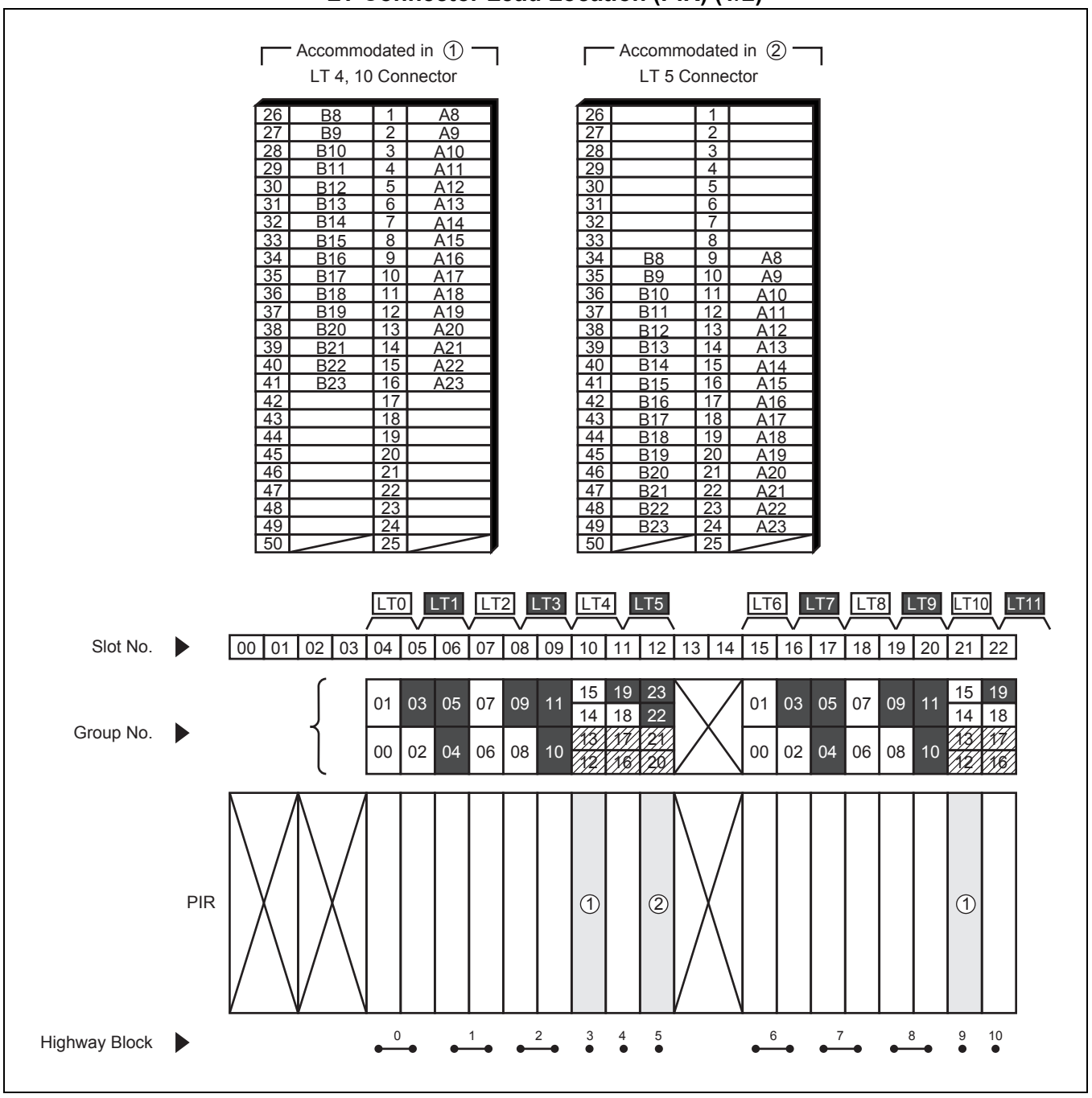
MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		**Note:** Normal operating mode is down.
		SW10 (BNW0-7)		
		SW11 (BNW8-15)		
		SW12 (BNW16-23)		
		SW13		
		SW14		
		SW15		
		SW16		
		SW17		
		SW18		

7. External Interface

Location of the LT connector leads and LC connector leads for this circuit card is shown below.

(a) PIR
When this circuit card is mounted in PIR, necessary leads appear on the LT connectors as follows.

LT Connector Lead Location (PIR) (1/2)

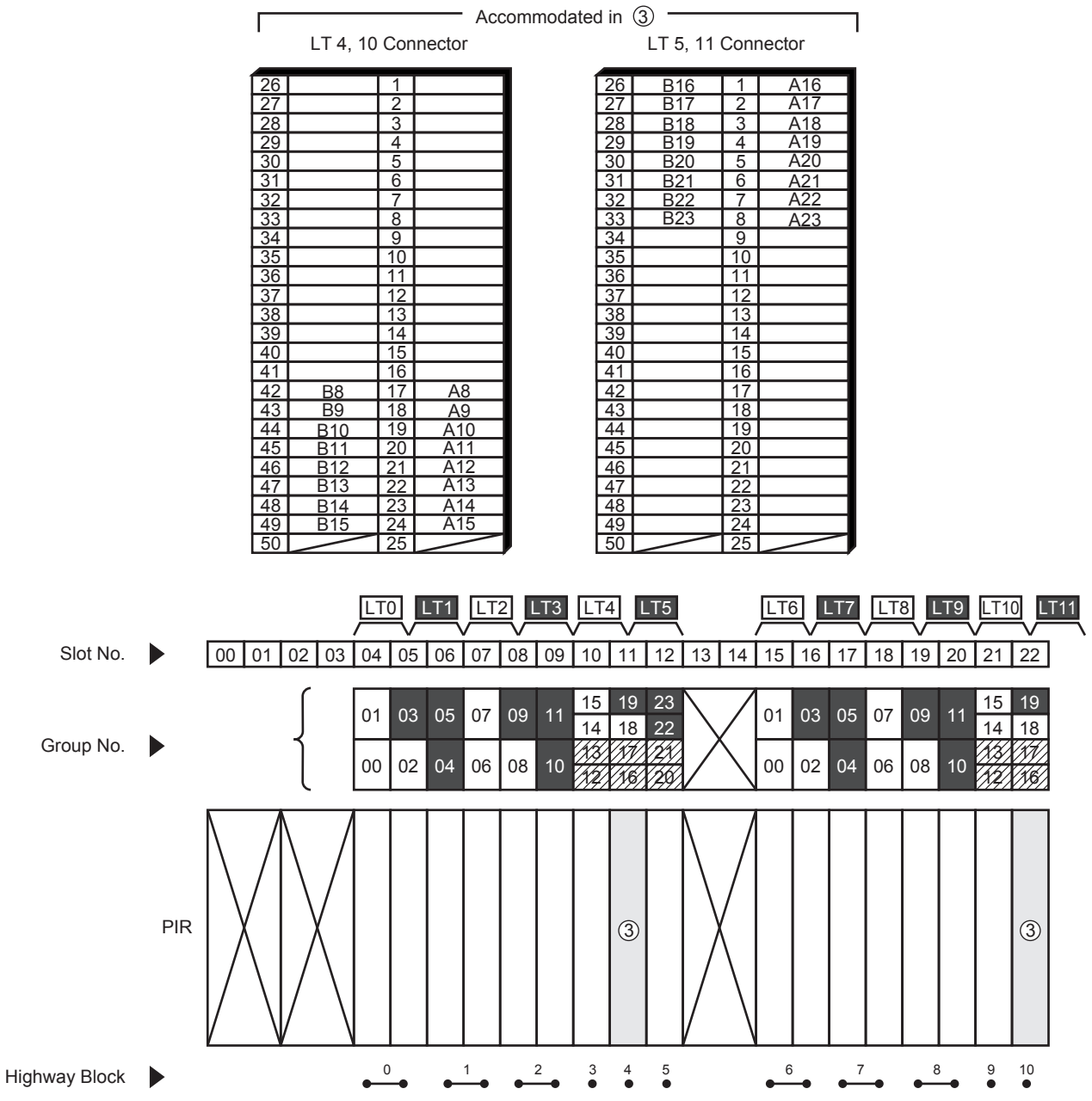


26	B8	1	A8
27	B9	2	A9
28	B10	3	A10
29	B11	4	A11
30	B12	5	A12
31	B13	6	A13
32	B14	7	A14
33	B15	8	A15
34	B16	9	A16
35	B17	10	A17
36	B18	11	A18
37	B19	12	A19
38	B20	13	A20
39	B21	14	A21
40	B22	15	A22
41	B23	16	A23
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42	B16	17	A16
43	B17	18	A17
44	B18	19	A18
45	B19	20	A19
46	B20	21	A20
47	B21	22	A21
48	B22	23	A22
49	B23	24	A23
50		25	

Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

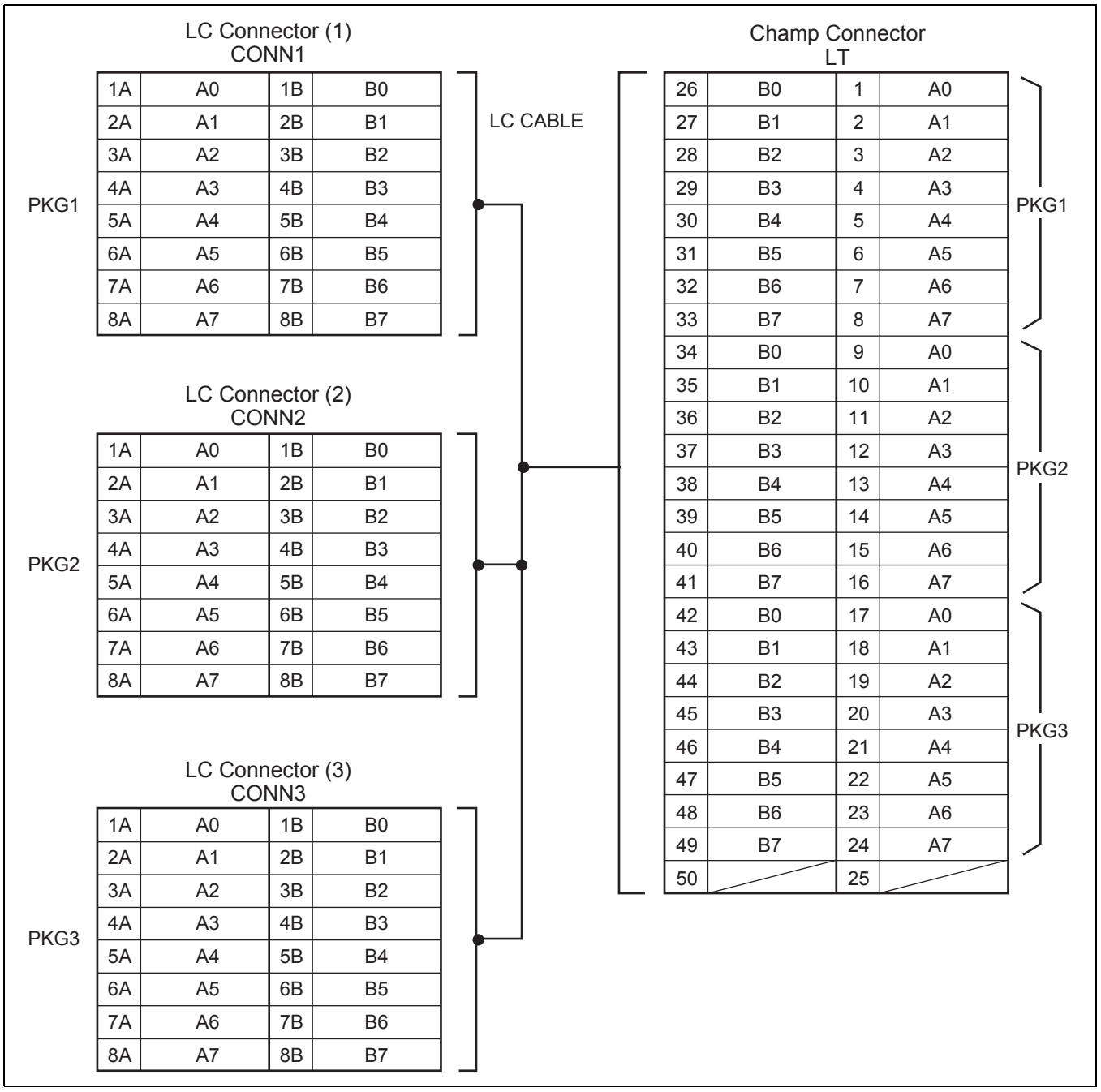
LT Connector Lead Location (PIR) (2/2)



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

(b) LC Connector Leads

LC Connector Lead Location (LC Cable)

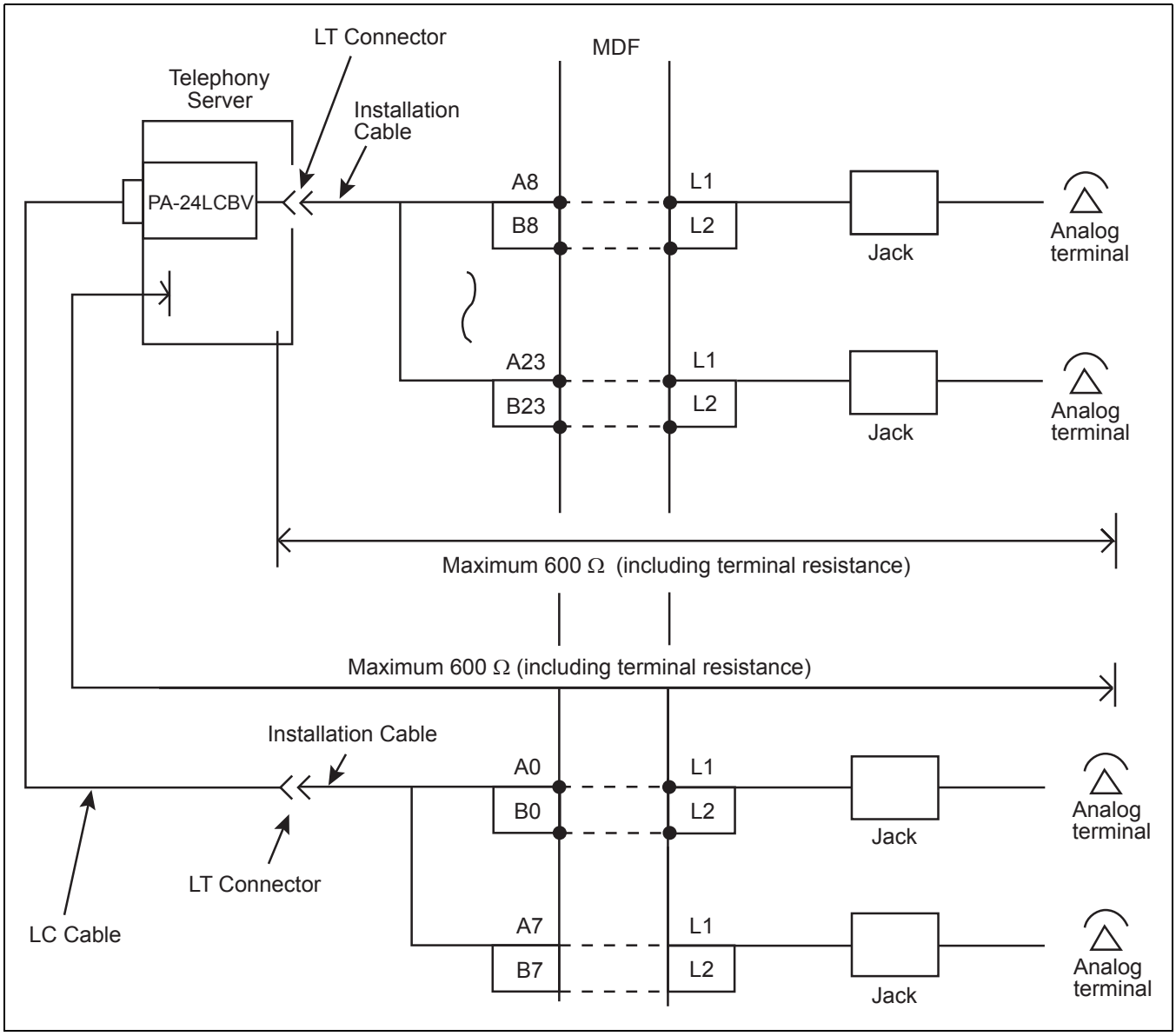


8. Connecting Route Diagram

Connecting Route Diagram for the PA-24LCBV(LC) is as follows.

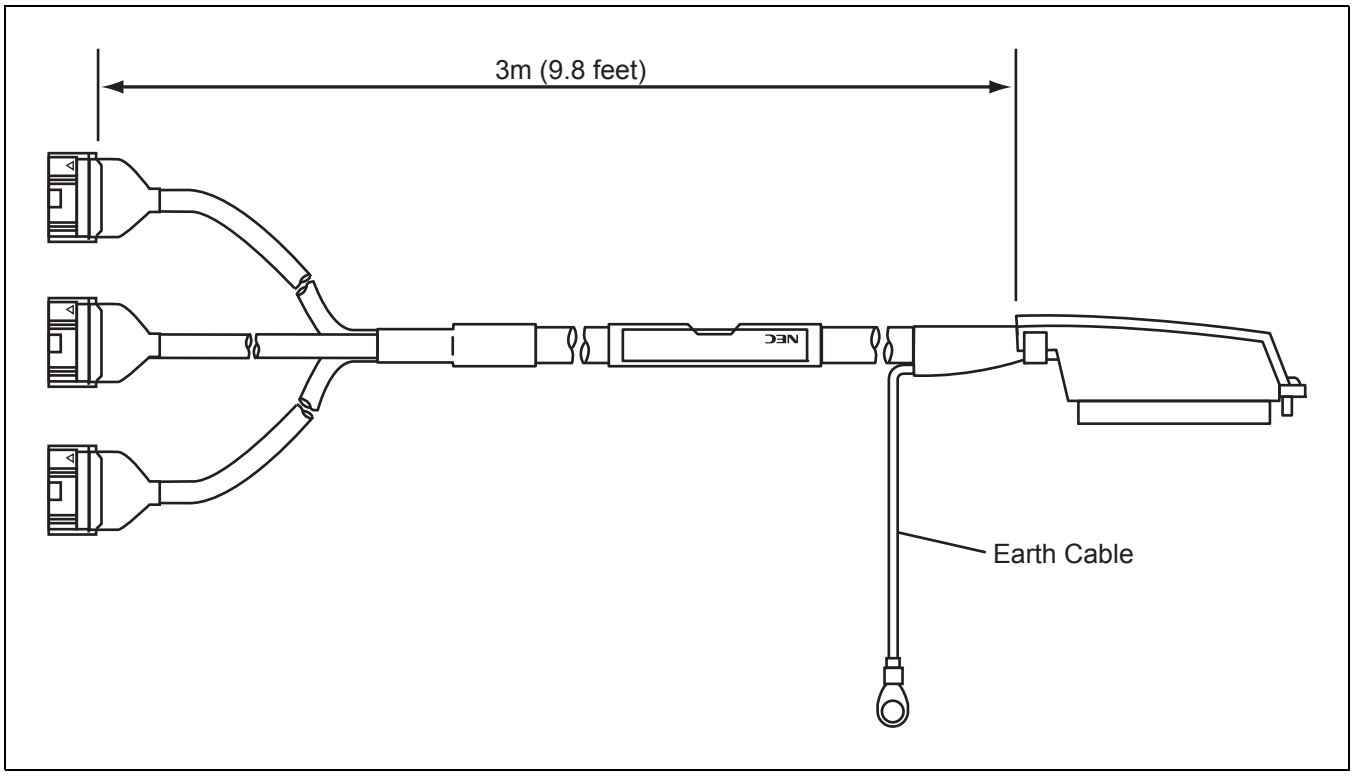
A and B leads for Channels 0 - 7 appear from the LC Connector located on the front edge of the card.

Connecting Route Diagram



9. LC Cable Connection

Outer View of LC Cable



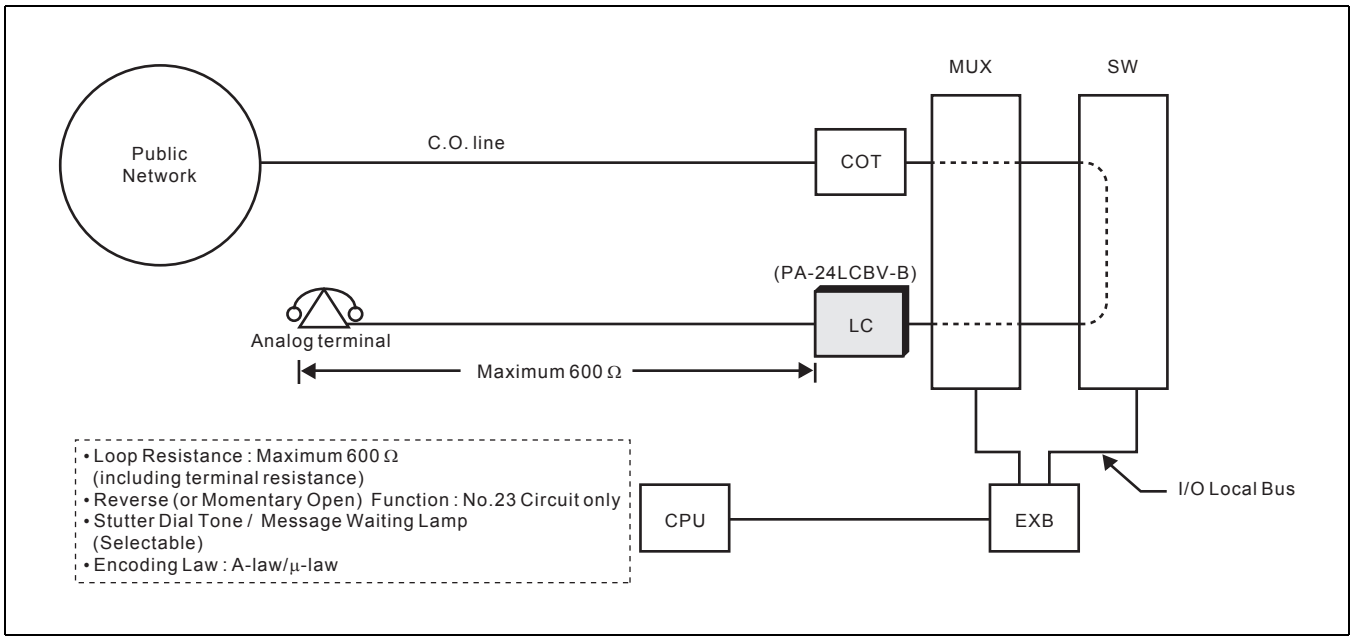
PA-24LCBV-B
Line Circuit

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	X	X	X	X	-

1. General Function

The PA-24LCBV-B circuit card provides an interface between a maximum of 24-analog terminals and the system with a range of 600 Ω, including terminal resistance. This card also can send Stutter Dial Tone, which is not a continuous tone, to an associated terminal that has no Message Waiting Lamp (MWL) instead of activating the MWL if required.

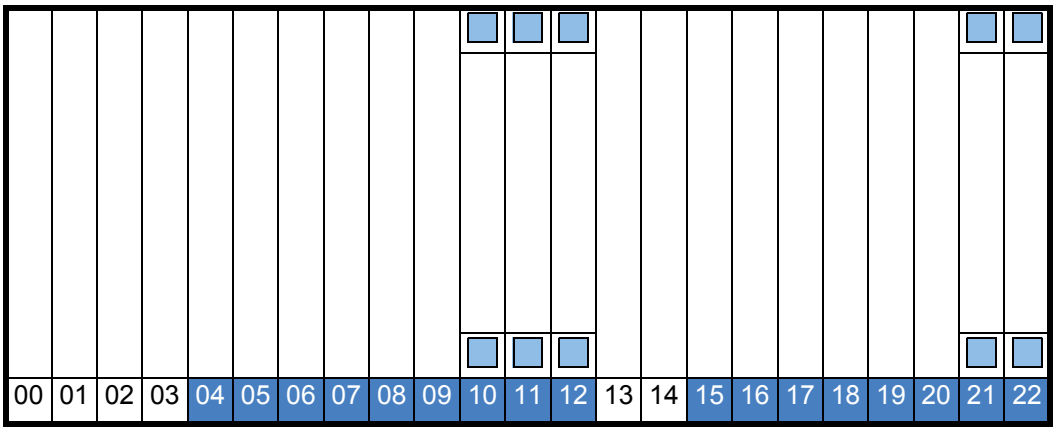
Location of PA-24LCBV-B (LC) Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

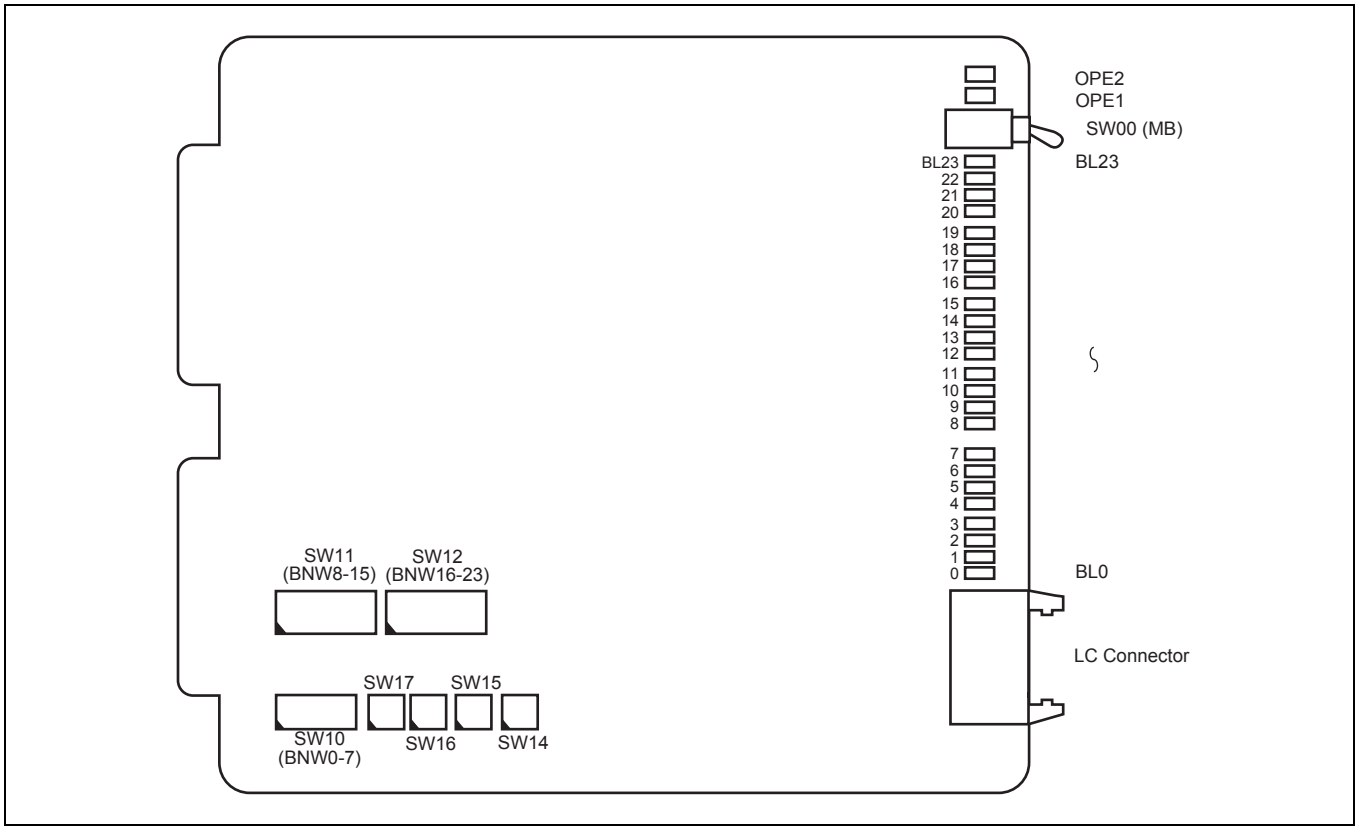
Slots 10-12, 21-22



3. Face Layout of Lamps, Switches and Connectors

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Face Layout of PA-24LCBV-B (LC) Card



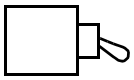
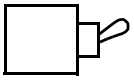
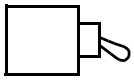
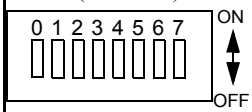
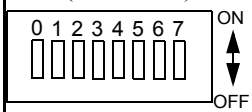
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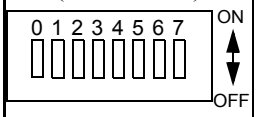
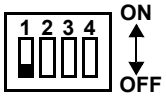
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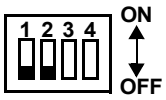
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5. Switch Settings

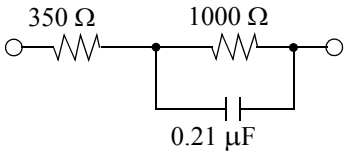
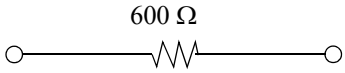
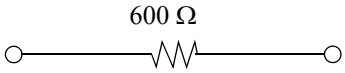
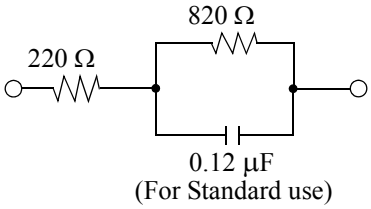
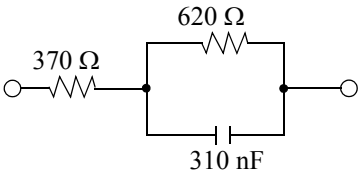
Switches on the PA-24LCBV-B (LC) card have the following meanings.

SWITCH	NUMBER	FUNCTION	SWITCH SETTING		MEANING
SW00 (MB) 		Circuit Card Make-Busy key	ON		Circuit card: Make-Busy
			OFF		Circuit card: Make-Busy cancel
SW10 (BNW0-7) 		Balancing Network designation • Each element on this switch corresponds to Circuit 0-7. When this switch has been set, see SW14.	ON		BNW2 (For more information, refer to Balancing Network Detailed Information on <Jump> page 1148.)
			OFF		BNW1 (For more information, refer to Balancing Network Detailed Information on <Jump> page 1148.)
SW11 (BNW8-15) 		Balancing Network designation • Each element on this switch corresponds to Circuit 8-15. When this switch has been set, see SW14.	Same as the above.		

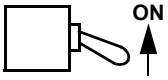
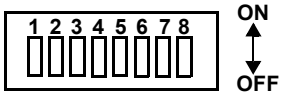
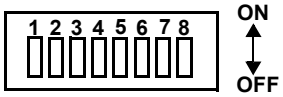
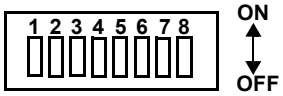
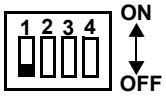
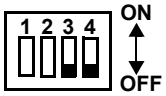
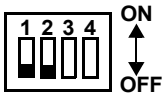
<table>
<tr><th>SWITCH</th><th>NUMBER</th><th>FUNCTION</th><th>SWITCH SETTING</th><th>MEANING</th></tr>
<tr><td>SW12
(BMW16-23)
 
</td><td></td><td>Balancing Network designation
• Each element on this switch corresponds to Circuit 16-23.
When this switch has been set, see SW14.</td><td colspan="2">Same as the above.</td></tr>
<tr><td rowspan="2">SW14
 
</td><td>1</td><td></td><td>OFF</td><td>Fixed to OFF</td></tr>
<tr><td>2−4</td><td colspan="3">Selection of the user
<table>
<tr><th>SW14-2</th><th>SW14-3</th><th>SW14-4</th><th>USER SELECTION</th></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>North America, μ-law countries</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>A-law countries</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>Australia</td></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>U.K.</td></tr>
</table></td></tr>
<tr><td rowspan="6">SW15
 
</td><td rowspan="3">1</td><td rowspan="2">PAD setting
(Australia Only)</td><td>ON</td><td>Transmission levels set for old (SPEC 1301) level plan.
A to D: 0dB
D to A: 0 or 9dB</td></tr>
<tr><td>OFF</td><td>Transmission levels set for new (AS/ACIF S003) level plan.
A to D: 0dB
D to A: 6 or 9dB</td></tr>
<tr><td>Other users</td><td>OFF</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">2</td><td rowspan="2"></td><td>ON</td><td>Stutter Dial Tone Available</td></tr>
<tr><td>OFF</td><td>Stutter Dial Tone not Available</td></tr>
<tr><td>3</td><td></td><td>OFF</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td></td><td>OFF</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="4">SW16
 
</td><td>1</td><td></td><td>OFF</td><td>Fixed to OFF</td></tr>
<tr><td>2</td><td></td><td>OFF</td><td>Fixed to OFF</td></tr>
<tr><td>3</td><td></td><td>OFF</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td></td><td>OFF</td><td>Fixed to OFF</td></tr>
</table>

SWITCH	NUMBER	FUNCTION	SWITCH SETTING	MEANING
SW17 	1		OFF	Fixed to OFF
	2		OFF	Fixed to OFF
	3	Message Waiting Lamp (High Voltage Only)	ON	Message Waiting Lamp Flashing (ON: 1 sec / OFF: 1 sec)
			OFF	Message Waiting Lamp constantly lit or flashing (Selected and controlled by software)
	4	Polarity Reverse or Momentary Open (No.23 Circuit only)	ON	Momentary Open
			OFF	Polarity Reverse

Balancing Network Detailed Information

	BNW2 (ON)	BNW1 (OFF)
North America μ-law countries A-law countries	 Compromise Impedance (EIA/TIA-464C)	
Australia		 (For Standard use)
U.K.	Not used	

6. Switch Setting Sheet

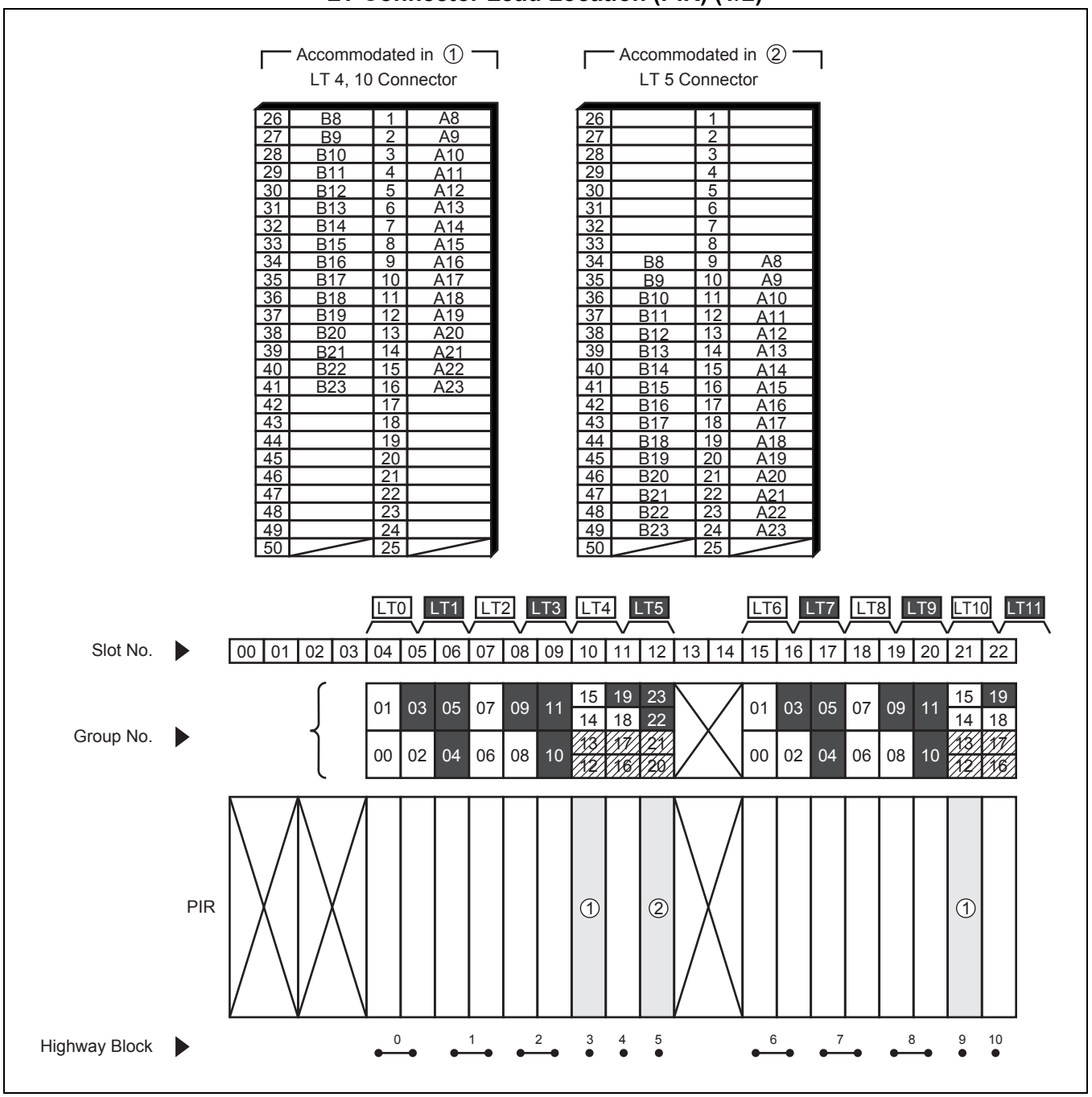
MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW10 (BNW0-7)		
		SW11 (BNW8-15)		
		SW12 (BNW16-23)		
		SW14		
		SW15		
		SW16		
		SW17		

7. External Interface

Locations of the LT connector leads and LC connector leads for this circuit card are shown below.

(a) PIR
When this circuit card is mounted in PIR, necessary leads appear on the LT connectors as follows.

LT Connector Lead Location (PIR) (1/2)

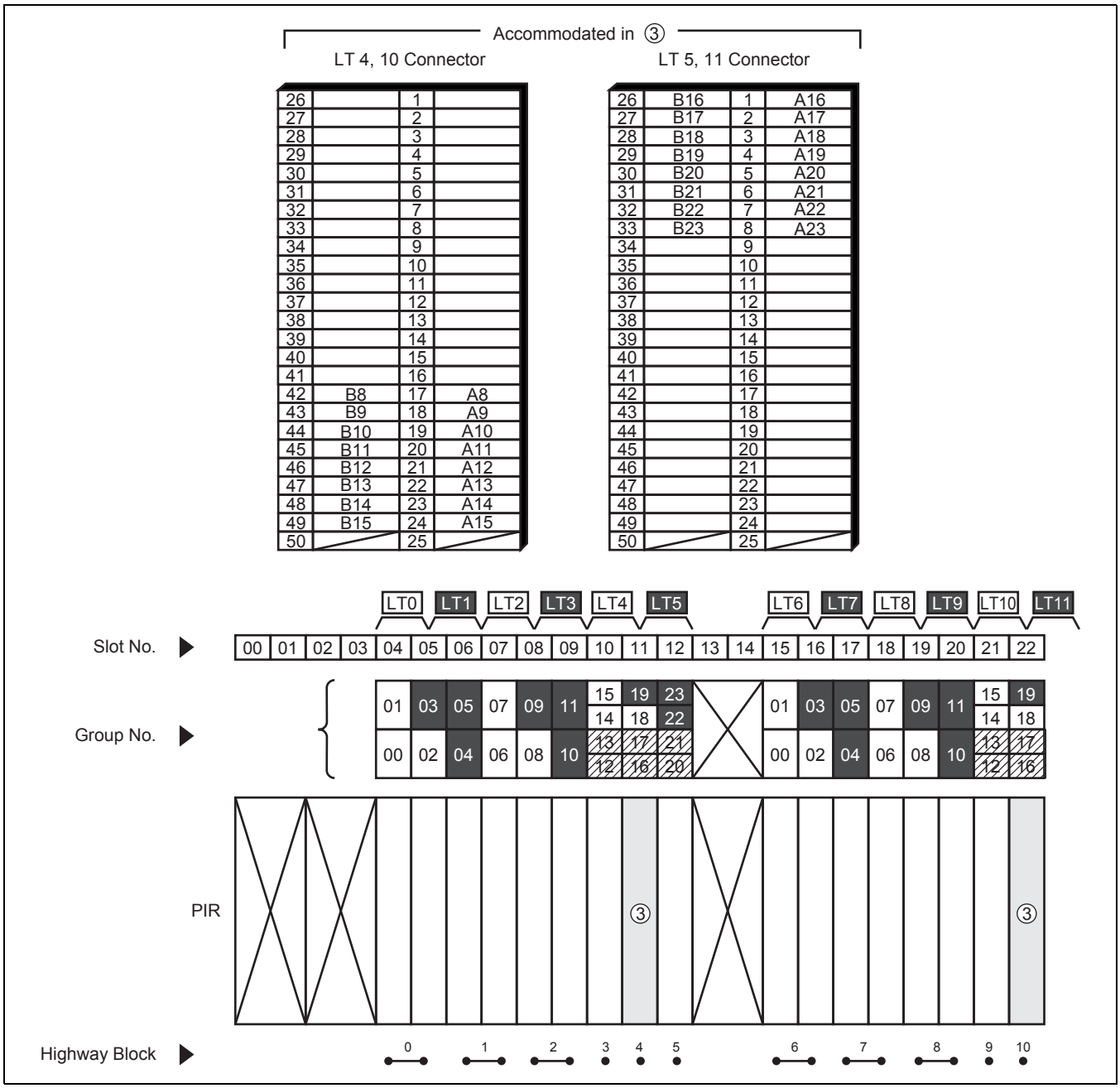


26	B8	1	A8
27	B9	2	A9
28	B10	3	A10
29	B11	4	A11
30	B12	5	A12
31	B13	6	A13
32	B14	7	A14
33	B15	8	A15
34	B16	9	A16
35	B17	10	A17
36	B18	11	A18
37	B19	12	A19
38	B20	13	A20
39	B21	14	A21
40	B22	15	A22
41	B23	16	A23
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B8	9	A8
35	B9	10	A9
36	B10	11	A10
37	B11	12	A11
38	B12	13	A12
39	B13	14	A13
40	B14	15	A14
41	B15	16	A15
42	B16	17	A16
43	B17	18	A17
44	B18	19	A18
45	B19	20	A19
46	B20	21	A20
47	B21	22	A21
48	B22	23	A22
49	B23	24	A23
50		25	

Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Location (PIR) (2/2)

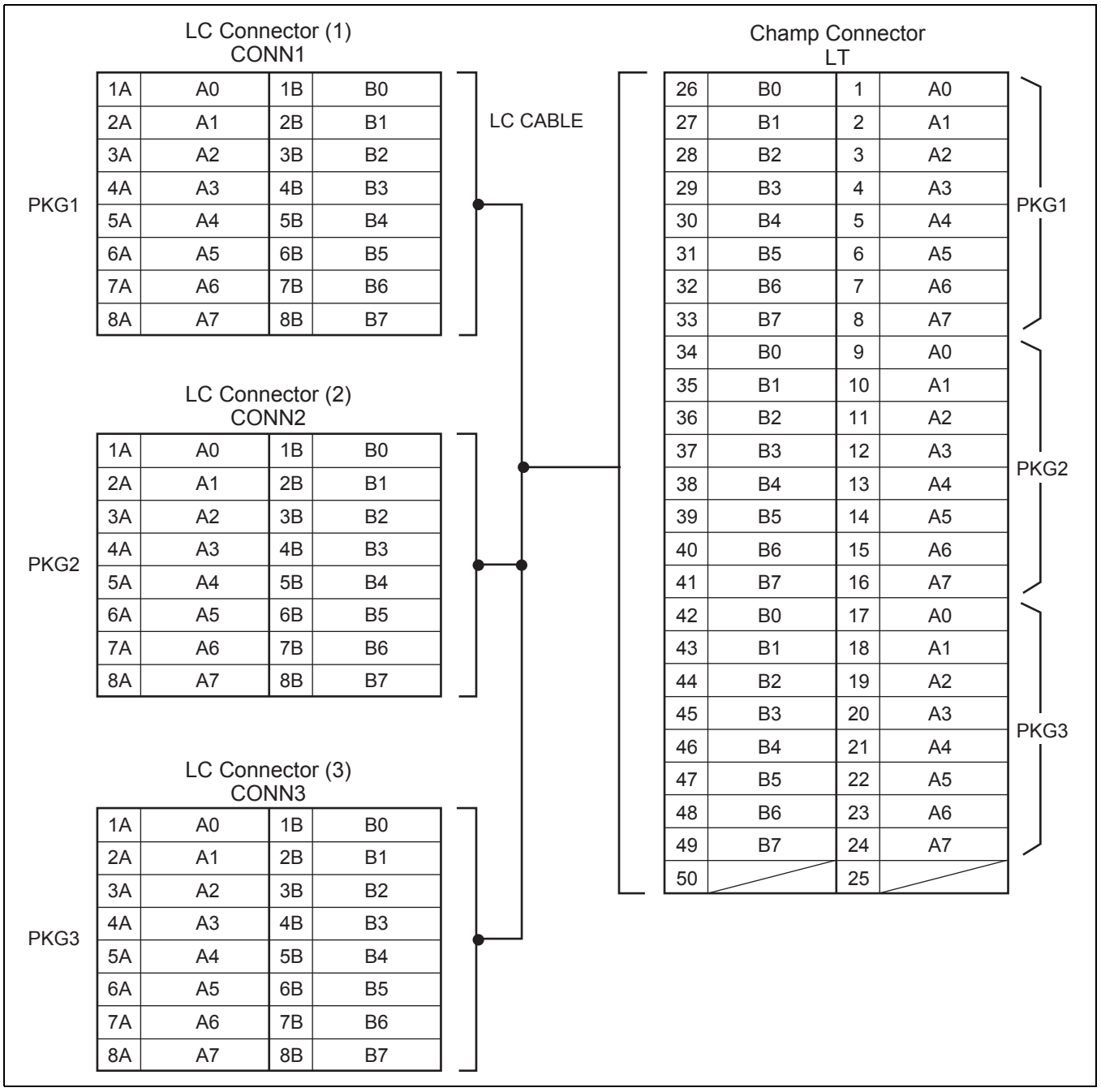


	LT 4, 10 Connector			LT 5, 11 Connector			
26		1		26	B16	1	A16
27		2		27	B17	2	A17
28		3		28	B18	3	A18
29		4		29	B19	4	A19
30		5		30	B20	5	A20
31		6		31	B21	6	A21
32		7		32	B22	7	A22
33		8		33	B23	8	A23
34		9		34		9	
35		10		35		10	
36		11		36		11	
37		12		37		12	
38		13		38		13	
39		14		39		14	
40		15		40		15	
41		16		41		16	
42	B8	17	A8	42		17	
43	B9	18	A9	43		18	
44	B10	19	A10	44		19	
45	B11	20	A11	45		20	
46	B12	21	A12	46		21	
47	B13	22	A13	47		22	
48	B14	23	A14	48		23	
49	B15	24	A15	49		24	
50		25		50		25	

Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

(b) LC Connector Leads

LC Connector Lead Location (LC Cable)

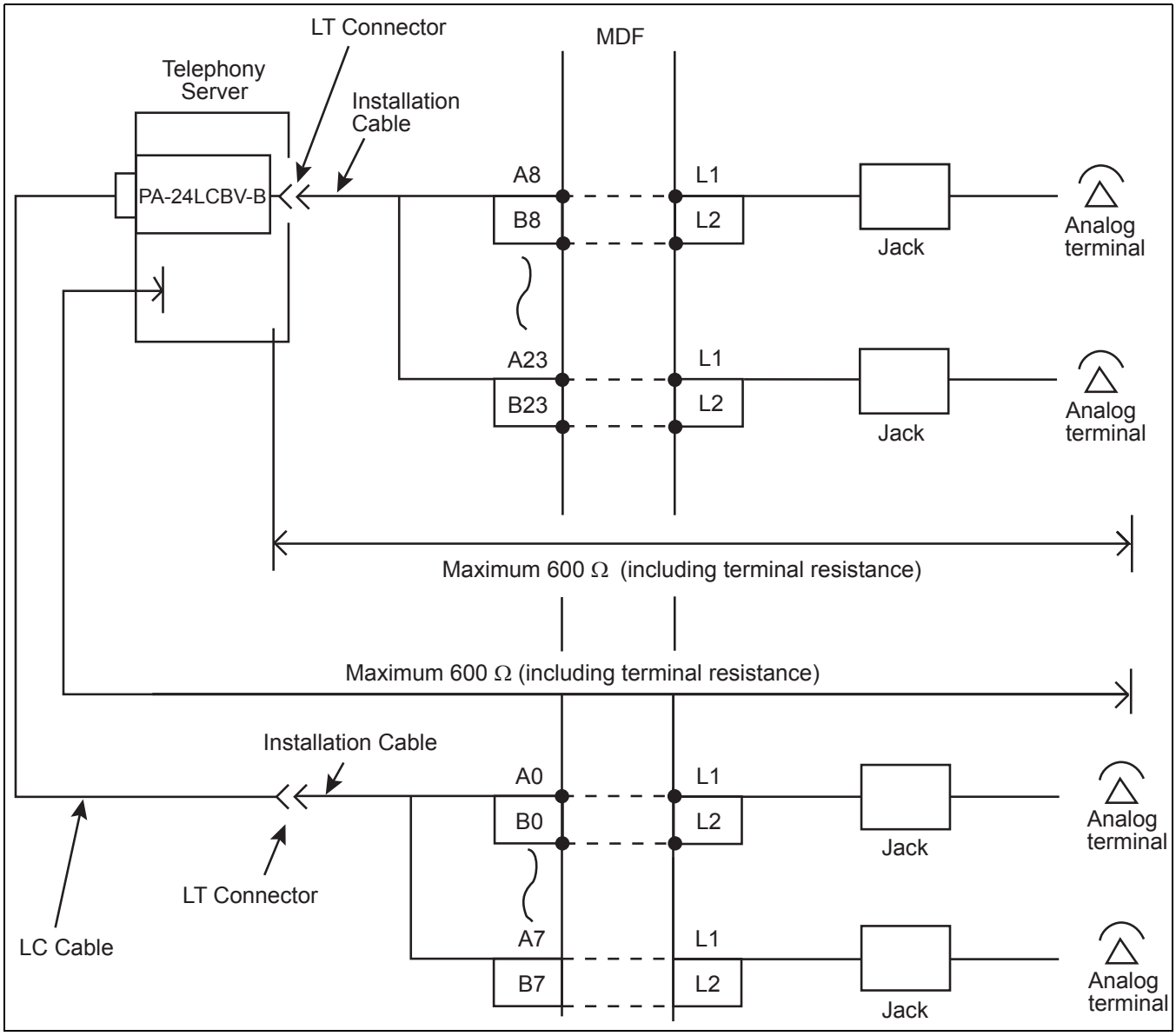


8. Connecting Route Diagram

Connecting Route Diagram for the PA-24LCBV-B (LC) is as follows.

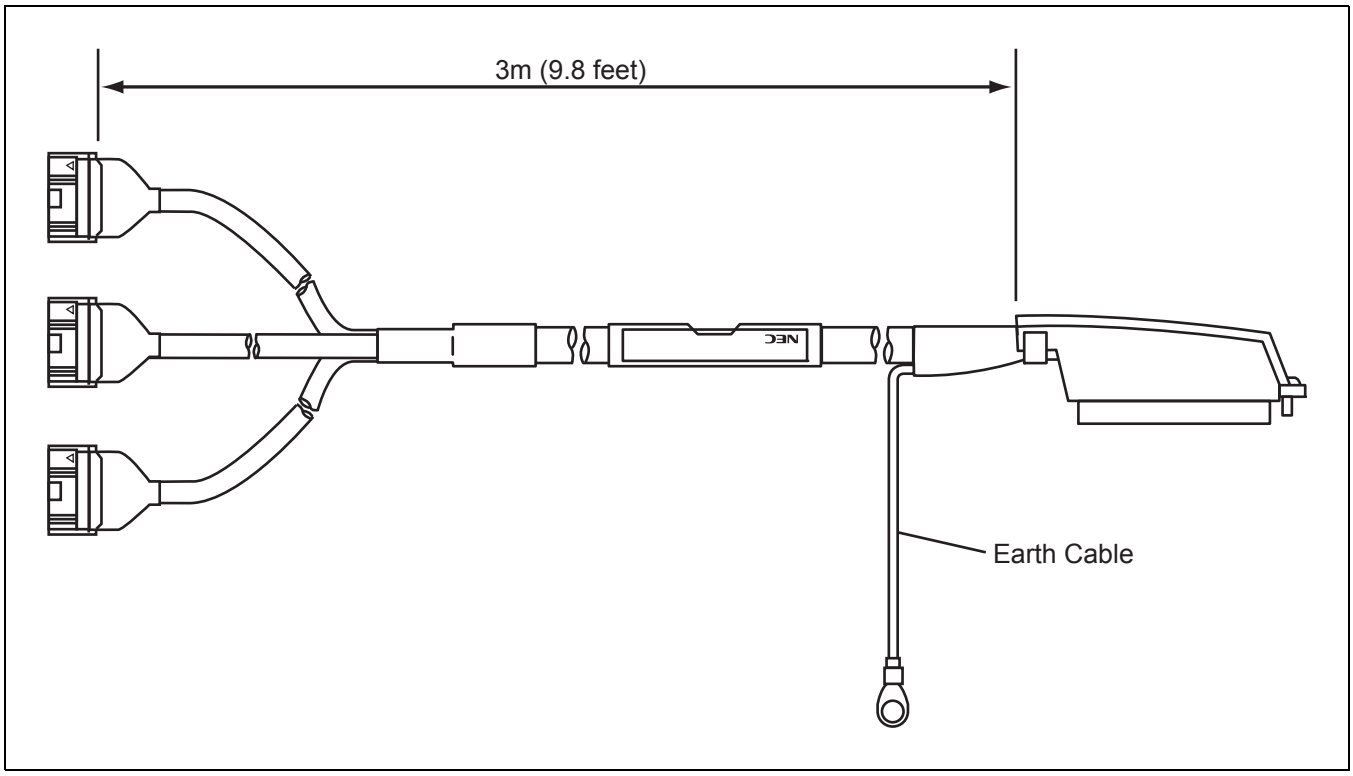
A and B leads for Channels 0 - 7 appear from the LC Connector located on the front edge of the card.

Connecting Route Diagram



9. LC Cable Connection

Outer View of LC Cable



PA-8LLCQ
Line Circuit

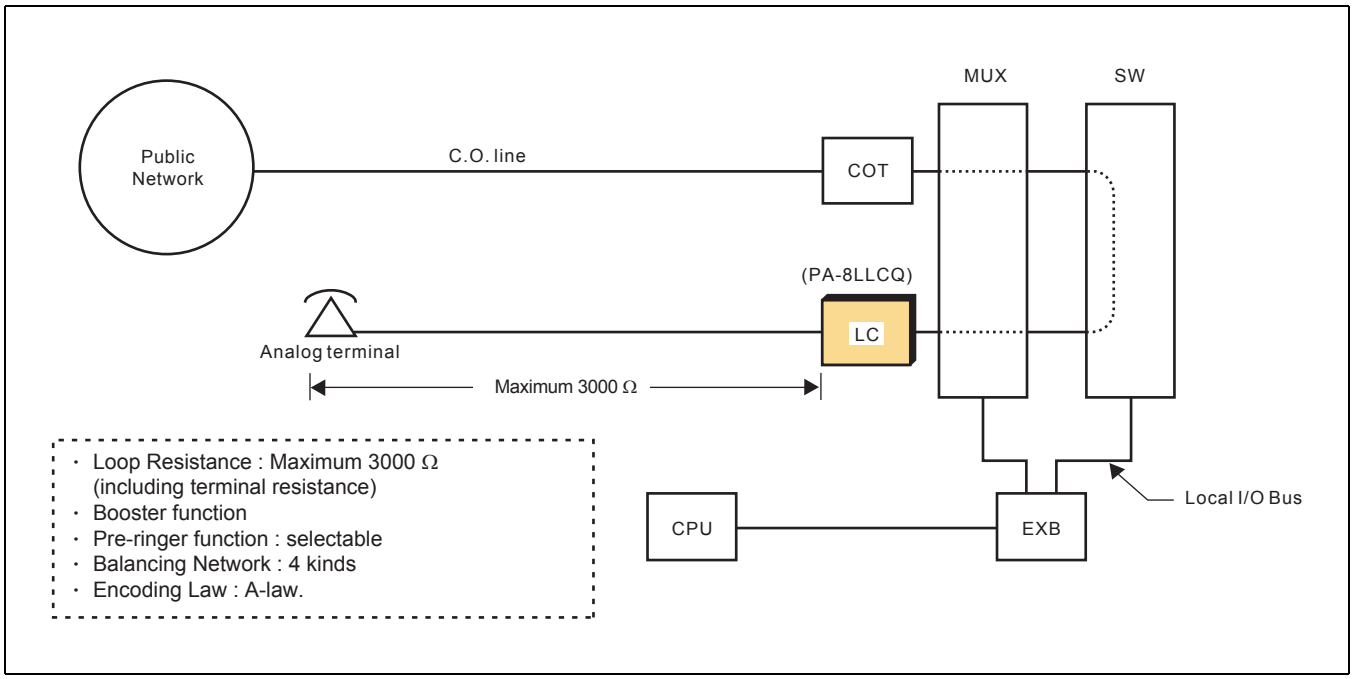
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	-	X	-	-	-	-

1. General Function

The PA-8LLCQ circuit card is a long-line circuit card, used exclusively in an A-law system. It provides an interface between a maximum of eight analog terminals and the system with a range of 3000 Ω including terminal resistance.

This circuit card supports an analog terminal with ten pps dial pulse. This circuit card does not support the terminal with 20 pps Dial Pulse (DP) signal and Push Button (PB) signal.

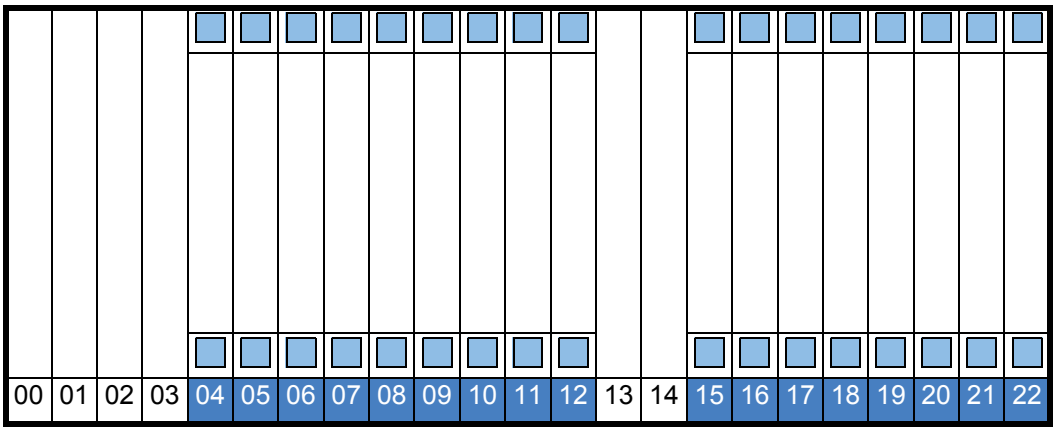
Location of PA-8LLCQ (LLC) in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



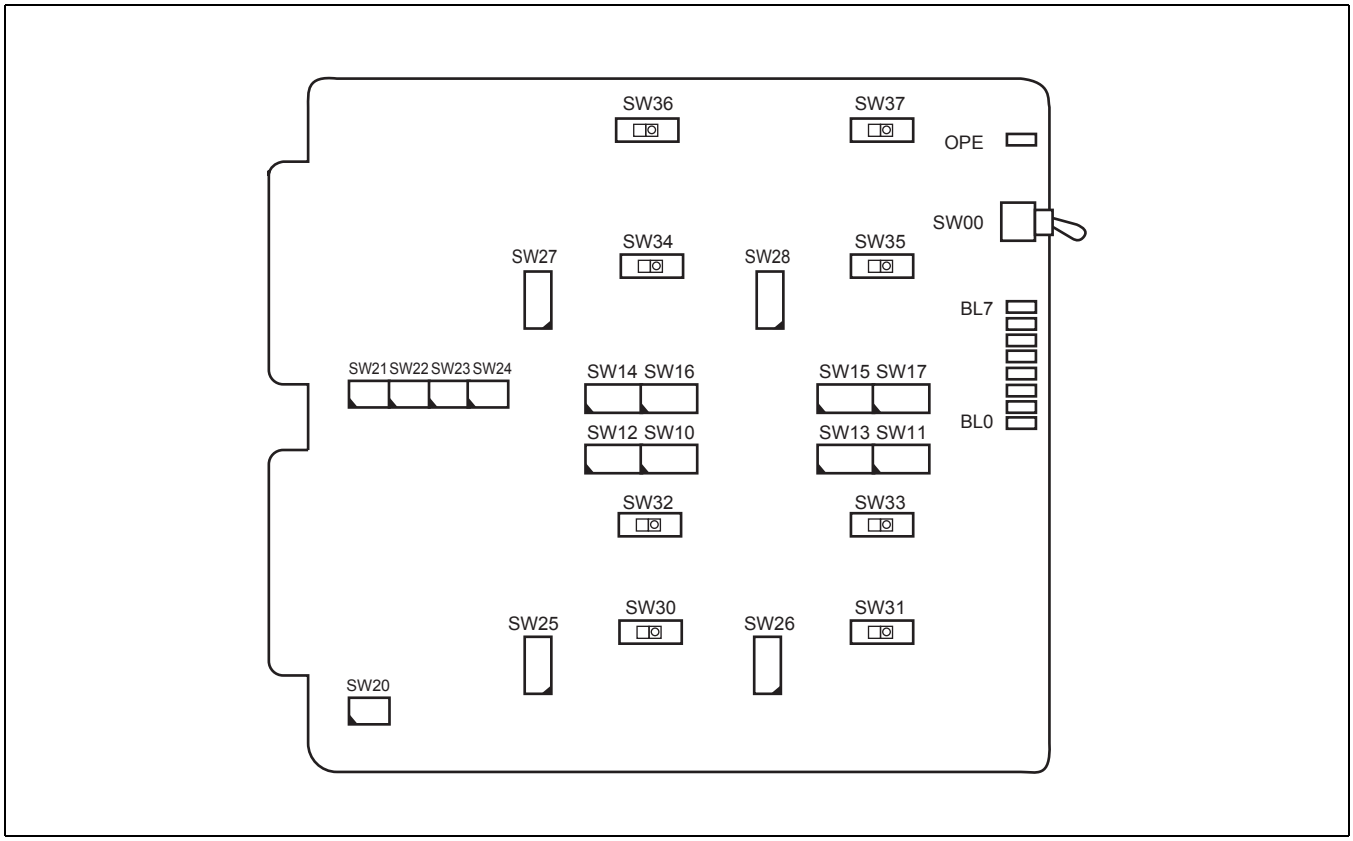
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps and switches on this circuit card is shown below.

Face Layout of PA-8LLCQ (LLC)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown below.

LAMP NAME	LAMP COLOR	LAMP STATE	MEANING
OPE	Green	Constant Light	This circuit card is operating normally.
BL0 - BL7	Green	Constant Light	Line loop exists.
		Flashing	1) Ringing signal is being transmitted. Busy lamp keeps flashing in synchronization with on/off of the ringing signal. 2) Dial pulses are being received. While dial pulses from a line are being received, Busy lamp keeps flashing in synchronization with the dial pulses coming from the line. 3) Line is in Make-Busy state. Busy lamp keeps flashing at 60 IPM.

5. Switch Settings

Switches on the PA-8LLCQ circuit card have the following meanings.

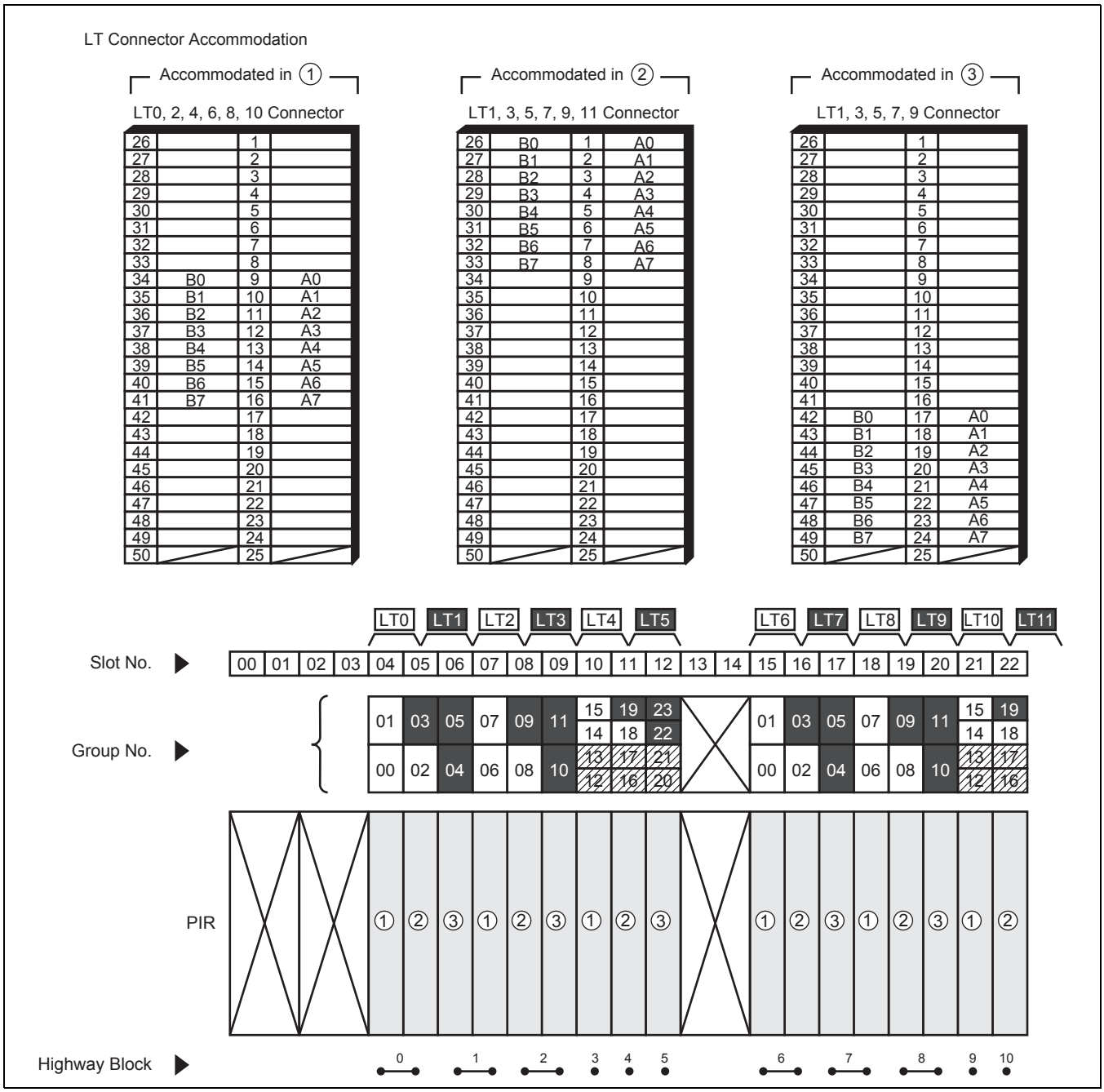
<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">SW00 (MB)</td><td>-</td><td>UP</td><td></td><td>Circuit card: Make-Busy</td></tr>
<tr><td>-</td><td>DOWN</td><td>×</td><td>Circuit card: Make-Busy cancel</td></tr>
<tr><td rowspan="4">SW10 (Circuit 0)
'
SW17 (Circuit 1)</td><td>1
2</td><td colspan="3"><table><tr><th>1</th><th>2</th><th>SELECTION OF BALANCING NETWORK</th></tr><tr><td>OFF</td><td>OFF</td><td>For short distance (0.4~0.9ϕ)</td></tr><tr><td>ON</td><td>OFF</td><td>For long distance (0.4~0.65ϕ) (Standard Setting)</td></tr><tr><td>OFF</td><td>ON</td><td>For short distance (0.9ϕ)</td></tr><tr><td>ON</td><td>ON</td><td>For long distance (0.9ϕ)</td></tr></table></td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td rowspan="3">SW20</td><td>1</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td>Pre-ringer is not available.</td></tr>
<tr><td>OFF</td><td></td><td>Pre-ringer is available.</td></tr>
<tr><td rowspan="2">SW21</td><td>1</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>2</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">SW22</td><td>1</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>2</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">SW23</td><td>1</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>2</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">SW24</td><td>1</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>2</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="4">SW25</td><td rowspan="2">1</td><td>ON</td><td></td><td>Booster of Circuit 0 is not available.</td></tr>
<tr><td>OFF</td><td>×</td><td>Booster of Circuit 0 is available.</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td>Booster of Circuit 2 is not available.</td></tr>
<tr><td>OFF</td><td>×</td><td>Booster of Circuit 2 is available.</td></tr>
<tr><td rowspan="4">SW26</td><td rowspan="2">1</td><td>ON</td><td></td><td>Booster of Circuit 1 is not available.</td></tr>
<tr><td>OFF</td><td>×</td><td>Booster of Circuit 1 is available.</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td>Booster of Circuit 3 is not available.</td></tr>
<tr><td>OFF</td><td>×</td><td>Booster of Circuit 3 is available.</td></tr>
<tr><td rowspan="4">SW27</td><td rowspan="2">1</td><td>ON</td><td></td><td>Booster of Circuit 4 is not available.</td></tr>
<tr><td>OFF</td><td>×</td><td>Booster of Circuit 4 is available.</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td>Booster of Circuit 6 is not available.</td></tr>
<tr><td>OFF</td><td>×</td><td>Booster of Circuit 6 is available.</td></tr>
<tr><td rowspan="4">SW28</td><td rowspan="2">1</td><td>ON</td><td></td><td>Booster of Circuit 5 is not available.</td></tr>
<tr><td>OFF</td><td>×</td><td>Booster of Circuit 5 is available.</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td>Booster of Circuit 7 is not available.</td></tr>
<tr><td>OFF</td><td>×</td><td>Booster of Circuit 7 is available.</td></tr>
</table>

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW30 (Circuit 0) ' SW37 (Circuit 7)		BOOST (OFF)	×	Booster of each circuit is available. (Line impedance including the analog terminal is 1500~3000 Ω)
		GND (ON)		Booster of each circuit is not available. (Line impedance including the analog terminal is 0~1500 Ω)

6. External Interface

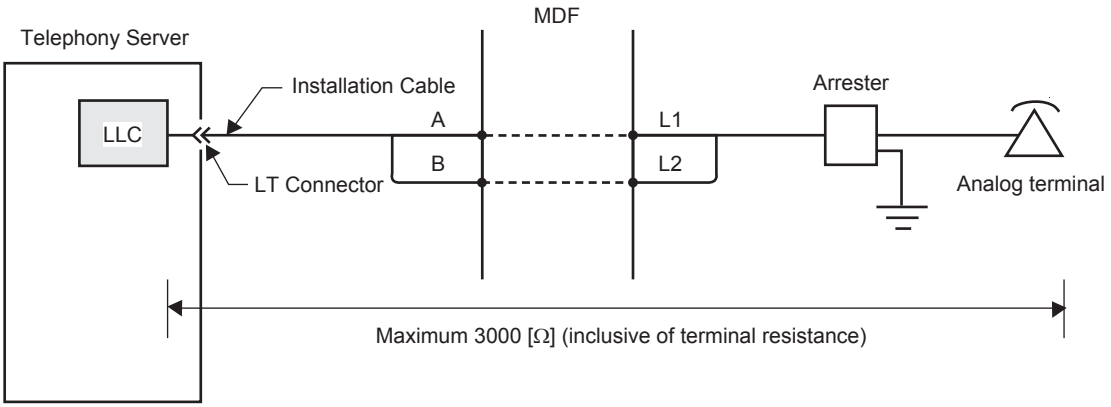
Accommodation of the LT connector leads of this circuit card and connecting route diagram are shown below.

LT Connector Leads Accommodation

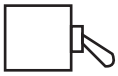
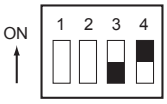
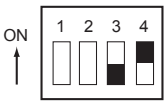
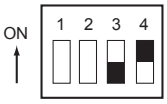
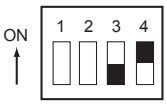
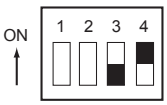
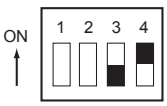


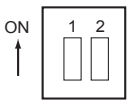
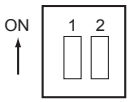
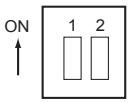
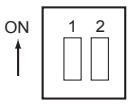
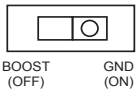
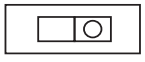
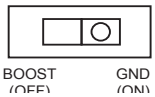
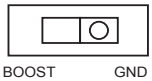
Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram



7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW10 (Circuit 0)		
		SW11 (Circuit 1)		
		SW12 (Circuit 2)		
		SW13 (Circuit 3)		
		SW14 (Circuit 4)		
		SW15 (Circuit 5)		
		SW16 (Circuit 6)		
		SW17 (Circuit 7)		
		SW20		
		SW21		
		SW22		
		SW23		

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW24		
		SW25		
		SW26		
		SW27		
		SW28		
		SW30 (Circuit 0)		
		SW31 (Circuit 1)		
		SW32 (Circuit 2)		
		SW33 (Circuit 3)		
		SW34 (Circuit 4)		
		SW35 (Circuit 5)		
		SW36 (Circuit 6)		
		SW37 (Circuit 7)		

PA-4MFCA
MFC Register/Sender Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	Note 1	X	X	-	-	X

1. General Function

The PA-4MFCA (MFCT) circuit card is used for receiving and/or transmitting Multi Frequency Code (MFC) signals on a digital/analog MFC line as shown below. Four channels are available on this card, that can be programmed as one of the following combinations.

MFC Register × 4 (circuits)

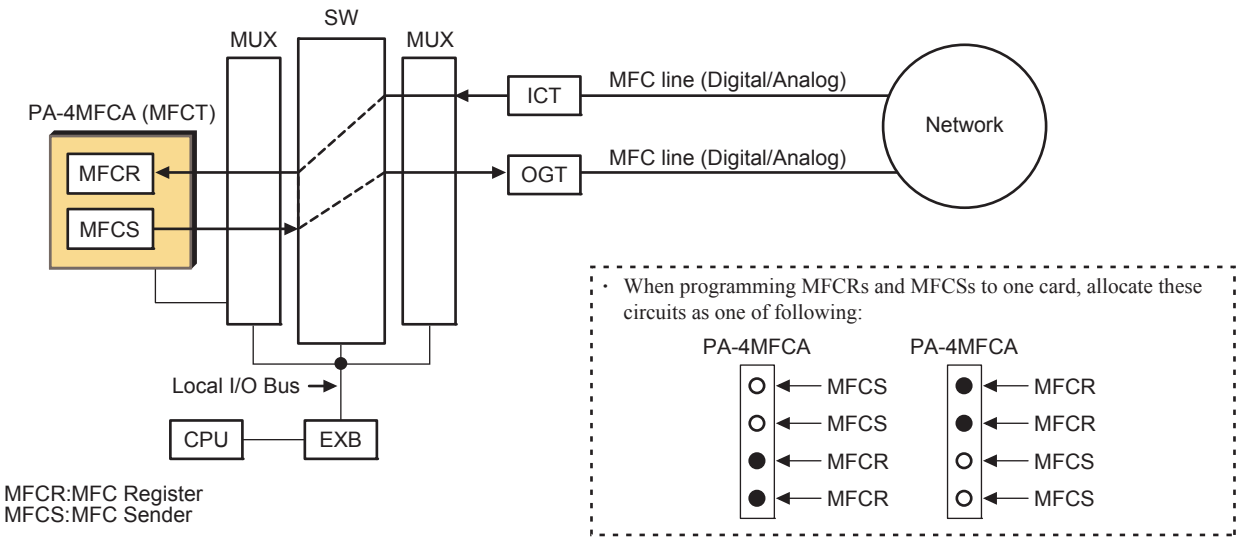
MFC Sender × 4 (circuits)

MFC Register × 2 (circuits) and MFC Sender × 2 (circuits)

Note 1: This circuit card is not available in China.

Location of PA-4MFCA (MFCT) in the system

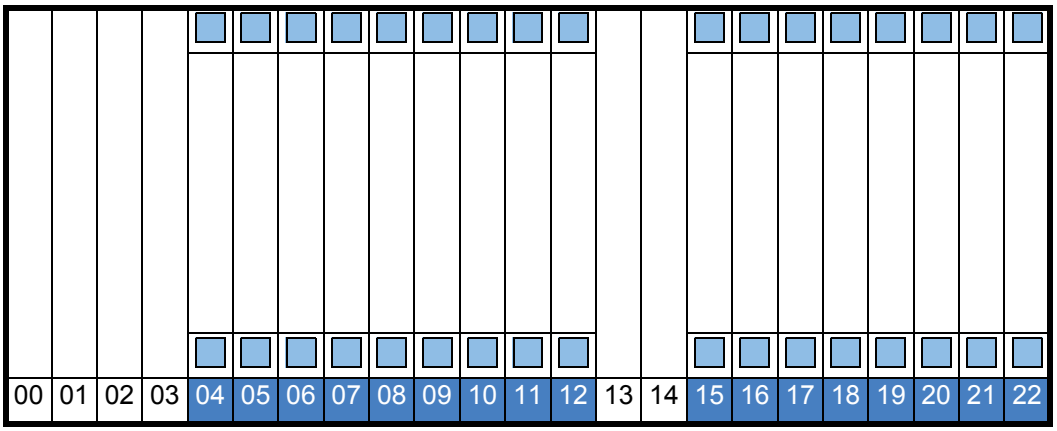
This diagram shows an example when the PA-4MFCA is used as both MFCR and MFCS.



2. Mounting Location/Condition

Mounting Location <8U-PIR>

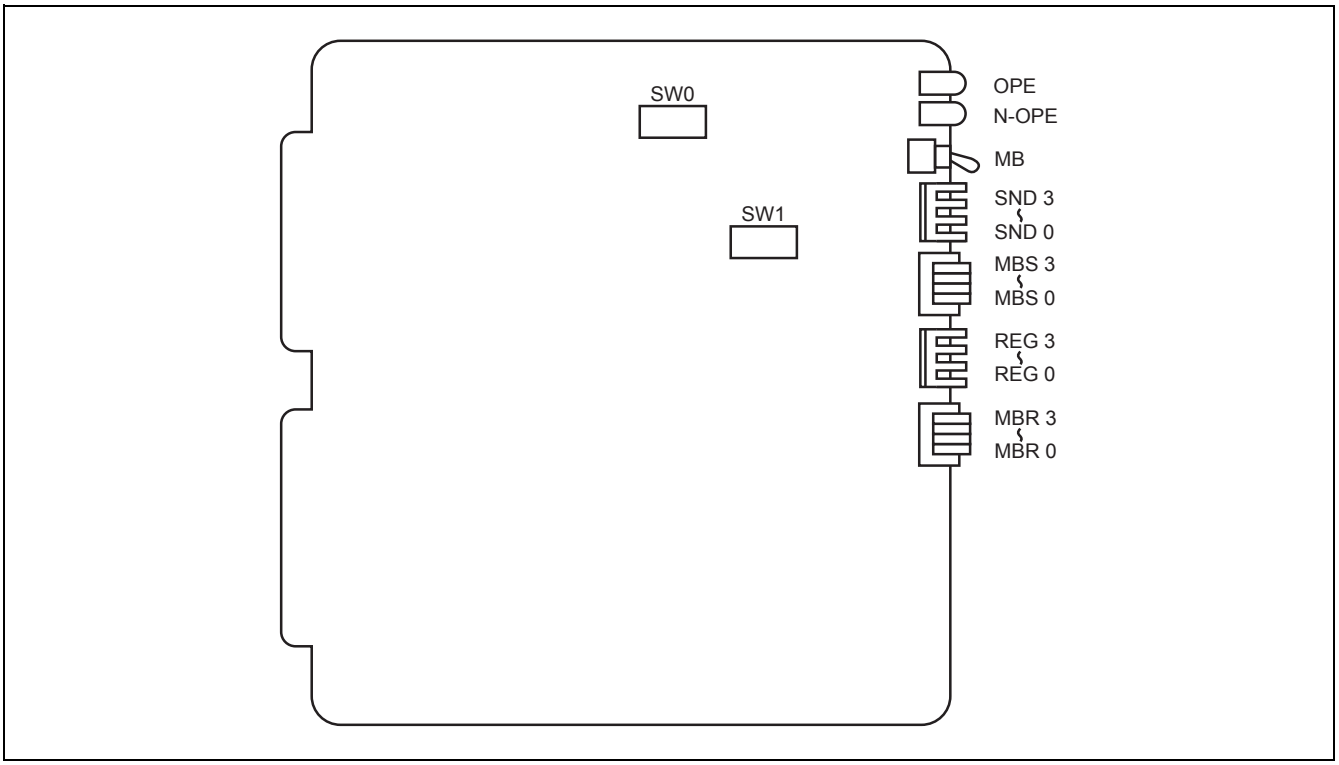
Universal Slot



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connector on this circuit card is shown below.

Face Layout of PA-4MFCA (MFCT)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	LAMP COLOR	LAMP STATUS	MEANING OF INDICATION
OPE	Green	Constant Light	This circuit card is operating normally.
N-OPE	Red	Constant Light	This circuit card is isolated at present by the software.
BLS0 ' BLS3	Red	Constant Light	Indicates Active state of each sender circuit.
		Flashing (60 times/second)	Indicates Make-Busy state or absence of system data.
BLR0 ' BLR3	Red	Constant Light	Indicates Active state of each register circuit.
		Flashing (60 times/second)	Indicates Make-Busy state or absence of system data.

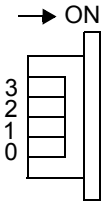
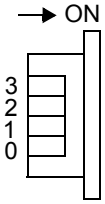
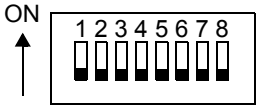
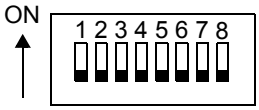
5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
MBR0 - 3	0	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	1	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	2	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	3	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
MBS0 - 3	0	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	1	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	2	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	3	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW0	1	OFF	×	Fixed to OFF
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF
	5	OFF	×	Fixed to OFF
	6	OFF	×	Fixed to OFF
	7	OFF	×	Fixed to OFF
	8	OFF	×	Fixed to OFF
SW1	1	OFF	×	Fixed to OFF
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF
	5	OFF	×	Fixed to OFF
	6	OFF	×	Fixed to OFF
	7	OFF	×	Fixed to OFF
	8	OFF	×	Fixed to OFF

6. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		MBR0-3		
		MBS0-3		
		SW0		
		SW1		
		MB	DOWN	Circuit card: Make-Busy cancel

PA-4MFCA-B
MFC Register/ Sender Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	X	X	-	-	X

1. General Function

The PA-4MFCA-B (MFCT) circuit card is used for receiving and/or transmitting Multi Frequency Combination (MFC) signals on a digital/analog MFC line as shown below. Four channels are available on this card, that can be programmed as one of the following combinations.

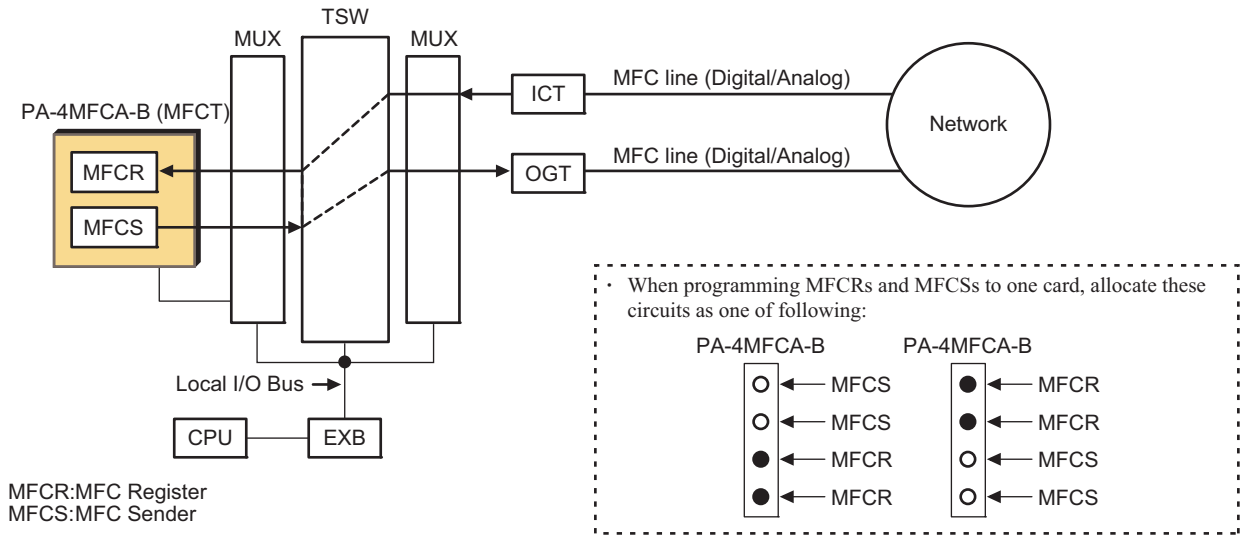
MFC Register × 4 (circuits)

MFC Sender × 4 (circuits)

MFC Register × 2 (circuits) and MFC Sender × 2 (circuits)

Location of PA-4MFCA-B (MFCT) in the system

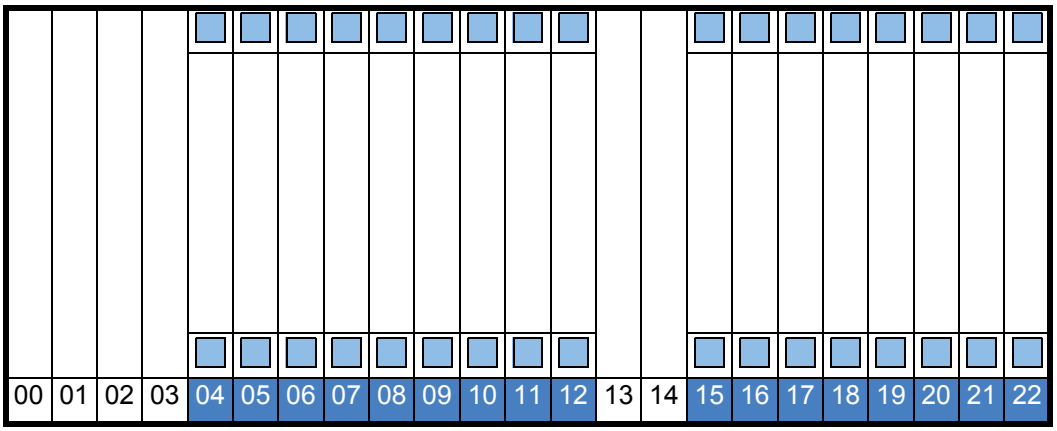
This diagram shows an example when the PA-4MFCA-B is used as both MFCR and MFCS.



2. Mounting Location/Condition

Mounting Location <8U-PIR>

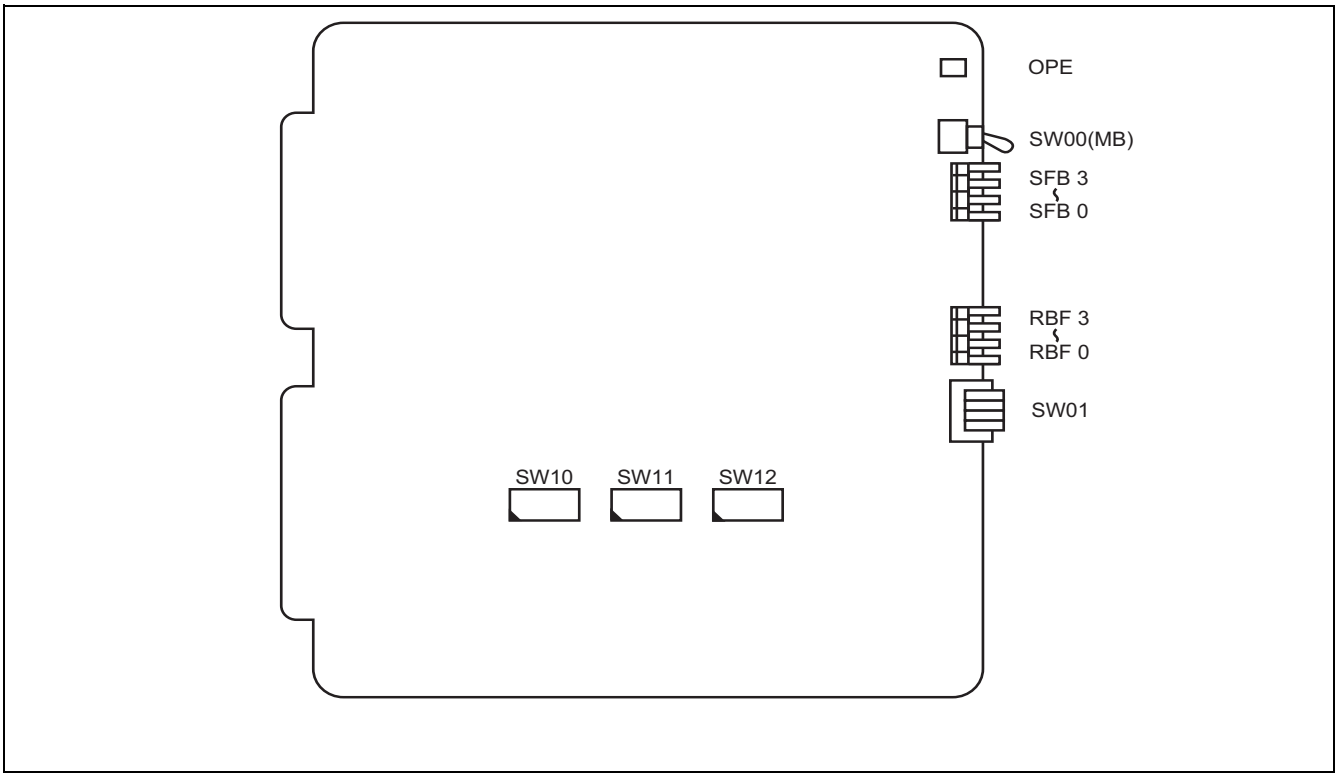
Universal Slot



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connector on this circuit card is shown below.

Face Layout of PA-4MFCA-B (MFCT)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	LAMP COLOR	LAMP STATUS	MEANING OF INDICATION
OPE	Green	Light	This circuit card is operating normally.
SFB0 - SFB3	Green	Light	Indicates Active state of each sender circuit.
		Flashing (60 times/second)	Indicates Make-Busy state or absence of system data.
RBF0 - RBF3	Green	Light	Indicates Active state of each register circuit.
		Flashing (60 times/second)	Indicates Make-Busy state or absence of system data.

5. Switch Settings

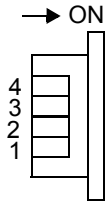
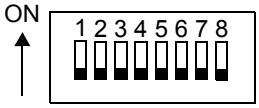
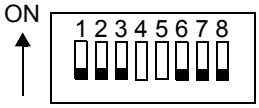
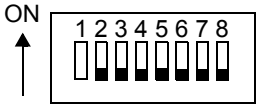
Standard settings of switches on this circuit card are shown in the table below.

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
SW01	1	ON		Make-Busy of circuit 0.
		OFF	×	Make-Busy cancel of circuit 0.
	2	ON		Make-Busy of circuit 1.
		OFF	×	Make-Busy cancel of circuit 1.
	3	ON		Make-Busy of circuit 2.
		OFF	×	Make-Busy cancel of circuit 2.
	4	ON		Make-Busy of circuit 3.
		OFF	×	Make-Busy cancel of circuit 3.

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW10	1	OFF	×	Fixed to OFF		
	2	OFF	×	Fixed to OFF		
	3	OFF	×	Fixed to OFF		
	4	OFF	×	Fixed to OFF		
	5	OFF	×	Fixed to OFF		
	6	OFF	×	Fixed to OFF		
	7	OFF	×	Fixed to OFF		
	8	OFF	×	Fixed to OFF		
SW11	1, 2			Receive Signal Detect Guard Time Data (It is effective at SW11-3:ON)		
				1	2	Time
			×	OFF	OFF	72 ms
				ON	OFF	48 ms
				OFF	ON	96 ms
				ON	ON	144 ms
	3	ON		Send/Receive Guard Function Enable Receive Guard Time (It depends on SW11-1 and 2.) Send Guard Time (Fixed 112ms)		
		OFF	×	Send/Receive Guard Function Disable		
	4	ON		SMFC Function Enable (Indonesia)		
		OFF		SMFC Function Disable		
	5	ON		ITU-T Q.442 Enable (Pulse Transmission Of Backward Signal A-3/A-4/A-6/A-15)		
		OFF		ITU-T Q.442 Disable		

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING			
SW11	6, 7, 8			Pulse Signal Send Guard Time Data (It is effective at SW11-5:ON)			
				6	7	8	Time
			×	OFF	OFF	OFF	160 ms
				ON	OFF	OFF	208 ms
				OFF	ON	OFF	256 ms
				ON	ON	OFF	304 ms
				OFF	OFF	ON	352 ms
				ON	OFF	ON	400 ms
				OFF	ON	ON	448 ms
				ON	ON	ON	496 ms
SW12	1	ON		μ-law			
		OFF		A-law			
	2 ~ 8	OFF	×	Fixed to OFF			

6. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00	DOWN	Circuit card: Make-Busy cancel
		SW01		
		SW10		
		SW11		
		SW12		

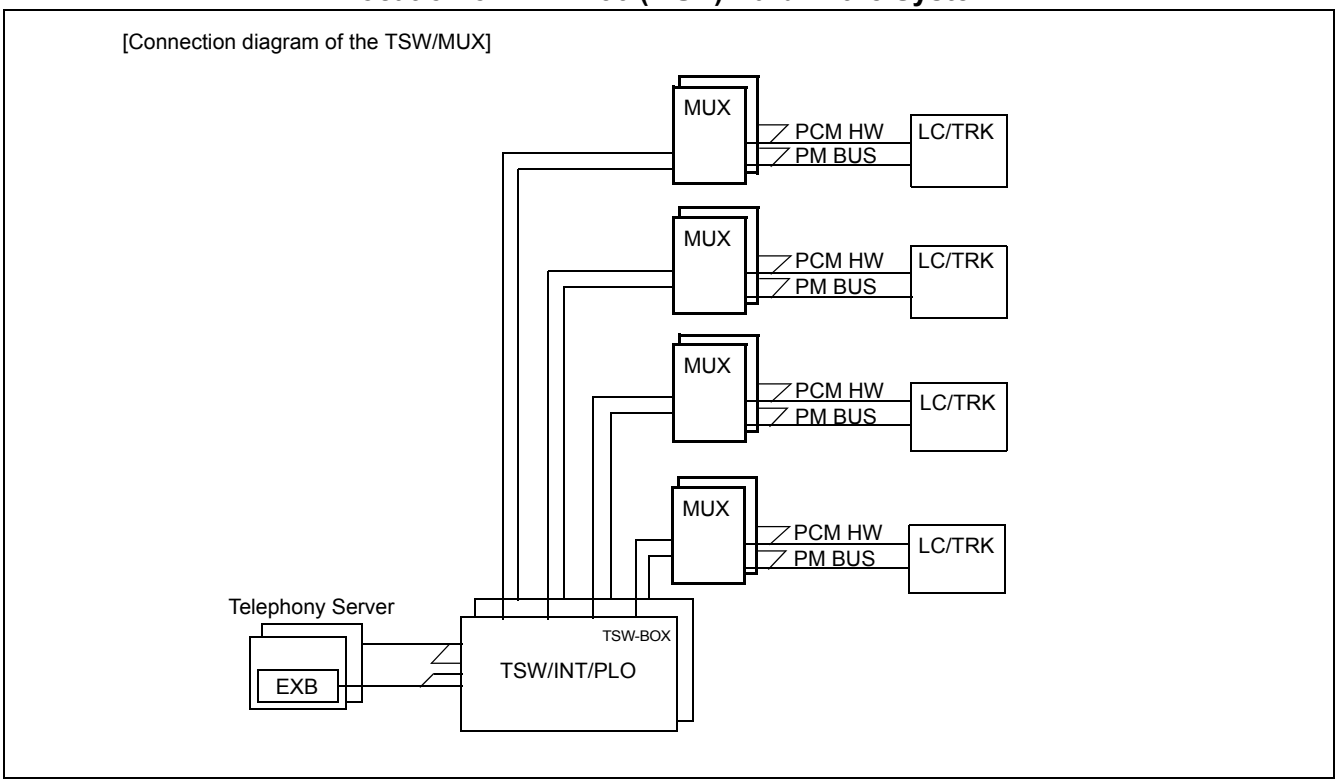
PH-PC36
Multiplexer

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

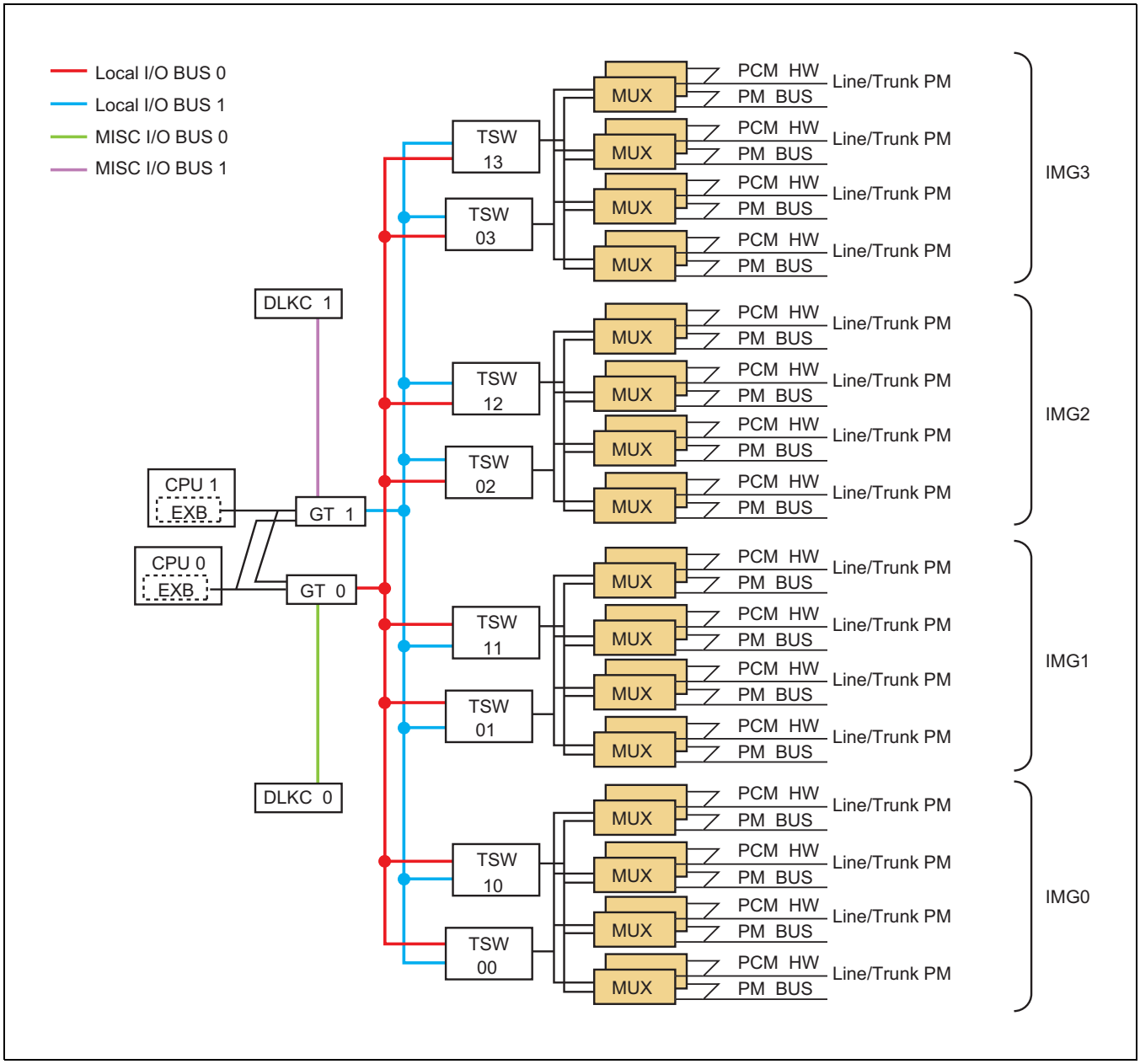
1. General Function

The PH-PC36 (MUX) circuit card is an interface card for mounting line circuits and/or trunks. Between the Telephony Server and the Port Microprocessor (PM) of the line/trunk circuit, this circuit card provides an interface for PM control and management by the CPU. Likewise in between the TSW and the line circuit/trunks, this circuit card provides an interface for multiplexing/de-multiplexing of voice Pulse Code Modulation (PCM) information and digital data information.

Location of PH-PC36 (MUX) Card in the System



Location of PH-PC36 (MUX) Card in the MMG System



The PCM highway running is shown in the figure below. There are sixteen 2 Mbps PCM highways (HW 0 - HW 15) in the PIR. Each PCM highway runs from a card slot to the MUX circuit card. For instance, Highway Number Zero (HW 0) appears in Slot 04 and in Slot 05, and the HW0 carries the PCM of Group 0, 1, 2 and 3.

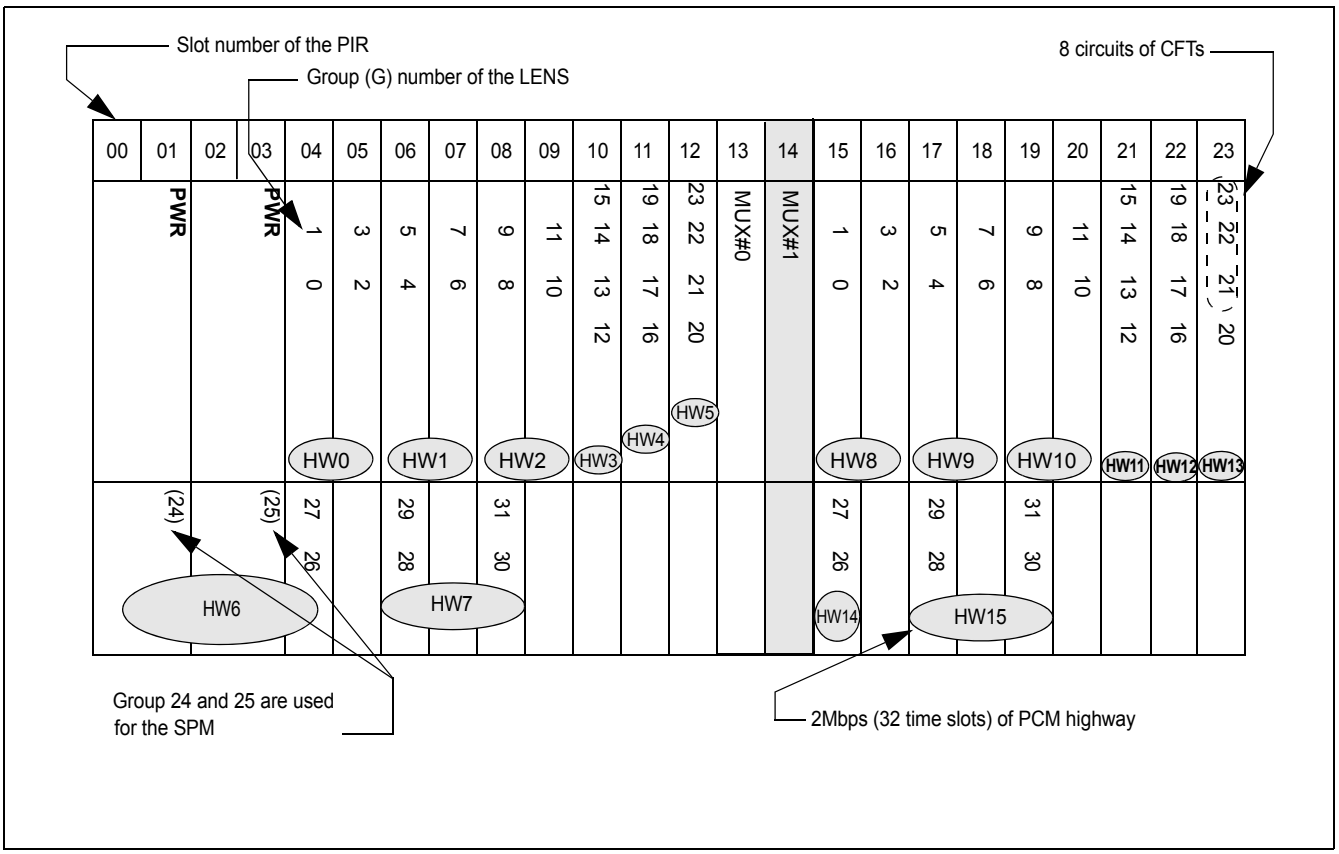
HW 6, 7, 14, 15 cover the Groups 24 through 31. However, the time slots of Groups 24 and 25 are exclusively used for the Speech Path Memory (SPM).

All highways in the PIR lead to a MUX card, so 512 time slots (32 time slots per highway × 16 highways = 512 time slots) of PCM are multiplexed/de-multiplexed at a MUX and sent/received to/from the TSW circuit card across the 32.786 Mbps of the Low Voltage Differential Signaling (LVDS).

The MUX card provides the PM bus interface. The Telephony Server controls and administrates the PM of the line/trunk circuit card via the TSW and the MUX.

In addition, this circuit card also supports 3-Party Conference (CFT) function and is equipped with eight circuits of 3-Party Conference. The CFT appears in Time Slots 8 through 31 of the HW 13 (Group 21 - 23).

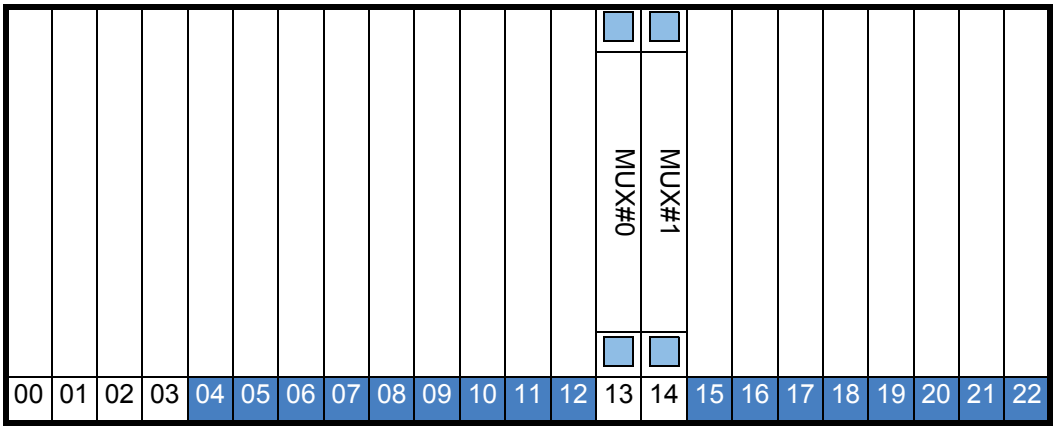
PCM Highway Running



2. Mounting Location/Condition

Mounting Location <8U-PIR>

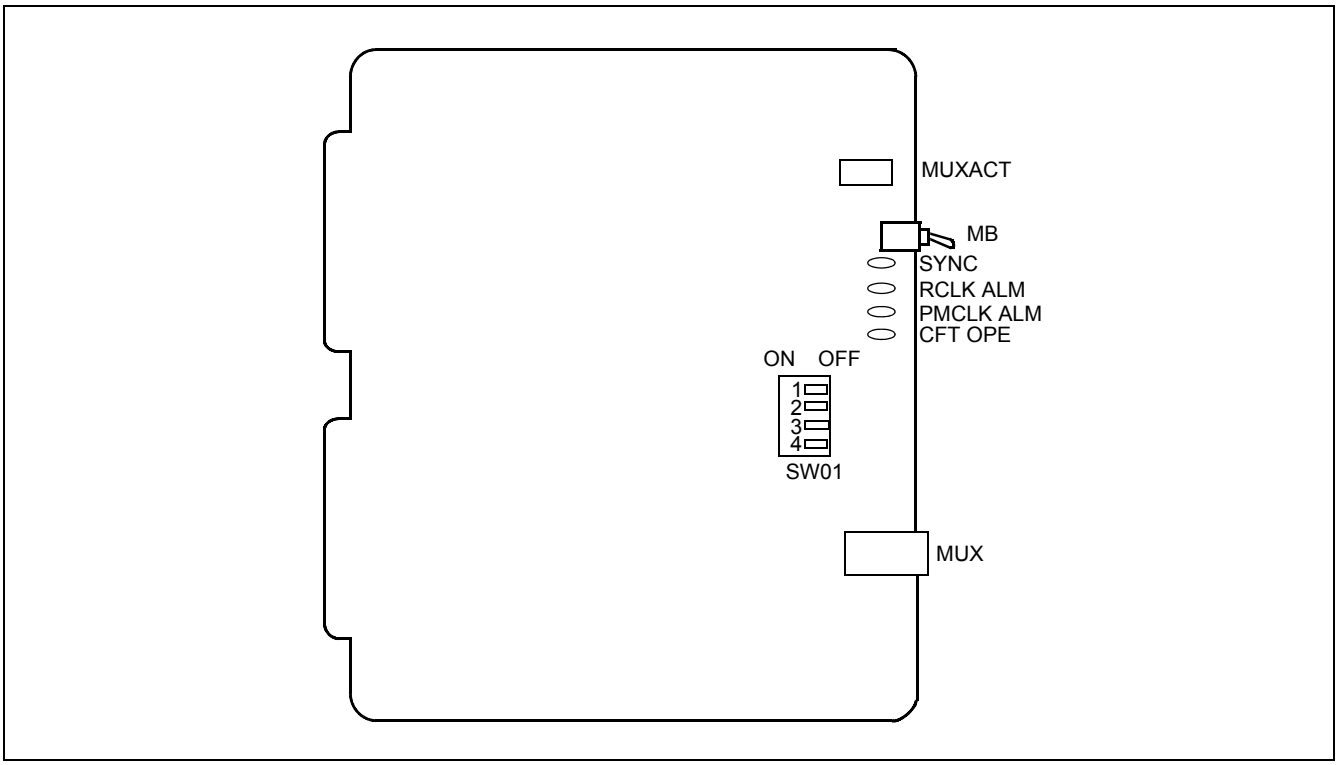
PH-PC36 (MUX) card is mounted in slots 13 and 14 of all 8U-PIRs.



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors is shown below.

Face Layout of PH-PC36 (MUX)



4. Lamp Indications

The contents of lamp indications of this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
MUX ACT	Green	Remains lit while this circuit card is in active state.
SYNC	Green	Lights when 32 Mbps Frame Head (FH) synchronization is established between the MUX and TSW.
RCLK ALM	Red	Lights when the 32 Mbps clock signals (that are supplied by TSW) loss has occurred.
PMCLK ALM	Red	Lights when either the following clock signals output failure has occurred. • 2 Mbps clock signals (that supply to the line/trunks) • Frame Head signal • 4 Mbps clock signals
CFT OPE	Green	Lights when the CFT circuit is valid.

5. Switch Settings

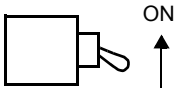
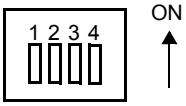
Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB		UP		Circuit card Make-Busy.
		DOWN	×	Circuit card Make-Busy cancel.
SW01	1	ON		3-Party Conference Function (CFT) is valid.
		OFF		3-Party Conference Function (CFT) is invalid.
	2	ON		Setting for A-law in the CFT function block.
		OFF		Setting for μ-law in the CFT function block.
	3	OFF	×	Not used.
	4	OFF	×	Not used.

6. External Interface

For cable connections between MUX and TSW, refer to Appliance Model Installation Manual - Chapter 5 Modules Mounting and Connection (7U-PIR and 8U-PIR Mixed Configuration) - Cable Connections - Internal and Inter-Frame Cable Connection.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		
SW01		

PH-SW10-A
Time Division Switch/Multiplexer

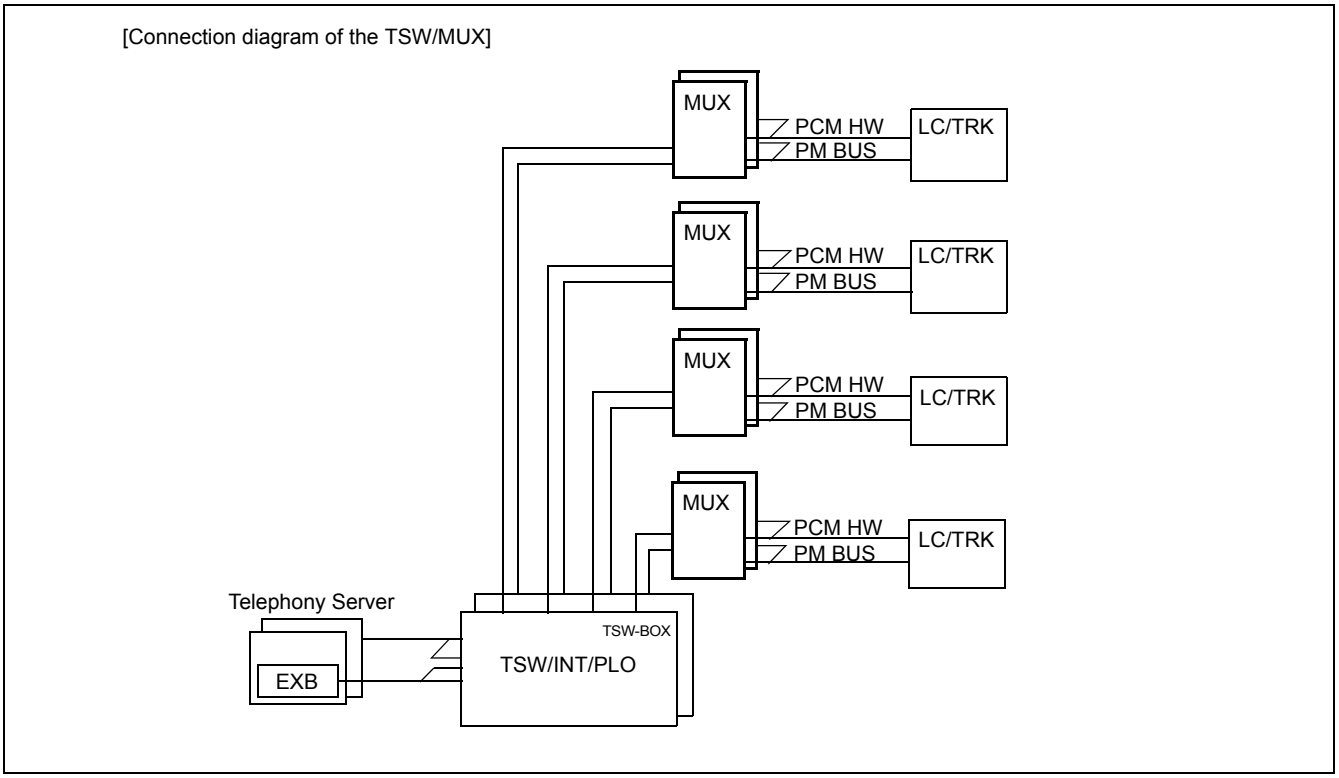
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

In SV9500, this circuit card is used as MUX. Set SW03-4 to ON (only MUX and CFT features are valid). The MUX is an intermediate circuit of the Telephony Server that controls and administrates the Port Microprocessor (PM) of line/trunk circuit cards via the PM Bus. For more details on MUX features, see PH-PC36 in this chapter.

Location of PH-SW10-A (TSW/MUX) Card in the System

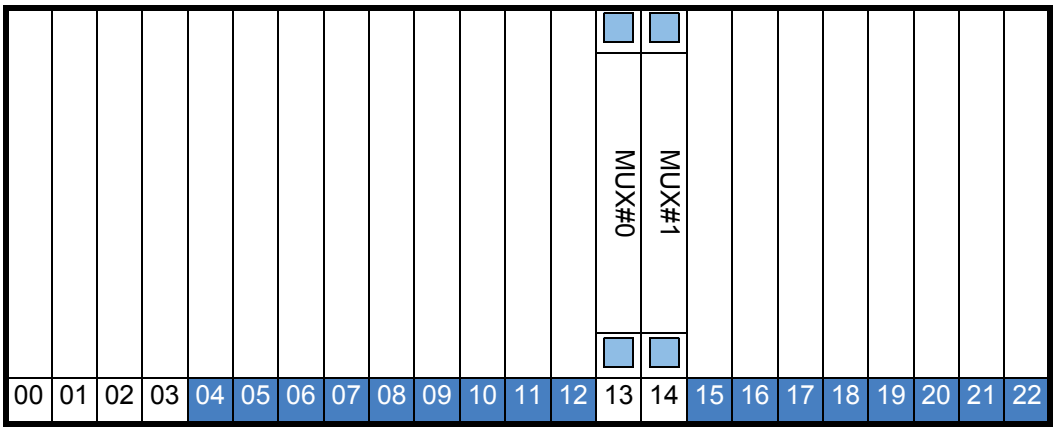
[Connection diagram of the TSW/MUX]



2. Mounting Location/Condition

Mounting Location <8U-PIR>

This card is mounted in slots 13 and 14 of all 8U-PIRs.



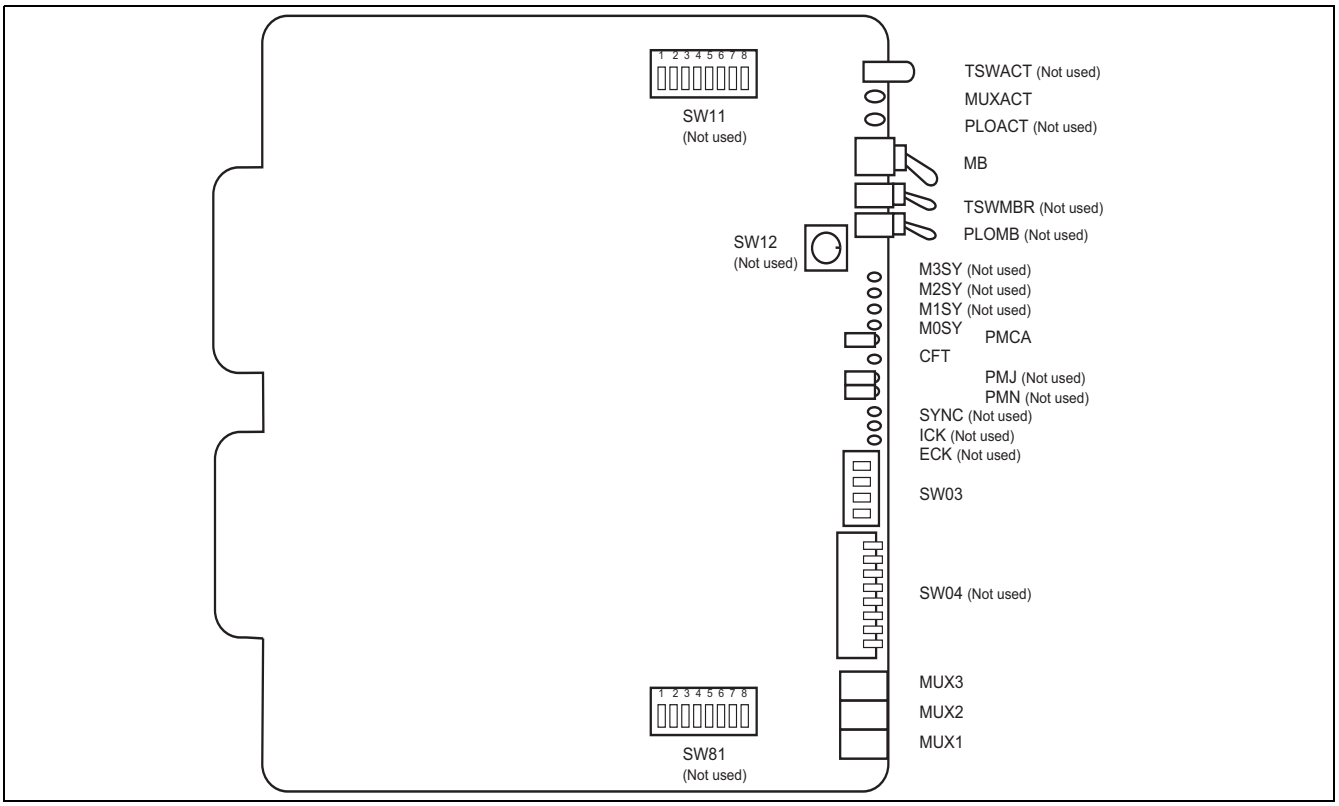
Mounting Condition:

- This circuit card is used as MUX.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches and connectors is shown below.

Face Layout of PH-SW10-A (TSW/MUX)



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

Note: When this card is used as MUX, the MUXACT, M0SY, CFT, and PMCA lamps are only used, the other lamps are not lit.

LAMP NAME	COLOR	STATE
TSWACT	Green	Not used.
	Red	
	Off	
MUXACT	Green	Remains lit while MUX block is in active state.
PLOACT	Green	Not used.
M3SY	Green	
M2SY	Green	
M1SY	Green	
M0SY	Green	Lights when MUX 0 synchronization has been established.
PMCA	Red	Lights when the PM/PCM bus clock FH failure has occurred.
CFT	Green	Lights when the CFT circuit is valid.
PMJ	Red	Not used.
PMN	Yellow	
SYNC	Green	
ICK	Green	
ECK	Green	

5. Switch Settings

Standard settings for switches on this circuit card are shown in the table below.

Note: When this card is used as MUX, only SW03 is used.

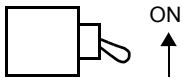
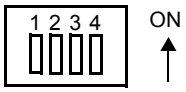
SWITCH NAME	SETTING	STANDARD SETTING	MEANING
MB	UP		Circuit card: Make-Busy.
	DOWN	×	Circuit card: Make-Busy cancel.
TSWMBR	UP		Not used.
	DOWN	×	
PLOMBR	UP		
	DOWN	×	
SW12	1-F	1	Fixed to 1 (Not used).

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW03	1	ON		3-Party Conference Trunk (CFT) is valid.
		OFF		3-Party Conference Trunk (CFT) is invalid.
	2	ON		Setting of A-law in the CFT feature block.
		OFF		Setting of μ-law in the CFT feature block.
	3	OFF	×	Fixed to OFF.
	4	ON	×	Only MUX feature is valid.
		OFF		
SW04	1-8	ON		Not used.
		OFF		
SW11	1-8	ON		
		OFF		
SW81	1-8	ON		
		OFF		

6. External Interface

For cable connections between MUX and TSW, refer to Appliance Model Installation Manual - Chapter 5 Modules Mounting and Connection (7U-PIR and 8U-PIR Mixed Configuration) - Cable Connections - Internal and Inter-Frame Cable Connection.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		
SW03		

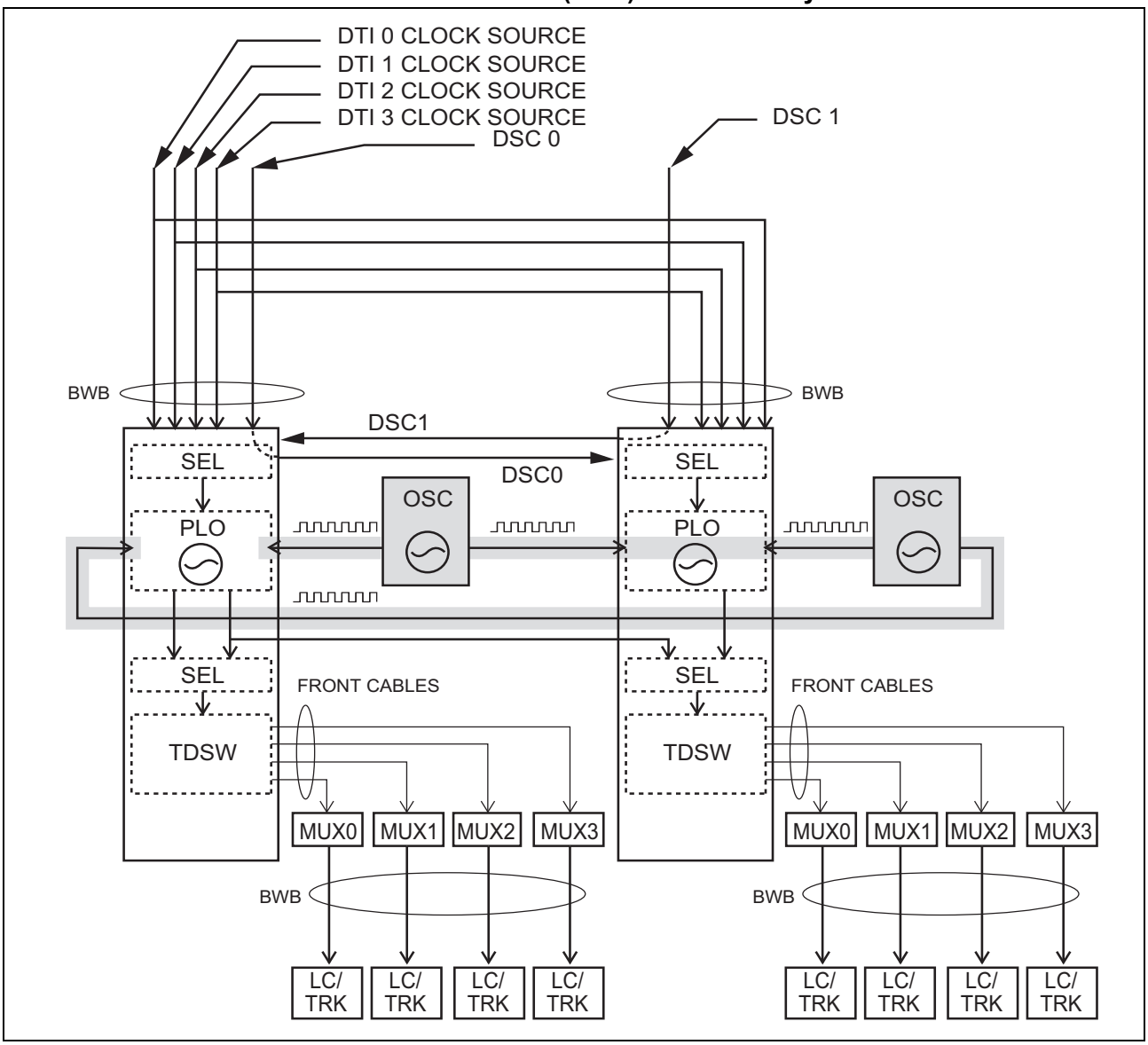
PA-CK14-A
Oscillator

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

The PLO block of the TSW card generates its base clock signals, and adjusts their phase with the source clock signals so the PLO can send the synchronized clock signals to the TSW. When the IMG system is a clock subordinate office of the digital network, the base clock accuracy of the PLO/ PH-SW10-A (±5 ppm deviation) is sufficient. However, more high-precision base clock signals are required at the clock source office, as this circuit card provides --- PA-CK14-A (±0.3 ppm deviation). When this circuit card is mounted, the IMG system selects the PA-CK14-A (OSC) clocks as the base clock of the PLO.

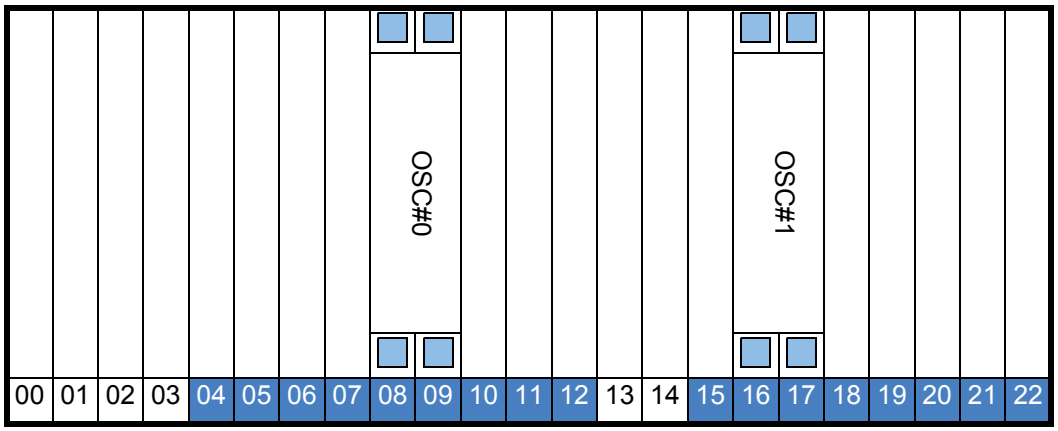
Location of PA-CK14-A (OSC) Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Slots 08-09, 16-17



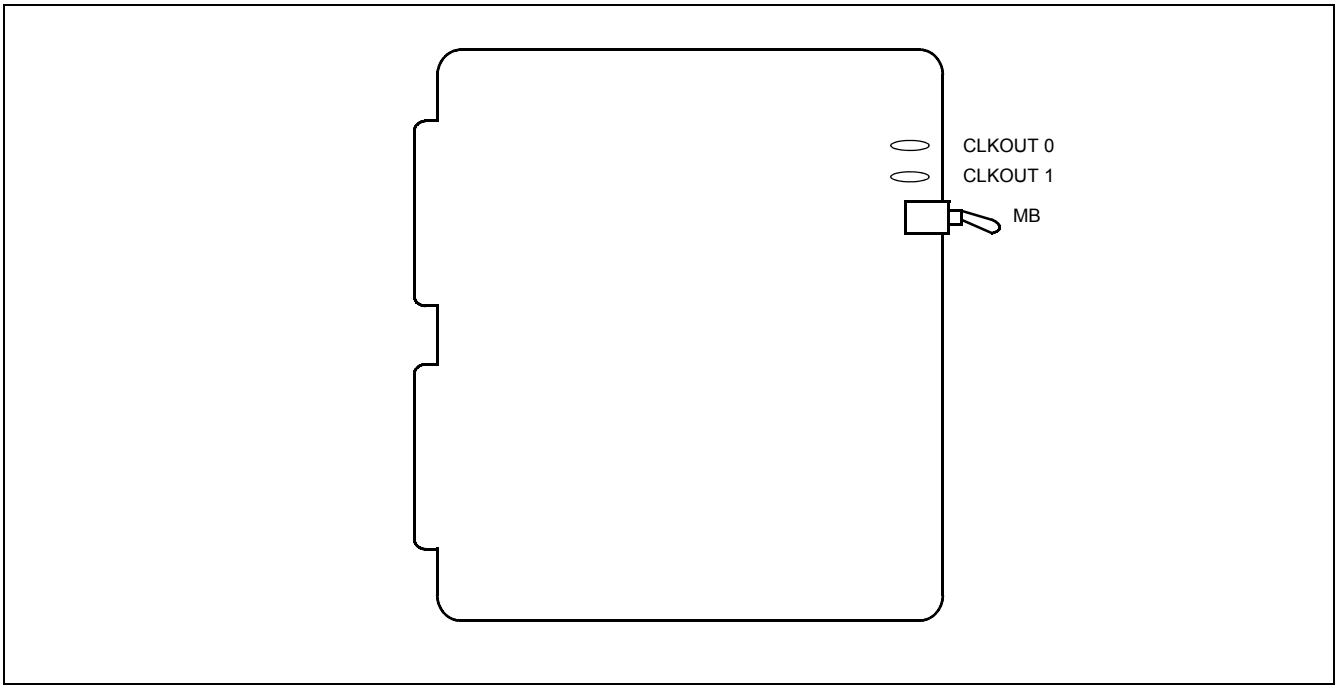
Mounting Conditions:

- This card is located in PIR 0. The card mounted in Slot 08-09 works as the primary OSC, and the card mounted in Slot 16-17 works as the secondary OSC.
- This card occupies two slots.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors is shown below.

Face Layout of PA-CK14-A (OSC) Card



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
CLKOUT0	Green	Lights when OSC card delivers the clock signals to TSW 0.
CLKOUT1	Green	Lights when OSC card delivers the clock signals to TSW 1.

5. Switch Settings

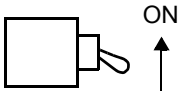
Standard settings for switches on this circuit card are shown in the table below.

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
MB	ON		Make-Busy of the circuit card.
	OFF	×	Normal setting.

6. External Interface

Since the base clock signals are delivered through the printed-wiring on the Back Wired Board (BWB) of PIR 0, this circuit card does not require any external cabling.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		

PZ-M736
PA Adapter

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

<7U-PIR Card Adapter>

1. General Function

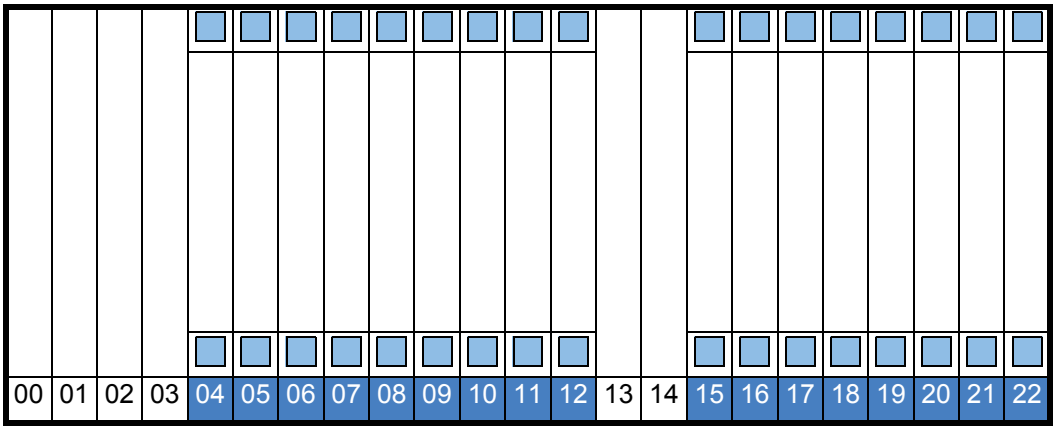
This card is an adapter that is used for mounting 7U-PIR cards in 8U-PIR.

This card is available for the 7U-PIR cards that can be mounted in Slot 04-12 and Slot 15-23 of 7U-PIR.

2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



Mounting Conditions:

- Mounting locations/conditions differ depending on a card mounted to a PA Adapter. For more information on a card, refer to a section for each card in Chapter 3. Note also that 8U-PIR does not have Slot 23 physically.
- When a PA Adapter is mounted in 8U-PIR, it sticks out from 8U-PIR. This makes it difficult to change settings of the switches located on the front side of a 8U-PIR card that is mounted between two PA Adapters. It is also difficult to connect/disconnect a cable to/from the front side of a 8U-PIR card that is mounted between two PA Adapters. In this case, mount a PA Adapter or 8U-PIR card into another slot.
- As for 7U-PIR card mounted on a PA Adapter, the projecting length of a cable from the front side of a 7U-PIR card must be within 50 mm. The cable must be routed not to exceed this limit. If the projecting length exceeds 50 mm, the cable may interfere with a front cover of 8U-PIR.
- Do not mount a PA Adapter in Slot 00-03 that are designed to mount power supply cards. This may cause a damage to a PA Adapter and a 7U-PIR card that is connected to the PA Adapter.
- Some cards cannot be mounted to a PA Adapter. For more information, refer to PA Adapter Mountable Cards.

PA Adapter Mountable Cards

x: Available -: Not available

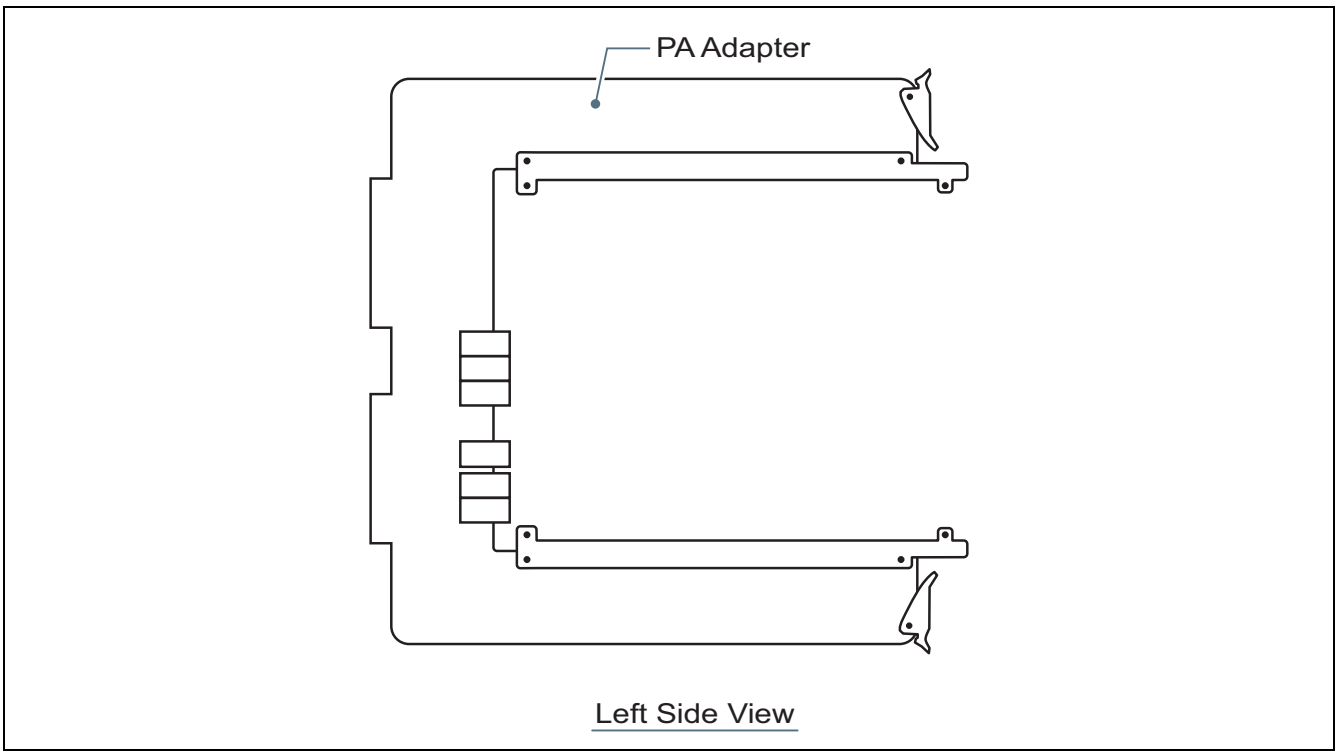
HARDWARE NAME	x / -
CH-8ODTA (ODT)	x
CH-8RSTA (RST)	x
CH-12COTA (COT)	x
CH-12COTB (COT)	x
CH-16ELCA (ELC)	x
CH-16LCA (LC)	x
CH-CFTA (CFT)	x

HARDWARE NAME	x / -
CH-CS00 (ATI)	x
CH-DATA (DAT)	x
CH-IPDA (IPPAD)	x
CH-M01 (NCU)	-
CH-M03	-
CH-PRTA (CCT/DTI/PRT)	x

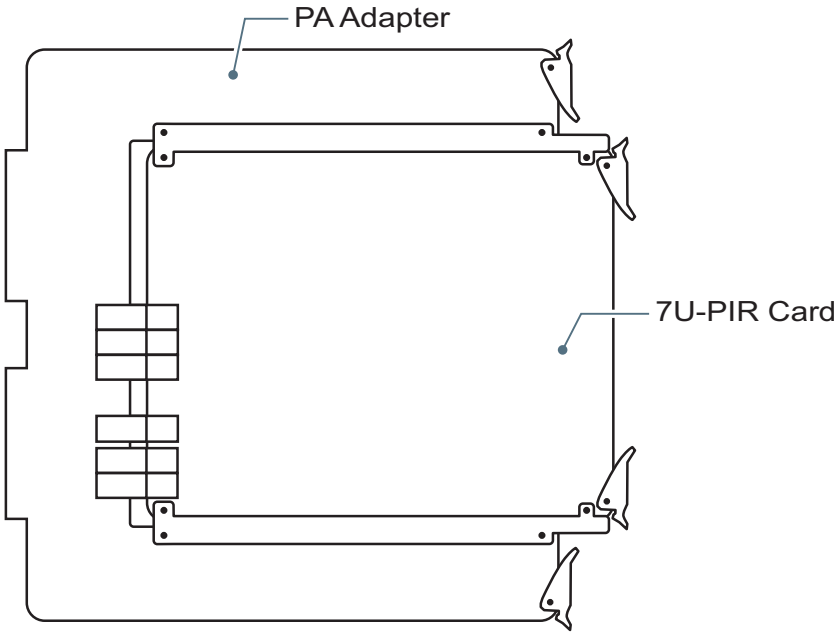
3. Face Layout of Lamps, Switches, and Connectors

The face layout of connectors on the card is shown below.

Face Layout of PZ-M736



The following figure shows the PZ-M736 card mounted with a 7U-PIR card.



Left Side View

4. Lamp Indications

This card does not have lamps.

5. Switch Settings

This card does not have switches.

6. External Interface

LT connector lead accommodations and connecting route diagrams differ depending on a card mounted to a PA Adapter. For installation, refer to a section for each card in Chapter 3. Note also that 8U-PIR does not have Slot 23 physically.

PA-M69-A
Night Change Unit Card

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

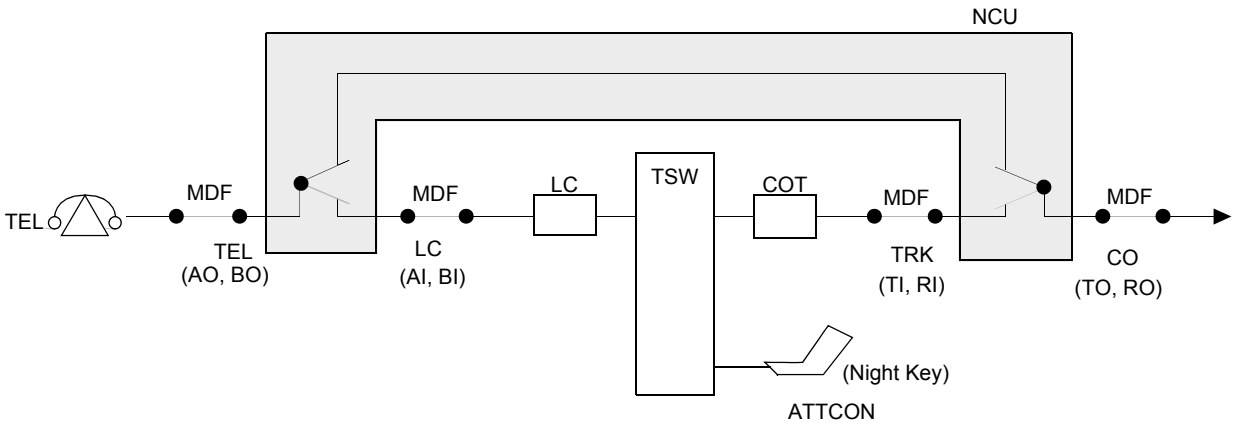
1. General Functions

This card provides a connection of a C.O. line to a designated Night Mode telephone or a release of a C.O. line in case of a power supply failure, system down, or software order. This card is equipped with 12 switching circuits, 8 circuits of an external key which are used for an activation of Day/Night Class of Service, and up to 6 lines used for Digital Terminal with PFT adapter (in case of IP terminal with PFT adapter, 12 lines). Also the coexistence of Single Line Telephone, Digital Terminal with PFT adapter, and IP terminal with PFT adapter is allowed in this card.

The numbers of circuits used for each telephone are as below:

- Digital Terminal with PFT adapter: 2 circuits
- Single Line Telephone/Digital terminal with PFT adapter: 1 circuit

Location of PA-M69-A (PFT, 12NCU) in the System

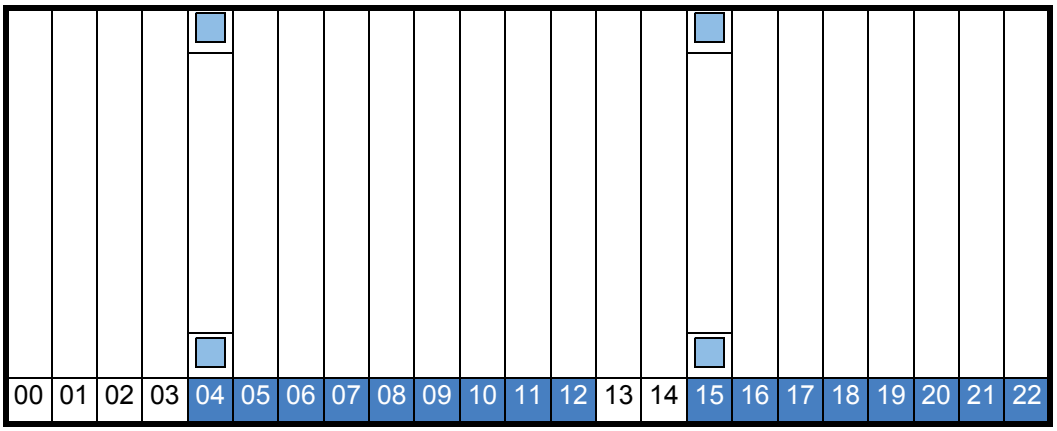


Position within the System

2. Mounting Location/Conditions

Mounting Location <8U-PIR>

Slots 04, 15



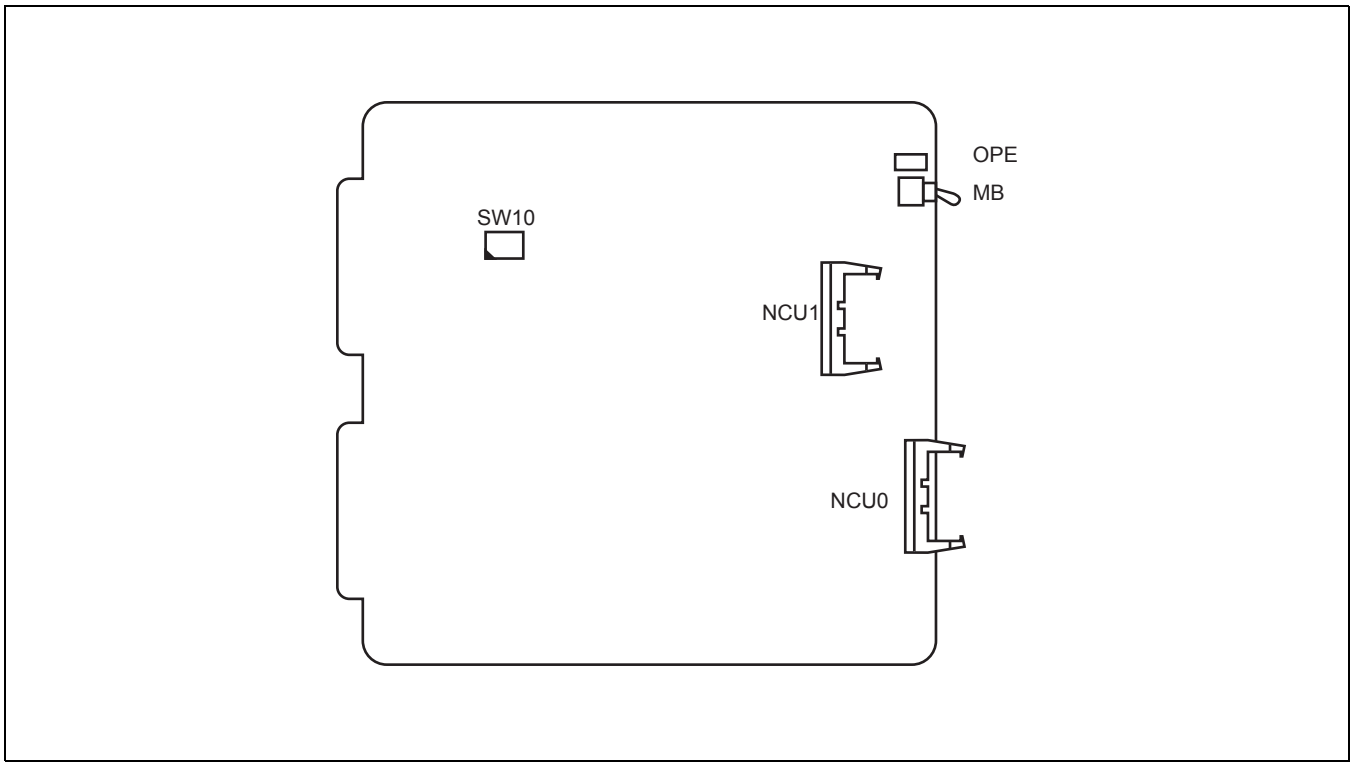
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamp, Switches, and Connectors

The face layout of lamp, switches, and connectors of this circuit card is shown below.

Face Layout of PA-M69-A (PFT, 12NCU)



4. Lamp Indication

The contents of lamp indication of this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit even when PFT is being activated on any one of the 12 circuits.

5. Switch Settings

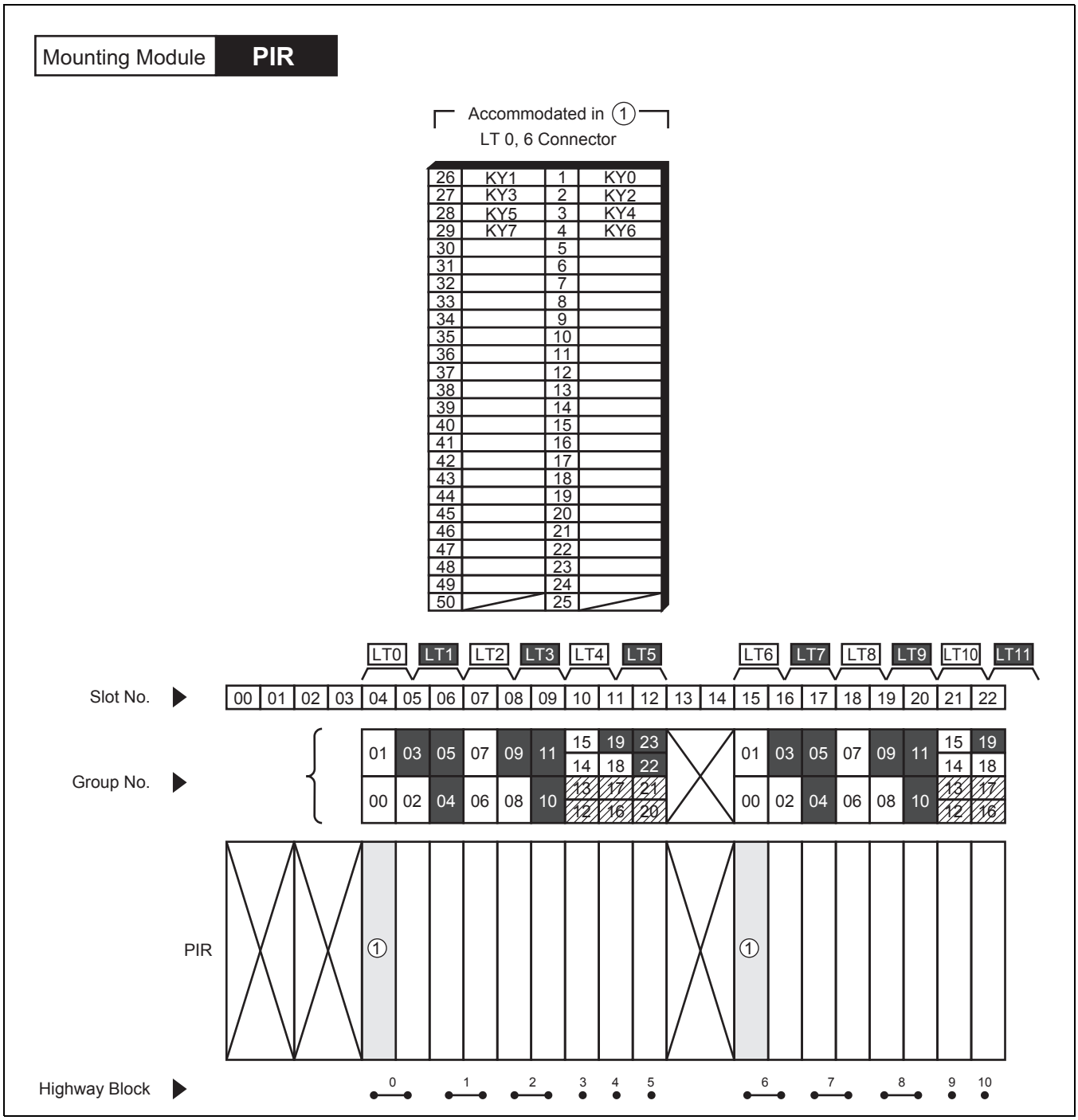
Standard settings of various switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
SW10	1	ON	×	Fixed to ON
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF

6. External Interface

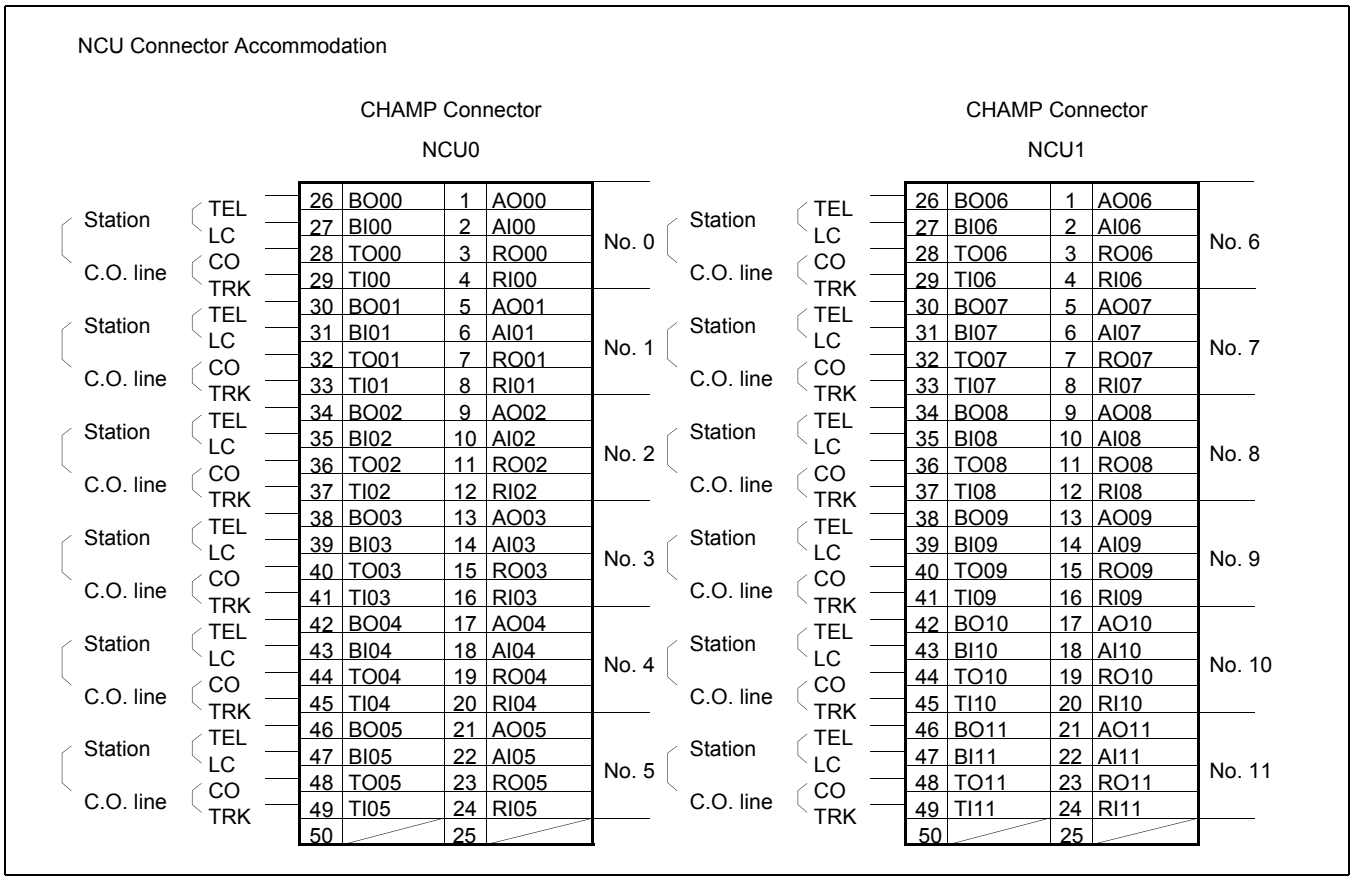
Accommodation of the LT connector leads of this circuit card, accommodation of the NCU connector on the front side of the circuit card, and connecting route diagram are shown below.

LT Connector Leads Accommodation

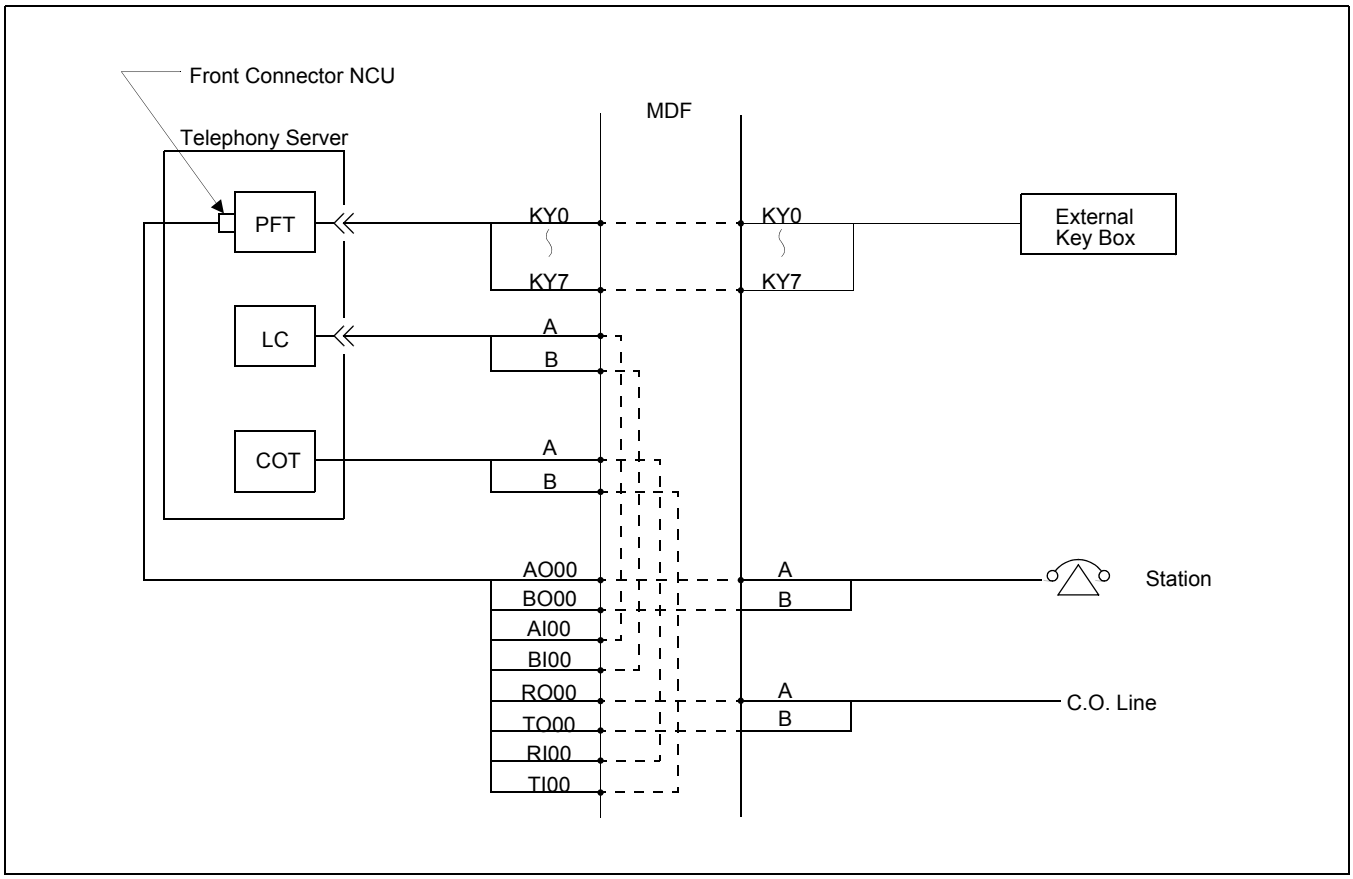


Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

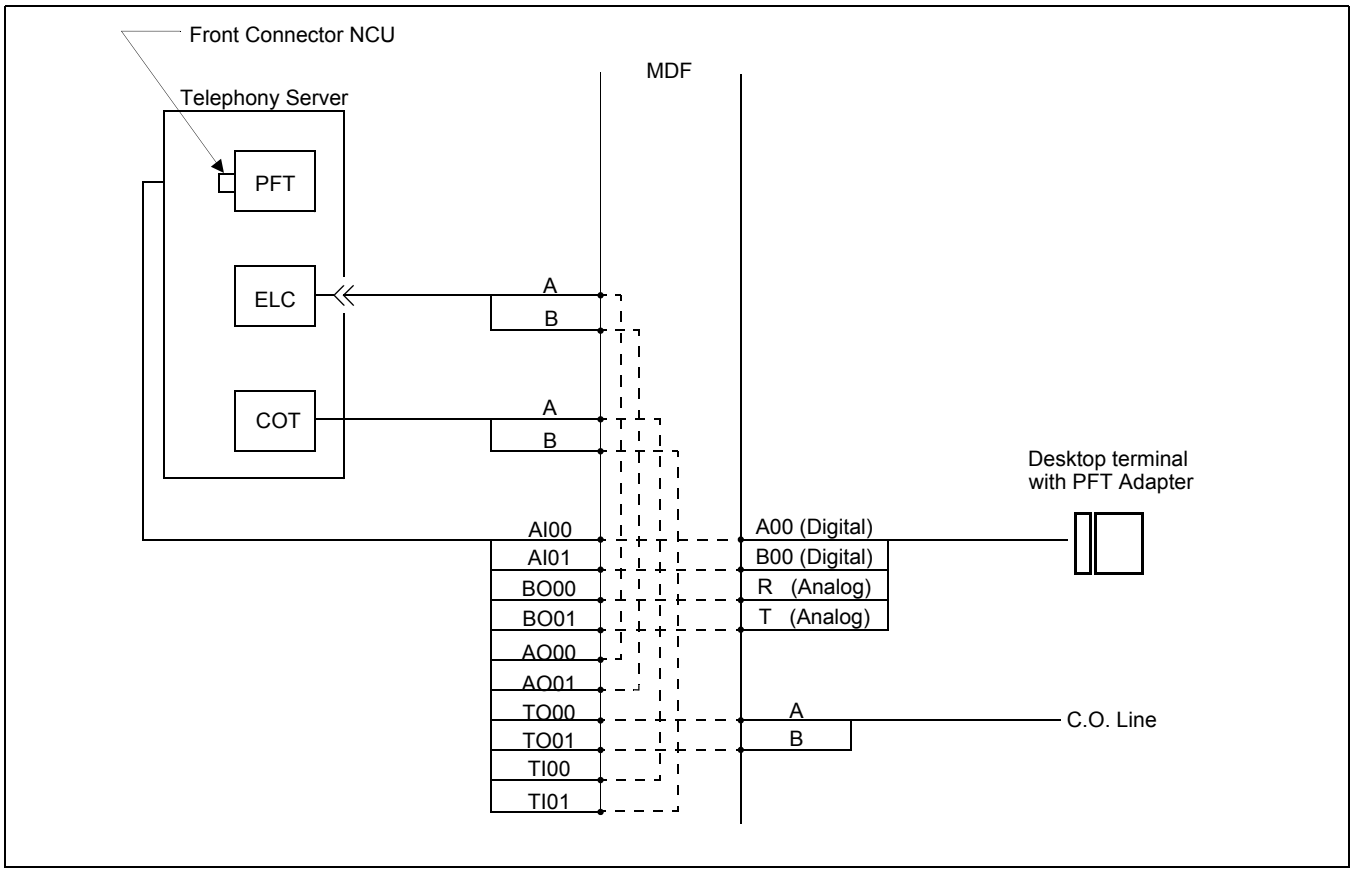
NCU Connector Accommodation



Connecting Route Diagram (1/2)



Connecting Route Diagram (2/2)



Note: To use DT700/DT300 Series as a Power Failure Transfer Terminal, refer to the connection diagrams in the following manuals.

DT700 Series : "Connection Diagram of DT700 Series as Power Failure Transfer Terminal" on Chapter 3 in Peripheral Equipment Description (Multi-Line Telephone).

DT300 Series : "Connection Diagram for Digital Terminal as Power Failure Transfer Terminal" on Chapter 2 in Peripheral Equipment Description (Multi-Line Telephone).

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW10	ON 1 2 3 4	
		MB	DOWN	Circuit card: Make-Busy cancel

PA-M69-B
Night Change Unit Card

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

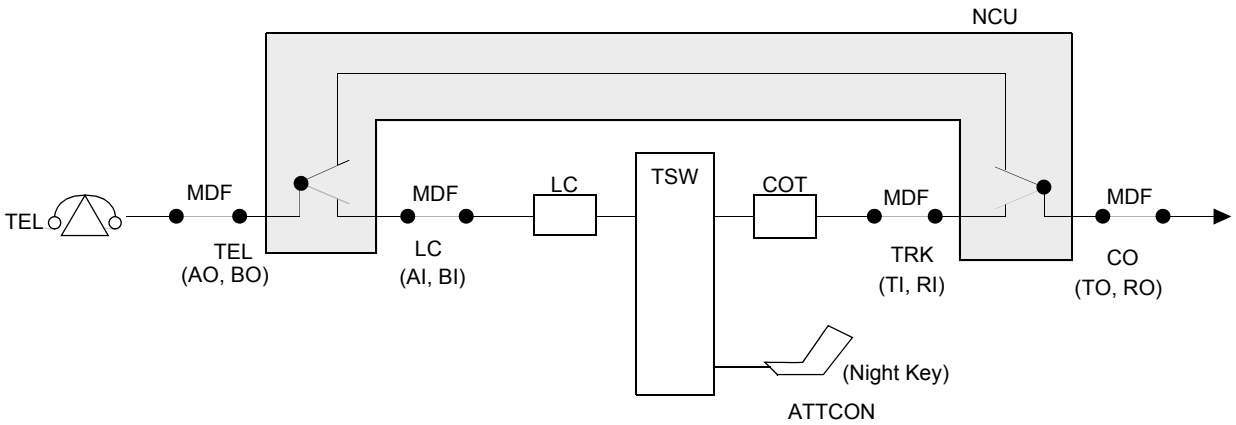
1. General Functions

This card provides a connection of a C.O. line to a designated Night Mode telephone or a release of a C.O. line in case of a power supply failure, system down, or software order. This card is equipped with 12 switching circuits, 8 circuits of an external key which are used for an activation of Day/Night Class of Service, and up to 6 lines used for Digital Terminal with PFT adapter (in case of IP terminal with PFT adapter, 12 lines). Also the coexistence of Single Line Telephone, Digital Terminal with PFT adapter, and IP terminal with PFT adapter is allowed in this card.

The numbers of circuits used for each telephone are as below:

- Digital Terminal with PFT adapter: 2 circuits
- Single Line Telephone/Digital terminal with PFT adapter: 1 circuit

Location of PA-M69-B (PFT, 12NCU) in the System

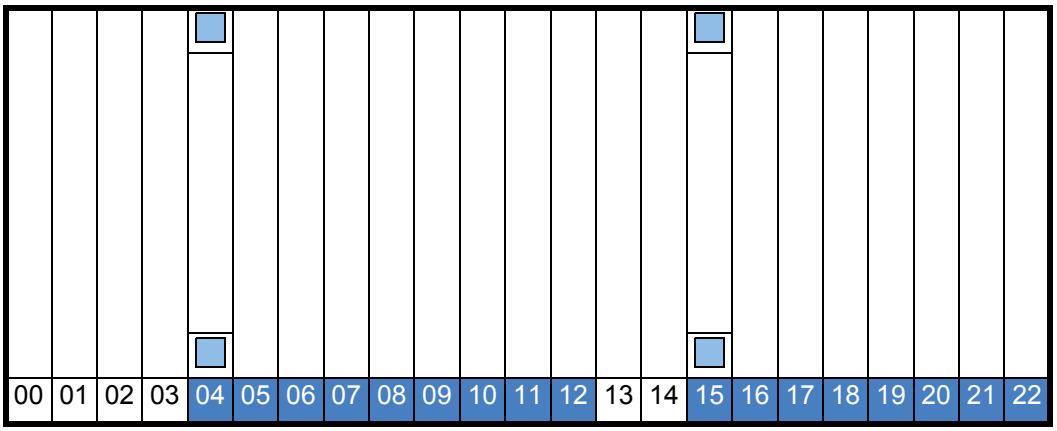


Position within the System

2. Mounting Location/Conditions

Mounting Location <8U-PIR>

Slots 04, 15



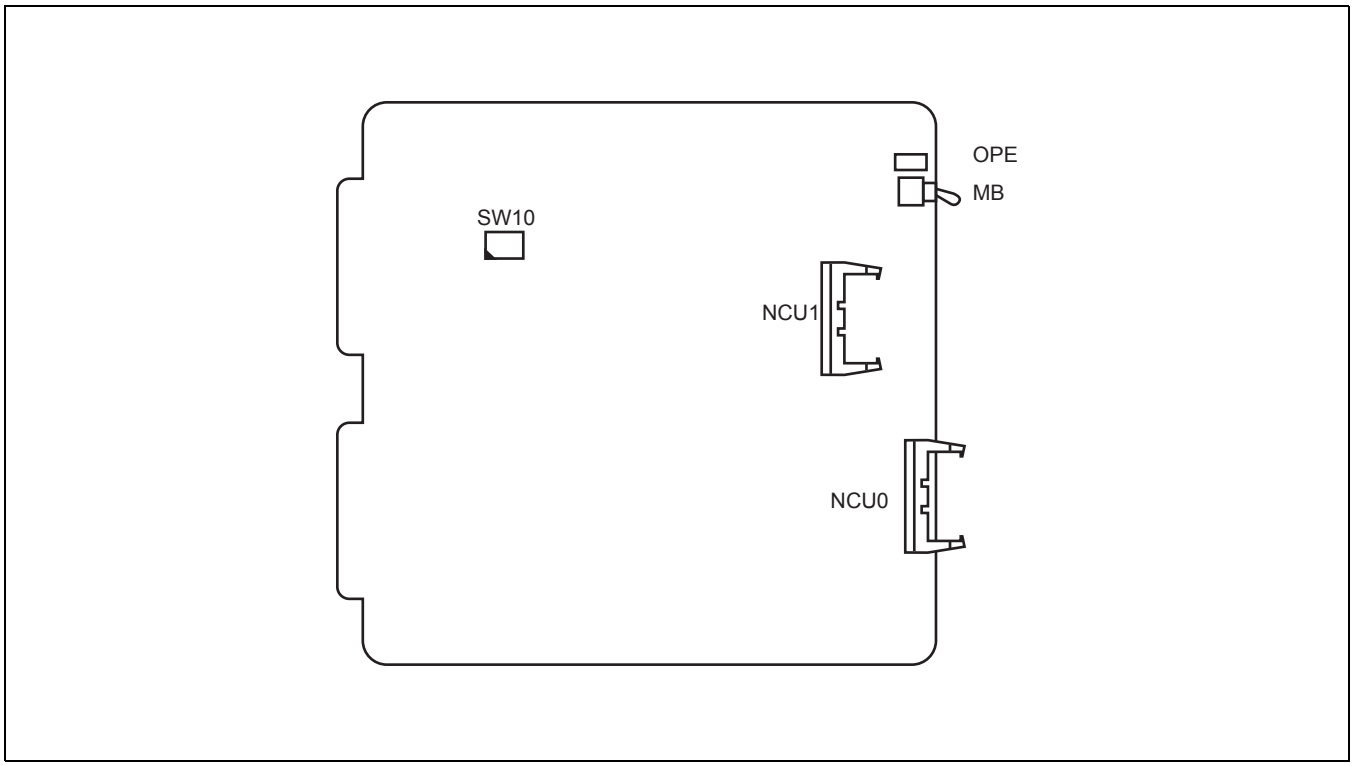
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamp, Switches, and Connectors

The face layout of lamp, switches, and connectors of this circuit card is shown below.

Face Layout of PA-M69-B (PFT, 12NCU)



4. Lamp Indication

The contents of lamp indication of this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit even when PFT is being activated on any one of the 12 circuits.

5. Switch Settings

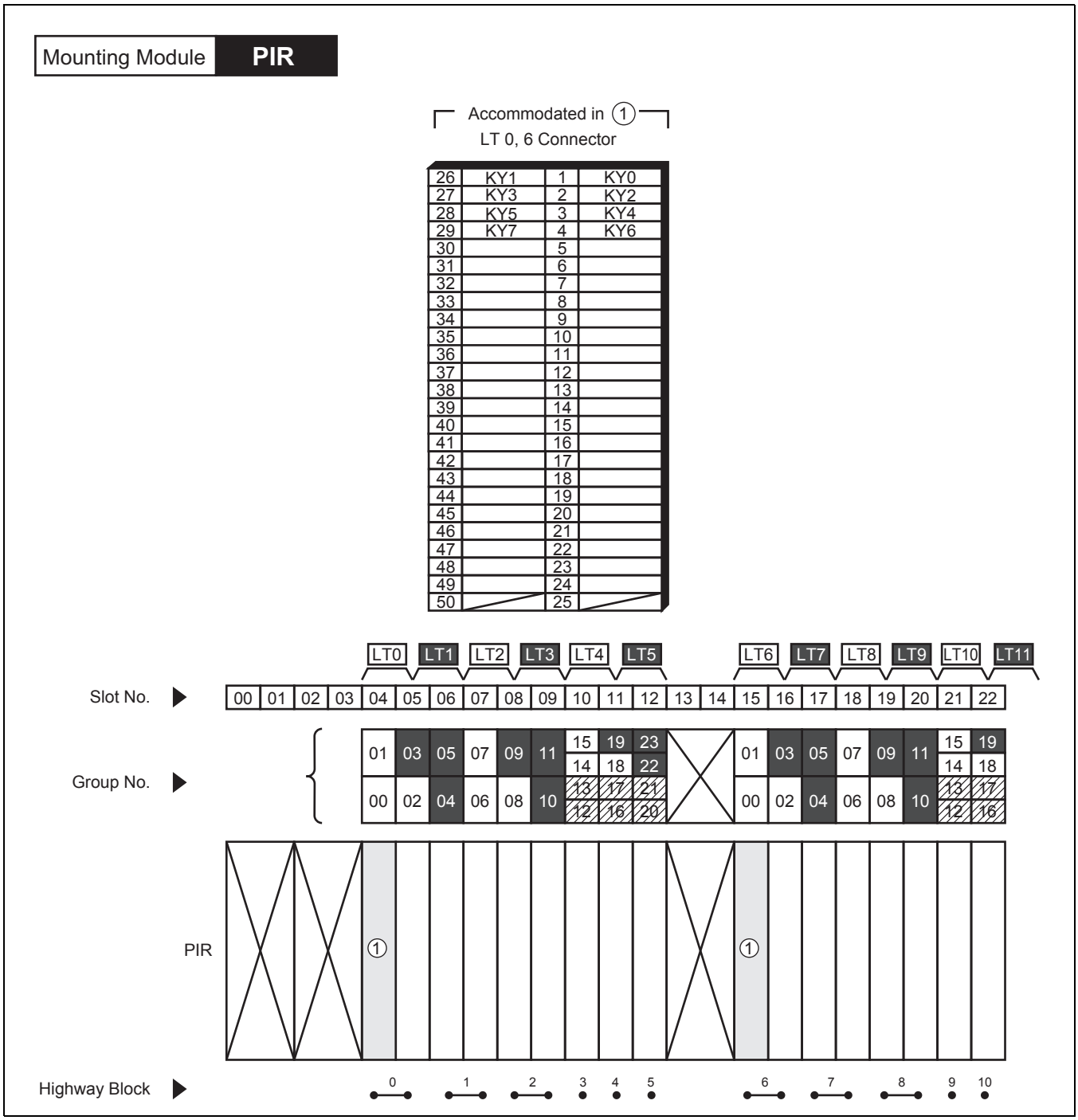
Standard settings of various switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
SW10	1	ON	×	Fixed to ON
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF

6. External Interface

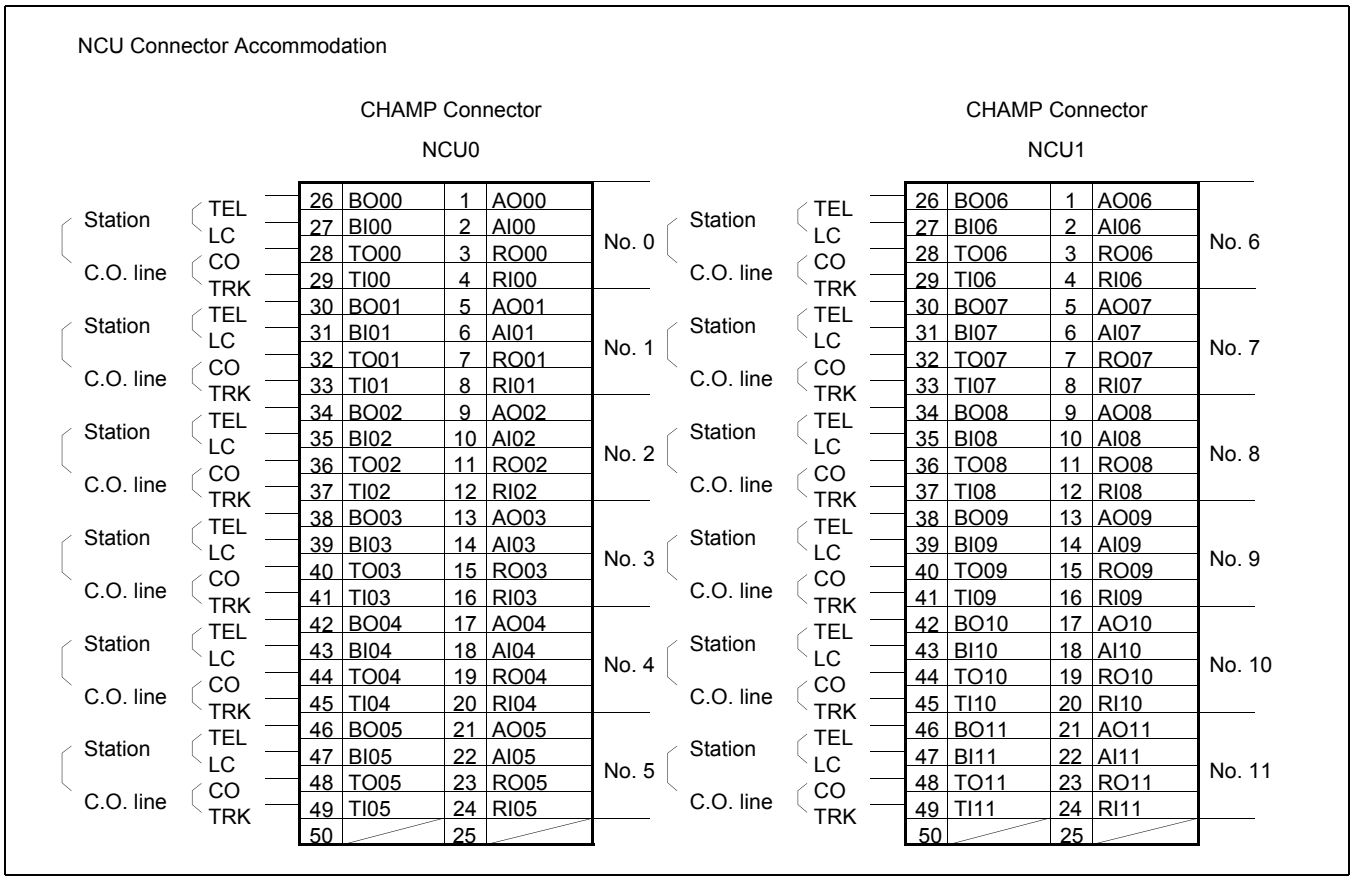
Accommodation of the LT connector leads of this circuit card, accommodation of the NCU connector on the front side of the circuit card, and connecting route diagram are shown below.

LT Connector Leads Accommodation

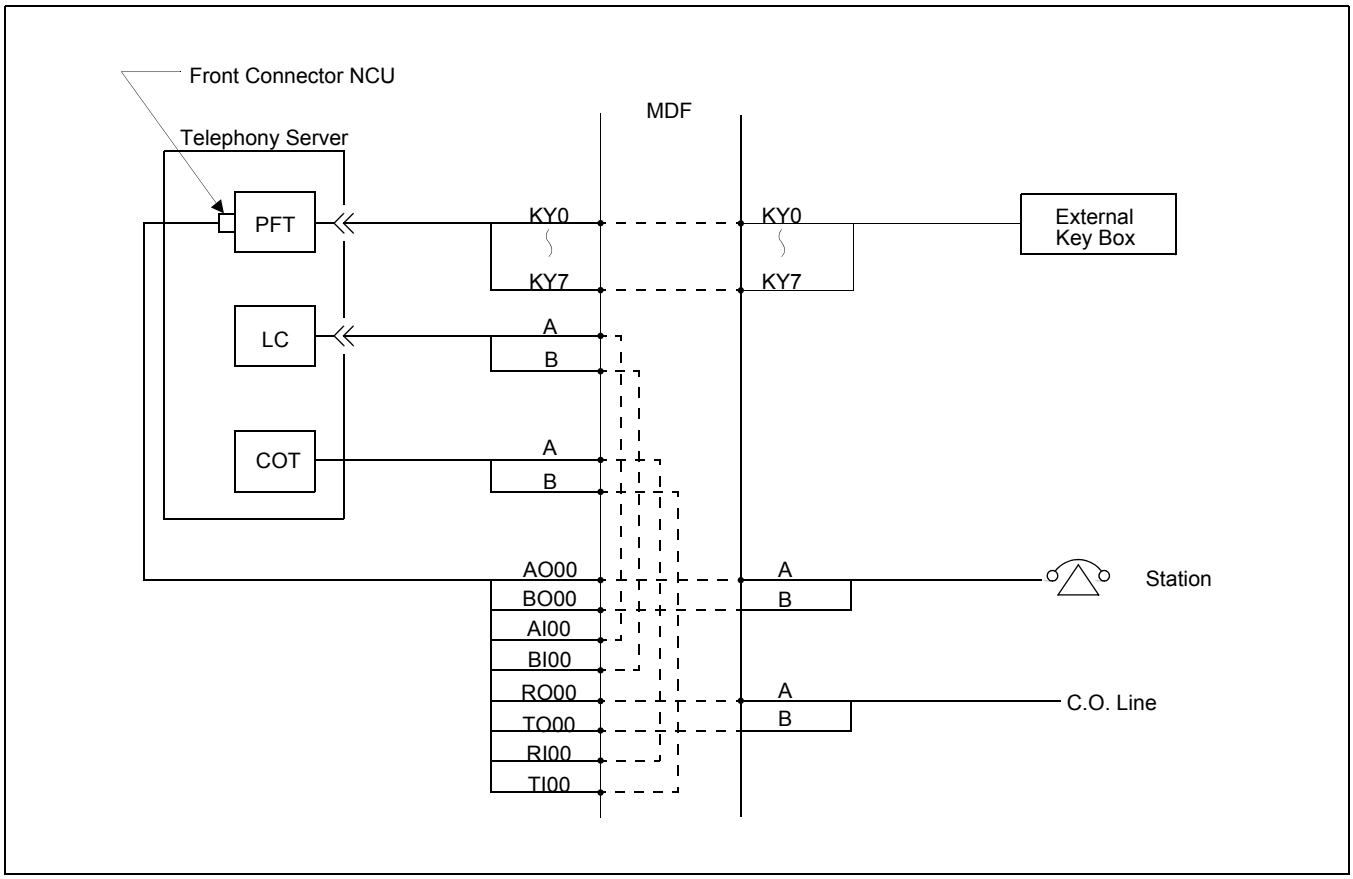


Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

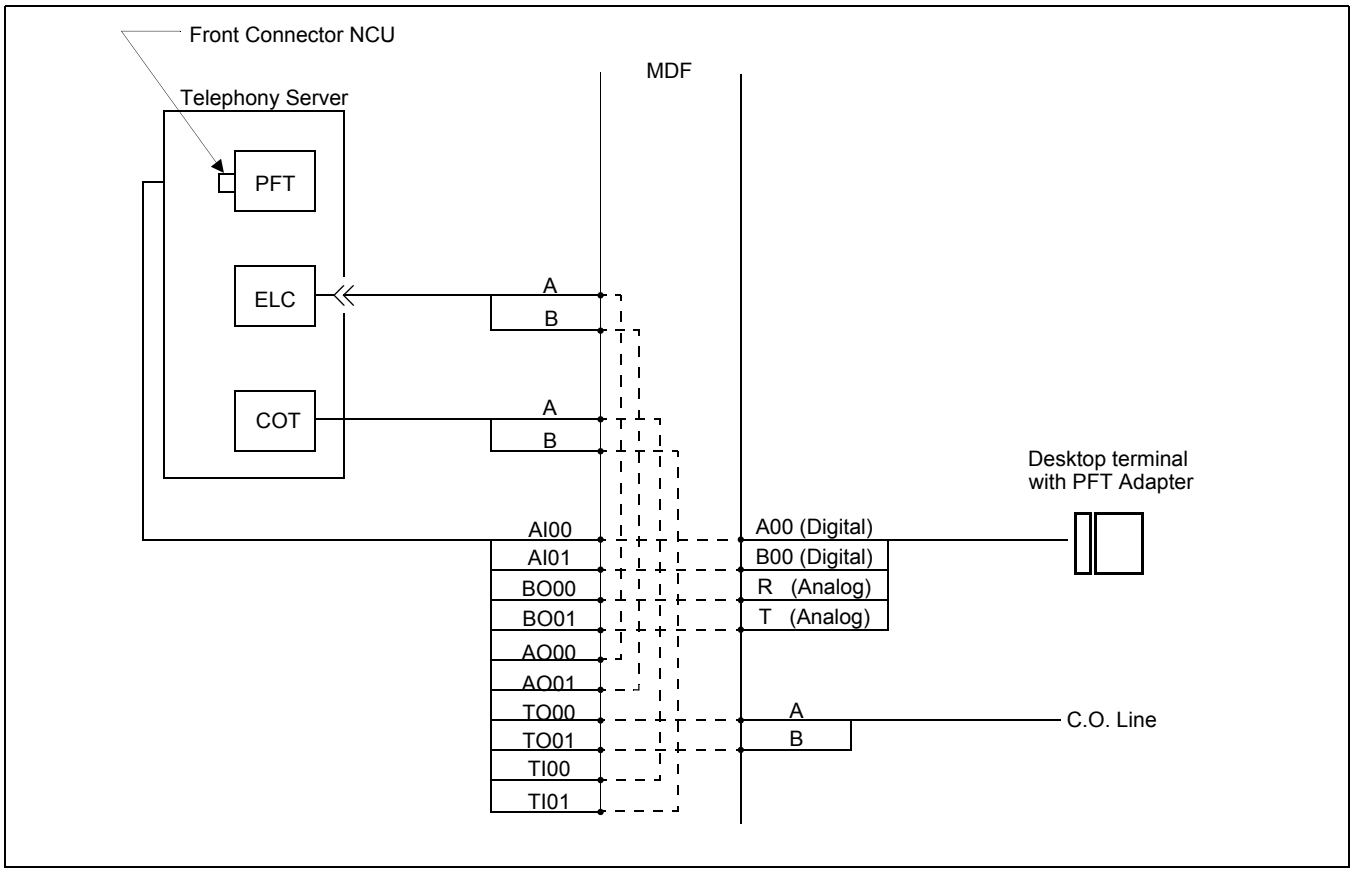
NCU Connector Accommodation



Connecting Route Diagram (1/2)



Connecting Route Diagram (2/2)



Note: To use DT700/DT300 Series as a Power Failure Transfer Terminal, refer to the connection diagrams in the following manuals.

DT700 Series : "Connection Diagram of DT700 Series as Power Failure Transfer Terminal" on Chapter 3 in Peripheral Equipment Description (Multi-Line Telephone).

DT300 Series : "Connection Diagram for Digital Terminal as Power Failure Transfer Terminal" on Chapter 2 in Peripheral Equipment Description (Multi-Line Telephone).

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW10	ON 1 2 3 4	
		MB	DOWN	Circuit card: Make-Busy cancel

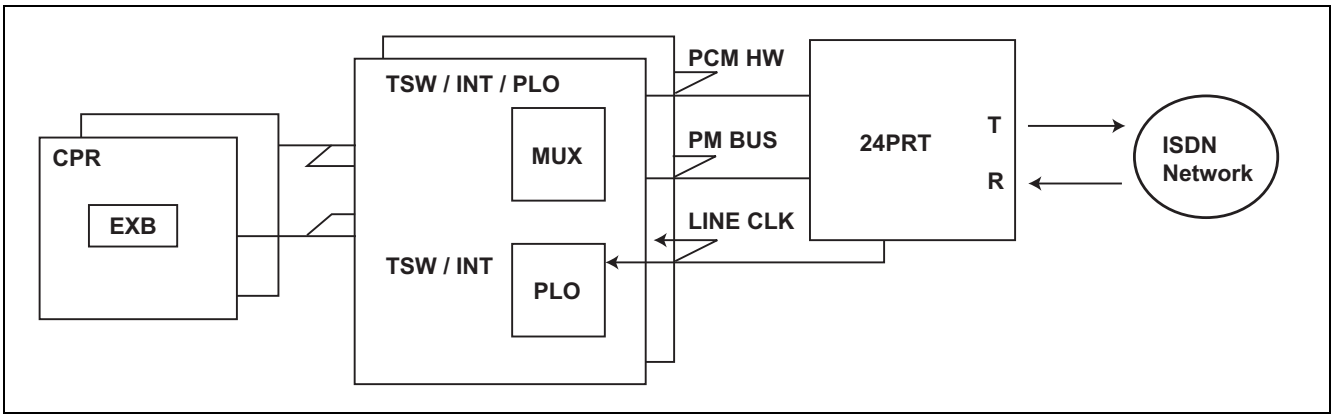
PA-PRTC (1.5M PRT)
Primary Rate Interface Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
-	X	-	-	X	-	-

1. General Function

The PA-PRTC (1.5M PRT) circuit card is a digital interface supporting voice and data communications at 1.5 M bit/second. This card offers Primary Rate Access Interface (PRI) with the system. A built-in resonance circuit extracts clock signals that are supplied from the network, so that the system may be in exact synchronization with the network. To obtain appropriate speech level, this card has standard PAD and flexible PAD. A flexible PAD can set more detailed PAD value than a standard PAD. A flexible PAD value can set the loss from 0 to 20 dB and the gain can be set from -1 to -16 dB respectively in 1dB step.

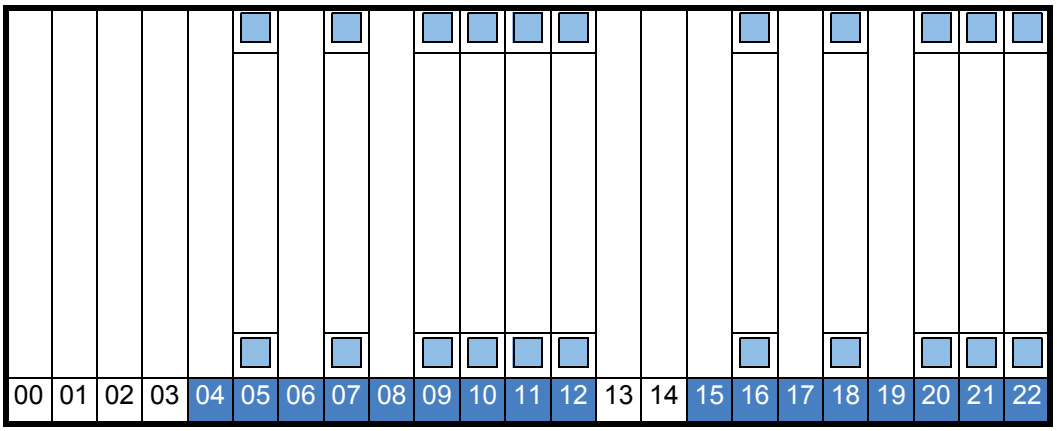
Location of PA-PRTC (1.5M PRT) in the System



2. Mounting Location

Mounting Location <8U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-22



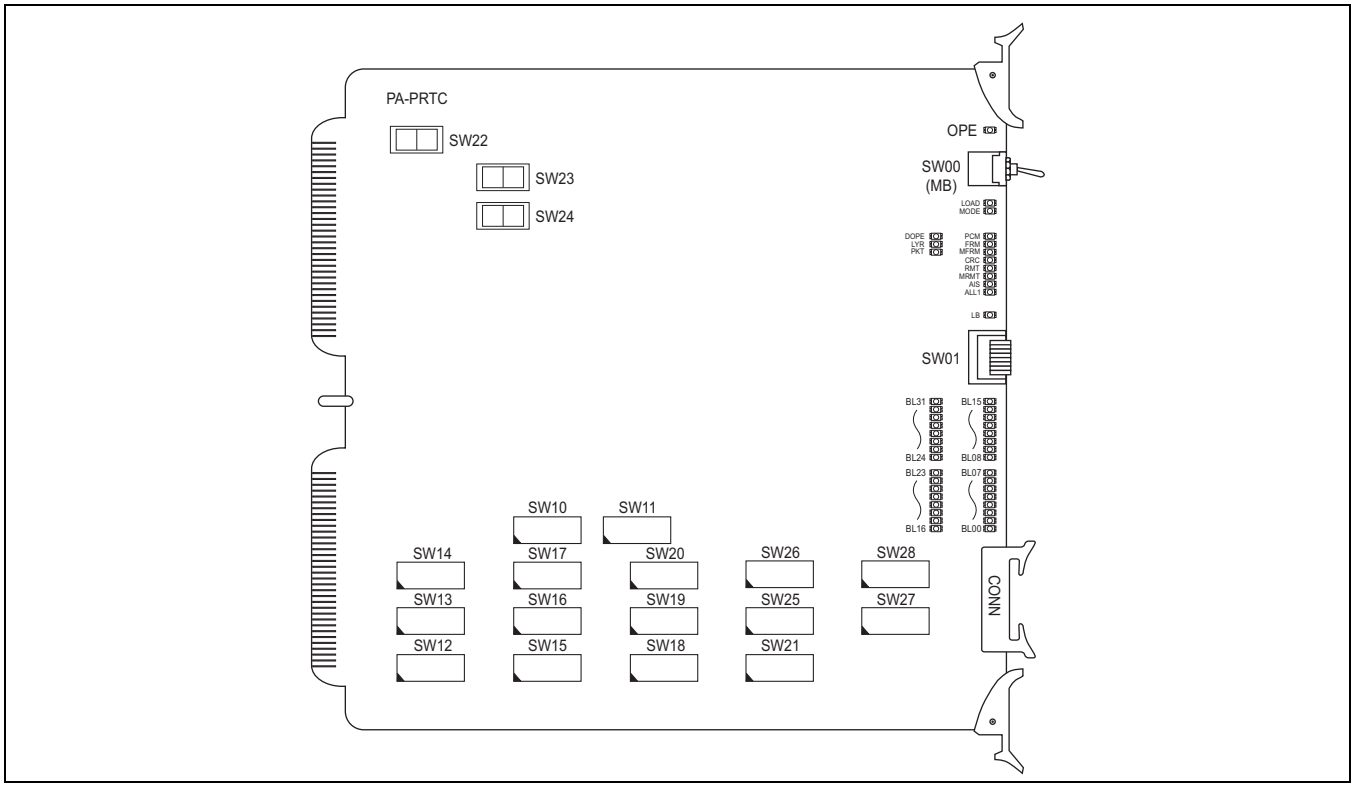
Mounting Conditions:

- This card cannot be mounted in Slot 5, when mounted in PIR of Unit 0 (U=0) of Module Group 0 (MG=00).
  This card cannot use Group0 (G=00) 0f Unit0 (U=0) of Module Group0 (MG=00). LENS:000000 is not available for the users.
- Mount this card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.
- Do not mount other card on the left slot of this card when mounting on 16-port slot.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-PRTC (PRT)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	COLOR	DESCRIPTION	
OPE	Green	Lights when this circuit card is operating normally.	
LOAD	Green	Lights when loading program.	
MODE	Green	This lamp is consistently lit.	
PCM	Red	Light	Lights when input signal down is detected (PCM LOSS).
		Flash (240 IPM)	Flashes when system recovered from PCM LOSS and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
FRM	Red	Light	Lights when frame alignment loss is detected.
		Flash (240 IPM)	Flashes when system recovered from frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds

LAMP NAME	COLOR	DESCRIPTION		
MFRM (Effective only when 12 multi-frame interface is used)	Red	Light		Lights when Multi frame alignment loss is detected.
		Flash (240IPM)		Flashes when system recovered from Multi frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
CRC	Red	24 Multi-frame	Light	Lights when frequent CRC error is detected.
			Flash (240 IPM)	Flashes when system has recovered from frequent CRC error and is being supervised.
		12 Multi-frame	Light	Lights when frequent Bit error is detected continuously for more than 1000 seconds.
			Flash (240 IPM)	Flashes when system has recovered from frequent Bit error and is being supervised. Length of time for recovery supervision: 85 seconds

LAMP NAME	COLOR	DESCRIPTION	
RMT	Red	Light	Lights when remote alarm is detected.
		Flash (240 IPM)	Flashes when system has recovered from remote alarm detection and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 1 seconds
MRMT	Red	Not Used (This lamp is fixed to OFF).	
AIS	Yellow	Lights on receipt of Alarm Information Signal (AIS).	
ALL1 (Effective only when SW13-1 is ON)	Red	Light	Lights when main signal ALL1 is detected.
		Flash (240 IPM)	Flashes when system has recovered from main signal ALL1 and is being supervised. Length of time for recovery supervision: 2 seconds
LB	Red	Light	Lights when loopback is being activated.
		Flash (240 IPM)	Flashes when the line-loopback request (inband) signal or the DL message under payload loopback of distant office is detected. (This state indicates the circuit card is in outgoing/incoming Make-Busy state.)
BL00	Green	Light	Lights when assigned the route data for Dch.
BL08 ' BL31	Green	BL08~BL31 effective (BL01~BL07 are not used) **Note 1**	
		Light	Lights when corresponding circuit is busy.
		Flash	Flashes while DP signal is being sent out or received (Flashes to dial pulses), the corresponding circuit (outgoing) is in Make-Busy state (60 IPM) or the corresponding circuit (Bothway) is in Make-Busy state (30 IPM).
		OFF	Remains OFF when Idle.
DOPE	Green	Remains lit while the D-Channel Handler is on.	

LAMP NAME	COLOR	DESCRIPTION	
LYR	Green	Light	Lights when the link of the D-Channel is set up.
		Flash (120 IPM)	Flashes when the link of the D-Channel is started up.
PKT	Green	Lights when the packet of the D-Channel is in use.	

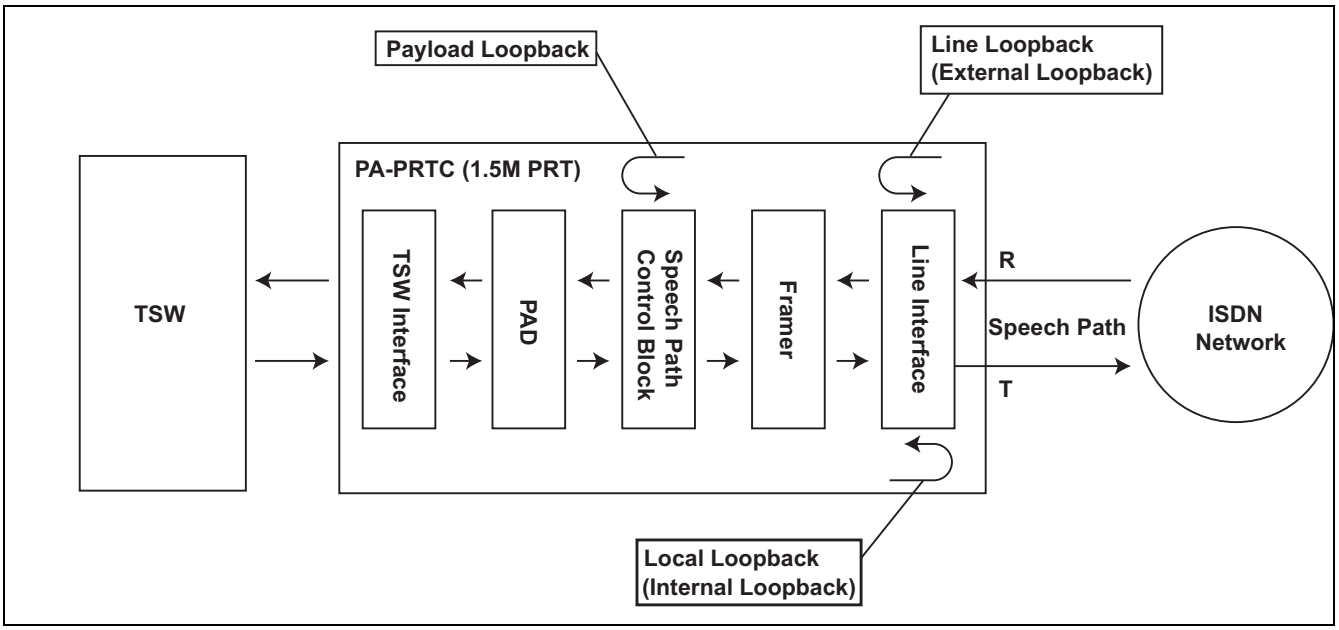
Note 1: BL08 means Channel 0, BL31 means Channel 23.

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
SW01	1	ON		Local Loopback: Set (Internal)
		OFF	×	Local Loopback: Cancel (Internal)
	2	ON		Line Loopback: Set (External)
		OFF	×	Line Loopback: Cancel (External)
	3	ON		Payload Loopback: Set
		OFF	×	Payload Loopback: Cancel
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		All channel make-busy: Set
		OFF	×	All channel make-busy: Cancel
	6	ON		DCH make-busy: Set
		OFF	×	DCH make-busy: Cancel
	7	ON		DCH Loopback: Set
		OFF	×	DCH Loopback: Cancel
	8	ON		
		OFF	×	Fixed to OFF. (For Maintenance)

Available Locations for Loopback Testing



SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW10	1	ON		Equalizer Settings
		OFF		
	2	ON		
		OFF		
	3	ON		
		OFF		
	4	ON		TTC JT-G704 Mode (only 1st edition and 2nd edition)
		OFF	×	ITU-T G.704 Mode
	5	ON		
		OFF	×	Fixed to OFF
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

Equalizer Settings

10-1	10-2	10-3	Transmission distance
OFF	OFF	OFF	0~40m
ON	OFF	OFF	40~80 m
OFF	ON	OFF	80~120 m
ON	ON	OFF	120~160 m
OFF	OFF	ON	160~200 m
ON	OFF	ON	Unavailable
OFF	ON	ON	
ON	ON	ON	

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW11	1	ON		Remote Alarm Send Out Restricted
		OFF	×	Remote Alarm Send Out Unrestricted
	2	ON		Remote Alarm In Channel **Note 1**
		OFF	×	Remote Alarm (Data Link or FS Bit) **Note 1**
	3	ON	×	Remote Alarm is not sent when AIS was detected.
		OFF		Remote Alarm is sent when AIS was detected.
	4	ON	×	Alarm Release Time: (Long)
		OFF		Alarm Release Time: (Short)
	5	ON		Alarm Detect/Release Type (AT&T)
		OFF		Alarm Detect/Release Type (Normal)
	6	ON		PLO is controlled when main signal ALL1.
		OFF	×	PLO is not controlled when main signal ALL1.
	7	ON		
		OFF	×	Fixed to OFF.
	8	ON		
		OFF	×	Fixed to OFF.

Note 1: ON when using 12 multiframe, OFF when using 24 multiframe.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th colspan="3">MEANING</th></tr>
<tr><td rowspan="15">SW12</td><td rowspan="2">1</td><td>ON</td><td></td><td colspan="3">Line Signal: AMI/ZCS</td></tr>
<tr><td>OFF</td><td>×</td><td colspan="3">Line Signal: B8ZS</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td colspan="3">Multiframe: 12 Multiframe</td></tr>
<tr><td>OFF</td><td>×</td><td colspan="3">Multiframe: 24 Multiframe</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td colspan="3">4k Data Link: MOS</td></tr>
<tr><td>OFF</td><td></td><td colspan="3">4k Data Link: BOM</td></tr>
<tr><td rowspan="3">4, 5</td><td rowspan="3"></td><td colspan="4">4k Data Link Operation Mode
When BOM is used (SW12-3: OFF, SW10-4: OFF)
<table>
<tr><th>STANDARD SETTING</th><th>SW12-4</th><th>SW12-5</th><th>Transmission</th><th>Reception</th></tr>
<tr><td>×</td><td>OFF</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is not received</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>FFFFH data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>FFFFH data are sent</td><td>BOM message is not received</td></tr>
</table></td></tr>
<tr><td colspan="4">When BOM is used (SW12-3: OFF, SW10-4: ON)
<table>
<tr><th>STANDARD SETTING</th><th>SW12-4</th><th>SW12-5</th><th>Transmission</th><th>Reception</th></tr>
<tr><td>×</td><td>OFF</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>7E7EH data are sent</td><td>BOM message is not received</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>0000H data are sent</td><td>BOM message is received</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>0000H data are sent</td><td>BOM message is not received</td></tr>
</table></td></tr>
<tr><td colspan="4">When MOS is used (SW12-3: ON)
<table>
<tr><th>STANDARD SETTING</th><th>SW12-4</th><th>SW12-5</th><th>Transmission</th><th>Reception</th></tr>
<tr><td>×</td><td>OFF</td><td>OFF</td><td>PPR data are sent</td><td>MOS message is received</td></tr>
<tr><td></td><td>ON</td><td>OFF</td><td>PPR data are sent</td><td>MOS message is not received</td></tr>
<tr><td></td><td>OFF</td><td>ON</td><td>Flag (7EH) data are sent</td><td>MOS message is received</td></tr>
<tr><td></td><td>ON</td><td>ON</td><td>Flag (7EH) data are sent</td><td>MOS message is not received</td></tr>
</table></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td colspan="3"></td></tr>
<tr><td>OFF</td><td>×</td><td colspan="3">Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td colspan="3">Long haul mode</td></tr>
<tr><td>OFF</td><td>×</td><td colspan="3">Short haul mode</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td rowspan="2">DCH and 4k data link activation mode</td><td>Network side mode Note 2</td></tr>
<tr><td>OFF</td><td>×</td><td>User side mode</td></tr>
</table>

Note 2: Check connectivity for network in advance if you will use Network mode.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW13	1	ON		Main Signal ALL1 is detected (When using HSD Line).
		OFF	×	Main Signal ALL1 is not detected.
	2	ON		Idle Code is sent.
		OFF	×	Idle Code is not sent.
	3	ON		DP relay function is used for FCCS.
		OFF	×	DP relay function is not used for FCCS.
	4	ON		Simultaneous Seizure Supervision: Not controlled
		OFF	×	Simultaneous Seizure Supervision: Controlled
	5	ON		Not activate counter node when detecting Simultaneous Seizure.
		OFF	×	Activate counter node when detecting Simultaneous Seizure.
	6	ON		Layer 1 Alarm is not notified to CPU.
		OFF	×	Layer 1 Alarm is notified to CPU.
	7	ON		CAS is not effective when DCH is used.
		OFF	×	CAS is effective when DCH is used.
	8	ON		Incoming / Outgoing call collision processing is used.
		OFF	×	Incoming / Outgoing call collision processing is not used.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW14	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Control Method (Using Both Flexible/Standard PAD)		
				7	8	
			×	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
				ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
				OFF	ON	Fixed to ARTD (Transmission/Reception PAD Control)
				ON	ON	Transmission/Reception PAD Control

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW15	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 2 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Selection (Using Both Flexible/Standard PAD)		
				7	8	
			×	OFF	OFF	μ- Law
				ON	OFF	A - Law
				OFF	ON	A - Law → μ - Law
				ON	ON	μ - Law →A - Law

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW16	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 3 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Pattern Selection **Refer to Standard Setting PAD Level (1/4) ~ Standard Setting PAD Level (4/4)**		
				7	8	
			×	OFF	OFF	PAD Pattern 1
				ON	OFF	PAD Pattern 2
				OFF	ON	PAD Pattern 3
				ON	ON	PAD Pattern 4

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW17	1	ON		Reception PAD Value Setting (Flexible PAD): (PAD Data 4) (Reception PAD value when 4 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Data PAD Pattern Selection		
				7	8	
			×	OFF	OFF	64 k
				ON	OFF	64 k Inversion
				OFF	ON	56 k
				ON	ON	48 k

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW18	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**
		OFF		
	2	ON		
		OFF		
	3	ON		
		OFF		
	4	ON		
		OFF		
	5	ON		
		OFF		
	6	ON		
		OFF		
	7	ON		Flexible PAD (Refer to No. 1 - 6 of SW14 - SW21)
		OFF	×	Standard PAD (Refer to No.7-8 of SW16)
	8	ON		DCH Signaling Logic: Negative
		OFF	×	DCH Signaling Logic: Positive

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW19	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Seizure Acknowledgement Guard Time		
				7	8	
			×	OFF	OFF	48 milliseconds
				ON	OFF	64 milliseconds
				OFF	ON	80 milliseconds
				ON	ON	96 milliseconds
			Acknowledge Signal Detection Guard timer when sending out Wink/Delay.			

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW20	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Seizure Acknowledgement Detection Time		
				7	8	
			×	OFF	OFF	56 milliseconds
				ON	OFF	96 milliseconds
				OFF	ON	136 milliseconds
				ON	ON	176 milliseconds
			Acknowledge Signal Detection timer when sending out Wink/Delay.			

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW21	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Answer Detection Time		
				7	8	
			×	OFF	OFF	200 milliseconds
				ON	OFF	100 milliseconds
				OFF	ON	400 milliseconds
				ON	ON	700 milliseconds

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
SW22	ON	×	Fixed to ON
	OFF		
SW23	ON		
	OFF	×	Fixed to OFF
SW24	ON	×	Middle point of reception transformer: Open
	OFF		Middle point of reception transformer: Ground

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW25	1, 2		Note 3	Send Signaling Pattern Selection		
				1	**2**	Signaling Pattern
				OFF	OFF	AAAA
				ON	OFF	ABAB
			×	OFF	ON	Bit Steal Inhibited
				ON	ON	ABCD
	3, 4		Note 3	Receive Signaling Pattern Selection		
				3	**4**	Signaling Pattern
				OFF	OFF	AAAA
				ON	OFF	ABAB
			×	OFF	ON	Bit Steal Inhibited
				ON	ON	ABCD
	5 Note 4	ON		Send Signaling A Logic: Negative		
		OFF	×	Send Signaling A Logic: Positive		
	6 Note 4	ON		Receive Signaling A Logic: Negative		
		OFF	×	Receive Signaling A Logic: Positive		
	7	ON				
		OFF	×	Fixed to OFF		
	8	ON				
		OFF	×	Fixed to OFF		

Note 3: PRT Standard (when DCH is used): Bit Steal Inhibited Setting (SW25-1, 2/3, 4: OFF, ON)

Note 4: These switch settings are invalid when "Bit Steal Inhibited" was chosen for the Signaling Pattern.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING				
SW26	1, 2, 3			**DCH Operation Mode**				
				1	**2**	**3**		
			×	OFF	OFF	OFF	ITU-T Mode	
				ON	OFF	OFF	AT&T Mode	
				OFF	ON	OFF	TTC Mode	
				ON	ON	OFF	Thai Mode	
				OFF	OFF	ON	ITU-T Mode	
				ON	OFF	ON	ITU-T Mode	
				OFF	ON	ON	ITU-T Mode	
				ON	ON	ON	ITU-T Mode	
	4	ON	×	SABME Wait Timer Enable (North America Standard Setting)				
		OFF		SABME Wait Timer Disable				
	5, 6, 7, 8			**DCH Transfer Rate**				
				5	**6**	**7**	**8**	
			×	OFF	OFF	OFF	OFF	64kbps
				ON	OFF	OFF	OFF	56kbps
				OFF	ON	OFF	OFF	48kbps (Standard)
				ON	ON	OFF	OFF	32kbps (Forward)
				OFF	OFF	ON	OFF	32kbps (Backward)
				ON	OFF	ON	OFF	16kbps (Forward)
				OFF	ON	ON	OFF	16kbps (Backward)
				ON	ON	ON	OFF	8kbps (Forward)
				OFF	OFF	OFF	ON	8kbps (Backward)
				ON	OFF	OFF	ON	48kbps (Option)
				OFF	ON	OFF	ON	64kbps
				ON	ON	OFF	ON	
				OFF	OFF	ON	ON	
				ON	OFF	ON	ON	
				OFF	ON	ON	ON	
				ON	ON	ON	ON	

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING					
				DCH Time Slot Setting					
				1	2	3	4	5	Time Slot
				OFF	OFF	OFF	OFF	OFF	TS0
				ON	OFF	OFF	OFF	OFF	TS1
				OFF	ON	OFF	OFF	OFF	TS2
				ON	ON	OFF	OFF	OFF	TS3
				OFF	OFF	ON	OFF	OFF	TS4
				ON	OFF	ON	OFF	OFF	TS5
				OFF	ON	ON	OFF	OFF	TS6
				ON	ON	ON	OFF	OFF	TS7
				OFF	OFF	OFF	ON	OFF	TS8
				ON	OFF	OFF	ON	OFF	TS9
				OFF	ON	OFF	ON	OFF	TS10
				ON	ON	OFF	ON	OFF	TS11
				OFF	OFF	ON	ON	OFF	TS12
				ON	OFF	ON	ON	OFF	TS13
				OFF	ON	ON	ON	OFF	TS14
	1, 2, 3, 4, 5			ON	ON	ON	ON	OFF	TS15
				OFF	OFF	OFF	OFF	ON	TS16
SW27				ON	OFF	OFF	OFF	ON	TS17
				OFF	ON	OFF	OFF	ON	TS18
				ON	ON	OFF	OFF	ON	TS19
				OFF	OFF	ON	OFF	ON	TS20
				ON	OFF	ON	OFF	ON	TS21
				OFF	ON	ON	OFF	ON	TS22
			×	ON	ON	ON	OFF	ON	TS23
				OFF	OFF	OFF	ON	ON	TS23
				ON	OFF	OFF	ON	ON	
				OFF	ON	OFF	ON	ON	
				ON	ON	OFF	ON	ON	
				OFF	OFF	ON	ON	ON	
				ON	OFF	ON	ON	ON	
				OFF	ON	ON	ON	ON	
				ON	ON	ON	ON	ON	
	6	ON		24B					
		OFF	×	23B+D					
	7	OFF	×	Fixed to OFF					
	8	ON		ISDN Bus Used					
		OFF	×	ISDN Bus Not Used (Fixed to OFF)					

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING					
				Congestion Detection Threshold (QUE remainder ratio)					
				1	2	3	4	Detection (%)	Release (%)
			×	OFF	OFF	OFF	OFF	75	90
				ON	OFF	OFF	OFF	15	35
				OFF	ON	OFF	OFF	20	40
				ON	ON	OFF	OFF	25	45
				OFF	OFF	ON	OFF	30	50
				ON	OFF	ON	OFF	40	60
				OFF	ON	ON	OFF	50	65
	1, 2, 3, 4			ON	ON	ON	OFF	55	70
				OFF	OFF	OFF	ON	60	75
SW28				ON	OFF	OFF	ON	65	80
				OFF	ON	OFF	ON	70	85
				ON	ON	OFF	ON	80	90
				OFF	OFF	ON	ON	85	90
				ON	OFF	ON	ON	90	95
				OFF	ON	ON	ON	Always Congestion (for Maintenance)	
				ON	ON	ON	ON	No detection	
	5	OFF	×	Fixed to OFF					
	6	OFF	×	Fixed to OFF					
	7	OFF	×	Fixed to OFF					
	8	OFF	×	Fixed to OFF					

Key Setting for PAD selection

PAD Selection	SW15-7	SW15-8	SW16-7	SW16-8	SW18-7	PCM-Law: Pattern No.
Standard PAD	OFF	OFF	OFF	OFF	OFF	μ-law: Pattern 1
			ON			μ-law: Pattern 2
			OFF	ON		μ-law: Pattern 3
			ON			μ-law: Pattern 4
	ON		OFF	OFF		A-law: Pattern 1
			ON			A-law: Pattern 2
			OFF	ON		A-law: Pattern 3
			ON			A-law: Pattern 4
	OFF	ON	OFF	OFF		A-μ: Pattern 1
			ON			A-μ: Pattern 2
			OFF	ON		A-μ: Pattern 3
			ON			A-μ: Pattern 4
	ON		OFF	OFF		μ-A: Pattern 1
			ON			μ-A: Pattern 2
			OFF	ON		μ-A: Pattern 3
			ON			μ-A: Pattern 4
Flexible PAD	OFF	OFF	Not used		ON	μ-law
	ON		Not used			A-law
	OFF	ON	Not used	OFF		A-μ: Pattern 5 **Note 5**
			Not used	ON		A-μ: Pattern 6 **Note 5**
	ON		Not used	OFF		μ-A: Pattern 5 **Note 5**
			Not used	ON		μ-A: Pattern 6 **Note 5**

Note 5: Refer to Flexible PAD Level.

Standard Setting PAD Level (1/4)

a. μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

Pattern 1		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	8dB	16dB
2	8dB	4dB
3	4dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	9dB

Standard Setting PAD Level (2/4)

b.A-law pattern Setting (Switch 15-7, 8 ON, OFF)

Pattern 1		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	1dB	1dB
2	3dB	3dB
3	5dB	5dB
4	7dB	7dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	9dB

Standard Setting PAD Level (3/4)

c.A-μ Conversion Setting (Switch 15-7, 8 OFF, ON)

Pattern 1		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	0dB	4dB
3	0dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Standard Setting PAD Level (4/4)

d.μ-A Conversion Setting (Switch 15-7,8 ON, ON)

Pattern 1		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	0dB	4dB
3	0dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Flexible PAD Level

ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD: 15	See **Flexible PAD Level of ARTD: 7 or APAD: 15**	See **Flexible PAD Level of ARTD: 7 or APAD: 15**
1	Set value of SW18-1, 2, 3, 4, 5, 6	Set value of SW14-1, 2, 3, 4, 5, 6
2	Set value of SW19-1, 2, 3, 4, 5, 6	Set value of SW15-1, 2, 3, 4, 5, 6
3	Set value of SW20-1, 2, 3, 4, 5, 6	Set value of SW16-1, 2, 3, 4, 5, 6
4	Set value of SW21-1, 2, 3, 4, 5, 6	Set value of SW17-1, 2, 3, 4, 5, 6

Flexible PAD Level of ARTD: 7 or APAD: 15

PCM-Law: Pattern No.	Transmission	Reception
μ-law	0dB	0dB
A-law	0dB	0dB
A-μ: Pattern 5	through	through
A-μ: Pattern 6	0dB	0dB
μ-A: Pattern 5	through	through
μ-A: Pattern 6	0dB	0dB

Flexible PAD Level Setting of SW14-SW21

NO.	-1	-2	-3	-4	-5	-6	Setting Level Value [dB]
0	OFF	OFF	OFF	OFF	OFF	OFF	0
1	ON	OFF	OFF	OFF	OFF	OFF	1
2	OFF	ON	OFF	OFF	OFF	OFF	2
3	ON	ON	OFF	OFF	OFF	OFF	3
4	OFF	OFF	ON	OFF	OFF	OFF	4
5	ON	OFF	ON	OFF	OFF	OFF	5
6	OFF	ON	ON	OFF	OFF	OFF	6
7	ON	ON	ON	OFF	OFF	OFF	7
8	OFF	OFF	OFF	ON	OFF	OFF	8
9	ON	OFF	OFF	ON	OFF	OFF	9
10	OFF	ON	OFF	ON	OFF	OFF	10
11	ON	ON	OFF	ON	OFF	OFF	11
12	OFF	OFF	ON	ON	OFF	OFF	12
13	ON	OFF	ON	ON	OFF	OFF	13
14	OFF	ON	ON	ON	OFF	OFF	14
15	ON	ON	ON	ON	OFF	OFF	15
16	OFF	OFF	OFF	OFF	ON	OFF	16
17	ON	OFF	OFF	OFF	ON	OFF	17
18	OFF	ON	OFF	OFF	ON	OFF	18
19	ON	ON	OFF	OFF	ON	OFF	19
20	OFF	OFF	ON	OFF	ON	OFF	20
21	ON	OFF	ON	OFF	ON	OFF	-1 (Gain)
22	OFF	ON	ON	OFF	ON	OFF	-2 (Gain)
23	ON	ON	ON	OFF	ON	OFF	-3 (Gain)
24	OFF	OFF	OFF	ON	ON	OFF	-4 (Gain)
25	ON	OFF	OFF	ON	ON	OFF	-5 (Gain)
26	OFF	ON	OFF	ON	ON	OFF	-6 (Gain)
27	ON	ON	OFF	ON	ON	OFF	-7 (Gain)
28	OFF	OFF	ON	ON	ON	OFF	-8 (Gain)
29	ON	OFF	ON	ON	ON	OFF	-9 (Gain)
30	OFF	ON	ON	ON	ON	OFF	-10 (Gain)
31	ON	ON	ON	ON	ON	OFF	-11 (Gain)
32	OFF	OFF	OFF	OFF	OFF	ON	-12 (Gain)
33	ON	OFF	OFF	OFF	OFF	ON	-13 (Gain)
34	OFF	ON	OFF	OFF	OFF	ON	-14 (Gain)
35	ON	ON	OFF	OFF	OFF	ON	-15 (Gain)
36	OFF	OFF	ON	OFF	OFF	ON	-16 (Gain)
37	OFF	ON	OFF	ON	OFF	ON	through
Other Setting							Setting Inhibited

6. External Interface

a.The leads appear as follows on the LT connectors.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	POUTB	5	POUTA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

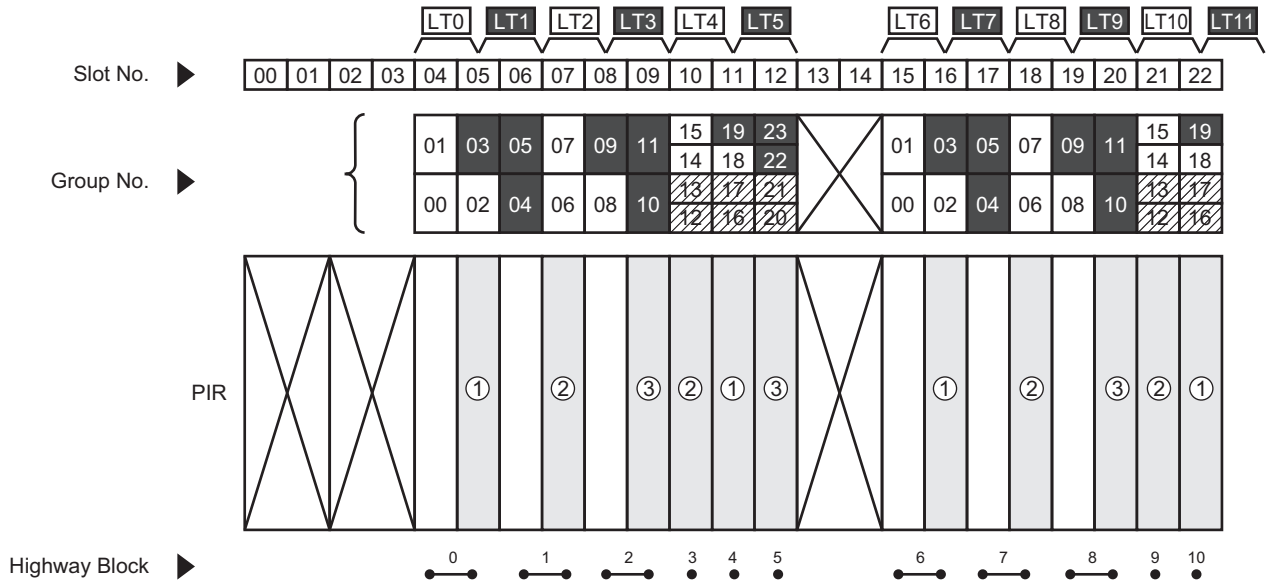
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	POUTB	13	POUTA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 3

LT3, 5, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	POUTB	21	POUTA
47		22	
48		23	
49	TB	24	TA
50		25	

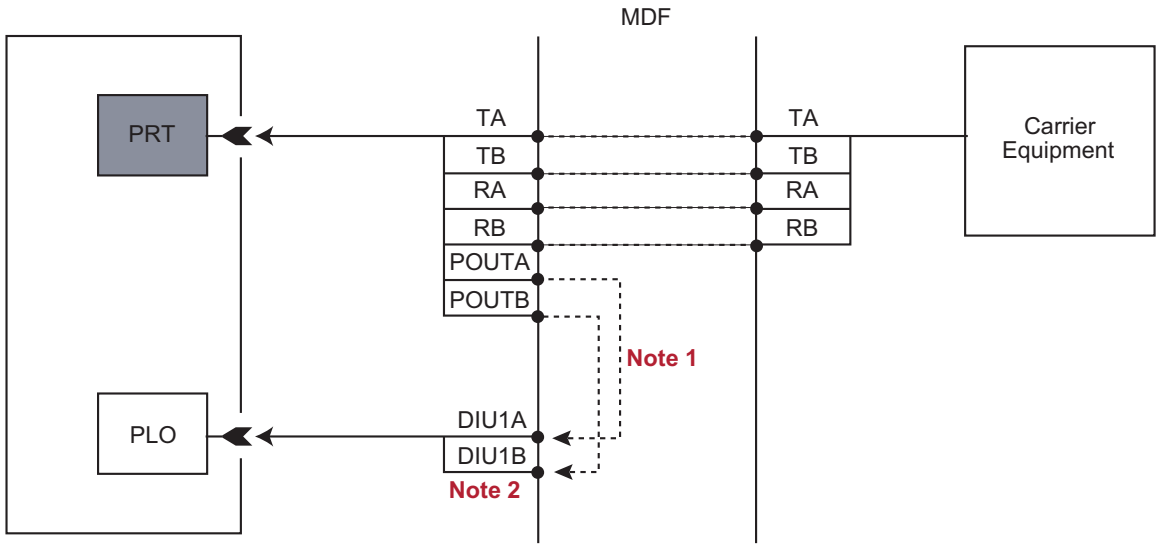


Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

b.Connecting Route Diagram

Connecting Route Diagram

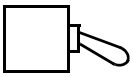
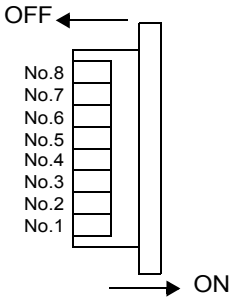
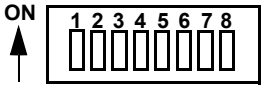
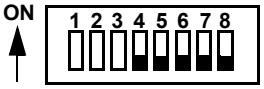
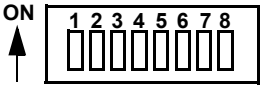
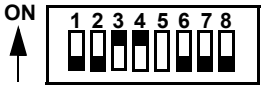
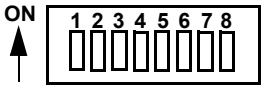
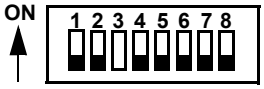
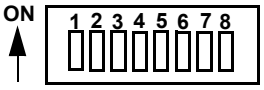
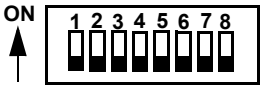
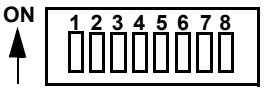
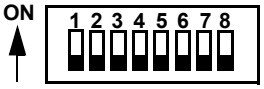
Connecting Route Diagram for the PA-PRTC (1.5M PRT) circuit card is as follows.

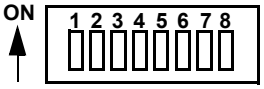
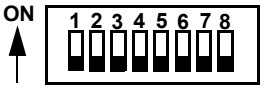
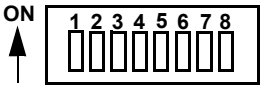
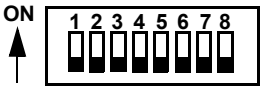
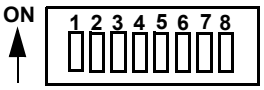
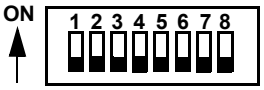
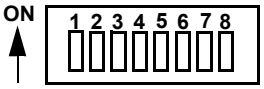
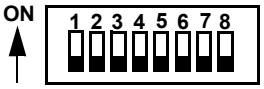
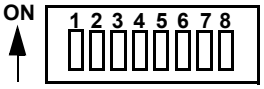
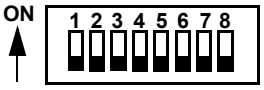
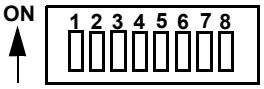
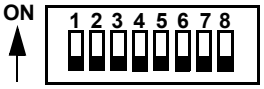
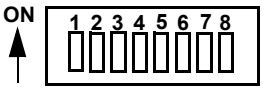
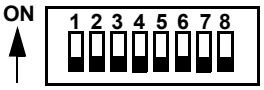
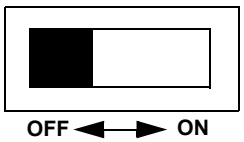
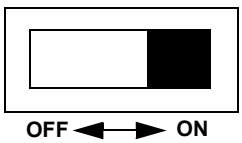
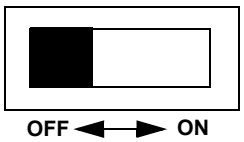


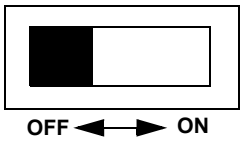
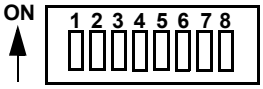
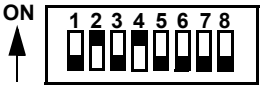
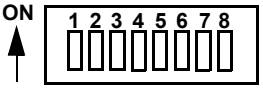
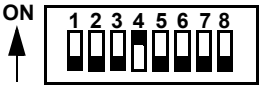
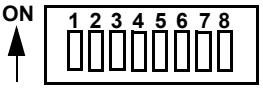
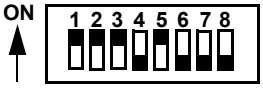
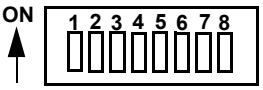
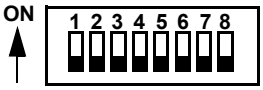
Note 1: This cable connection is required when clock signals must be extracted from the network side.

Note 2: As an example, DIU1A and DIU1B leads are used in this diagram.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW00		
SW01		
SW10		
SW11		**North America 24 Multi Frame Standard** 
SW12		**North America 24 Multi Frame Standard** 
SW13		
SW14		

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW15		
SW16		
SW17		
SW18		
SW19		
SW20		
SW21		
SW22		
SW23		

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW24		
SW25		
SW26		**North America 24 Multi Frame Standard** 
SW27		
SW28		

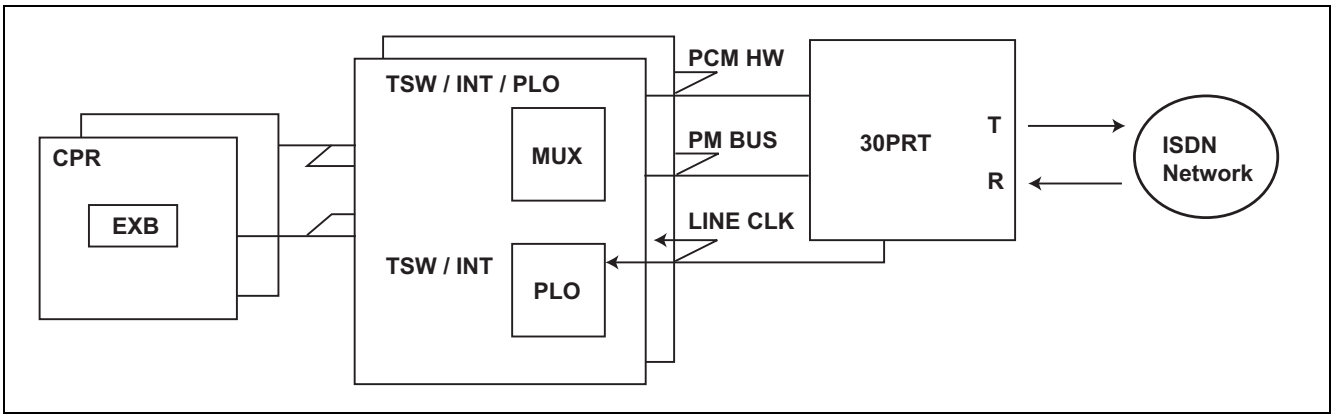
PA-PRTC (2M PRT)
Primary Rate Interface Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	-	X	X

1. General Function

The PA-PRTC (2M PRT) circuit card is a digital interface supporting voice and data communications at 2M bit/second. This card offers Primary Rate Access Interface (PRI) with the system. A built-in resonance circuit extracts clock signals that are supplied from the network, so that the system may be in exact synchronization with the network. To obtain appropriate speech level, this card has standard PAD and flexible PAD. A flexible PAD can set more detailed PAD value than a standard PAD. A flexible PAD value can set the loss from 0 to 20 dB and the gain can be set from -1 to -16 dB respectively in 1dB step.

Location of PA-PRTC (2M PRT) in the System



2. Mounting Location/Condition

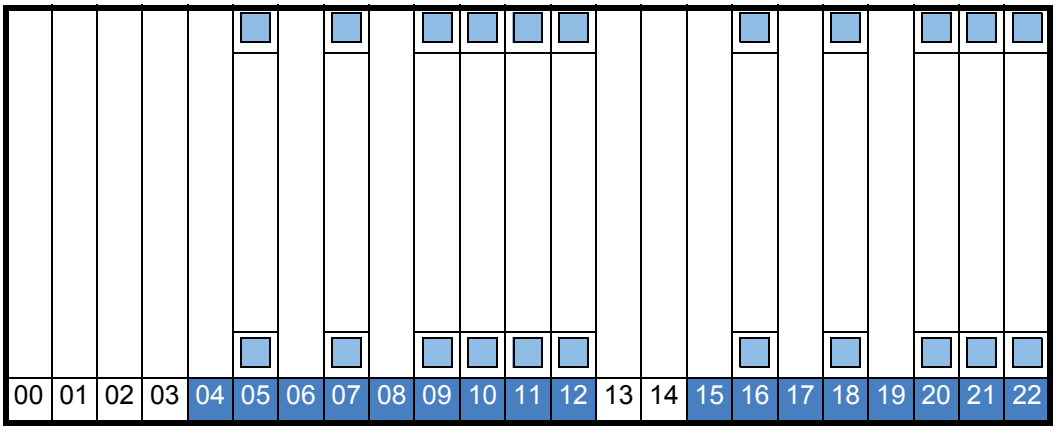
Since allowable mounting location of this card can vary depending upon the type of cables [Twisted Pair, Co-axial (Next Page)], be sure to observe instructions described below.

Since allowable mounting location of this card can vary depending upon the type of cables [Twisted Pair, Co-axial (Next Page)], be sure to observe instructions described below.

[Twisted Pair Cable]

Mounting Location <8U-PIR>

Slots 05, 07, 09-12, 16, 18, 20-22



Mounting Conditions:

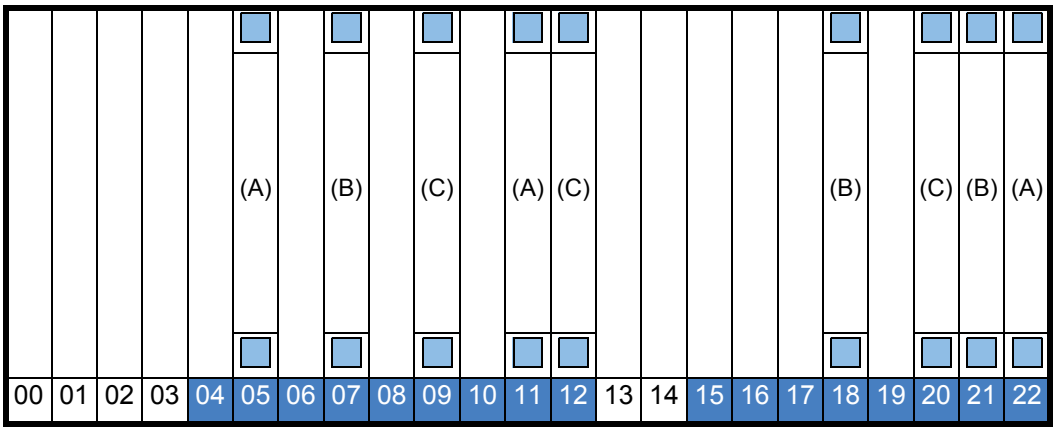
- This card cannot be mounted in Slot 05 when mounted in PIR of Unit 0 (U=0) of Module Group 0 (MG=00).
  This card cannot use Group 0 (G=00) of Unit 0 (U=0) of Module Group 0 (MG=00). LENS:000000 is not available for the users.
- Mount this circuit card so that its leads and the leads of any other analog line/trunk circuit card may not come out to the same LT cable.
- Do not mount other card on the left slot of this card when mounting on 16-port slot.

[Coaxial Cable]

Using coaxial cables reduces available mounting slots for this card as shown below. In addition, COAX TERM card, that is equipped with jumper switches, must be installed for connecting the coaxial cables to the system (Next Page). Prior to installing the card, set the jumpers to the correct positions that can vary depending on the mounting slot of the PA-PRTC (2M PRT).

Mounting Location <8U-PIR>

Slots 05, 07, 09, 11-12, 18, 20-22



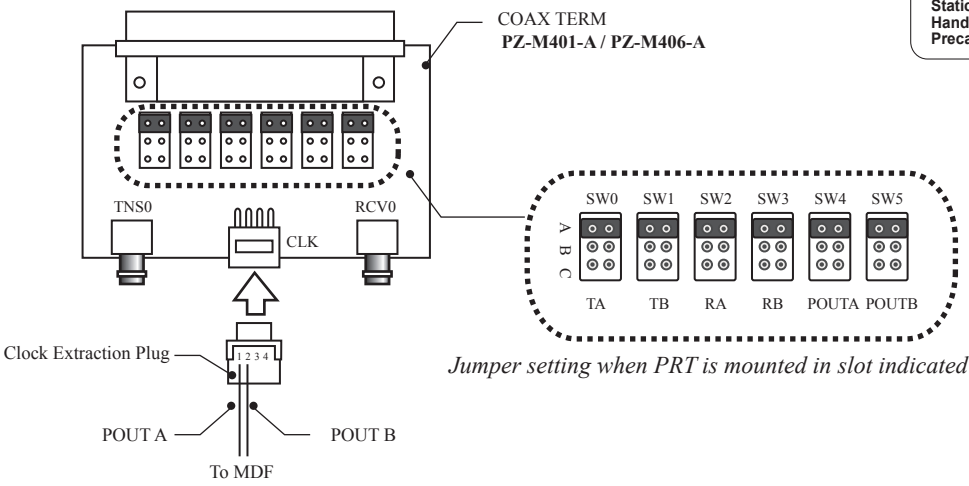
Mounting Conditions:

- This card cannot be mounted in Slot 05 when mounted in PIR of Unit 0 (U=0) of Module Group 0 (MG=00).
  This card cannot use Group 0 (G=00) of Unit 0 (U=0) of Module Group 0 (MG=00).
- When mounting PA-PRTC card in one of the following combination of slots; (Slots 7, 9) (Slots 11, 12) (Slots 18, 22) (Slots 20, 21), available slot for mounting this card is one of slots in each combination of slots.
- When slots indicated (A)/(B) accommodate this card, Line/Trunk cards that have external leads cannot be mounted in the subsequent slot of (A)/(B). Slots indicated (C) are also subject to the same restriction for the proceeding slot of (C).

How to Set Jumpers on COAX TERM (PZ-401-A / PZ-406-A)

This figure shows an example when a PRT card is mounted in one of slots indicated (A).

ATTENTION
Contents
Static Sensitive
Handling
Precautions Required



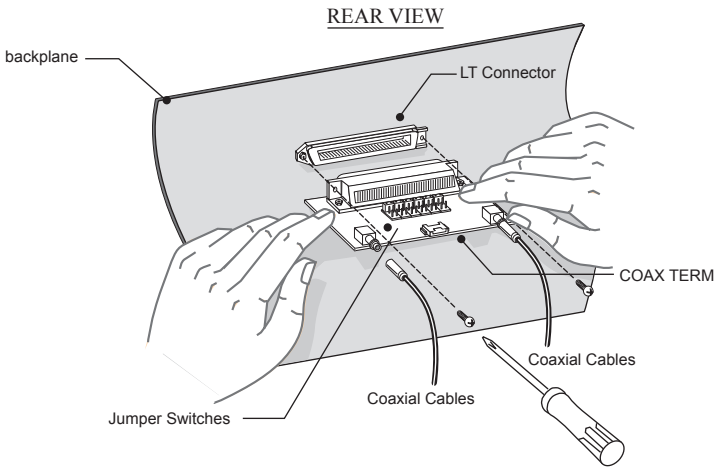
Jumper setting when PRT is mounted in slot indicated A

Note 1: Set the jumpers to (A), (B) or (C) depending on the mounting slot of PRT card.
Note 2: Leads 3 and 4 are not used.

How to Install COAX TERM

Insert COAX TERM to a proper LT connector referring to 6 "External Interface" and secure it with screws on the backplane.

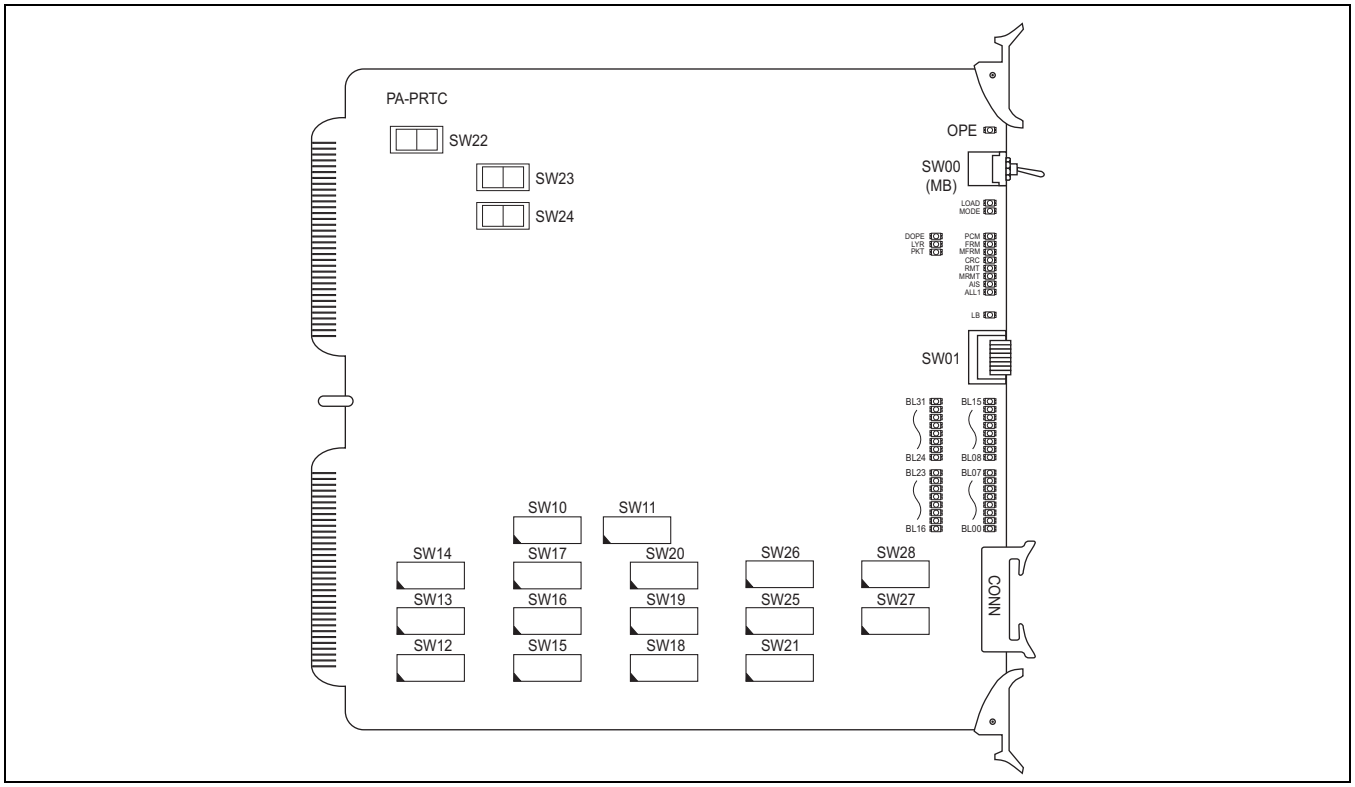
ATTENTION
Contents
Static Sensitive
Handling
Precautions Required



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-PRTC (PRT)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	COLOR	DESCRIPTION	
OPE	Green	Lights when this circuit card is operating normally.	
LOAD	Green	Lights when loading program.	
MODE	Green	This lamp is fixed to OFF.	
PCM	Red	Light	Lights when input signal down is detected (PCM LOSS).
		Flash (240 IPM) (Effective only when SW11-5 is OFF.)	Flashes when system recovered from PCM LOSS and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
FRM	Red	Light	Lights when basic frame alignment loss is detected.
		Flash (240 IPM) (Effective only when SW11-5 is OFF.)	Flashes when system recovered from basic frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds

LAMP NAME	COLOR	DESCRIPTION	
MFRM	Red	Light	Lights when CRC-4 multi frame alignment loss is detected. Lights when TS16 multi frame alignment loss is detected.
		Flash (240 IPM) (Effective only when SW11-5 is OFF.)	Flashes when system recovered from Multi frame alignment loss and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
CRC	Red	Light (Effective only when SW12-2 is OFF.)	Lights when CRC errors are detected 915 times or more per second.
		Light (Effective only when SW12-2 is ON.)	Lights when Framing errors are detected 28 times or more per second, and it continues for five seconds.
		Light (240IPM) (Effective only when SW12-2 is ON.)	Flashes when system has recovered from Framing error and is being supervised. (Flashes for 5 seconds after recovery)

LAMP NAME	COLOR	DESCRIPTION	
RMT	Red	Light	Lights when remote alarm is detected.
		Flash (240IPM) (Effective only when SW11-5 is OFF)	Flashes when system has recovered from remote alarm detection and is being supervised. Length of time supervised is listed below. (Flashes for length of time listed below after recovery) When SW11-4 is ON: 15 seconds When SW11-4 is OFF: 2 seconds
MRMT (Effective only when SW12-5 is OFF)	Red	Light	Lights when TS16 remote alarm is detected.
		Flash (240IPM) (Effective only when SW11-5 is OFF)	Flashes when system has recovered from TS16 remote alarm detection and is being supervised. (Flashes for 2 seconds after recovery)
AIS	Yellow	Lights on receipt of Alarm Information Signal (AIS).	
ALL1 (Effective only when SW13-1 is ON)	Red	Light	Lights when main signal ALL1 is detected.
		Flash (240 IPM)	Flashes when system has recovered from main signal ALL1 and is being supervised. Length of time for recovery supervision: 2 seconds
LB	Green	Light	Lights when loopback is being activated.
BL00	Green	Light	Lights when assigned the route data for Dch.

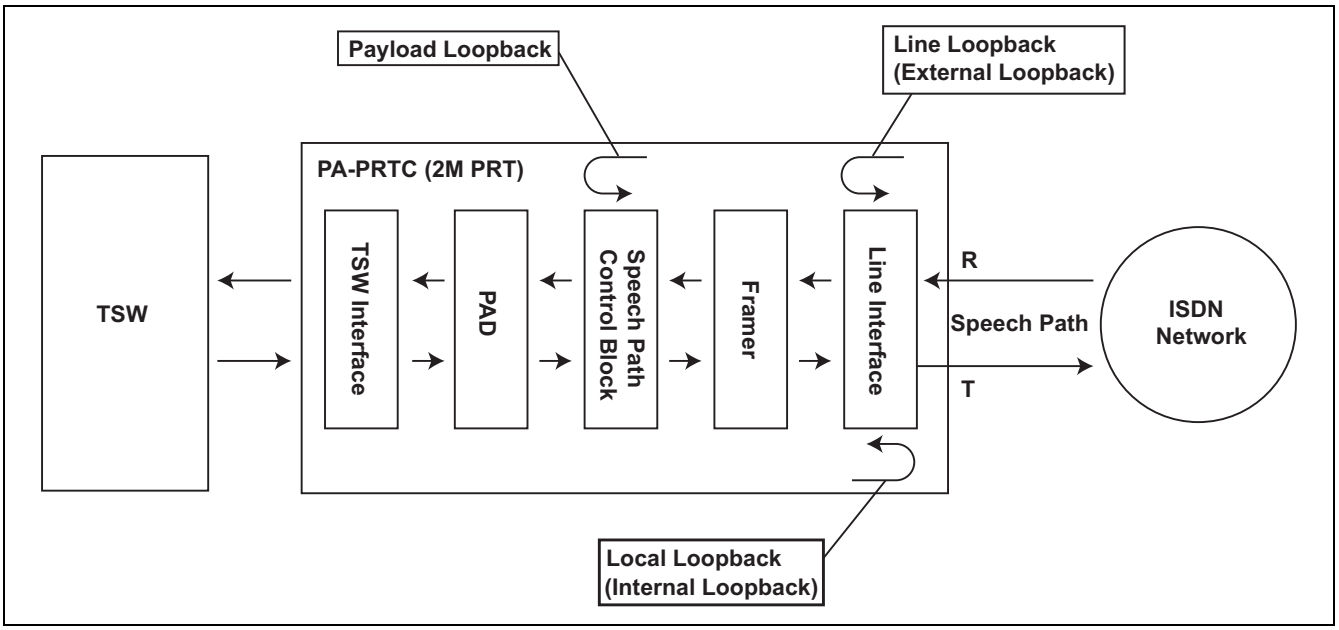
LAMP NAME	COLOR	DESCRIPTION	
BL01 ' BL31	Green	Light	Lights when corresponding circuit is busy.
		Flash	Flashes while DP signal are being sent out or received (Flashes to dial pulses), the corresponding circuit (outgoing) is in Make-Busy state (60 IPM) or the corresponding circuit (Bothway and Blocking Signal Detect) is in Make-Busy state (30 IPM).
		OFF	Remains OFF when Idle.
DOPE	Green	Remains lit while the D-Channel Handler is on.	
LYR	Green	Light	Lights when the link of the D-Channel is set up.
		Flash (120 IPM)	Flashes when the link of the D-Channel is started up.
PKT	Green	Lights when the packet of the D-Channel is in use.	

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00		UP		Circuit card: make-busy
		DOWN	×	Circuit card: make-busy cancel
SW01	1	ON		Local Loopback: Set (Internal)
		OFF	×	Local Loopback: Cancel (Internal)
	2	ON		Line Loopback: Set (External)
		OFF	×	Line Loopback: Cancel (External)
	3	ON		Payload Loopback: Set
		OFF	×	Payload Loopback: Cancel
	4	ON		
		OFF	×	Fixed to OFF
	5	ON		Circuit make-busy: Set
		OFF	×	Circuit make-busy: Cancel
	6	ON		DCH make-busy: Set
		OFF	×	DCH make-busy: Cancel
	7	ON		DCH Loopback: Set
		OFF	×	DCH Loopback: Cancel
	8	ON		
		OFF	×	Fixed to OFF. (For Maintenance)

Available Locations for Loopback Testing



<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="16">SW10</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="16">Country/Recommendation specification of ACIS

<table><tr><th colspan="6">Country/Recommendation Spec. Settings</th></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>Country/Recommendation</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ITU-T Q. 421, Q. 422</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ITU-T Q. 421, Q. 422
Fascicle VI. 4 - Suppl. No. 6
(Pulse Clear Back)</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ITU-T Q. 421, Q. 422
Fascicle VI. 4 - Suppl. No. 6
(Pulse Answer)</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>Australia P2 Protocol</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>China</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>Thailand</td></tr><tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>Brazil LME Interface</td></tr><tr><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>Brazil Collect Call Blocking</td></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>Brazil Continuous E&M Signal A Positive</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>Brazil Continuous E&M Signal A Negative</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>Brazil Continuous E&M Signal B Positive</td></tr><tr><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>Iran TCI Interface</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>Peru Continuous E&M Signal A Positive</td></tr><tr><td>ON</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>Peru Continuous E&M Signal A Negative</td></tr><tr><td colspan="5">Other Setting</td><td>ITU-T Q. 421, Q. 422</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW11	1	ON		Remote Alarm Send Out Restricted
		OFF	×	Remote Alarm Send Out Unrestricted
	2	ON		
		OFF	×	Fixed to OFF
	3	ON		Multi Remote Alarm Send Out Restricted (TS16) **Note 1**
		OFF	×	Multi Remote Alarm Send Out Unrestricted (TS16) **Note 1**
	4	ON		Alarm Release Time: (Long)
		OFF		Alarm Release Time: (Short)
	5	ON		Alarm Detect/Release Type (ETSI)
		OFF		Alarm Detect/Release Type (Normal)
	6	ON		PLO is controlled when main signal ALL1.
		OFF	×	PLO is not controlled when main signal ALL1.
	7	ON		
		OFF	×	Fixed to OFF.
	8	ON		
		OFF	×	Fixed to OFF.

Note: Effective when the TS16 signaling (SW12 5=OFF) is selected.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW12	1	ON		Line Signal: AMI
		OFF	×	Line Signal: HDB3
	2	ON		CRC-4 Processing Control: Not to be controlled
		OFF	×	CRC-4 Processing Control: to be controlled
	3	ON		E-Bit Sending: Controlled by CPU
		OFF	×	E-Bit Sending: Automatic
	4	ON		Signaling Format Setting: CEPT
		OFF		Signaling Format Setting: ITU-T
	5	ON		TS16 Control: Data Through **Note 1**
		OFF		TS16 Control: Used for Signaling
	6	ON		CRC Multiframe Format: ITU-T G. 706 Annex-B type
		OFF	×	CRC Multiframe Format: Normal
	7	ON		Long haul mode
		OFF	×	Short haul mode
	8	ON		DCH activation mode: Network side mode **Note 2**
		OFF	×	DCH activation mode: User side mode

Note 1: Fixed to ON if registered as CCIS signal by TS16.

Note 2: Check connectivity for network in advance if you will use Network mode.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW13	1	ON		Main Signal ALL1 is detected.
		OFF	×	Main Signal ALL1 is not detected.
	2	ON		Idle Code is sent.
		OFF	×	Idle Code is not sent.
	3	ON		DP relay function is used for FCCS.
		OFF	×	DP relay function is not used for FCCS.
	4	ON		Simultaneous Seizure Supervision: Not controlled
		OFF	×	Simultaneous Seizure Supervision: Controlled
	5	ON		Not activate counter node when detecting Simultaneous Seizure.
		OFF	×	Activate counter node when detecting Simultaneous Seizure.
	6	ON		Layer 1 Alarm is not notified to CPU.
		OFF	×	Layer 1 Alarm is notified to CPU.
	7	ON		CAS is not effective when DCH is used.
		OFF	×	CAS is effective when DCH is used.
	8	ON	×	Incoming / Outgoing call collision processing is used. **Note 3**
		OFF		Incoming / Outgoing call collision processing is not used.

Note 3: Assign ASYD, SYS=1, Index=7, Bit 3=1.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW14	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Control Method (Using Both Flexible/Standard PAD)		
				7	8	
			×	OFF	OFF	Reception PAD Control (Transmission PAD: 0 dB)
				ON	OFF	Transmission PAD Control (Reception PAD: 0 dB)
				OFF	ON	Fixed to ARTD (Transmission/Reception PAD Control)
				ON	ON	Transmission/Reception PAD Control

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW15	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 2 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Selection (Using Both Flexible/Standard PAD)		
				7	8	
				OFF	OFF	μ- Law
			×	ON	OFF	A - Law
				OFF	ON	A - Law → μ - Law
				ON	ON	μ - Law →A - Law

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW16	1	ON		Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 3 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			PAD Pattern Selection **Refer to Standard PAD Setting PAD Level (1/4) ~ UK PAD Setting PAD Level (4/4)**		
				7	8	
			×	OFF	OFF	PAD Pattern 1
				ON	OFF	PAD Pattern 2
				OFF	ON	PAD Pattern 3
				ON	ON	PAD Pattern 4

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW17	1	ON		Reception PAD Value Setting (Flexible PAD): (PAD Data 4) (Reception PAD value when 4 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Data PAD Pattern Selection		
				7	8	
			×	OFF	OFF	64 k
				ON	OFF	64 k Inversion
				OFF	ON	56 k
				ON	ON	48 k

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW18	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**
		OFF		
	2	ON		
		OFF		
	3	ON		
		OFF		
	4	ON		
		OFF		
	5	ON		
		OFF		
	6	ON		
		OFF		
	7	ON		Flexible PAD (Refer to No. 1 - 6 of SW14 - SW21)
		OFF	×	Standard PAD (Refer to No.7-8 of SW16)
	8	ON		DCH Signaling Logic: Negative
		OFF	×	DCH Signaling Logic: Positive

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW19	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Seizure Acknowledgement Guard Time		
				7	8	
			×	OFF	OFF	48 milliseconds
				ON	OFF	64 milliseconds
				OFF	ON	80 milliseconds
				ON	ON	96 milliseconds
			Acknowledge Signal Detection Guard timer when sending out Wink/Delay.			

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW20	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Seizure Acknowledgement Detection Time		
				7	8	
			×	OFF	OFF	56 milliseconds
				ON	OFF	96 milliseconds
				OFF	ON	136 milliseconds
				ON	ON	176 milliseconds
			Acknowledge Signal Detection timer when sending out Wink/Delay.			

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING		
SW21	1	ON		Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set by ARTD/APAD command.) **Refer to Flexible PAD Level Setting of SW14-SW21 for more details in PAD value of Flexible PAD Data**		
		OFF				
	2	ON				
		OFF				
	3	ON				
		OFF				
	4	ON				
		OFF				
	5	ON				
		OFF				
	6	ON				
		OFF				
	7, 8			Answer Detection Time		
				7	8	
			×	OFF	OFF	200 milliseconds
				ON	OFF	100 milliseconds
				OFF	ON	400 milliseconds
				ON	ON	700 milliseconds

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
SW22	ON		
	OFF	×	Fixed to OFF
SW23	ON		Impedance Setting 75Ω (Coaxial Cable)
	OFF		Impedance Setting 120Ω (Pair Cable)
SW24	ON	×	Middle point of reception transformer: Open
	OFF		Middle point of reception transformer: Ground

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW25	1	ON		Sa4-Sa8 Bit Operation Select (Reserve)
		OFF		
	2	ON		
		OFF		Fixed to all OFF.
	3	ON		
		OFF		
	4	ON		
		OFF		
	5	ON		PAD Select: UK PAD Select
		OFF		PAD Select: Standard PAD Select
	6	ON		
		OFF	×	Fixed to OFF
	7	ON		
		OFF	×	Fixed to OFF
	8	ON		
		OFF	×	Fixed to OFF

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING				
SW26	1, 2, 3			DCH Operation Mode				
				1	2	3		
			×	OFF	OFF	OFF	ITU-T Mode	
				ON	OFF	OFF	AT&T Mode	
				OFF	ON	OFF	TTC Mode	
				ON	ON	OFF	Thai Mode	
				OFF	OFF	ON	ITU-T Mode	
				ON	OFF	ON	ITU-T Mode	
				OFF	ON	ON	ITU-T Mode	
				ON	ON	ON	ITU-T Mode	
	4	ON		SABME Wait Timer Enable				
		OFF		SABME Wait Timer Disable				
	5, 6, 7, 8			DCH Transfer Rate				
				5	6	7	8	
			×	OFF	OFF	OFF	OFF	64kbps
				ON	OFF	OFF	OFF	56kbps
				OFF	ON	OFF	OFF	48kbps (Standard)
				ON	ON	OFF	OFF	32kbps (Forward)
				OFF	OFF	ON	OFF	32kbps (Backward)
				ON	OFF	ON	OFF	16kbps (Forward)
				OFF	ON	ON	OFF	16kbps (Backward)
				ON	ON	ON	OFF	8kbps (Forward)
				OFF	OFF	OFF	ON	8kbps (Backward)
				ON	OFF	OFF	ON	48kbps (Option)
				OFF	ON	OFF	ON	64kbps
				ON	ON	OFF	ON	
				OFF	OFF	ON	ON	
				ON	OFF	ON	ON	
				OFF	ON	ON	ON	
				ON	ON	ON	ON	

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING					
				DCH Time Slot Setting					
				1	2	3	4	5	Time Slot
				OFF	OFF	OFF	OFF	OFF	Setting Inhibit
				ON	OFF	OFF	OFF	OFF	TS1
				OFF	ON	OFF	OFF	OFF	TS2
				ON	ON	OFF	OFF	OFF	TS3
				OFF	OFF	ON	OFF	OFF	TS4
				ON	OFF	ON	OFF	OFF	TS5
				OFF	ON	ON	OFF	OFF	TS6
				ON	ON	ON	OFF	OFF	TS7
				OFF	OFF	OFF	ON	OFF	TS8
				ON	OFF	OFF	ON	OFF	TS9
				OFF	ON	OFF	ON	OFF	TS10
				ON	ON	OFF	ON	OFF	TS11
				OFF	OFF	ON	ON	OFF	TS12
				ON	OFF	ON	ON	OFF	TS13
				OFF	ON	ON	ON	OFF	TS14
	1, 2, 3, 4, 5			ON	ON	ON	ON	OFF	TS15
			×	OFF	OFF	OFF	OFF	ON	TS16
SW27				ON	OFF	OFF	OFF	ON	TS17
				OFF	ON	OFF	OFF	ON	TS18
				ON	ON	OFF	OFF	ON	TS19
				OFF	OFF	ON	OFF	ON	TS20
				ON	OFF	ON	OFF	ON	TS21
				OFF	ON	ON	OFF	ON	TS22
				ON	ON	ON	OFF	ON	TS23
				OFF	OFF	OFF	ON	ON	TS24
				ON	OFF	OFF	ON	ON	TS25
				OFF	ON	OFF	ON	ON	TS26
				ON	ON	OFF	ON	ON	TS27
				OFF	OFF	ON	ON	ON	TS28
				ON	OFF	ON	ON	ON	TS29
				OFF	ON	ON	ON	ON	TS30
				ON	ON	ON	ON	ON	TS31
	6	ON		30B					
		OFF	×	30B+D					
	7	OFF	×	Fixed to OFF					
	8	ON		ISDN Bus Used					
		OFF	×	ISDN Bus Not Used (Fixed to OFF)					

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING					
				Congestion Detection Threshold (QUE remainder ratio)					
				1	2	3	4	Detection (%)	Release (%)
			×	OFF	OFF	OFF	OFF	75	90
				ON	OFF	OFF	OFF	15	35
				OFF	ON	OFF	OFF	20	40
				ON	ON	OFF	OFF	25	45
				OFF	OFF	ON	OFF	30	50
				ON	OFF	ON	OFF	40	60
				OFF	ON	ON	OFF	50	65
	1, 2, 3, 4			ON	ON	ON	OFF	55	70
				OFF	OFF	OFF	ON	60	75
SW28				ON	OFF	OFF	ON	65	80
				OFF	ON	OFF	ON	70	85
				ON	ON	OFF	ON	80	90
				OFF	OFF	ON	ON	85	90
				ON	OFF	ON	ON	90	95
				OFF	ON	ON	ON	Always Congestion (for Maintenance)	
				ON	ON	ON	ON	No detection	
	5	OFF	×	Fixed to OFF					
	6	OFF	×	Fixed to OFF					
	7	OFF	×	Fixed to OFF					
	8	OFF	×	Fixed to OFF					

Key Setting for PAD selection

PAD Selection	SW15-7	SW15-8	SW16-7	SW16-8	SW18-7	PCM-Law: Pattern No.
Standard/UK PAD	OFF	OFF	OFF	OFF	OFF	μ-law: Pattern 1
			ON			μ-law: Pattern 2
			OFF	ON		μ-law: Pattern 3
			ON			μ-law: Pattern 4
	ON		OFF	OFF		A-law: Pattern 1
			ON			A-law: Pattern 2
			OFF	ON		A-law: Pattern 3
			ON			A-law: Pattern 4
	OFF	ON	OFF	OFF		A-μ: Pattern 1
			ON			A-μ: Pattern 2
			OFF	ON		A-μ: Pattern 3
			ON			A-μ: Pattern 4
	ON		OFF	OFF		μ-A: Pattern 1
			ON			μ-A: Pattern 2
			OFF	ON		μ-A: Pattern 3
			ON			μ-A: Pattern 4
Flexible PAD	OFF	OFF	Not used		ON	μ-law
	ON		Not used			A-law
	OFF	ON	Not used	OFF		A-μ: Pattern 5 **Note 4**
			Not used	ON		A-μ: Pattern 6 **Note 4**
	ON		Not used	OFF		μ-A: Pattern 5 **Note 4**
			Not used	ON		μ-A: Pattern 6 **Note 4**

Note 4: Refer to **Flexible PAD Level**.

Standard PAD Setting PAD Level (1/4)

a.μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

Pattern 1		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	8dB	16dB
2	8dB	4dB
3	4dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	9dB

Standard PAD Setting PAD Level (2/4)

b.A-law pattern Setting (Switch 15-7, 8 ON, OFF)

Pattern 1		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	1dB	1dB
2	3dB	3dB
3	5dB	5dB
4	7dB	7dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	9dB

Standard PAD Setting PAD Level (3/4)

c.A-μ Conversion Setting (Switch 15-7, 8 OFF, ON)

Pattern 1		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	0dB	4dB
3	0dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

Standard PAD Setting PAD Level (4/4)

d.μ-A Conversion Setting (Switch 15-7,8 ON, ON)

Pattern 1		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	0dB	4dB
3	0dB	12dB
4	0dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	12dB	12dB
4	8dB	8dB

UK PAD Setting PAD Level (1/4)

a.μ-law Pattern Setting (Switch 15-7, 8 OFF, OFF)

Pattern 1		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 2		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 3		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	4dB	4dB
2	8dB	0dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	8dB	0dB
3	6dB	6dB
4	8dB	8dB

UK PAD Setting PAD Level (2/4)

b.A-law pattern Setting (Switch 15-7, 8 ON, OFF)

Pattern 1		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	-3dB	3dB
2	3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	4dB	4dB
2	8dB	0dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission**	**Reception**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	0dB
3	6dB	6dB
4	8dB	8dB

UK PAD Setting PAD Level (3/4)

c.A-μ Conversion Setting (Switch 15-7, 8 OFF, ON)

Pattern 1		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	8dB	0dB
4	3dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	-3dB	3dB
3	0dB	0dB
4	3dB	3dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission A→μ**	**Reception μ→A**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	3dB	3dB
3	12dB	12dB
4	8dB	8dB

UK PAD Setting PAD Level (4/4)

d.μ-A Conversion Setting (Switch 15-7,8 ON, ON)

Pattern 1		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	4dB	4dB
3	8dB	0dB
4	3dB	8dB

Pattern 2		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	through	through
1	0dB	0dB
2	-3dB	3dB
3	0dB	6dB
4	3dB	8dB

Pattern 3		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	4dB	4dB
3	6dB	6dB
4	8dB	8dB

Pattern 4		
ARTD/APAD Setting Data	**Transmission μ→A**	**Reception A→μ**
ARTD:7 APAD:15	0dB	0dB
1	2dB	2dB
2	3dB	3dB
3	12dB	12dB
4	8dB	8dB

Flexible PAD Level

ARTD/APAD Setting Data	Transmission	Reception
ARTD:7 APAD: 15	See **Flexible PAD Level of ARTD: 7 or APAD: 15**	See **Flexible PAD Level of ARTD: 7 or APAD: 15**
1	Set value of SW18-1, 2, 3, 4, 5, 6	Set value of SW14-1, 2, 3, 4, 5, 6
2	Set value of SW19-1, 2, 3, 4, 5, 6	Set value of SW15-1, 2, 3, 4, 5, 6
3	Set value of SW20-1, 2, 3, 4, 5, 6	Set value of SW16-1, 2, 3, 4, 5, 6
4	Set value of SW21-1, 2, 3, 4, 5, 6	Set value of SW17-1, 2, 3, 4, 5, 6

Flexible PAD Level of ARTD: 7 or APAD: 15

PCM-Law: Pattern No.	Transmission	Reception
μ-law	0dB	0dB
A-law	0dB	0dB
A-μ: Pattern 5	through	through
A-μ: Pattern 6	0dB	0dB
μ-A: Pattern 5	through	through
μ-A: Pattern 6	0dB	0dB

Flexible PAD Level Setting of SW14-SW21

NO.	-1	-2	-3	-4	-5	-6	Setting Level Value [dB]
0	OFF	OFF	OFF	OFF	OFF	OFF	0
1	ON	OFF	OFF	OFF	OFF	OFF	1
2	OFF	ON	OFF	OFF	OFF	OFF	2
3	ON	ON	OFF	OFF	OFF	OFF	3
4	OFF	OFF	ON	OFF	OFF	OFF	4
5	ON	OFF	ON	OFF	OFF	OFF	5
6	OFF	ON	ON	OFF	OFF	OFF	6
7	ON	ON	ON	OFF	OFF	OFF	7
8	OFF	OFF	OFF	ON	OFF	OFF	8
9	ON	OFF	OFF	ON	OFF	OFF	9
10	OFF	ON	OFF	ON	OFF	OFF	10
11	ON	ON	OFF	ON	OFF	OFF	11
12	OFF	OFF	ON	ON	OFF	OFF	12
13	ON	OFF	ON	ON	OFF	OFF	13
14	OFF	ON	ON	ON	OFF	OFF	14
15	ON	ON	ON	ON	OFF	OFF	15
16	OFF	OFF	OFF	OFF	ON	OFF	16
17	ON	OFF	OFF	OFF	ON	OFF	17
18	OFF	ON	OFF	OFF	ON	OFF	18
19	ON	ON	OFF	OFF	ON	OFF	19
20	OFF	OFF	ON	OFF	ON	OFF	20
21	ON	OFF	ON	OFF	ON	OFF	-1 (Gain)
22	OFF	ON	ON	OFF	ON	OFF	-2 (Gain)
23	ON	ON	ON	OFF	ON	OFF	-3 (Gain)
24	OFF	OFF	OFF	ON	ON	OFF	-4 (Gain)
25	ON	OFF	OFF	ON	ON	OFF	-5 (Gain)
26	OFF	ON	OFF	ON	ON	OFF	-6 (Gain)
27	ON	ON	OFF	ON	ON	OFF	-7 (Gain)
28	OFF	OFF	ON	ON	ON	OFF	-8 (Gain)
29	ON	OFF	ON	ON	ON	OFF	-9 (Gain)
30	OFF	ON	ON	ON	ON	OFF	-10 (Gain)
31	ON	ON	ON	ON	ON	OFF	-11 (Gain)
32	OFF	OFF	OFF	OFF	OFF	ON	-12 (Gain)
33	ON	OFF	OFF	OFF	OFF	ON	-13 (Gain)
34	OFF	ON	OFF	OFF	OFF	ON	-14 (Gain)
35	ON	ON	OFF	OFF	OFF	ON	-15 (Gain)
36	OFF	OFF	ON	OFF	OFF	ON	-16 (Gain)
37	OFF	ON	OFF	ON	OFF	ON	through
Other Setting							Setting Inhibited

6. External Interface

a.The leads appear as follows on the LT connectors.

LT Connector Lead Accommodation

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30	POUTB	5	POUTA
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

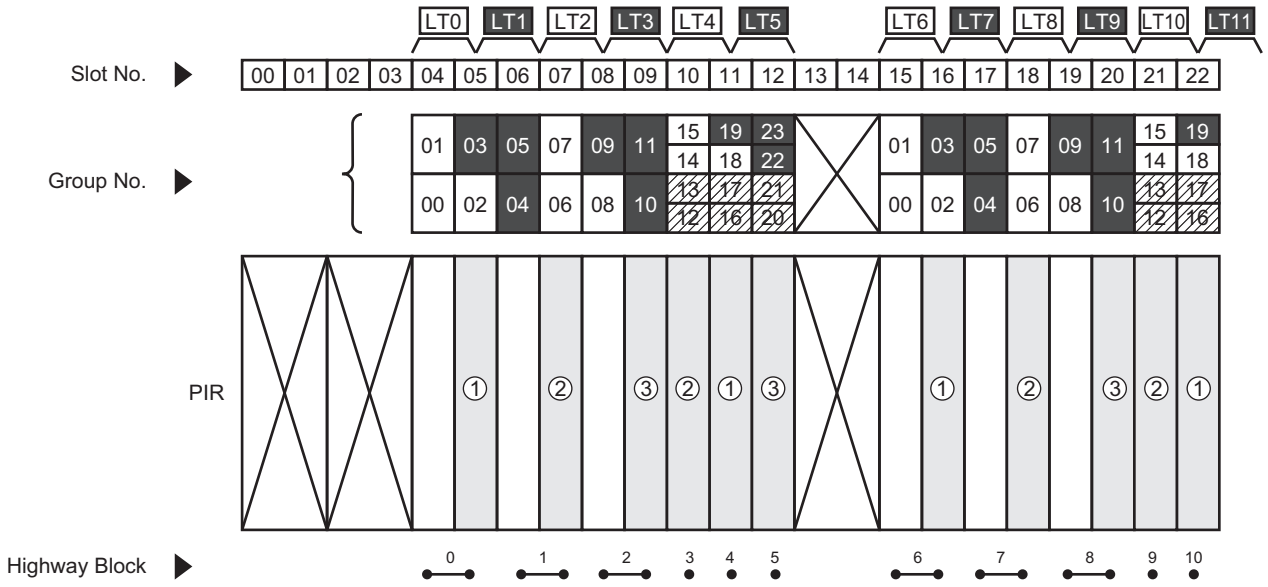
LT2, 4, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38	POUTB	13	POUTA
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 3

LT3, 5, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46	POUTB	21	POUTA
47		22	
48		23	
49	TB	24	TA
50		25	

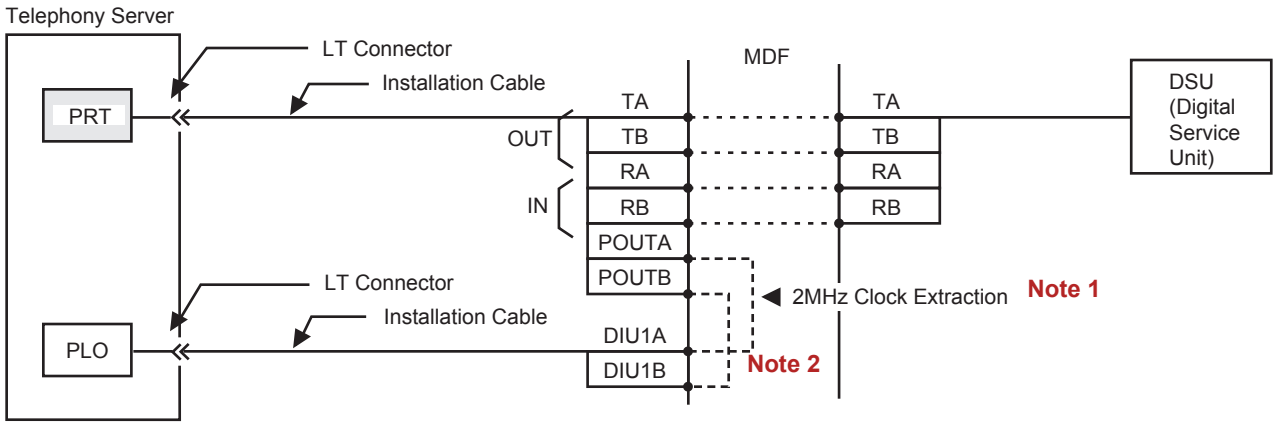


Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

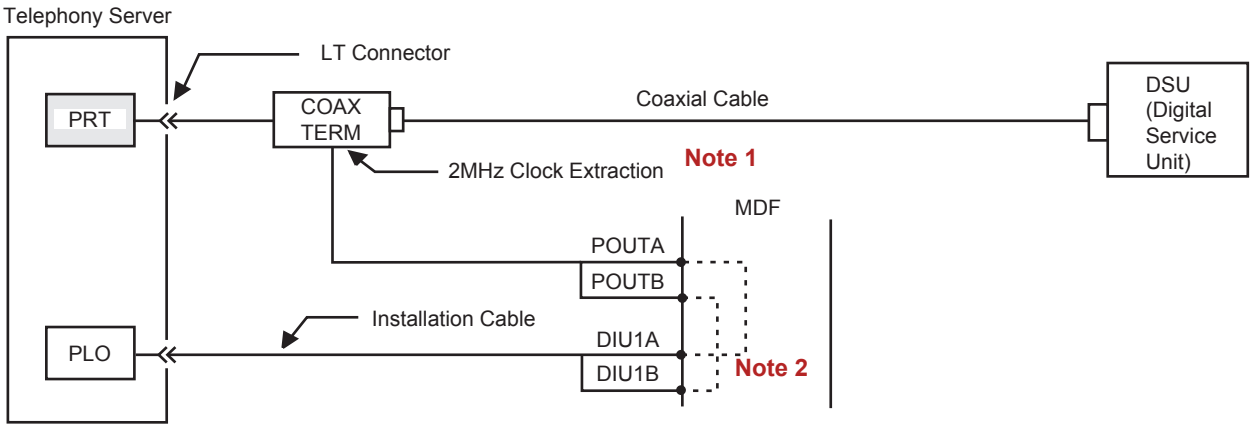
b.Connecting Route Diagram

Connecting Route Diagram is as follows depending on the cable type.

• Twisted Pair Cable



• Coaxial Cable



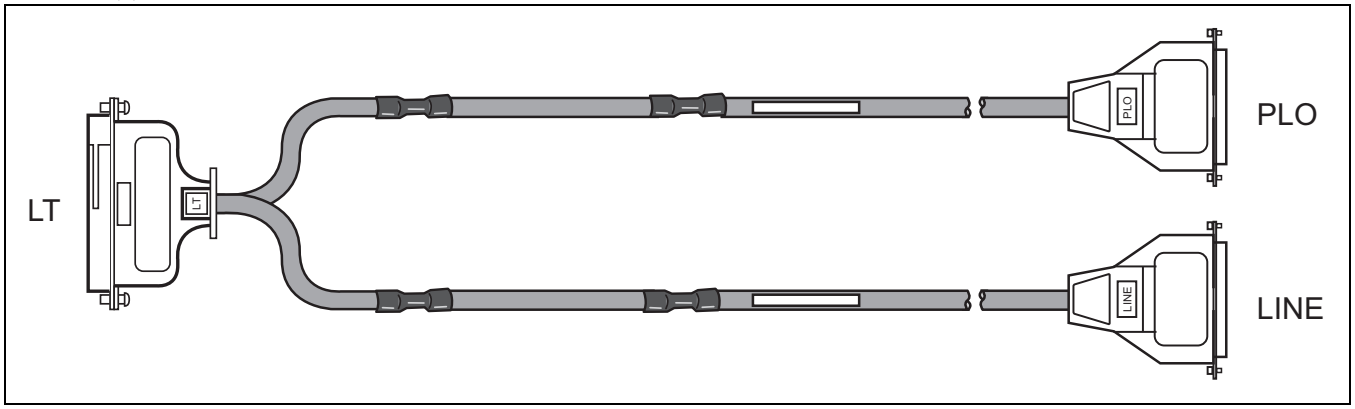
Note 1: This cable connection is required when clock signals must be extracted from the network side.

Note 2: As an example, DIU1A and DIU1B leads are used in this diagram. For more information on the PLO card, see Chapter 2.

7. External Interface (Only for EMEA)

When this circuit card is used in EMEA, the cable (DTI CA-G) must be used.

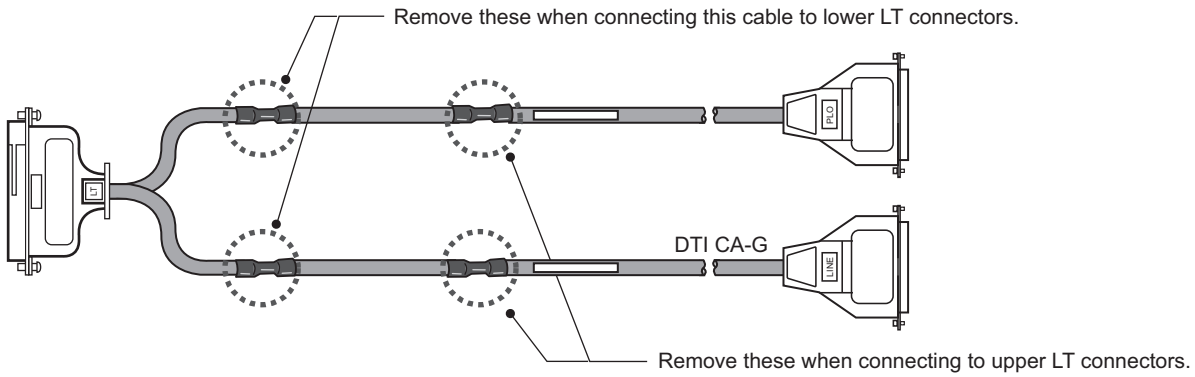
(a) Overview of DTI CA-G



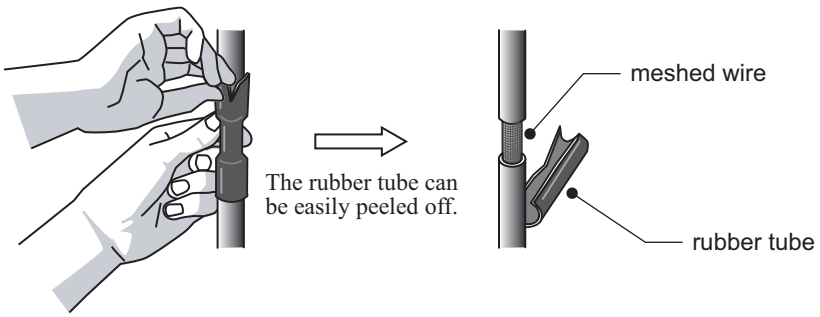
(b) How to connect DTI CA-G

How Connect DTI CA-G (1/2)

STEP 1: Make sure which rubber tubes should be removed to expose meshed wire.



STEP 2: Remove the rubber tubes from the cable as shown below.

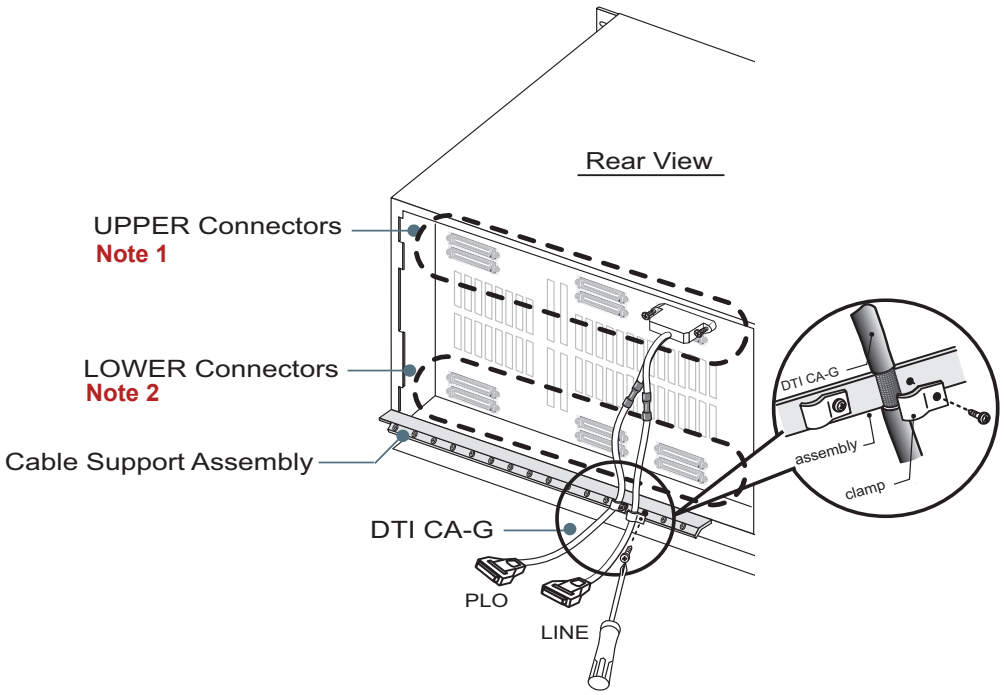


How To Connect DTI CA-G(2/2)

STEP 3: Remove the associated clamp from the cable support assembly.

STEP 4: Connect DTI CA-G to appropriate LT connector and then tighten the screws to secure the connector onto the backplane of PIR.

STEP 5: Secure the cable onto the assembly using the removed clamp as shown below.



Note 1: When connecting to upper connectors, remove the rubber tubes that are near to LINE, PLO connectors.

Note 2: When connecting to lower connectors, remove the rubber tubes that are near to LT connectors.

(c) The leads appear as follows on the LT connectors.

LT Connector Lead Accommodation (PIR)

PLO

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29		4	
30	POUTB	5	POUTA
31		6	
32		7	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

LT2, 4, 6, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38	POUTB	13	POUTA
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 3

LT3, 5, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46	POUTB	21	POUTA
47		22	
48		23	
49		24	
50		25	

LINE

Accommodated in 1

LT1, 5, 7, 11 Connector

26		1	
27		2	
28		3	
29	RB	4	RA
30		5	
31		6	
32		7	
33	TB	8	TA
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 2

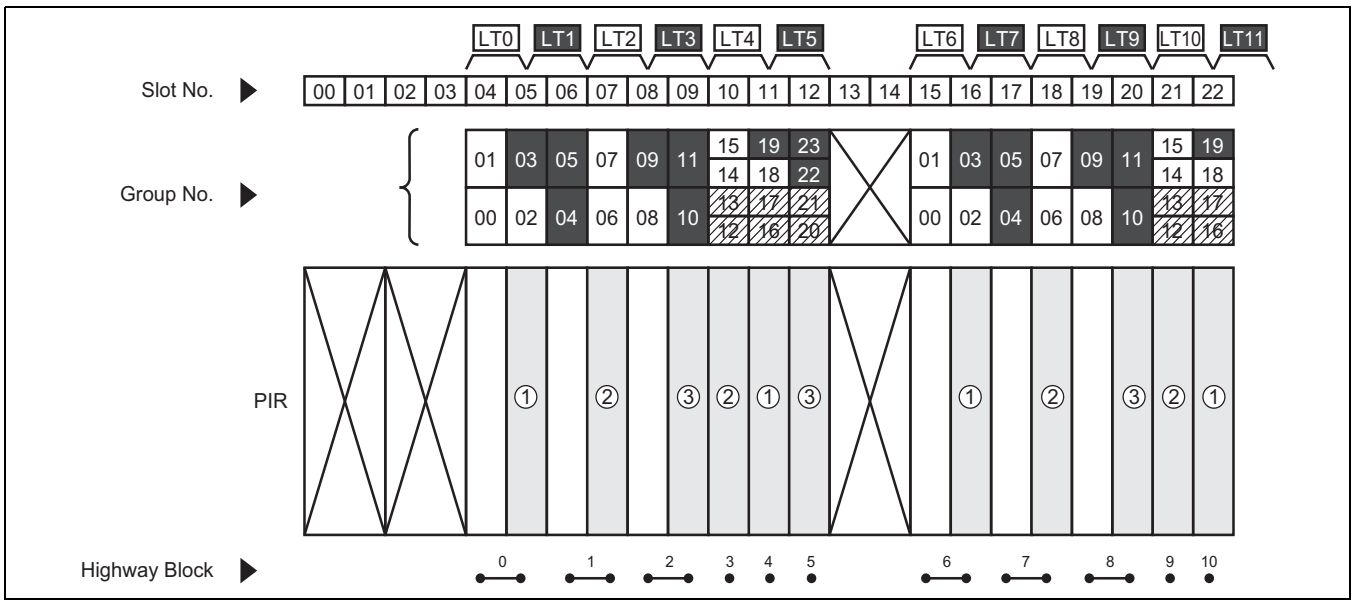
LT2, 4, 6, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37	RB	12	RA
38		13	
39		14	
40		15	
41	TB	16	TA
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in 3

LT3, 5, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45	RB	20	RA
46		21	
47		22	
48		23	
49	TB	24	TA
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

PKG mounting position and condition for using DTI CA-G

PKG Slot No.	LT Connector No.	Unavailable PKG Slot (2W-Line*16/4W-Line*8) Note 3	Unavailable PKG Slot (2W-Line*8/4W-Line*4) Note 4
05	1	**6**	**6**
07	2	**8**	-
09	3	-	-
10	4	**11** Note 5	-
11	5	**12** Note 5	**12** Note 5
12	5	**11** Note 5	**11** Note 5
16	7	**17**	**17**
18	8	**19**	-
20	9	-	-
21	10	**22** Note 5	-
22	11	-	-

Note 3: When using 16 lines of 2-wires interface PKG or 8 lines of 4-wires interface PKG.

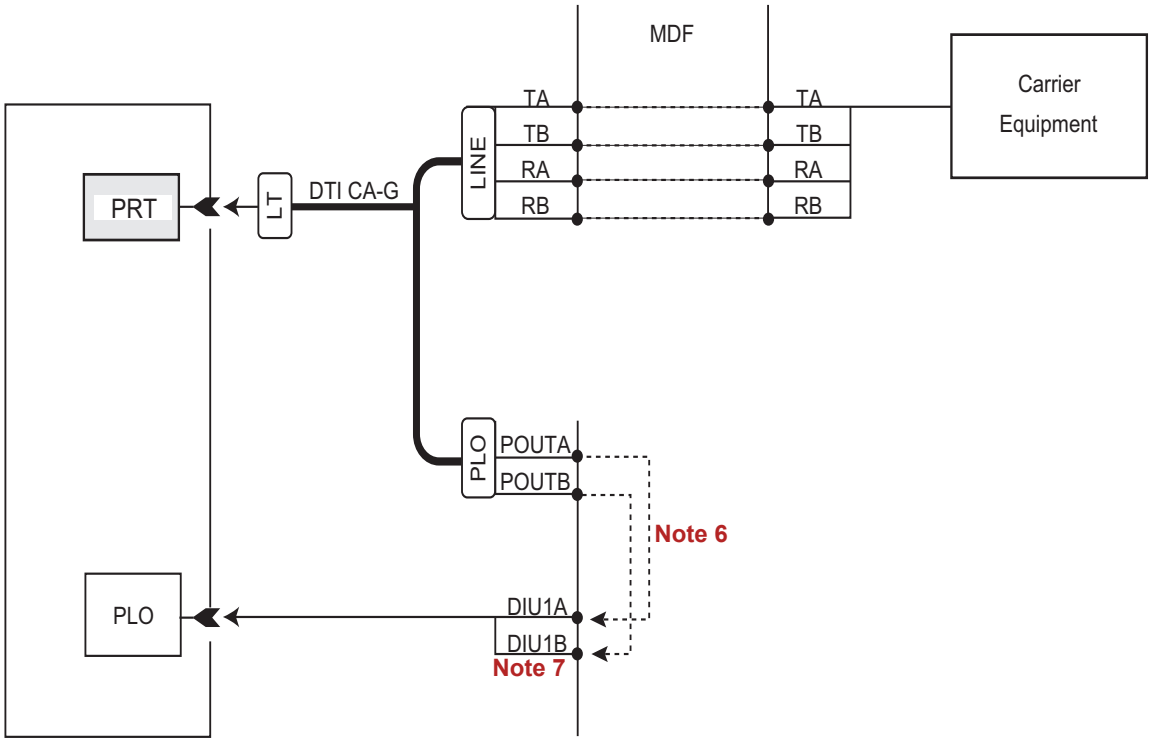
Note 4: When using 8 lines of 2-wires interface PKG or 4 lines of 4-wires interface PKG.

Note 5: In this slot, PA-PRTC PKG can be accommodated.

(f) Connecting Route Diagram

Connecting Route Diagram

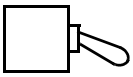
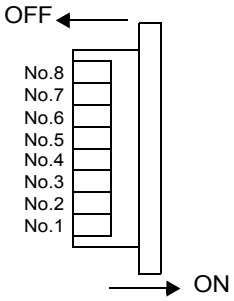
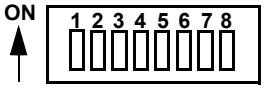
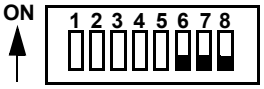
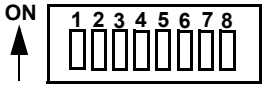
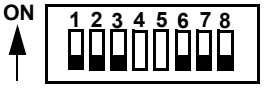
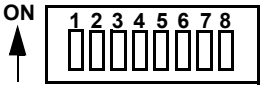
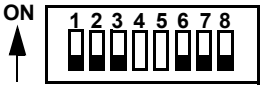
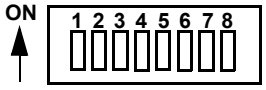
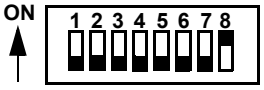
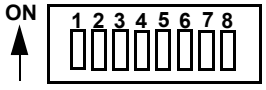
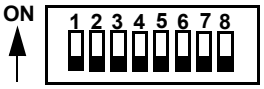
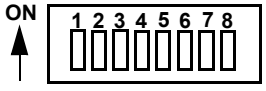
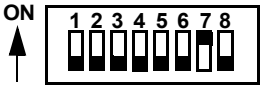
Connecting Route Diagram for the PA-PRTC (2M PRT) circuit card with DTI CA-G is as follows.

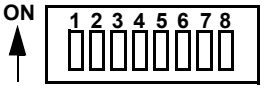
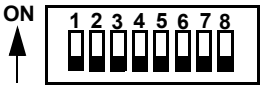
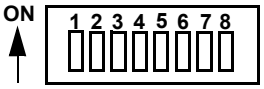
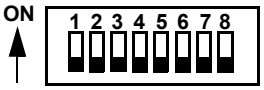
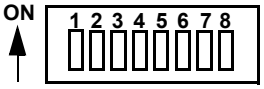
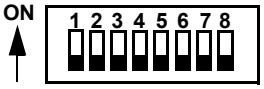
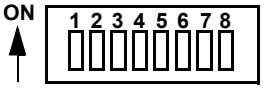
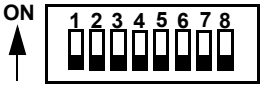
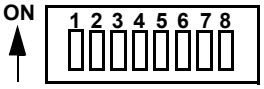
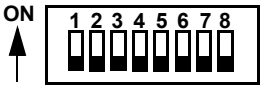
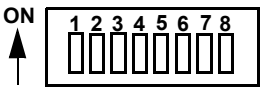
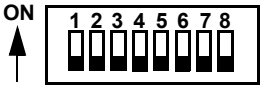
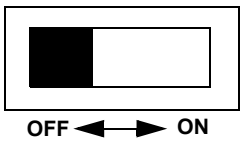
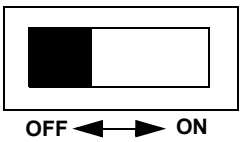
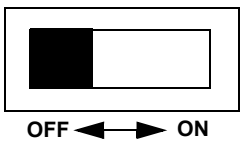
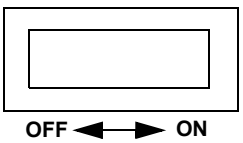
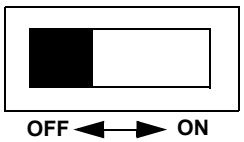


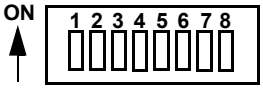
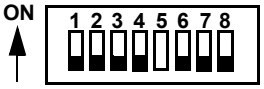
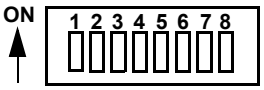
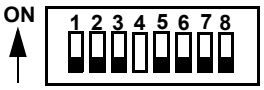
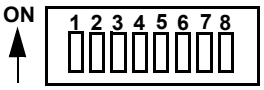
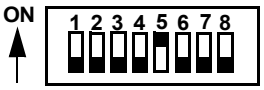
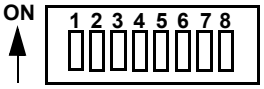
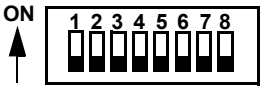
Note 6: This cable connection is required when clock signals must be extracted from the network side.

Note 7: As an example, DIU1A and DIU1B leads are used in this diagram.

8. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW00		
SW01		
SW10		
SW11		
SW12		
SW13		
SW14		
SW15		

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW16		
SW17		
SW18		
SW19		
SW20		
SW21		
SW22		
SW23		
SW24		

SWITCH NAME	SWITCH SHAPE	STANDARD SETTING
SW25		
SW26		
SW27		
SW28		

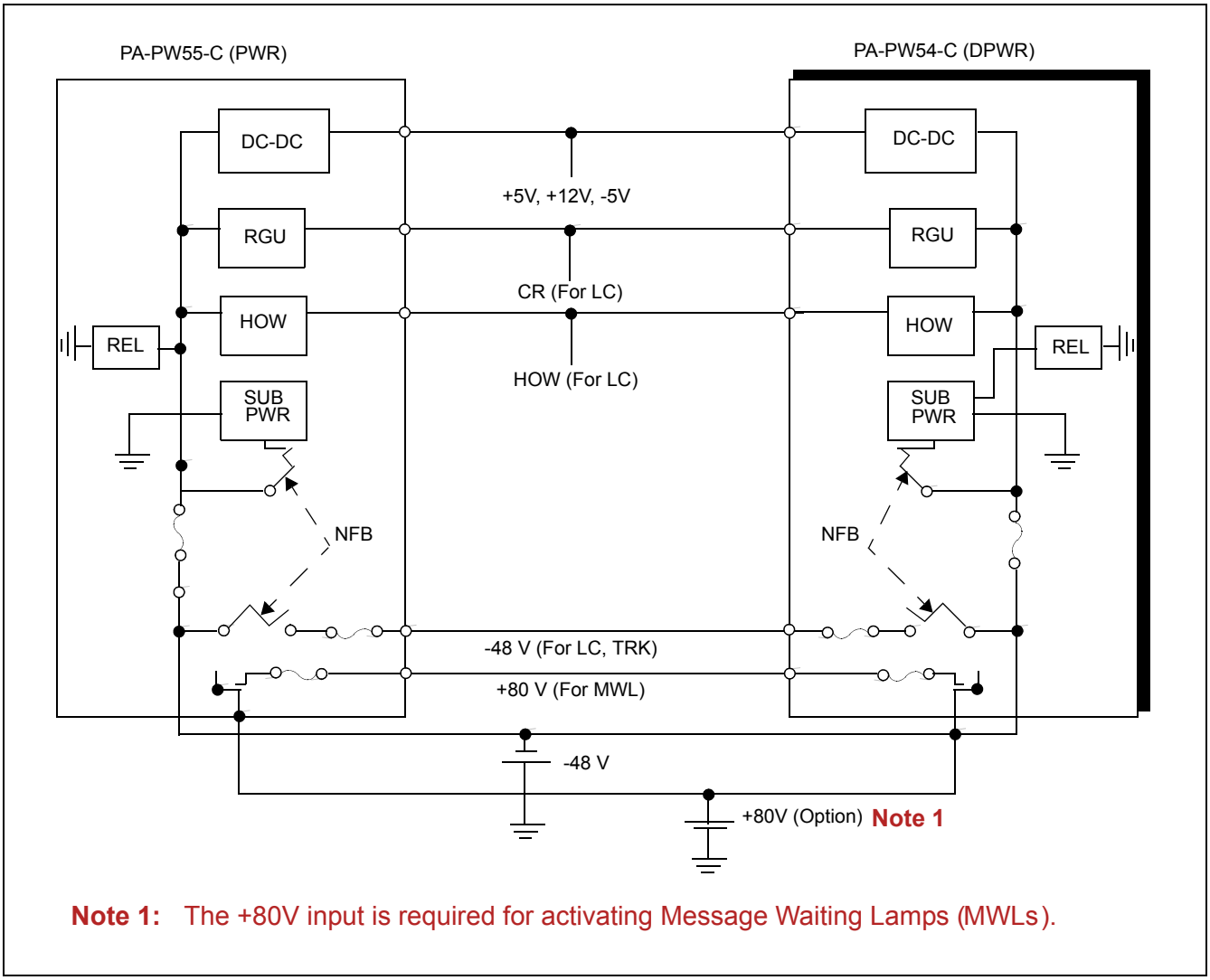
PA-PW54-C
Dual Power

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

The PA-PW54-C (DPWR) circuit card supplies operating power to circuit cards accommodated in the PIR. The -48 V input power source, that is converted to +5 V, -5 V, and +12 V, is distributed to each circuit card in the PIR. This card is also equipped with a Ringing Generator Unit (RGU), whose output frequency and voltage can be selected among 20 Hz, 25 Hz, 75 Vrms, 90 Vrms by the switch setting on this card. In addition, a Howler Tone circuit resides on this card.

Location of PA-PW54-C (DPWR) Card in the System

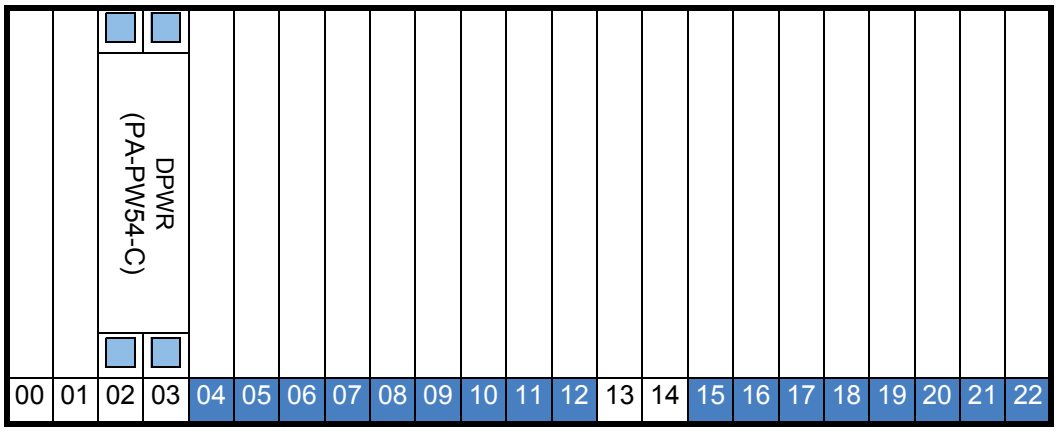


Note 1: The +80V input is required for activating Message Waiting Lamps (MWLs).

2. Mounting Location/Conditions

Mounting Location <8U-PIR>

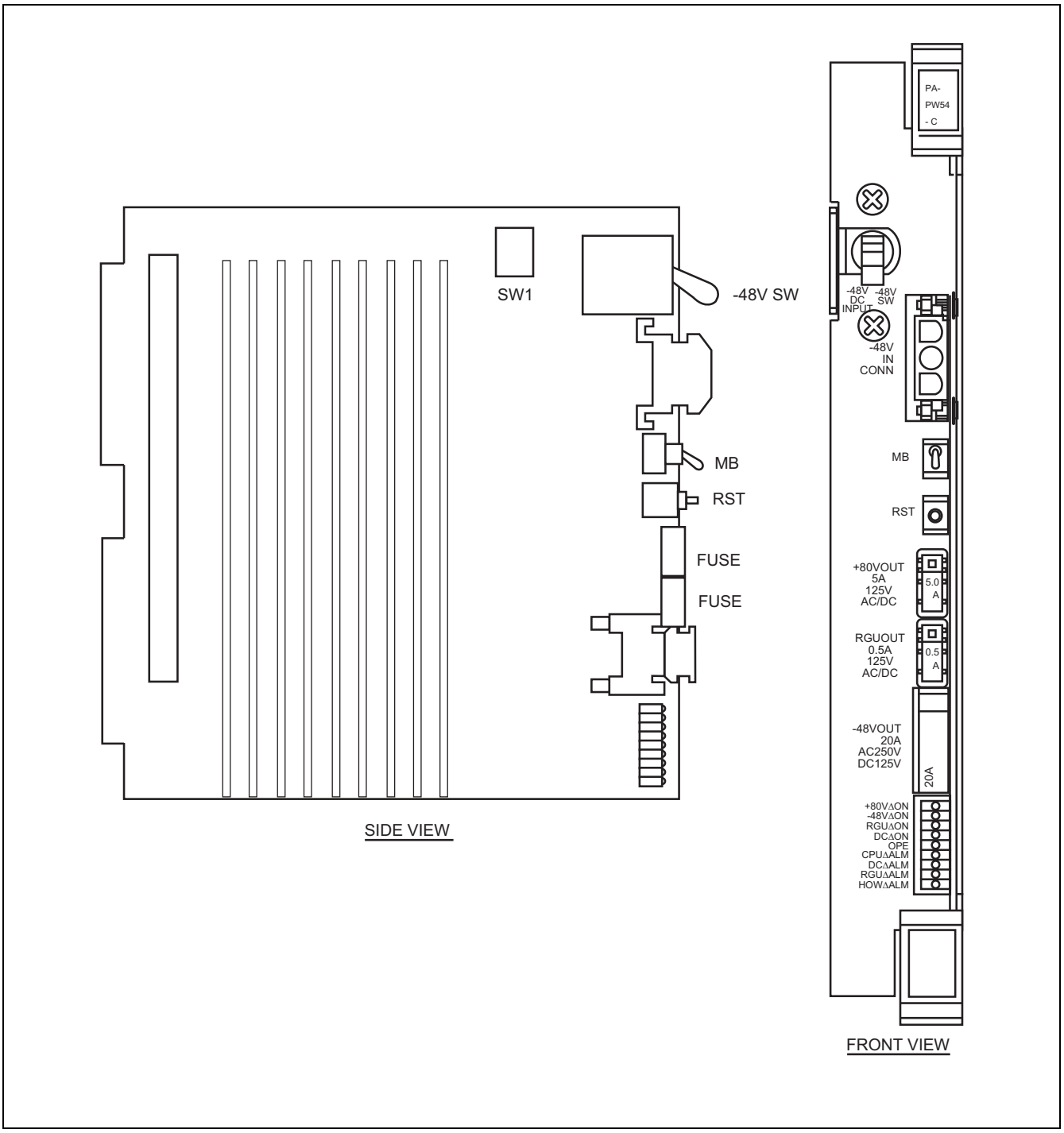
Slots 02-03



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-PW54-C (DPWR) Card



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
+80 V ON	Green	Remains lit while +80 V input power is being supplied.
–48 V ON	Green	Remains lit while –48 V input power is being supplied.
RGU ON	Green	Remains lit while RGU output is in progress.
DC ON	Green	Remains lit while +5 V, +12 V, and –5 V are being output normally.
OPE	Green	Lights when information exchange with the CPU is possible.
CPUALM	Red	Lights when reset of the microprocessor has been activated.
DCALM	Red	Lights when +5 V, +12 V, or –5 V outputs alarm.
RGUALM	Red	Lights when RGU voltage alarm.
HOWALM	Red	Lights when howler alarm.

5. Switch Settings

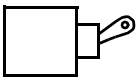
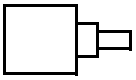
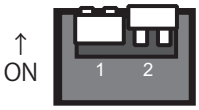
This circuit card has the following switches.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	DESCRIPTION
–48 V SW	—	ON	×	–48 V input power is supplied.
		OFF		–48 V input power is not supplied.
RESET	—	PUSH		Hardware reset of the circuit card.
		—	×	Normal setting
MB	—	ON		Make-Busy of the circuit card.
		OFF	×	Normal setting
SW1	1	ON		Frequency of Ringing Signal: 25 Hz
		OFF	×	Frequency of Ringing Signal: 20 Hz
	2	ON	×	Voltage of Ringing Signal: 90 Vrms
		OFF		Voltage of Ringing Signal: 75 Vrms

6. External Interface

Cable connections are not required.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
–48 V		
RESET		
MB	DOWN	Circuit card make busy cancel
SW1		20 Hz 90 Vrms

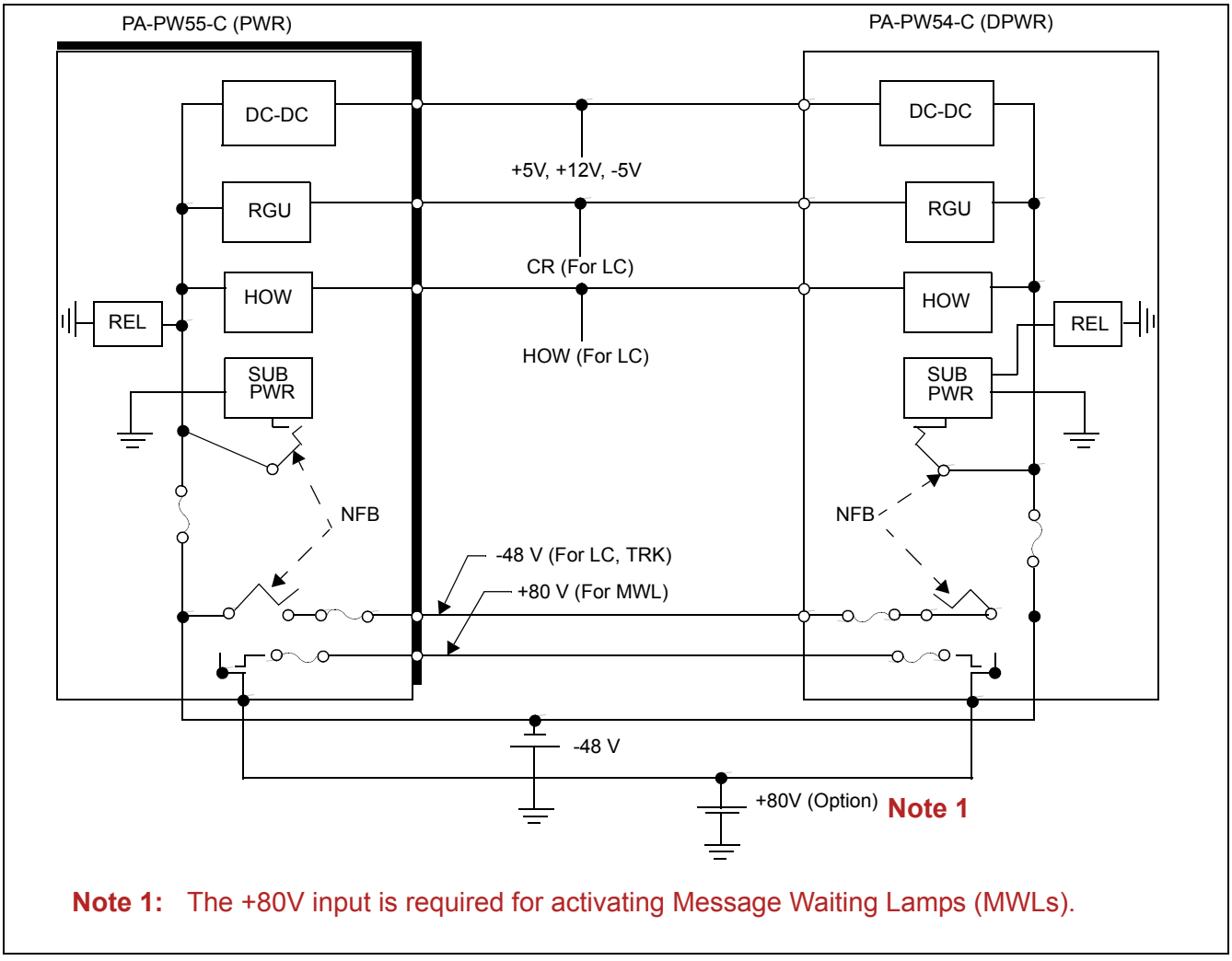
PA-PW55-C
Power

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

The PA-PW55-C (PWR) circuit card supplies operating power to circuit cards accommodated in the PIR. The -48 V input power source, that is converted to +5 V, -5 V, and +12 V, is distributed to each circuit card in the associated PIR. This card is also equipped with a Ringing Generator Unit (RGU), whose output frequency and voltage can be selected among 20 Hz, 25 Hz, 75 Vrms, 90 Vrms by the switch setting on this card. In addition, a Howler Tone circuit resides on this card.

Location of PA-PW55-C (PWR) Card in the System

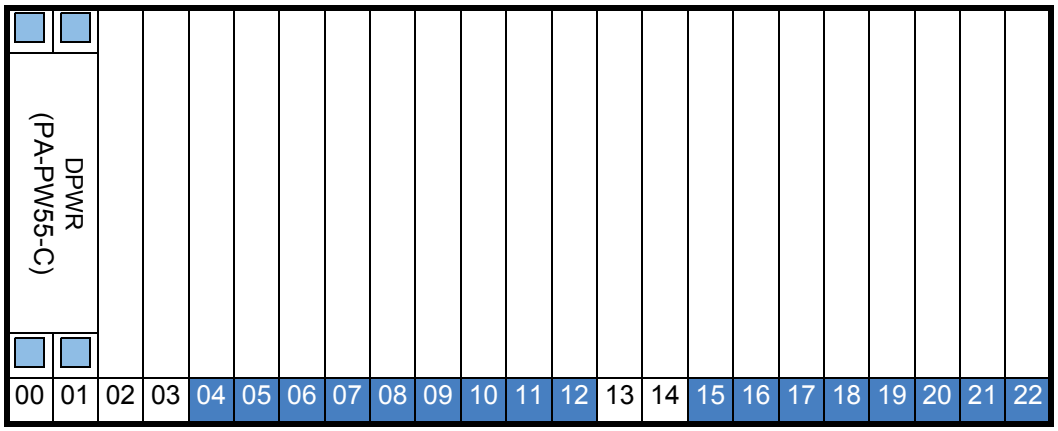


Note 1: The +80V input is required for activating Message Waiting Lamps (MWLs).

2. Mounting Location/Conditions

Mounting Location <8U-PIR>

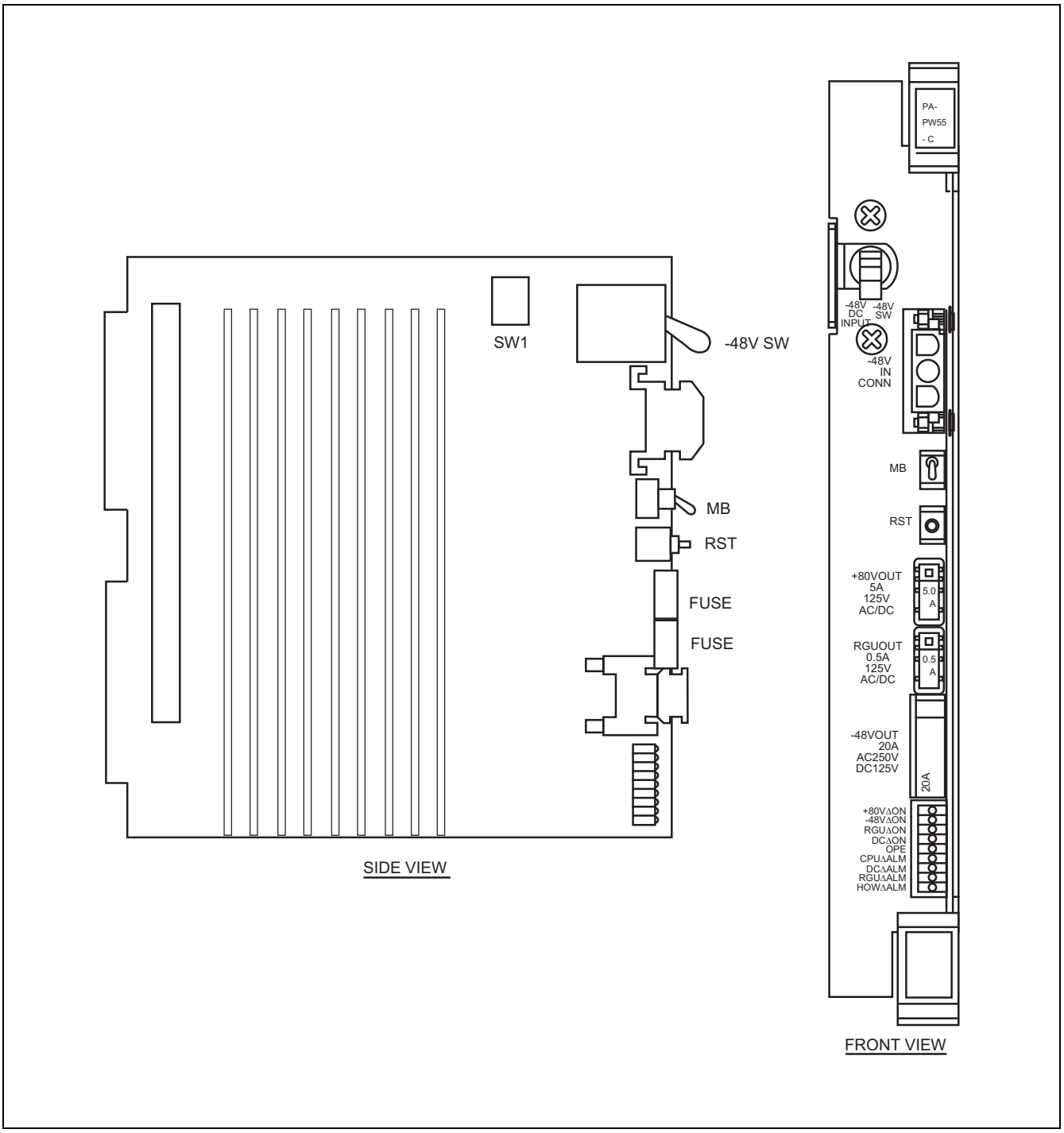
Slots 00-01



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Face Layout of PA-PW55-C Card



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
+80 V ON	Green	Remains lit while +80 V input power is being supplied.
–48 V ON	Green	Remains lit while –48 V input power is being supplied.
RGU ON	Green	Remains lit while RGU output is in progress.
DC ON	Green	Remains lit while +5 V, +12 V, and –5 V are being output normally.
OPE	Green	Lights when information exchange with the CPU is possible.
CPUALM	Red	Lights when reset of the microprocessor has been activated.
DCALM	Red	Lights when +5 V, +12 V, or –5 V outputs alarm.
RGUALM	Red	Lights when RGU voltage alarm.
HOWALM	Red	Lights when howler alarm.

5. Switch Settings

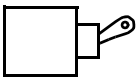
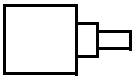
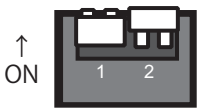
This circuit card has the following switches.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	DESCRIPTION
–48 V SW		ON	×	–48 V input power is supplied.
		OFF		–48 V input power is not supplied.
RESET		PUSH		Hardware reset of the circuit card.
		—	×	Normal setting
MB	—	ON		Make-Busy of the circuit card.
		OFF	×	Normal setting
SW1	1	ON		Frequency of Ringing Signal: 25 Hz
		OFF	×	Frequency of Ringing Signal: 20 Hz
	2	ON	×	Voltage of Ringing Signal: 90 Vrms
		OFF		Voltage of Ringing Signal: 75 Vrms

6. External Interface

Cable connections are not required.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
–48 V		
RESET		
MB	DOWN	Circuit card make busy cancel
SW1		20 Hz 90 Vrms

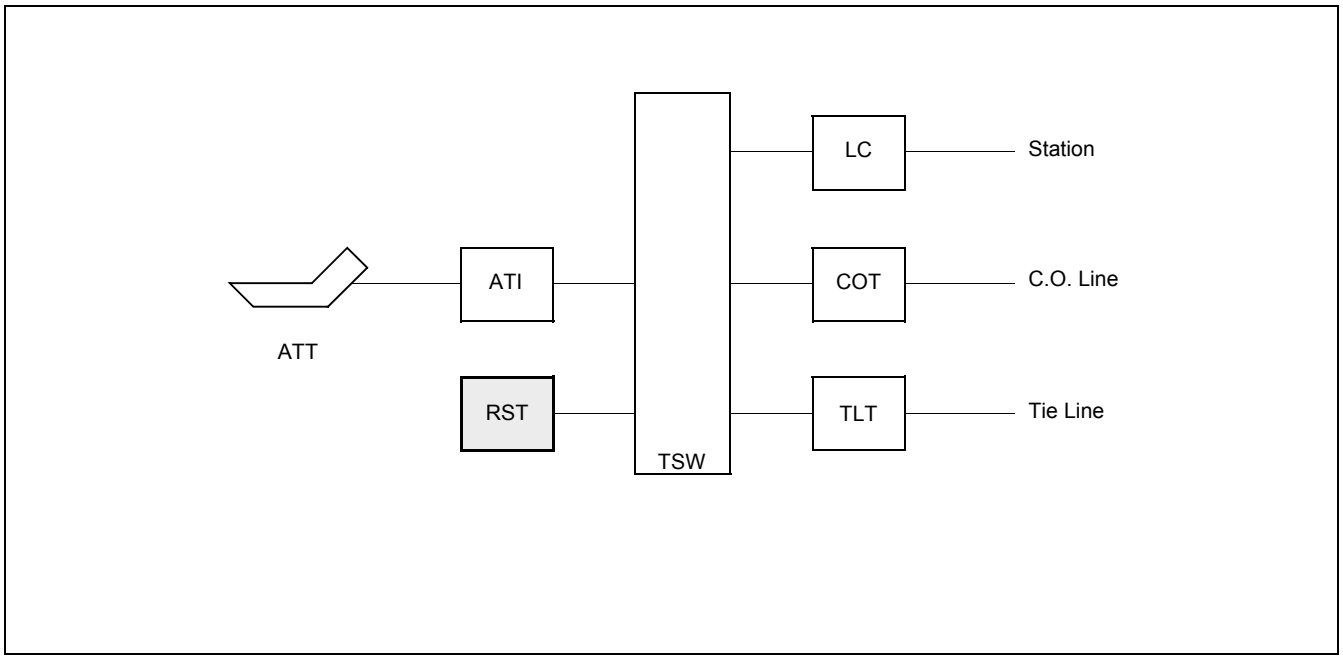
PA-8RSTAD
Register Sender Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

This circuit card is an 8-circuit register sender trunk card that transmits and sends selective signals (DP signals, PB signals, MF signals).

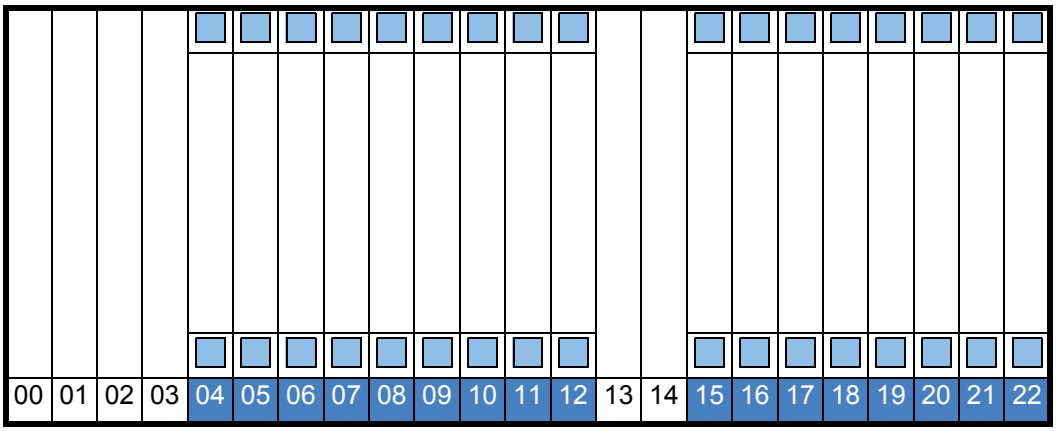
Location of the PA-8RSTAD (8RST) Card in the System



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



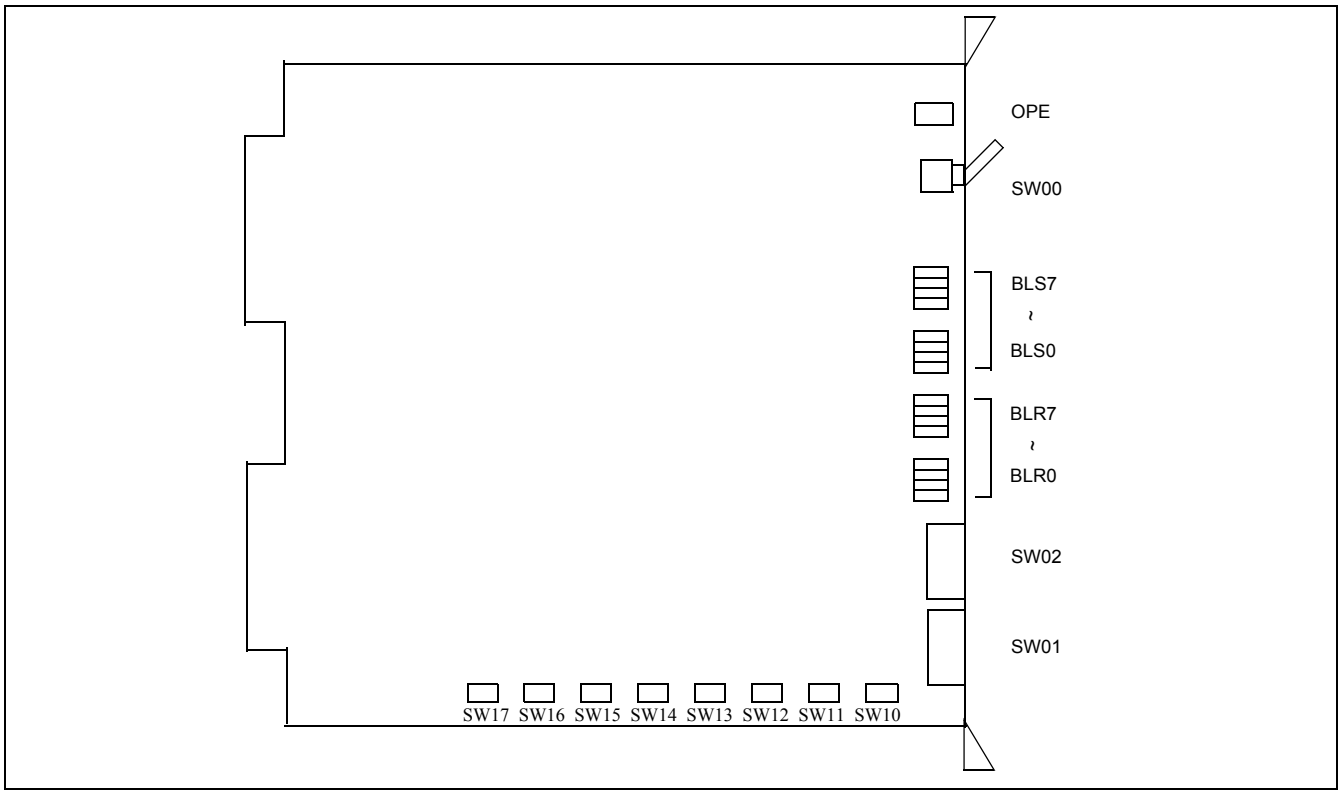
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors for this circuit card is shown below.

Face Layout of PA-8RSTAD (8RST)



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating.
BLR0 ≀ BLR7	Green	Lights when the corresponding circuit has received the selective signals.
	Flash	Flashes (60 IPM) while the corresponding circuit is in Make-Busy state.
	Off	Remains off when the corresponding circuit is idle.
BLS0 ≀ BLS7	Green	Lights when the corresponding circuit has sent the selective signals.
	Flash	Flashes (60 IPM) when the corresponding circuit is in Make-Busy state.
	Off	Remains off while the corresponding circuit is idle.

5. Switch Settings

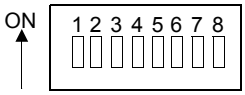
Standard settings for various switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
MBR0~7 (SW01)	0	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	1	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	2	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	3	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	4	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	5	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	6	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MBR0~7 (SW01)	7	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
MBS0~7 (SW02)	0	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	1	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	2	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	3	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	4	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	5	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	6	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	7	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit

Setting value per bit for SW10

SW10

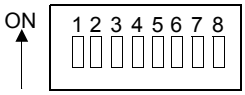


8-DIP SWITCH

<table>
<tr><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="4">1
2</td><td>ON</td><td></td><td rowspan="4"><table><tr><th colspan="3">INFORMATION OF DESTINATION COUNTRY</th></tr><tr><th>SW10-1</th><th>SW10-2</th><th>DESTINATION COUNTRY</th></tr><tr><td>OFF</td><td>OFF</td><td>prohibited</td></tr><tr><td>ON</td><td>OFF</td><td>Countries except Australia</td></tr><tr><td>OFF</td><td>ON</td><td>Australia</td></tr><tr><td>ON</td><td>ON</td><td>prohibited</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td rowspan="8">Fixed to OFF</td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td rowspan="2"></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td>×</td><td>PB TRANSMISSION LEVEL: (H: -7.0dBm, L: -9.0dBm)
MF TRANSMISSION LEVEL: (S1: -12.0dBm, S2: -12.0dBm)</td></tr>
<tr><td>OFF</td><td></td><td>PB TRANSMISSION LEVEL: (H: -4.5dBm, L: -5.5dBm)
MF TRANSMISSION LEVEL: (S1: -8.0dBm, S2: -8.0dBm)</td></tr>
</table>

Setting value per bit for SW11

SW11

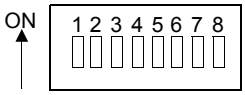


8-DIP SWITCH

<table>
<tr><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">1</td><td>ON</td><td>×</td><td rowspan="2">Fixed to ON</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td rowspan="8"><table>
<tr><th colspan="4">MFR THRESHOLD VALUE</th></tr>
<tr><th>SW11-2</th><th>SW11-3</th><th>SW11-4</th><th>FUNCTION</th></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>-17.0dBm</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>-19.0dBm</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>-21.0dBm</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>-23.0dBm</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>-25.0dBm</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>-27.0dBm (DEFAULT)</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>-29.0dBm</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>-31.0dBm</td></tr>
</table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td>×</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td>×</td><td>MFR Reception Spec: AT&T MFR</td></tr>
<tr><td>OFF</td><td></td><td>MFR Reception Spec: ITU-T No.5 MFR</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td>×</td><td rowspan="2">Fixed to ON</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td>Register Selection: REG 0,1,2,3 of MFR</td></tr>
<tr><td>OFF</td><td></td><td>Register Selection: REG 0,1,2,3 of PBR</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Register Selection: REG 4,5,6,7 of MFR</td></tr>
<tr><td>OFF</td><td></td><td>Register Selection: REG 4,5,6,7 of PBR</td></tr>
</table>

Setting value per bit for SW12

SW12

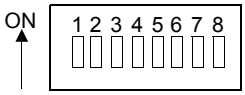


8-DIP SWITCH

<table>
<tr><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">1</td><td>ON</td><td>×</td><td rowspan="2">Fixed to ON</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="8">2
3
4</td><td>ON</td><td></td><td rowspan="8"><table>
<tr><th colspan="4">PBR THRESHOLD VALUE</th></tr>
<tr><th>SW12-2</th><th>SW12-3</th><th>SW12-4</th><th>FUNCTION</th></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>-21.0dBm</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>-23.0dBm</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>-25.0dBm</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>-27.0dBm</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>-29.0dBm</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>-31.0dBm</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>-33.0dBm</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>-35.0dBm
(DEFAULT)</td></tr>
</table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td>×</td><td>PBR Pulse Timer (Momentary Signal Shut Down Protect Timer)
SHORT (Shorter than 10 milliseconds)</td></tr>
<tr><td>OFF</td><td></td><td>PBR Pulse Timer (Momentary Signal Shut Down Protect Timer)
LONG (Longer than 20 milliseconds)</td></tr>
<tr><td rowspan="6">6
7
8</td><td>ON</td><td></td><td rowspan="6">Fixed to OFF</td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
</table>

Setting value per bit for SW13

SW13

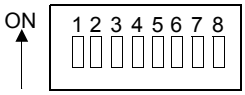


8-DIP SWITCH

SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Fixed to OFF
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Setting value per bit for SW14

SW14

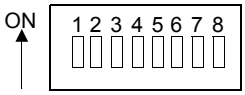


8-DIP SWITCH

SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		Fixed to OFF
	OFF	×	
2	ON		
	OFF	×	
3	ON		
	OFF	×	
4	ON		
	OFF	×	
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON		
	OFF	×	
8	ON		
	OFF	×	

Setting value per bit for SW15

SW15

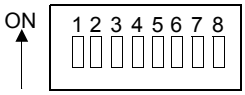


8-DIP SWITCH

SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON	×	Fixed to ON
	OFF		
2	ON	×	Fixed to ON
	OFF		
3	ON	×	Fixed to ON
	OFF		
4	ON	×	Fixed to ON
	OFF		
5	ON		
	OFF	×	Fixed to OFF
6	ON		
	OFF	×	Fixed to OFF
7	ON		
	OFF	×	Fixed to OFF
8	ON		
	OFF	×	Fixed to OFF

Setting value per bit for SW16

SW16

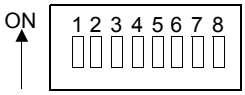


8-DIP SWITCH

SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON	×	Fixed to ON
	OFF		
2	ON		
	OFF	×	Fixed to OFF
3	ON	×	Fixed to ON
	OFF		
4	ON	×	Fixed to ON
	OFF		
5	ON		
	OFF	×	Fixed to OFF
6	ON	×	Fixed to ON
	OFF		
7	ON	×	Fixed to ON
	OFF		
8	ON		
	OFF	×	Fixed to OFF

Setting value per bit for SW17

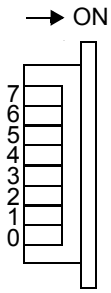
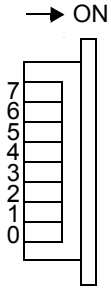
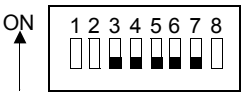
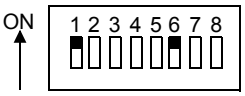
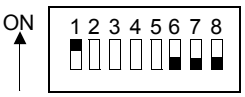
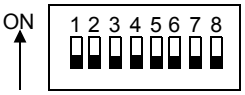
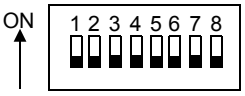
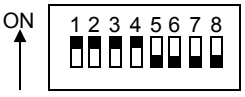
SW17

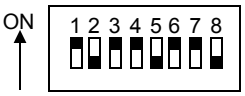
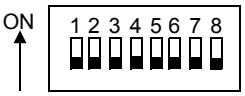


8-DIP SWITCH

SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		
	OFF	×	Fixed to OFF
2	ON		
	OFF	×	Fixed to OFF
3	ON		
	OFF	×	Fixed to OFF
4	ON		
	OFF	×	Fixed to OFF
5	ON		
	OFF	×	Fixed to OFF
6	ON		
	OFF	×	Fixed to OFF
7	ON		
	OFF	×	Fixed to OFF
8	ON		
	OFF	×	Fixed to OFF

6. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		MBR0-7 (SW01)		
		MBS0-7 (SW02)		
		SW10		
		SW11		
		SW12		
		SW13		
		SW14		
		SW15		

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW16		
		SW17		
		MB	DOWN	Circuit card: Make-Busy cancel

PA-8RSTAE
Register Sender Trunk

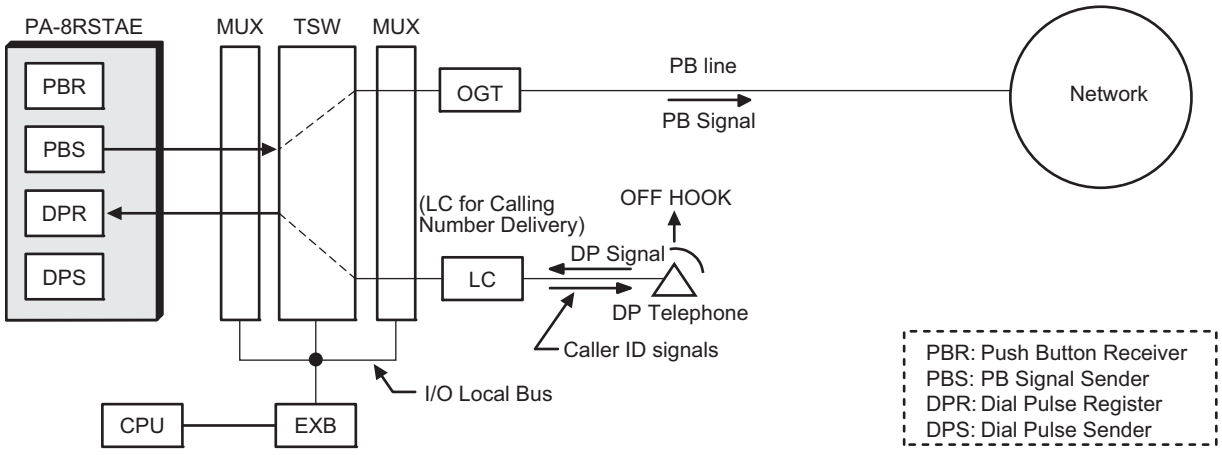
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

The PA-8RSTAE circuit card is equipped with eight circuits of registers and senders. More specifically, this card contains Dial Pulse Register (DPR), Push Button Receiver (PBR) for receiving digits from extensions and/or the associated incoming trunks and Dial Pulse Sender (DPS), PB Signal Sender (PBS) for sending digits to a distant switching system. In addition, this card has Register Sender function, by which inter-digit pause can be changed and PB signals may be converted to DP signals and vice versa without intervention of the CPU. The card can be used for Caller ID service and caller ID on Call Waiting service.

Location of PA-8RSTAE (8RST) in the System

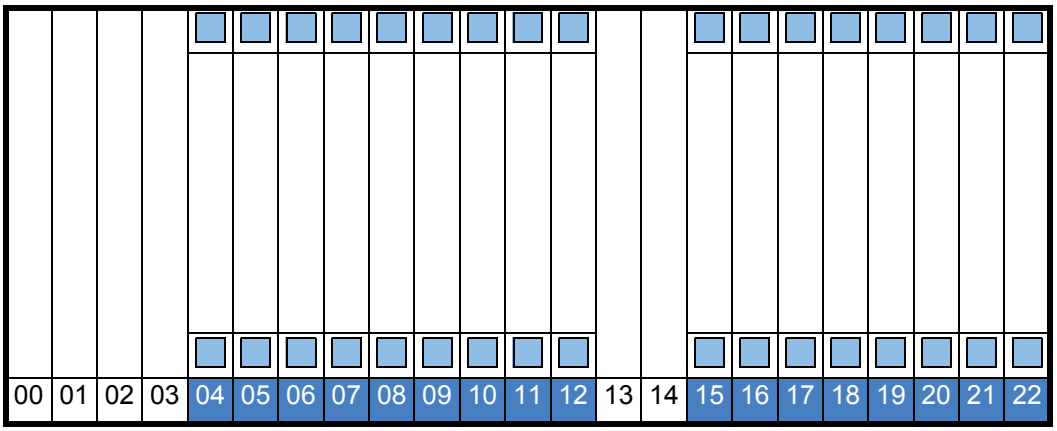
This figure shows Register Sender function as an example.



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



Mounting Condition:

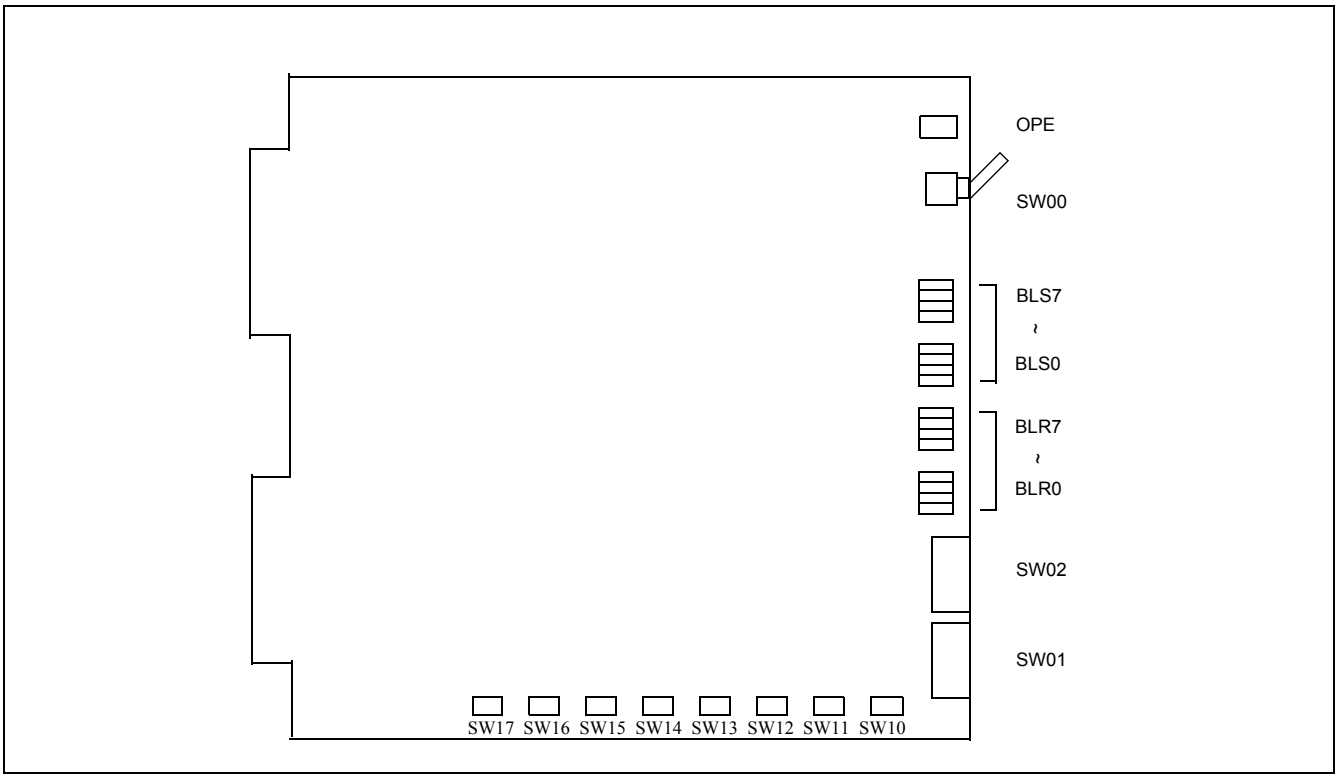
- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Note: Layout of lamps and switches differ from other RST cards.

Face Layout of PA-8RSTAE (8RST)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating.
BLR0 ' BLR7	Green	Lights when the corresponding circuit has received the selective signals.
	Flash	Flashes (60 IPM) while the corresponding circuit is in Make-Busy state.
	Off	Remains off when the corresponding circuit is idle.
BLS0 ' BLS7	Green	Lights when the corresponding circuit has sent the selective signals.
	Flash	Flashes (60 IPM) while the corresponding circuit is in Make-Busy state.
	Off	Remains off when the corresponding circuit is idle.

5. Switch Settings

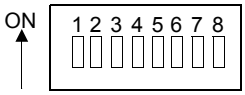
Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB (SW00)		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
SW01 (MBR0-7)	0	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	1	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	2	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	3	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	4	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	5	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	6	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	7	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW02 (MBS0-7)	0	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	1	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	2	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	3	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	4	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	5	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	6	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	7	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit

Setting value per bit for SW10

SW10

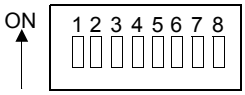


8-DIP SWITCH

<table>
<tr><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="4"><table><tr><th colspan="3">INFORMATION OF DESTINATION COUNTRY</th></tr><tr><th>SW10-1</th><th>SW10-2</th><th>DESTINATION COUNTRY</th></tr><tr><td>OFF</td><td>OFF</td><td>Restricted</td></tr><tr><td>ON</td><td>OFF</td><td>Countries except Australia</td></tr><tr><td>OFF</td><td>ON</td><td>Australia</td></tr><tr><td>ON</td><td>ON</td><td>Not used</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td>×</td><td>PB TRANSMISSION LEVEL: (H: -7.0dBm, L: -9.0dBm)
MF TRANSMISSION LEVEL: (S1: -12.0dBm, S2: -12.0dBm)</td></tr>
<tr><td>OFF</td><td></td><td>PB TRANSMISSION LEVEL: (H: -4.5dBm, L: -5.5dBm)
MF TRANSMISSION LEVEL: (S1: -8.0dBm, S2: -8.0dBm)</td></tr>
</table>

Setting value per bit for SW11

SW11

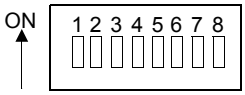


8-DIP SWITCH

<table>
<tr><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">1</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>OFF</td><td></td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td rowspan="6">See right</td><td rowspan="6"><table>
<tr><th colspan="4">MFR THRESHOLD VALUE</th></tr>
<tr><th>SW11-2</th><th>SW11-3</th><th>SW11-4</th><th>FUNCTION</th></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>-17.0dBm</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>-19.0dBm</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>-21.0dBm</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>-23.0dBm</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>-25.0dBm</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>-27.0dBm (DEFAULT)</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>-29.0dBm</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>-31.0dBm</td></tr>
</table></td></tr>
<tr><td>OFF</td></tr>
<tr><td rowspan="2">3</td><td>ON</td></tr>
<tr><td>OFF</td></tr>
<tr><td rowspan="2">4</td><td>ON</td></tr>
<tr><td>OFF</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td>×</td><td>AT&T MFR</td></tr>
<tr><td>OFF</td><td></td><td>ITU-T No.5 MFR</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>OFF</td><td></td><td></td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td>Register Selection: REG 0,1,2,3 of MFR</td></tr>
<tr><td>OFF</td><td></td><td>Register Selection: REG 0,1,2,3 of PBR</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Register Selection: REG 4,5,6,7 of MFR</td></tr>
<tr><td>OFF</td><td></td><td>Register Selection: REG 4,5,6,7 of PBR</td></tr>
</table>

Setting value per bit for SW12

SW12

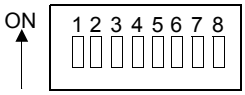


8-DIP SWITCH

<table>
<tr><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">1</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>OFF</td><td></td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td rowspan="6"><table>
<tr><th colspan="4">PBR THRESHOLD VALUE</th></tr>
<tr><th>SW12-2</th><th>SW12-3</th><th>SW12-4</th><th>FUNCTION</th></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>-21.0dBm</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>-23.0dBm</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>-25.0dBm</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>-27.0dBm</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>-29.0dBm</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>-31.0dBm</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>-33.0dBm</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>-35.0dBm (DEFAULT)</td></tr>
</table></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td>×</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td>×</td><td>PBR Pulse Timer (Momentary Signal Shut Down Protect Timer)
SHORT (Shorter than 10 milliseconds)</td></tr>
<tr><td>OFF</td><td></td><td>PBR Pulse Timer (Momentary Signal Shut Down Protect Timer)
LONG (Longer than 20 milliseconds)</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td></td></tr>
<tr><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

Setting value per bit for SW13

SW13

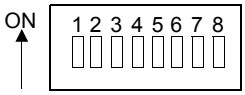


8-DIP SWITCH

SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON	×	Fixed to ON
	OFF		
2	ON		
	OFF	×	Fixed to OFF
3	ON		
	OFF	×	Fixed to OFF
4	ON		
	OFF	×	Fixed to OFF
5	ON		
	OFF	×	Fixed to OFF
6	ON		
	OFF	×	Fixed to OFF
7	ON		
	OFF	×	Fixed to OFF
8	ON		
	OFF	×	Fixed to OFF

Setting value per bit for SW14

SW14

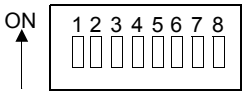


8-DIP SWITCH

SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		
	OFF	×	Fixed to OFF
2	ON		
	OFF	×	Fixed to OFF
3	ON		
	OFF	×	Fixed to OFF
4	ON		
	OFF	×	Fixed to OFF
5	ON		
	OFF	×	Fixed to OFF
6	ON		
	OFF	×	Fixed to OFF
7	ON		
	OFF	×	Fixed to OFF
8	ON		
	OFF	×	Fixed to OFF

Setting value per bit for SW15

SW15



8-DIP SWITCH

SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON	×	Settings for CAS Signal Outgoing Level of CIDCW Default value: -15dBm (Refer to **Settings of CIDCW Function CAS Signal Outgoing Level**)
	OFF		
2	ON	×	
	OFF		
3	ON	×	
	OFF		
4	ON	×	
	OFF		
5	ON		
	OFF	×	
6	ON		
	OFF	×	
7	ON	×	**CallerID Form**
	OFF		
8	ON		
	OFF	×	

SW15-7	SW15-8	Variety
OFF	OFF	FSK
ON	OFF	Bellcore
OFF	ON	ETSI
ON	ON	Not used

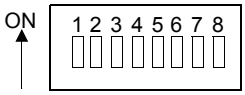
Table 0-1 Settings of CIDCW Function CAS Signal Outgoing Level

SW15-1	SW15-2	SW15-3	SW15-4	SW15-5	SW15-6	Function
OFF	OFF	OFF	OFF	OFF	OFF	0dBm
ON	OFF	OFF	OFF	OFF	OFF	-1dBm
OFF	ON	OFF	OFF	OFF	OFF	-2dBm
ON	ON	OFF	OFF	OFF	OFF	-3dBm
OFF	OFF	ON	OFF	OFF	OFF	-4dBm
ON	OFF	ON	OFF	OFF	OFF	-5dBm
OFF	ON	ON	OFF	OFF	OFF	-6dBm
ON	ON	ON	OFF	OFF	OFF	-7dBm
OFF	OFF	OFF	ON	OFF	OFF	-8dBm
ON	OFF	OFF	ON	OFF	OFF	-9dBm
OFF	ON	OFF	ON	OFF	OFF	-10dBm
ON	ON	OFF	ON	OFF	OFF	-11dBm
OFF	OFF	ON	ON	OFF	OFF	-12dBm
ON	OFF	ON	ON	OFF	OFF	-13dBm
OFF	ON	ON	ON	OFF	OFF	-14dBm
ON	ON	ON	ON	OFF	OFF	-15dBm (DEFAULT)
OFF	OFF	OFF	OFF	ON	OFF	-16dBm
ON	OFF	OFF	OFF	ON	OFF	-17dBm
OFF	ON	OFF	OFF	ON	OFF	-18dBm
ON	ON	OFF	OFF	ON	OFF	-19dBm
OFF	OFF	ON	OFF	ON	OFF	-20dBm
ON	OFF	ON	OFF	ON	OFF	-21dBm
OFF	ON	ON	OFF	ON	OFF	-22dBm
ON	ON	ON	OFF	ON	OFF	-23dBm
OFF	OFF	OFF	ON	ON	OFF	-24dBm
ON	OFF	OFF	ON	ON	OFF	-25dBm
OFF	ON	OFF	ON	ON	OFF	-26dBm
ON	ON	OFF	ON	ON	OFF	-27dBm
OFF	OFF	ON	ON	ON	OFF	-28dBm
ON	OFF	ON	ON	ON	OFF	-29dBm
OFF	ON	ON	ON	ON	OFF	-30dBm

SW15-1	SW15-2	SW15-3	SW15-4	SW15-5	SW15-6	Function
ON	ON	ON	ON	ON	OFF	-31dBm
OFF	OFF	OFF	OFF	OFF	ON	-32dBm
ON	OFF	OFF	OFF	OFF	ON	-33dBm
OFF	ON	OFF	OFF	OFF	ON	-34dBm
ON	ON	OFF	OFF	OFF	ON	-35dBm
OFF	OFF	ON	OFF	OFF	ON	-36dBm
ON	OFF	ON	OFF	OFF	ON	-37dBm
OFF	ON	ON	OFF	OFF	ON	-38dBm
ON	ON	ON	OFF	OFF	ON	-39dBm
OFF	OFF	OFF	ON	OFF	ON	-40dBm

Setting value per bit for SW16 (Only for North America)

SW16



8-DIP SWITCH

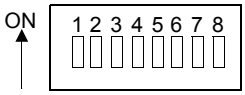
SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON	×	Settings of CIDCW Function SAS Outgoing Level (Only for North America) (Refer to **Settings Of SAS Outgoing Level**)
	OFF		
2	ON		
	OFF	×	
3	ON	×	
	OFF		
4	ON	×	
	OFF		
5	ON		
	OFF	×	Fixed to OFF
6	ON	×	Fixed to ON
	OFF		
7	ON	×	Fixed to ON
	OFF		
8	ON		
	OFF	×	Fixed to OFF

Table 0-2 Settings Of SAS Outgoing Level

SW16-1	SW16-2	SW16-3	SW16-4	FUNCTION
ON	ON	ON	ON	-15dBm
OFF	ON	ON	ON	-14dBm
ON	OFF	ON	ON	-13dBm (DEFAULT)
OFF	OFF	ON	ON	-12dBm
ON	ON	OFF	ON	-11dBm
OFF	ON	OFF	ON	-10dBm
ON	OFF	OFF	ON	-9dBm
OFF	OFF	OFF	ON	-8dBm
ON	ON	ON	OFF	-7dBm
OFF	ON	ON	OFF	-6dBm
ON	OFF	ON	OFF	-5dBm
OFF	OFF	ON	OFF	-4dBm
ON	ON	OFF	OFF	-3dBm
OFF	ON	OFF	OFF	-2dBm
ON	OFF	OFF	OFF	-1dBm
OFF	OFF	OFF	OFF	0dBm

Setting value per bit for SW17

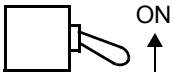
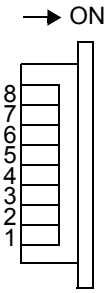
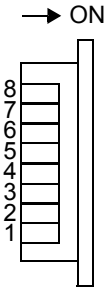
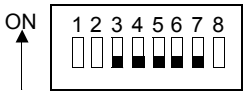
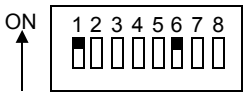
SW17

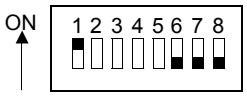
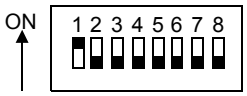
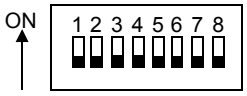
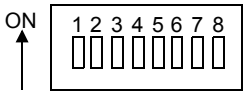
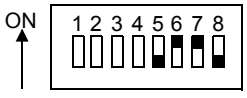
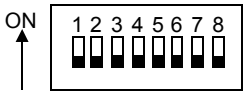


8-DIP SWITCH

SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
1	ON		
	OFF	×	Fixed to OFF
2	ON		
	OFF	×	Fixed to OFF
3	ON		
	OFF	×	Fixed to OFF
4	ON		
	OFF	×	Fixed to OFF
5	ON		
	OFF	×	Fixed to OFF
6	ON		
	OFF	×	Fixed to OFF
7	ON		
	OFF	×	Fixed to OFF
8	ON		
	OFF	×	Fixed to OFF

6. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		Circuit card: Make-Busy cancel Standard Setting: Down
		SW01 (MBR0-7)		
		SW02 (MBS0-7)		
		SW10		
		SW11		

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW12		
		SW13		
		SW14		
		SW15		
		SW16		
		SW17		

PA-8RSTY-A Register Sender Trunk

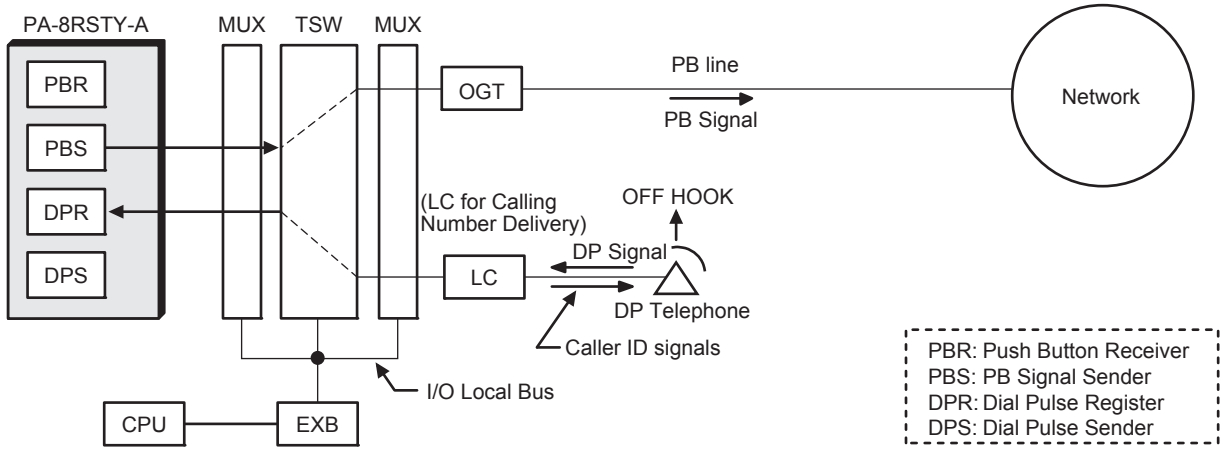
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	-	-	-	-	-	-

1. General Function

The PA-8RSTY-A circuit card is equipped with eight circuits of registers and senders. More specifically, this card contains Dial Pulse Register (DPR), Push Button Receiver (PBR) for receiving digits from extensions and/or the associated incoming trunks and Dial Pulse Sender (DPS), PB Signal Sender (PBS) for sending digits to a distant switching system. In addition, this card has Register Sender function, by which inter-digit pause can be changed and PB signals may be converted to DP signals and vice versa without intervention of the CPU. The card can be used for Caller ID service and caller ID on Call Waiting service.

Location of PA-8RSTY-A (8RST) in the System

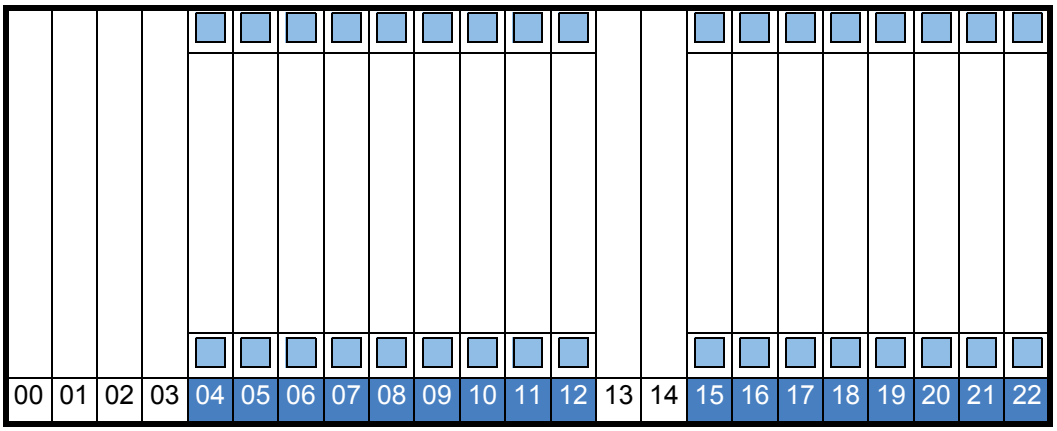
This figure shows Register Sender function as an example.



2. Mounting Location/Condition

Mounting Location <8U-PIR>

Universal Slot



Mounting Condition:

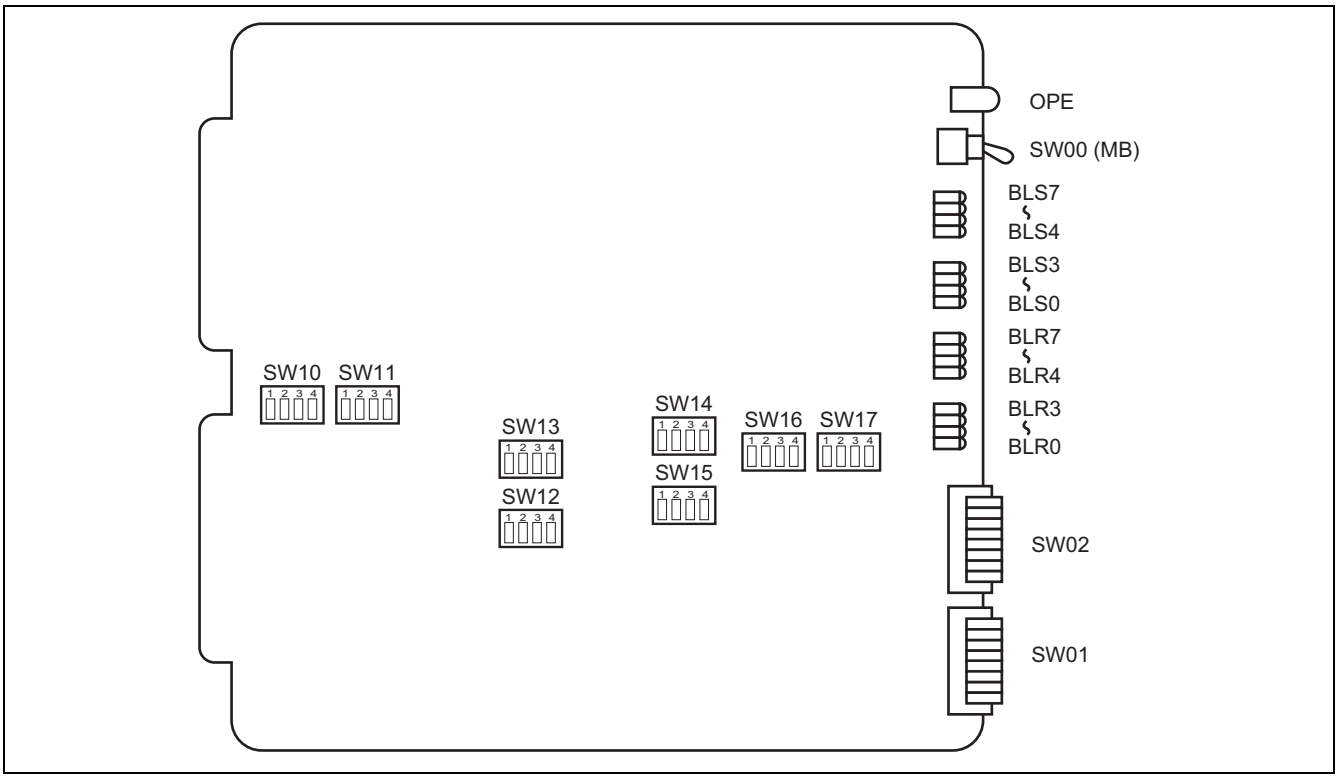
- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors on this circuit card is shown below.

Note: Layout of lamps and switches differ from other RST cards.

Face Layout of PA-8RSTY-A (8RST)



4. Lamp Indications

The contents of lamp indications on this circuit card are shown in the table below.

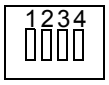
LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating.
BLR0 ' BLR7	Green	Lights when the corresponding circuit has received the selective signals.
	Flash	Flashes (60 IPM) while the corresponding circuit is in Make-Busy state.
	Off	Remains off when the corresponding circuit is idle.
BLS0 ' BLS7	Green	Lights when the corresponding circuit has sent the selective signals.
	Flash	Flashes (60 IPM) while the corresponding circuit is in Make-Busy state.
	Off	Remains off when the corresponding circuit is idle.

5. Switch Settings

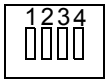
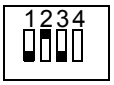
Standard settings of switches on this circuit card are shown in the table below.

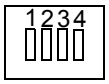
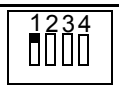
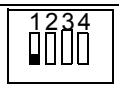
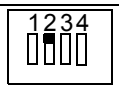
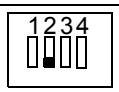
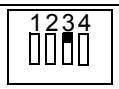
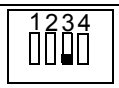
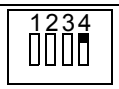
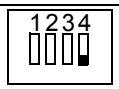
SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB (SW00)		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel
SW01 (MBR0-7)	0	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	1	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	2	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	3	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	4	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	5	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	6	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit
	7	ON		Register Make-Busy of the corresponding circuit
		OFF	×	Register Make-Busy cancel of the corresponding circuit

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW02 (MBS0-7)	0	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	1	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	2	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	3	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	4	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	5	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	6	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit
	7	ON		Sender Make-Busy of the corresponding circuit
		OFF	×	Sender Make-Busy cancel of the corresponding circuit

<table>
<tr><th>SWITCH</th><th colspan="2">FUNCTION</th><th>SWITCH SETTING</th><th>MEANING</th></tr>
<tr><td>SW10
 
</td><td>1
'
3</td><td>DTMF Signal Receiver Threshold Value</td><td> 

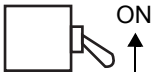
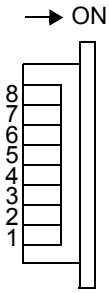
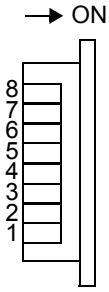
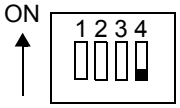
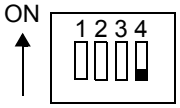
[Standard Setting]</td><td>
<table>
<tr><th colspan="4">SELECTION OF PBR THRESHOLD VALUE</th></tr>
<tr><th>SW10-1</th><th>SW10-2</th><th>SW10-3</th><th>DTMF THRESHOLD VALUE</th></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>-21.0 dBm0</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>-23.0 dBm0</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>-25.0 dBm0</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>-27.0 dBm0</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>-29.0 dBm0</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>-31.0 dBm0</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>-33.0 dBm0</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>-35.0 dBm0</td></tr>
</table>
</td></tr>
<tr><td></td><td>4</td><td></td><td>OFF</td><td>Fixed to OFF</td></tr>
</table>

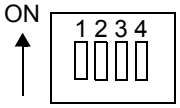
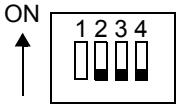
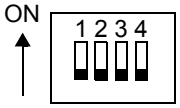
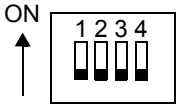
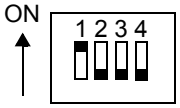
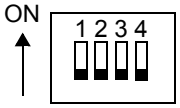
<table>
<tr><th>SWITCH</th><th colspan="2">FUNCTION</th><th>SWITCH SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="2">SW11
  </td><td>1
'
3</td><td>MFR Signal Receiver Threshold Value</td><td> 
ON
OFF
[Standard Setting]</td><td>
<table>
<tr><th colspan="4">SELECTION OF MFR THRESHOLD VALUE</th></tr>
<tr><th>SW11-1</th><th>SW11-2</th><th>SW11-3</th><th>MFR THRESHOLD VALUE</th></tr>
<tr><td>ON</td><td>ON</td><td>ON</td><td>-17.0 dBm0</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>-19.0 dBm0</td></tr>
<tr><td>ON</td><td>OFF</td><td>ON</td><td>-21.0 dBm0</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>-23.0 dBm0</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>-25.0 dBm0</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>-27.0 dBm0</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>-29.0 dBm0</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>-31.0 dBm0</td></tr>
</table>
</td></tr>
<tr><td>4</td><td></td><td>OFF</td><td>Fixed to OFF</td></tr>
</table>

SWITCH	FUNCTION		SWITCH SETTING	MEANING
SW12 	1	Designation of MFR Specification		• AT & T specification
				• ITU-T 5 specification
	2	DTMF Signal Cut-off Guard Timer		• SHORT (less than ten milliseconds)
			 [Standard Setting]	• LONG (less than 20 milliseconds)
	3	Register Selection (MFR/PBR)		• REG 0, 1, 2, 3 function as MFR.
				• REG 0, 1, 2, 3 function as PBR.
	4	Register Selection (MFR/PBR)		• REG 4, 5, 6, 7 function as MFR.
				• REG 4, 5, 6, 7 function as PBR.

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW13	1	ON		MF Transmission Level:-9 dBm
		OFF		MF Transmission Level:-5 dBm
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF
SW14	1	OFF	×	Fixed to OFF
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF
SW15	1	OFF	×	Fixed to OFF
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF
SW16	1	ON	×	Fixed to ON
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF
SW17	1	OFF	×	Fixed to OFF
	2	OFF	×	Fixed to OFF
	3	OFF	×	Fixed to OFF
	4	OFF	×	Fixed to OFF

6. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		Circuit card: Make-Busy cancel Standard Setting: Down
		SW01 (MBR0-7)		
		SW02 (MBS0-7)		
		SW10		
		SW11		

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW12		
		SW13		
		SW14		
		SW15		
		SW16		
		SW17		

PZ-16VCTB
Sub Board

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	-	X	X	-

1. General Function

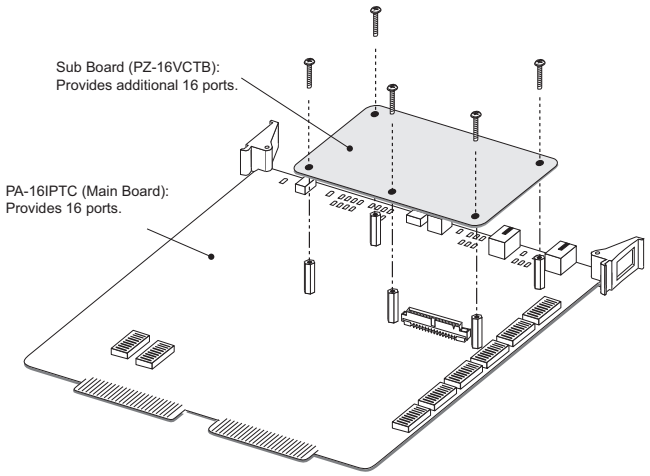
PZ-16VCTB is a sub board that provides ports and voice compression function. Each sub board (PZ-16VCTB) provides voice compression for 16 channels. This sub board is mounted on IPTRK circuit card and a maximum of two sub boards can be mounted on the card. The following provides the relationship between Sub Board and its functions.

Sub Board (PZ-16VCTB)

CIRCUIT NAME	FUNCTIONS	NUMBER OF SUB BOAD		
		0	1	2
IPTRK	Speech	16	32	N/A
	Compression	16	32	N/A

Case 1: Mounted on IPTRK (PA-16IPTC) card

Without this sub board, the IPTRK circuit card provides a total of 16 ports with full voice compression function. The IPTRK card can expand its available ports by mounting a PZ-16VCTB sub board on it (PZ-16VCTB provides additional 16 ports).



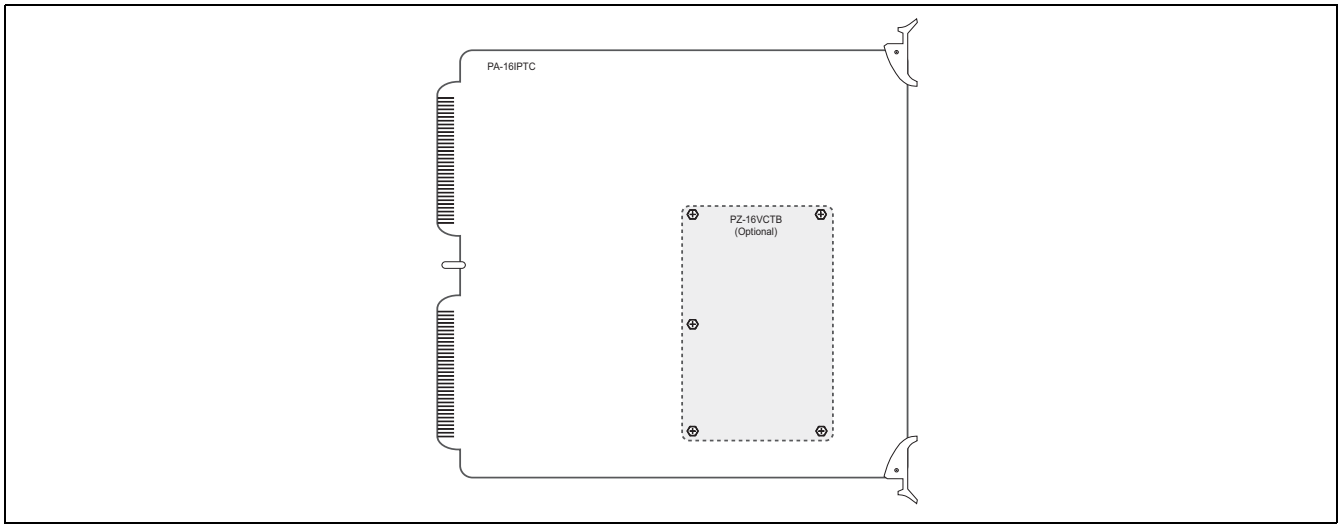
Note: When mounting this board on the Main Board.

This board supports the following CODEC.

CODEC	Function
G.729a	8 kbps: CS-ACELP
G.723.1	5.3 kbps: ACELP or 6.3 kbps: MP-MLQ

2. Mounting Location

Mounting Location for IPTRUNK



PA-8TLTR-A
Tie Line Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

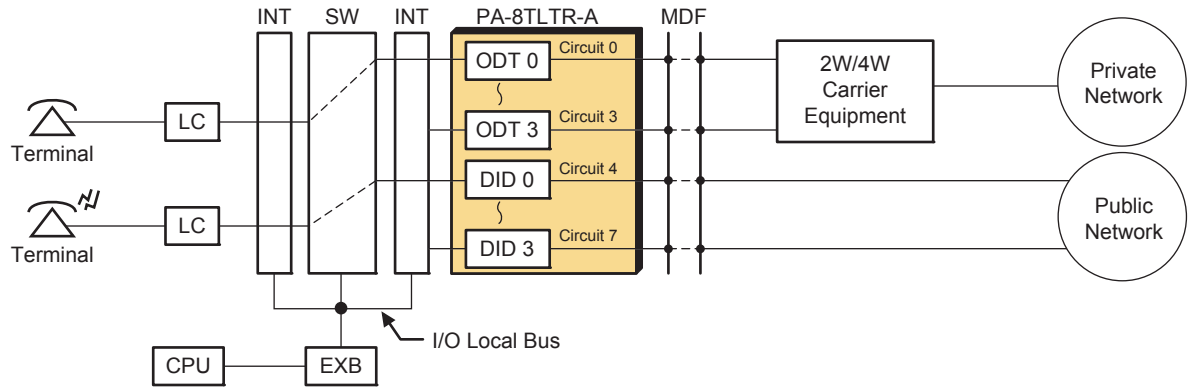
The PA-8TLTR-A (TLT) circuit card provides eight trunks whose interface can be selected among the following four types by key setting on a four-channel basis.

- Loop Dialing (LD)
- Direct Inward Dialing (DID)
- 2-wire E & M
- 4-wire E & M

In addition, programmable PADs, whose value can be adjusted by key setting, are equipped with a 4-wire E & M interface. Note that a cable, that is connected to the ODT connector on the front edge of this card, is necessary when Circuits 4 through 7 are used as 2-wire/4-wire E & M trunks. A typical example of channel allocation is illustrated below.

Note: Enable Reverse function for all the circuits with the ASFC command.

Location of PA-8TLTR-A (TLT) in the System

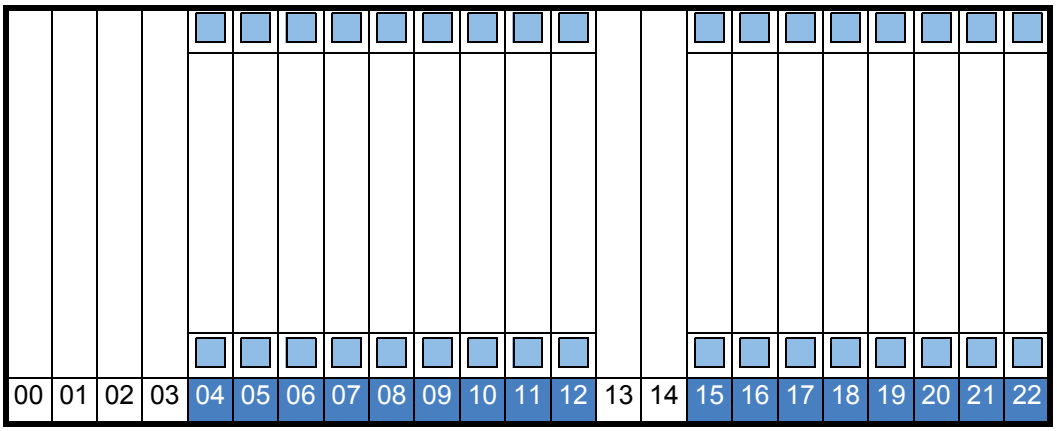


Note: This diagram shows an example when the PA-8TLTR-A is used as four 2W/4W E&M and four DID trunks. In this instance, a flat cable connection is not required.

2. Mounting Location / Condition

Mounting Location <8U-PIR>

Universal Slot



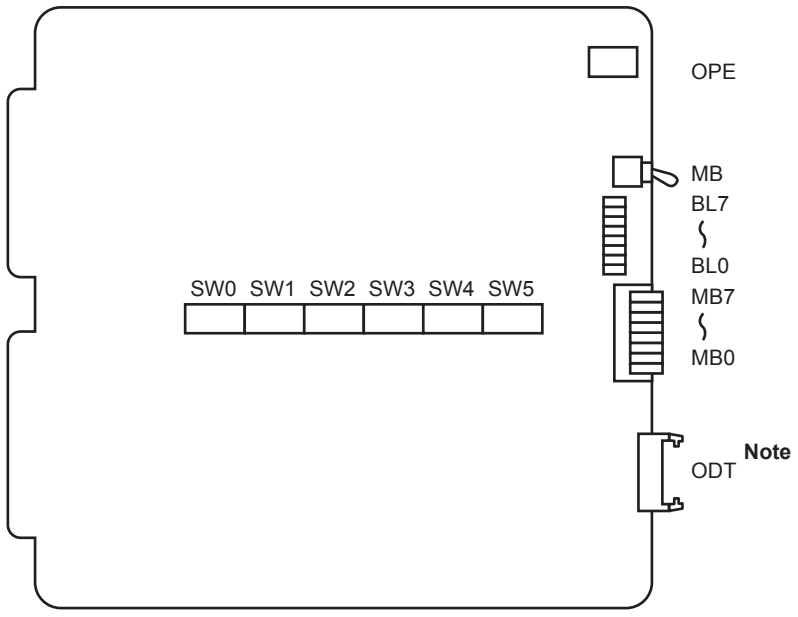
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors of this circuit card is shown below.

Face Layout of PA-8TLTR-A (TLT) Card



Note: This connector is used when “E & M” is selected for Circuits 4 through 7.

4. Lamp Indications

The contents of lamp indications of this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating.
BL0 ⁞ BL7	Green	Lights when the corresponding circuit is busy.
	Flash	Flashes when the corresponding circuit is in Make-Busy state or while DP signals are being received (flashes to the dial pulses).
	Off	Remains off when the corresponding circuit is idle.

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB (SW00)		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel.
MB0 - 7 (SW01)	0	ON		Make-Busy of Circuit 0
		OFF	×	Make-Busy cancel of Circuit 0
	1	ON		Make-Busy of Circuit 1
		OFF	×	Make-Busy cancel of Circuit 1
	2	ON		Make-Busy of Circuit 2
		OFF	×	Make-Busy cancel of Circuit 2
	3	ON		Make-Busy of Circuit 3
		OFF	×	Make-Busy cancel of Circuit 3
	4	ON		Make-Busy of Circuit 4
		OFF	×	Make-Busy cancel of Circuit 4
	5	ON		Make-Busy of Circuit 5
		OFF	×	Make-Busy cancel of Circuit 5
	6	ON		Make-Busy of Circuit 6
		OFF	×	Make-Busy cancel of Circuit 6
	7	ON		Make-Busy of Circuit 7
		OFF	×	Make-Busy cancel of Circuit 7

<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th colspan="2">MEANING</th></tr>
<tr><td rowspan="3">SW0
(SW10)</td><td>1</td><td rowspan="3"></td><td colspan="3" rowspan="3">
<table>
<tr><th>SW0-1</th><th>SW0-2</th><th>SW0-3</th><th>0-3 CIRCUIT TRUNK KIND</th><th>4-7 CIRCUIT TRUNK KIND</th></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>LD/DID</td><td>LD/DID</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>2W/4W E&M</td><td>LD/DID</td></tr>
<tr><td>ON</td><td>ON</td><td>OFF</td><td>2W/4W E&M</td><td>2W/4W E&M</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>Not used</td><td>Not used</td></tr>
<tr><td colspan="3">Other Setting</td><td>Not used</td><td>Not used</td></tr>
</table>
</td></tr>
<tr><td>2</td></tr>
<tr><td>3</td></tr>
<tr><td></td><td>4</td><td>OFF</td><td>×</td><td colspan="2">Fixed to OFF</td></tr>
<tr><td></td><td>5</td><td>OFF</td><td>×</td><td colspan="2">Fixed to OFF</td></tr>
<tr><td></td><td>6</td><td>ON</td><td>×</td><td colspan="2">Fixed to ON</td></tr>
<tr><td></td><td>7</td><td>OFF</td><td>×</td><td colspan="2">Fixed to OFF</td></tr>
<tr><td></td><td>8</td><td>OFF</td><td>×</td><td colspan="2">Fixed to OFF</td></tr>
<tr><td rowspan="13">SW1
(SW15)</td><td rowspan="2">1</td><td>ON</td><td></td><td>Programmable PAD P0 Value 0.5 dB.</td><td rowspan="13">P0 value is determined as a sum of selected PAD values of SW1 (Elements 1-5). Note that this setting is valid for 4W E&M system.
-Example-
SW1-1: ON (0.5 dB)
SW1-2: OFF (0 dB)
SW1-3: OFF (0 dB)
SW1-4: ON (4 dB)
SW1-5: ON (8 dB)

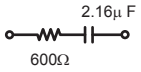
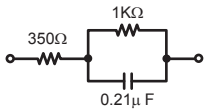
In this case P0 value is 12.5 dB.</td></tr>
<tr><td>OFF</td><td></td><td>Programmable PAD P0 Value 0 dB.</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td>Programmable PAD P0 Value 1 dB.</td></tr>
<tr><td>OFF</td><td></td><td>Programmable PAD P0 Value 0 dB.</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td>Programmable PAD P0 Value 2 dB.</td></tr>
<tr><td>OFF</td><td></td><td>Programmable PAD P0 Value 0 dB.</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>Programmable PAD P0 Value 4 dB.</td></tr>
<tr><td>OFF</td><td></td><td>Programmable PAD P0 Value 0 dB.</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td>Programmable PAD P0 Value 8 dB.</td></tr>
<tr><td>OFF</td><td></td><td>Programmable PAD P0 Value 0 dB.</td></tr>
<tr><td>6</td><td>OFF</td><td>×</td><td colspan="2">Fixed to OFF</td></tr>
<tr><td></td><td></td><td colspan="3"><Setting Range of Programmable PAD Values>
<table>
<tr><th rowspan="2"></th><th colspan="2">PAD VALUE [dB]</th></tr>
<tr><th>SEND</th><th>RECEIVE</th></tr>
<tr><td rowspan="2">Possible Setting Range</td><td>P0: 0 - +15.5
0.5 step</td><td>P1: 0 - +15.5
0.5 step</td></tr>
<tr><td>P2: 0 - +7.5
0.5 step</td><td>P3: 0 - +7.5
0.5 step</td></tr>
</table>
</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td><td colspan="2">Fixed to OFF</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td><td colspan="2">Fixed to OFF</td></tr>
</table>

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING	
SW2 (SW20)	1	ON		Programmable PAD P1 Value 0.5 dB.	P1 value is determined as a sum of selected PAD values of SW2 (Elements 1-5). Note that this setting is valid for 4W E&M system. - Example - SW2-1: ON (0.5 dB) SW2-2: OFF (0 dB) SW2-3: OFF (0 dB) SW2-4: ON (4 dB) SW2-5: ON (8 dB) In this case P1 value is 12.5 dB.
		OFF		Programmable PAD P1 Value 0 dB.	
	2	ON		Programmable PAD P1 Value 1 dB.	
		OFF		Programmable PAD P1 Value 0 dB.	
	3	ON		Programmable PAD P1 Value 2 dB.	
		OFF		Programmable PAD P1 Value 0 dB.	
	4	ON		Programmable PAD P1 Value 4 dB.	
		OFF		Programmable PAD P1 Value 0 dB.	
	5	ON		Programmable PAD P1 Value 8 dB.	
		OFF		Programmable PAD P1 Value 0 dB.	
	6	OFF	×	Fixed to OFF	
	7	OFF	×	Fixed to OFF	
	8	OFF	×	Fixed to OFF	

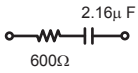
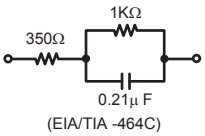
SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING	
SW3 (SW25)	1	ON		Programmable PAD P2 Value 0.5 dB.	P2 Values is total of PAD Values **Note 1**(Valid when 4W E&M system) -Example- SW3-1: OFF SW3-2: ON SW3-3: OFF SW3-4: OFF In this case P2 value is 1 dB.
		OFF		Programmable PAD P2 Value 0 dB.	
	2	ON		Programmable PAD P2 Value 1 dB.	
		OFF		Programmable PAD P2 Value 0 dB.	
	3	ON		Programmable PAD P2 Value 2 dB.	
		OFF		Programmable PAD P2 Value 0 dB.	
	4	ON		Programmable PAD P2 Value 4 dB.	
		OFF		Programmable PAD P2 Value 0 dB.	
	5	ON		Programmable PAD P3 Value 0.5 dB.	P3 Values is total of PAD Values **Note 1**(Valid when 4W E&M system) -Example- SW3-5: OFF SW3-6: ON SW3-7: OFF SW3-8: OFF In this case P3 value is 1 dB.
		OFF		Programmable PAD P3 Value 0 dB.	
	6	ON		Programmable PAD P3 Value 1 dB.	
		OFF		Programmable PAD P3 Value 0 dB.	
	7	ON		Programmable PAD P3 Value 2 dB.	
		OFF		Programmable PAD P3 Value 0 dB.	
	8	ON		Programmable PAD P3 Value 4 dB.	
		OFF		Programmable PAD P3 Value 0 dB.	

Note 1: For the setting range of Programmable PAD Values, see the Setting Range of Programmable PAD Values shown for SW1.

<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="5">SW4 (SW30 [Circuit 0-3]
SW5 (SW40) [Circuit 4-7]

(When Trunk Kind has been set as LD/ DID)</td><td>1 ~ 4</td><td colspan="3">Setting of Terminating Impedance and Balancing Network
(Valid for LD/DID)
<table>
<tr><th colspan="4">SW4/5</th><th rowspan="2">TERMINATING IMPEDANCE</th><th rowspan="2">BALANCING NETWORK</th></tr>
<tr><th>1</th><th>2</th><th>3</th><th>4</th></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td rowspan="2">  </td><td>  </td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>  </td></tr>
<tr><td colspan="4">Other Setting</td><td colspan="2">Not used</td></tr>
</table></td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>6</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="7">SW4 (SW30 [Circuit 0-3]
SW5 (SW40) [Circuit 4-7]

(When Trunk Kind has been set as 2W E&M)</td><td>1 ~ 4, 6</td><td colspan="3">Setting of Terminating Impedance and Balancing Network
(Valid for E&M)
<table>
<tr><th colspan="5">SW4/5</th><th rowspan="2">TERMINATING IMPEDANCE</th><th rowspan="2">BALANCING NETWORK</th></tr>
<tr><th>1</th><th>2</th><th>3</th><th>4</th><th>6</th></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td rowspan="2">  </td><td>  </td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>  </td></tr>
<tr><td colspan="5">Other Setting</td><td colspan="2">Not used</td></tr>
</table></td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td>Speech Line: 2-wire</td></tr>
<tr><td>OFF</td><td></td><td>Speech Line: 4-wire</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>E&M Control
Idle: Ground Busy: Battery</td></tr>
<tr><td>OFF</td><td></td><td>E&M Control
Idle: Open Busy: Ground</td></tr>
</table>

Reference: Table of Fixed PADs

ARTD COMMAND PAD DATA	PAD VALUE [dB]					
	4W E&M		LD/2W E&M			
			①		②	
	SEND	RECEIVE	SEND	RECEIVE	SEND	RECEIVE
0	P0	P1	0	0	0	-6
1	3	3	3	3	6	-6
2	6	6	6	6	0	-6
3	12	11	6	-6	0	-6
4	16	11	0	-6	0	-6
5	P2	P3	0	0	0	-6
7	0	0	0	0	0	-6

APAD COMMAND PAD DATA	PAD VALUE [dB]					
	4W E&M		LD/2W E&M			
			①		②	
	SEND	RECEIVE	SEND	RECEIVE	SEND	RECEIVE
1	3	3	3	3	6	-6
2	6	6	6	6	6	-6
3	12	11	6	-6	0	-6
4	16	11	0	-6	0	-6
5	P2	P3	0	0	0	-6
15	0	0	0	0	0	-6

① : When SW2-8 is set to ON. (other than the case of ②)

② : When SW2-8 is set to OFF. (i.e., PAD for TS003 is provided; only for Australia)

6. External Interface

Accommodation of LT connector leads of this circuit card is shown below.

See also: Connecting Route Diagram (LD/DID • 2W E&M)

Connecting Route Diagram (4W E&M)

2400 ODT CA Lead Accommodation

2400 ODT CA-A Lead Accommodation

LT Connector Lead Accommodation (1/2)

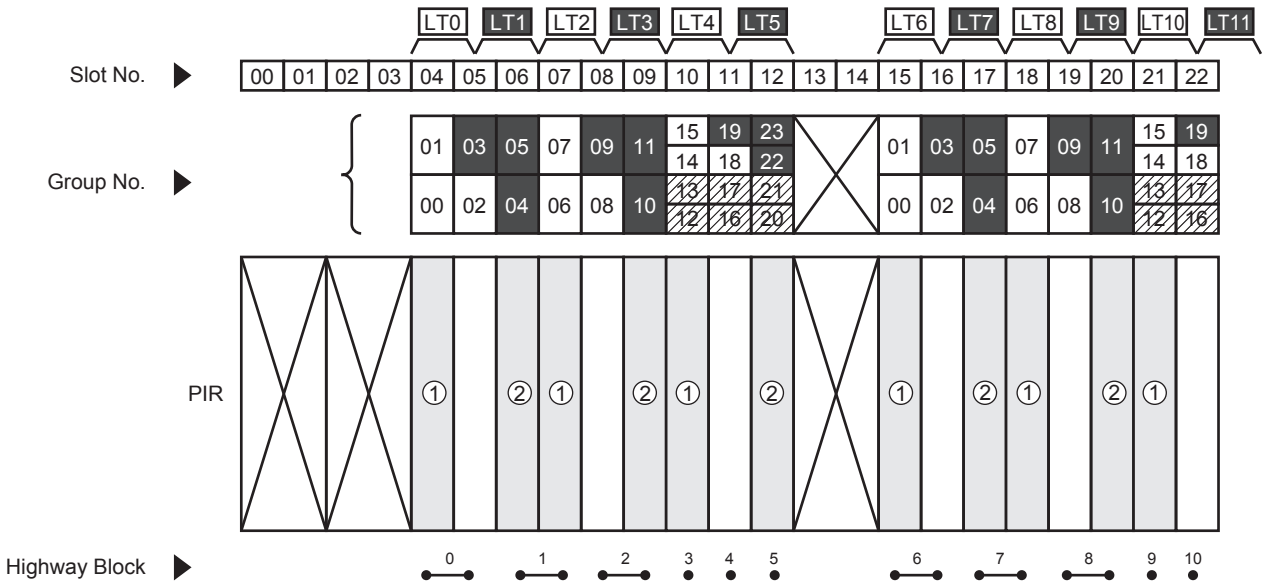
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	B0 (TB0)	1	A0 (TA0)
27	B1 (TB1)	2	A1 (TA1)
28	B2 (TB2)	3	A2 (TA2)
29	B3 (TB3)	4	A3 (TA3)
30	B4 (TB4)	5	A4 (TA4)
31	B5 (TB5)	6	A5 (TA5)
32	B6 (TB6)	7	A6 (TA6)
33	B7 (TB7)	8	A7 (TA7)
34	RB0	9	RA0
35	RB1	10	RA1
36	RB2	11	RA2
37	RB3	12	RA3
38	M0	13	E0
39	M1	14	E1
40	M2	15	E2
41	M3	16	E3
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0 (TB0)	9	A0 (TA0)
35	B1 (TB1)	10	A1 (TA1)
36	B2 (TB2)	11	A2 (TA2)
37	B3 (TB3)	12	A3 (TA3)
38	B4 (TB4)	13	A4 (TA4)
39	B5 (TB5)	14	A5 (TA5)
40	B6 (TB6)	15	A6 (TA6)
41	B7 (TB7)	16	A7 (TA7)
42	RB0	17	RA0
43	RB1	18	RA1
44	RB2	19	RA2
45	RB3	20	RA3
46	M0	21	E0
47	M1	22	E1
48	M2	23	E2
49	M3	24	E3
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (2/2)

Mounting Module **PIR**

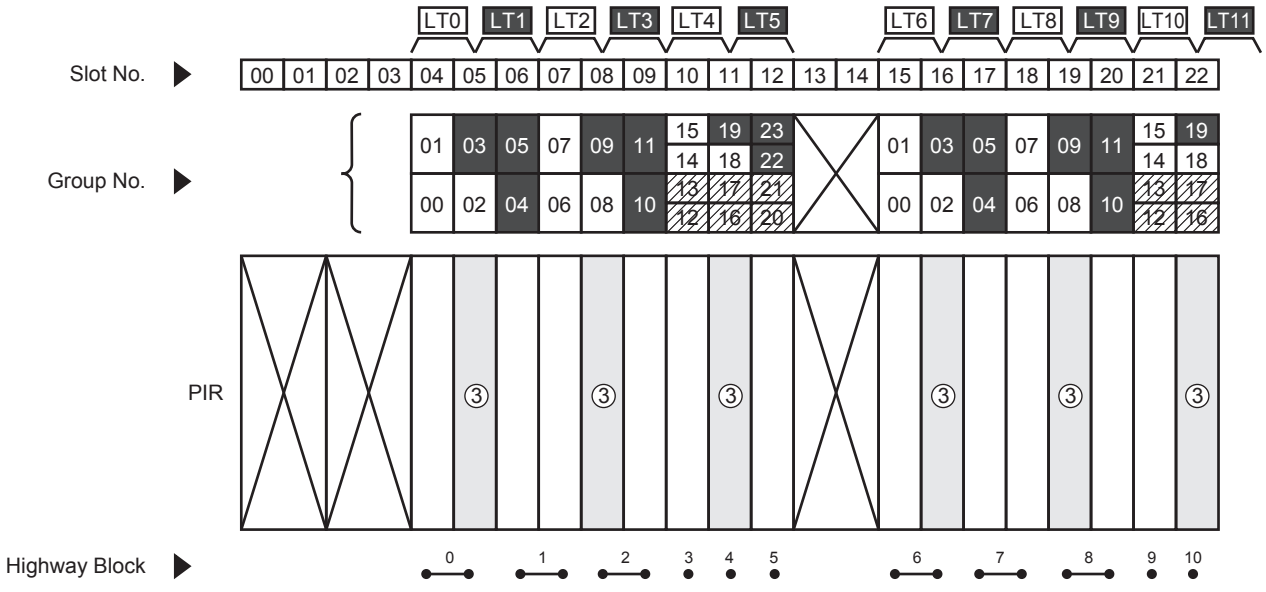
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0 (TB0)	17	A0 (TA0)
43	B1 (TB1)	18	A1 (TA1)
44	B2 (TB2)	19	A2 (TA2)
45	B3 (TB3)	20	A3 (TA3)
46	B4 (TB4)	21	A4 (TA4)
47	B5 (TB5)	22	A5 (TA5)
48	B6 (TB6)	23	A6 (TA6)
49	B7 (TB7)	24	A7 (TA7)
50		25	

LT 1, 3, 5, 7, 9, 11 Connector

26	RB0	1	RA0
27	RB1	2	RA1
28	RB2	3	RA2
29	RB3	4	RA3
30	M0	5	E0
31	M1	6	E1
32	M2	7	E2
33	M3	8	E3
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

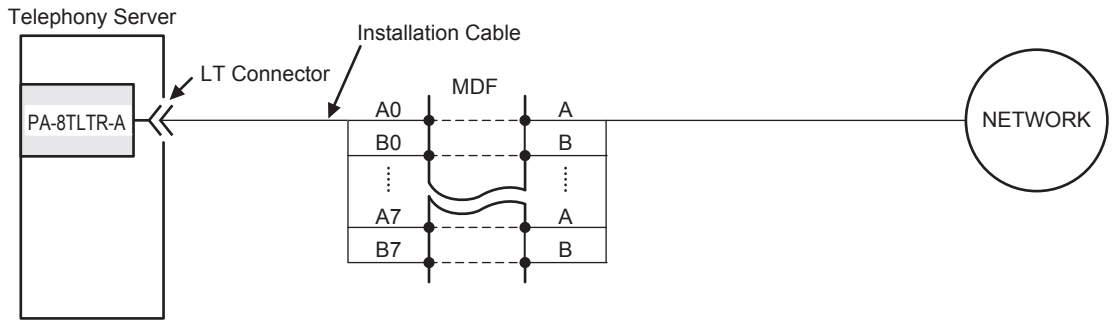


Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram (LD/DID • 2W E&M)

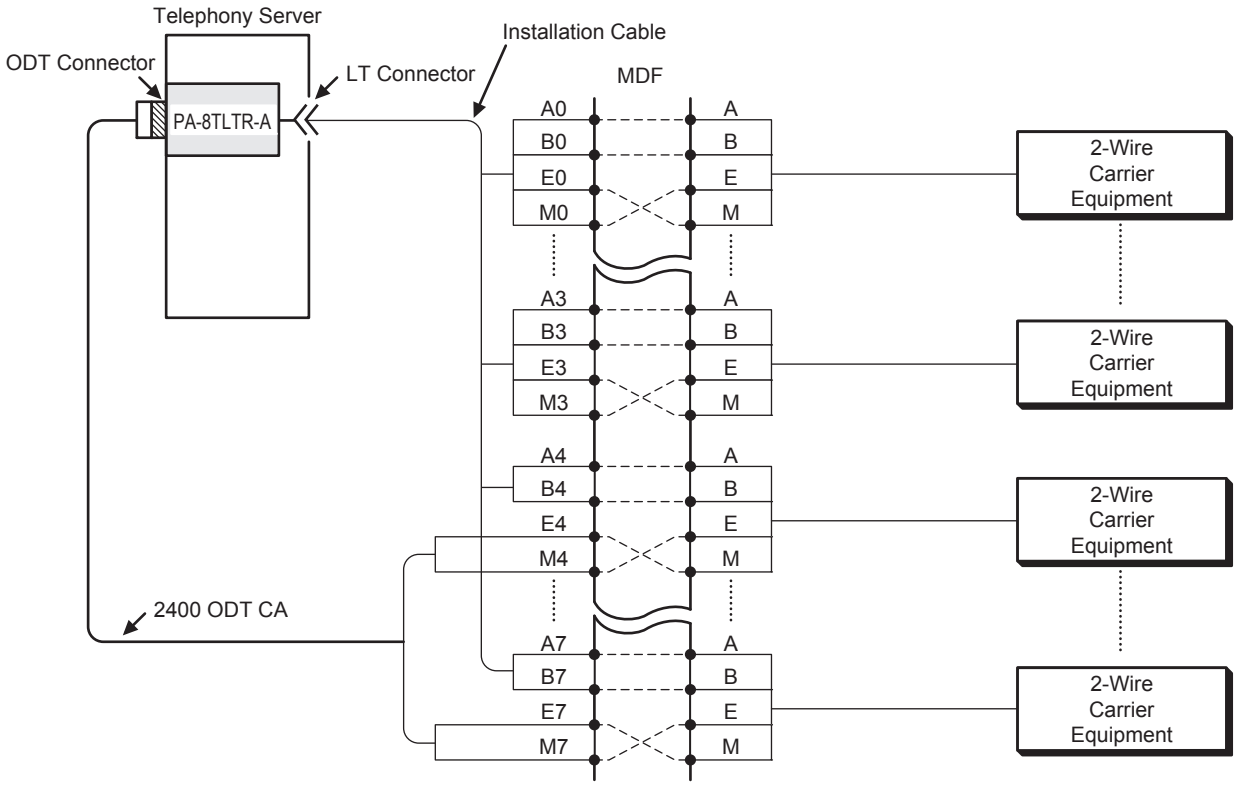
- LD/DID

This diagram shows connecting route diagram when the PA-8TLTR-A is used as a LD or DID trunk.



- 2W E&M

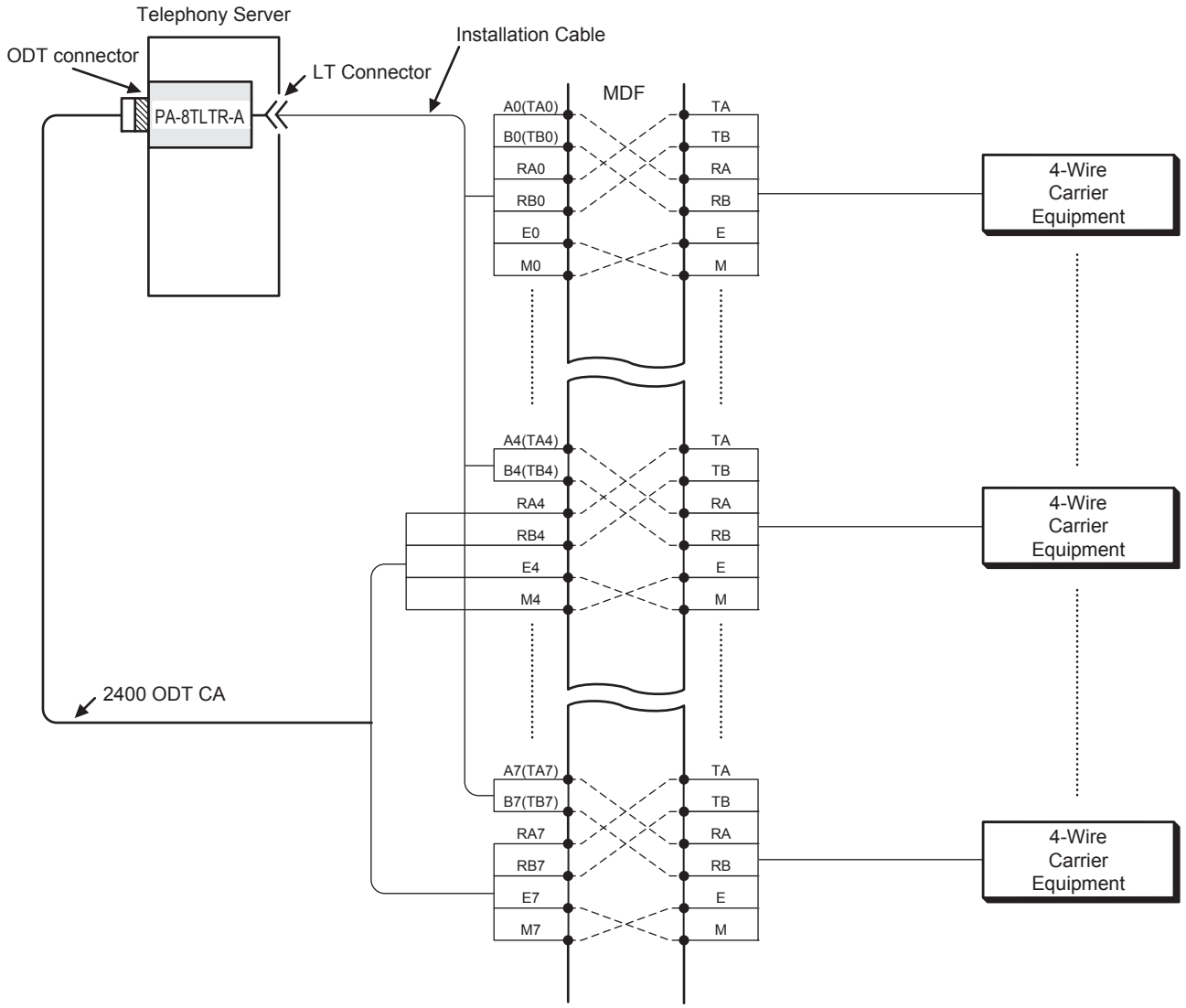
This diagram shows connecting route diagram when the PA-8TLTR-A is used as a 2-wire E&M trunk. In this instance, E&M leads for Channels 4 - 7 appear from the ODT connector equipped on the front edge of this card.



Connecting Route Diagram (4W E&M)

- 4W E&M

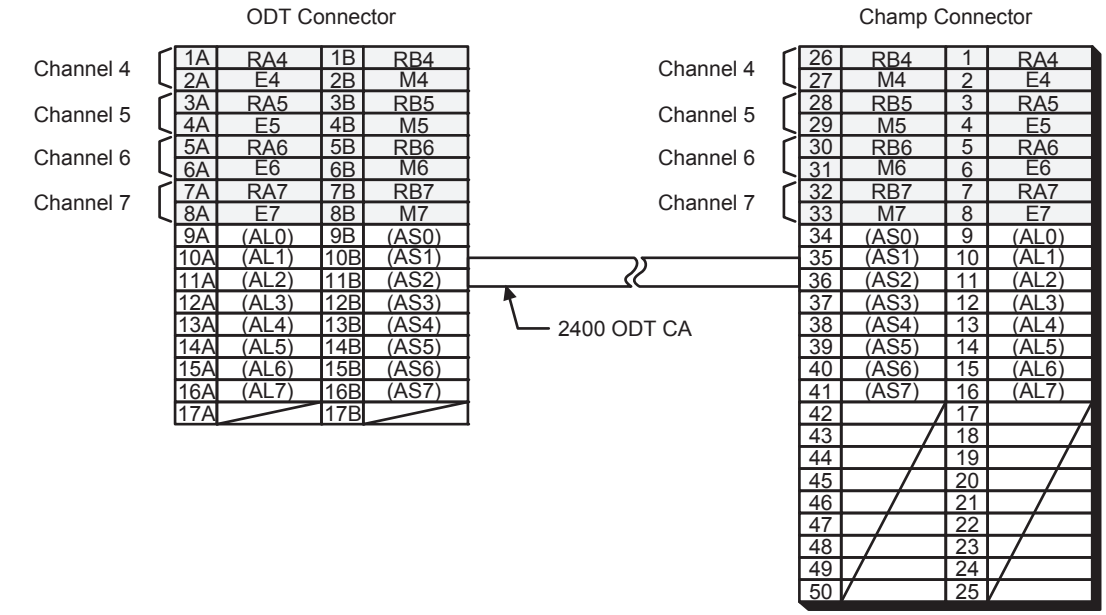
This diagram shows connecting route diagram when the PA-8TLTR-A is used as a 4-wire E&M trunk. In this instance, RA, RB, and E&M leads for Channels 4 - 7 appear from the ODT connector equipped on the front edge of this card.

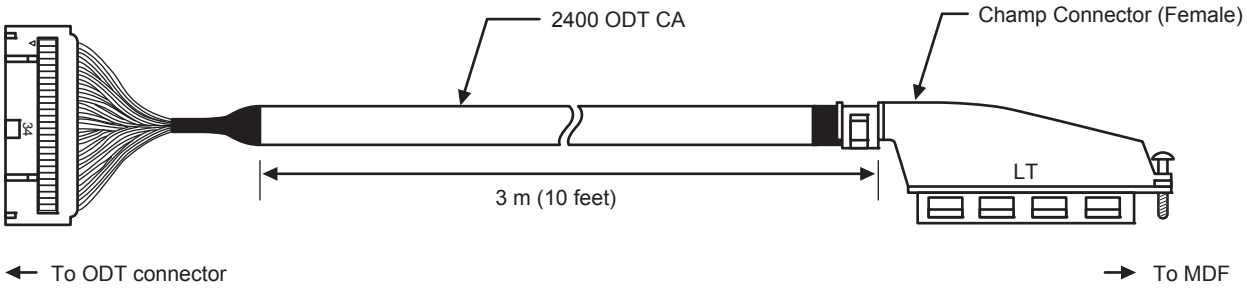


2400 ODT CA Lead Accommodation

- 2400 ODT CA

The 2400 ODT CA has one ODT connector whose lead accommodation is shown below.



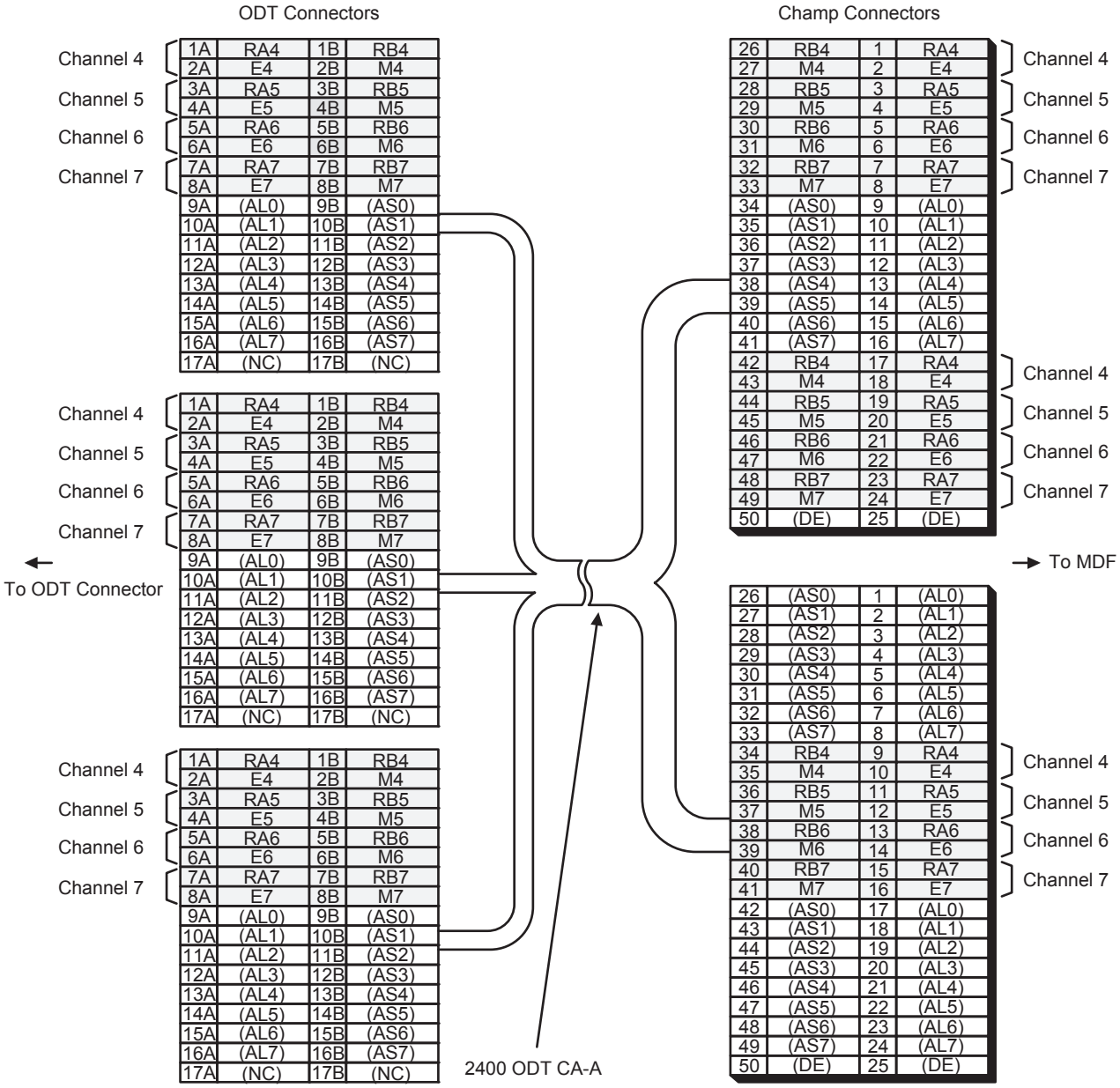


Note: Leads whose names are in parenthesis are not used.

"2400 ODT CA-A" Lead Accommodation

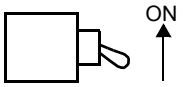
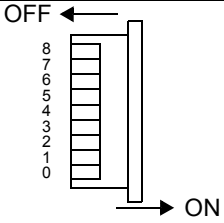
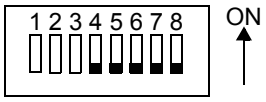
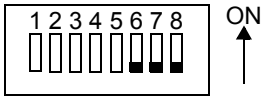
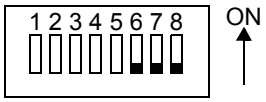
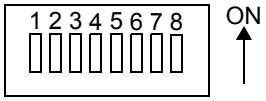
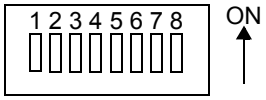
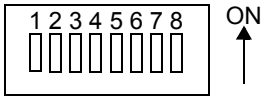
- 2400 ODT CA-A

The 2400 ODT CA-A has three ODT connectors whose lead accommodation is shown below.



Note: Leads whose names are in parenthesis are not used.

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		MB (SW00)		
		MB0-7 (SW01)		
		SW0 (SW10)		
		SW1 (SW15)		
		SW2 (SW20)		
		SW3 (SW25)		
		SW4 (SW30)		
		SW5 (SW40)		

PA-8TLTR-B
Tie Line Trunk

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

The PA-8TLTR-B (TLT) circuit card provides eight trunks whose interface can be selected among the following four types by key setting on a four-channel basis.

- Loop Dialing (LD)
- Direct Inward Dialing (DID)
- 2-wire E & M
- 4-wire E & M

In addition, programmable PADs, whose value can be adjusted by key setting, are equipped with a 4-wire E & M interface. Note that a cable, that is connected to the ODT connector on the front edge of this card, is necessary when Circuits 4 through 7 are used as 2-wire/4-wire E & M trunks. A typical example of channel allocation is illustrated below.

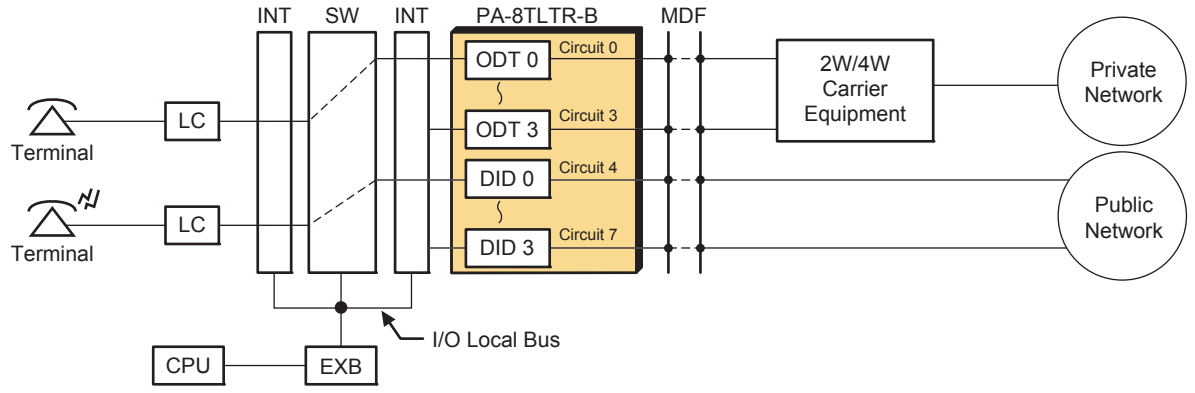
Note: This circuit card does not support DID of Hong Kong.

Note: This circuit card does not support DID of Australia.

Note: An E&M function of PA-8TLTR-B is an interface function for on-premises.
When trunk kind has been set as E&M, do not connect this circuit card to Off-premises line.
When the danger voltage such as the lightning surge increased, the accidents such as trouble or the fire may occur.

Note: Enable Reverse function for all the circuits with the ASFC command.

Location of PA-8TLTR-B (TLT) in the System

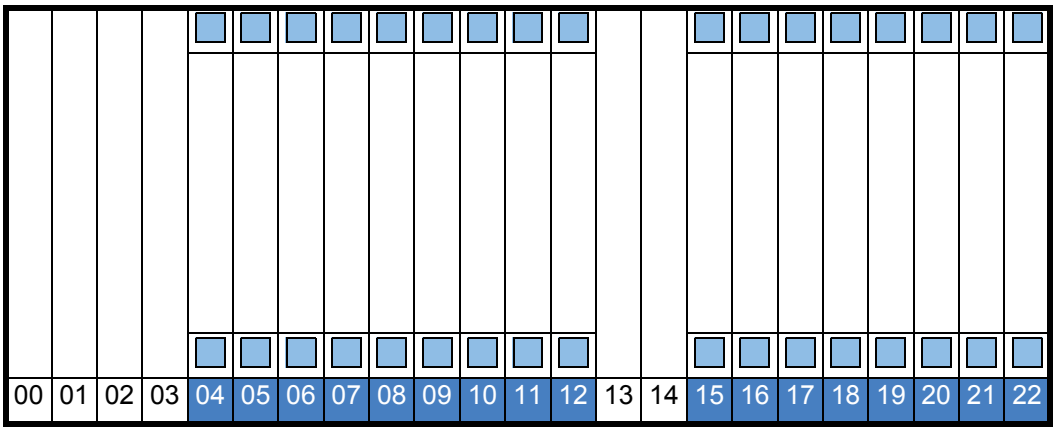


Note: This diagram shows an example when the PA-8TLTR-B is used as four 2W/4W E&M and four DID trunks. In this instance, a flat cable connection is not required.

2. Mounting Location / Condition

Mounting Location <8U-PIR>

Universal Slot



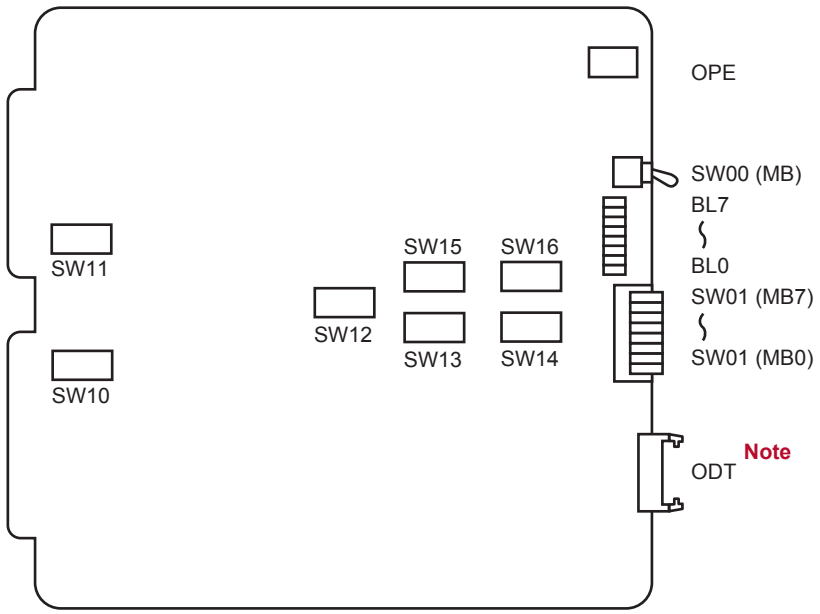
Mounting Condition:

- When this card is mounted in Slot 04 of PIR0, Port 0 (LV=0) of Group 0 (G=00) cannot be used. LENS:000000 is not available for the users.

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors of this circuit card is shown below.

Face Layout of PA-8TLTR-B (TLT) Card



Note: This connector is used when “E & M” is selected for Circuits 4 through 7.

4. Lamp Indications

The contents of lamp indications of this circuit card are shown in the table below.

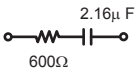
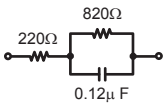
LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is operating.
BL0 to BL7	Green	Lights when the corresponding circuit is busy.
	Flash	Flashes when the corresponding circuit is in Make-Busy state or while DP signals are being received (flashes to the dial pulses).
	Off	Remains off when the corresponding circuit is idle.

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW00 (MB)		UP		Circuit card: Make-Busy
		DOWN	×	Circuit card: Make-Busy cancel.
SW01 (MB0-7)	1	ON		Make-Busy of Circuit 0
		OFF	×	Make-Busy cancel of Circuit 0
	2	ON		Make-Busy of Circuit 1
		OFF	×	Make-Busy cancel of Circuit 1
	3	ON		Make-Busy of Circuit 2
		OFF	×	Make-Busy cancel of Circuit 2
	4	ON		Make-Busy of Circuit 3
		OFF	×	Make-Busy cancel of Circuit 3
	5	ON		Make-Busy of Circuit 4
		OFF	×	Make-Busy cancel of Circuit 4
	6	ON		Make-Busy of Circuit 5
		OFF	×	Make-Busy cancel of Circuit 5
	7	ON		Make-Busy of Circuit 6
		OFF	×	Make-Busy cancel of Circuit 6
	8	ON		Make-Busy of Circuit 7
		OFF	×	Make-Busy cancel of Circuit 7

<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="9">SW10</td><td>1</td><td>OFF</td><td colspan="2" rowspan="2"><table>
<tr><th>SW10-2</th><th>SW10-8</th><th>0-3 CIRCUIT TRUNK KIND</th><th>4-7 CIRCUIT TRUNK KIND</th></tr>
<tr><td>OFF
ON
ON</td><td>OFF
ON
OFF</td><td>LD/DID
2W/4W E&M
2W/4W E&M</td><td>LD/DID
LD/DID
2W/4W E&M</td></tr>
</table></td></tr>
<tr><td>2</td><td></td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>6</td><td>ON</td><td>×</td><td>Fixed to ON</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>8</td><td></td><td></td><td>Refer to an upper list.</td></tr>
</table>

<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="12">SW11</td><td>1</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>2</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td>AS/ACIF S003 Loss Plan</td></tr>
<tr><td>OFF</td><td></td><td>Spec 1301 Loss Plan</td></tr>
<tr><td>4 ~ 5</td><td></td><td></td><td>• When SW11-3 is OFF (Other countries than Australia).
<table><tr><th>4</th><th>5</th><th>TERMINATING IMPEDANCE</th></tr><tr><td>OFF</td><td>OFF</td><td> 
Other countries than Australia</td></tr></table>• When SW11-3 is OFF/ON (Australia).
<table><tr><th>4</th><th>5</th><th>TERMINATING IMPEDANCE</th></tr><tr><td>ON</td><td>ON</td><td> 
Australia</td></tr></table></td></tr>
<tr><td>6</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td>Dial pulse counting for Australia</td></tr>
<tr><td>OFF</td><td></td><td>Other countries</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>E&M Control for Australia "Tone on idle" System</td></tr>
<tr><td>OFF</td><td></td><td>E&M Control for other countries</td></tr>
</table>

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING	
SW12	1	ON		Programmable PAD P2 Value 0.5 dB.	P2 Value is total of PAD Values **Note 1** (Valid when 4W E&M system) -Example- SW12-1: OFF SW12-2: ON SW12-3: OFF SW12-4: OFF In this case P2 value is 1 dB.
		OFF		Programmable PAD P2 Value 0 dB.	
	2	ON		Programmable PAD P2 Value 1 dB.	
		OFF		Programmable PAD P2 Value 0 dB.	
	3	ON		Programmable PAD P2 Value 2 dB.	
		OFF		Programmable PAD P2 Value 0 dB.	
	4	ON		Programmable PAD P2 Value 4 dB.	
		OFF		Programmable PAD P2 Value 0 dB.	
	5	ON		Programmable PAD P3 Value 0.5 dB.	P3 Value is total of PAD Values **Note 1**(Valid when 4W E&M system) -Example- SW12-5: OFF SW12-6: ON SW12-7: OFF SW12-8: OFF In this case P3 value is 1 dB.
		OFF		Programmable PAD P3 Value 0 dB.	
	6	ON		Programmable PAD P3 Value 1 dB.	
		OFF		Programmable PAD P3 Value 0 dB.	
	7	ON		Programmable PAD P3 Value 2 dB.	
		OFF		Programmable PAD P3 Value 0 dB.	
	8	ON		Programmable PAD P3 Value 4 dB.	
		OFF		Programmable PAD P3 Value 0 dB.	

Note 1: The setting range of programmable PAD values is as follows:

	PAD VALUE [dB]			
	SEND		RECEIVE	
Possible Setting Range	P0:	0 - +15.5 0.5 step	P1:	0 - +15.5 0.5 step
	P2:	0 - +7.5 0.5 step	P3:	0 - +7.5 0.5 step

<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th colspan="2">MEANING</th></tr>
<tr><td rowspan="14">SW13</td><td rowspan="2">1</td><td>ON</td><td></td><td>Programmable PAD P0 Value 0.5 dB.</td><td rowspan="14">P0 value is determined as a sum of selected PAD values of SW13 (Elements 1-5). Note that this setting is valid for 4W E&M system.
-Example-
SW13-1: ON (0.5 dB)
SW13-2: OFF (0 dB)
SW13-3: OFF (0 dB)
SW13-4: ON (4 dB)
SW13-5: ON (8 dB)

In this case P0 value is 12.5 dB.</td></tr>
<tr><td>OFF</td><td></td><td>Programmable PAD P0 Value 0 dB.</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td>Programmable PAD P0 Value 1 dB.</td></tr>
<tr><td>OFF</td><td></td><td>Programmable PAD P0 Value 0 dB.</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td>Programmable PAD P0 Value 2 dB.</td></tr>
<tr><td>OFF</td><td></td><td>Programmable PAD P0 Value 0 dB.</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>Programmable PAD P0 Value 4 dB.</td></tr>
<tr><td>OFF</td><td></td><td>Programmable PAD P0 Value 0 dB.</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td>Programmable PAD P0 Value 8 dB.</td></tr>
<tr><td>OFF</td><td></td><td>Programmable PAD P0 Value 0 dB.</td></tr>
<tr><td>6</td><td>OFF</td><td>×</td><td colspan="2">Fixed to OFF</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td colspan="2" rowspan="2"><table><tr><td></td><td colspan="2">M-lead Control of Circuit0-3</td></tr><tr><td>ON</td><td>Idle: Ground</td><td>Busy: Battery (Open: Note 2)</td></tr><tr><td>OFF</td><td>Idle: Open</td><td>Busy: Ground</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td colspan="2" rowspan="2"><table><tr><td></td><td colspan="2">M-lead Control of Circuit4-7</td></tr><tr><td>ON</td><td>Idle: Ground</td><td>Busy: Battery (Open: Note 2)</td></tr><tr><td>OFF</td><td>Idle: Open</td><td>Busy: Ground</td></tr></table></td></tr>
<tr><td>OFF</td><td></td></tr>
</table>

Note 2: When SW11-8 is set "ON" (i.e. for Australia "Tone on Idle"), M-lead is open.

SWITCH	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING	
SW14	1	ON		Programmable PAD P1 Value 0.5 dB.	P1 value is determined as a sum of selected PAD values of SW14 (Elements 1-5). Note that this setting is valid for 4W E&M system. - Example - SW14-1: ON (0.5 dB) SW14-2: OFF (0 dB) SW14-3: OFF (0 dB) SW14-4: ON (4 dB) SW14-5: ON (8 dB) In this case P1 value is 12.5 dB.
		OFF		Programmable PAD P1 Value 0 dB.	
	2	ON		Programmable PAD P1 Value 1 dB.	
		OFF		Programmable PAD P1 Value 0 dB.	
	3	ON		Programmable PAD P1 Value 2 dB.	
		OFF		Programmable PAD P1 Value 0 dB.	
	4	ON		Programmable PAD P1 Value 4 dB.	
		OFF		Programmable PAD P1 Value 0 dB.	
	5	ON		Programmable PAD P1 Value 8 dB.	
		OFF		Programmable PAD P1 Value 0 dB.	
	6	OFF	×	Fixed to OFF	
	7	OFF	×	Fixed to OFF	
	8	OFF	×	Fixed to OFF	

<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="8">SW15 [Circuit 0-3]

SW16 [Circuit 4-7]

(When Trunk Kind has been set as LD/ DID)</td><td>1</td><td colspan="3">Setting of Terminating Impedance and Balancing Network (Valid for LD/DID)
<table>
<tr><th>SW15-1
SW16-1</th><th>Balancing Network</th><th>Terminating Impedance (Note)</th></tr>
<tr><td>ON</td><td>600Ω</td><td rowspan="2">Other Countries</td></tr>
<tr><td>OFF</td><td>1KΩ
350Ω
0.21μ F
(EIA/TIA -464C)</td></tr>
<tr><td>ON</td><td>600Ω</td><td rowspan="2">Australia</td></tr>
<tr><td>OFF</td><td>820Ω
220Ω
0.12μ F</td></tr>
</table></td></tr>
<tr><td>2</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>3</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>6</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

Note: Refer to SW11-4, 5.

BALANCE NETWORK (BNW) APPLICABLE RANGE		
CABLE DIA.	LINE LOSS	APPLICABLE BNW
0.4 Φ 0.5 Φ	0～7 dB	Complex Impedance: For middle and long distance
0.65 Φ	0～2 dB	600 ohms: Only for short distance

<table>
<tr><th>SWITCH</th><th>SWITCH NUMBER</th><th>SETTING</th><th>STANDARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="9">SW15 [Circuit 0-3]

SW16 [Circuit 4-7]

(When Trunk Kind has been set as E&M)</td><td>1</td><td colspan="3">Setting of Terminating Impedance and Balancing Network (Valid for 2W E&M)
<table>
<tr><th>SW15-1
SW16-1</th><th>Balancing Network</th><th>Terminating Impedance (Note)</th></tr>
<tr><td>ON</td><td>600Ω</td><td rowspan="2">Other Countries</td></tr>
<tr><td>OFF</td><td>1KΩ
350Ω
0.21μ F
(EIA/TIA -464C)</td></tr>
<tr><td>ON</td><td>600Ω</td><td rowspan="2">Australia</td></tr>
<tr><td>OFF</td><td>820Ω
220Ω
0.12μ F</td></tr>
</table></td></tr>
<tr><td>2</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td>Speech Line: 2-wire</td></tr>
<tr><td>OFF</td><td></td><td>Speech Line: 4-wire</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>5</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>6</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>7</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
<tr><td>8</td><td>OFF</td><td>×</td><td>Fixed to OFF</td></tr>
</table>

Note: Refer to SW11-4, 5.

BALANCE NETWORK (BNW) APPLICABLE RANGE		
CABLE DIA.	LINE LOSS	APPLICABLE BNW
0.4 Φ 0.5 Φ	0～7 dB	Complex Impedance: For middle and long distance
0.65 Φ	0～2 dB	600 ohms: Only for short distance

Reference: Table of Fixed PADs

When market is other countries than Australia. (SW11-4, 5: OFF)

ARTD COMMAND PAD DATA	PAD VALUE [dB]			
	4W E&M		LD/2W E&M	
	SEND	RECEIVE	SEND	RECEIVE
0	P0	P1	0	0
1	3	3	3	3
2	6	6	6	6
3	12	11	6	-6
4	16	11	0	-6
5	P2	P3	0	0
7	0	0	0	0

APAD COMMAND PAD DATA	PAD VALUE [dB]			
	4W E&M		LD/2W E&M	
	SEND	RECEIVE	SEND	RECEIVE
1	3	3	3	3
2	6	6	6	6
3	12	11	6	-6
4	16	11	0	-6
5	P2	P3	0	0
15	0	0	0	0

Reference: Table of Fixed PADs

When market is Australia. (SW11-4, 5: ON)

ARTD COMMAND PAD DATA	PAD VALUE [dB]					
	4W E&M		LD/2W E&M			
			SW11-3: OFF		SW11-3: ON	
	SEND	RECEIVE	SEND	RECEIVE	SEND	RECEIVE
0	P0	P1	0	0	0	-6
1	3	3	3	3	6	-6
2	6	6	6	6	0	-6
3	12	11	6	-6	0	-6
4	16	11	0	-6	0	-6
5	P2	P3	0	0	0	-6
7	0	0	0	0	0	-6

APAD COMMAND PAD DATA	PAD VALUE [dB]					
	4W E&M		LD/2W E&M			
			SW11-3: OFF		SW11-3: ON	
	SEND	RECEIVE	SEND	RECEIVE	SEND	RECEIVE
1	3	3	3	3	6	-6
2	6	6	6	6	0	-6
3	12	11	6	-6	0	-6
4	16	11	0	-6	0	-6
5	P2	P3	0	0	0	-6
15	0	0	0	0	0	-6

6. External Interface

Accommodation of LT connector leads of this circuit card is shown below.

See also:Connecting Route Diagram (LD/DID • 2W E&M)

Connecting Route Diagram (4W E&M)

2400 ODT CA Lead Accommodation

2400 ODT CA-A Lead Accommodation

LT Connector Lead Accommodation (1/2)

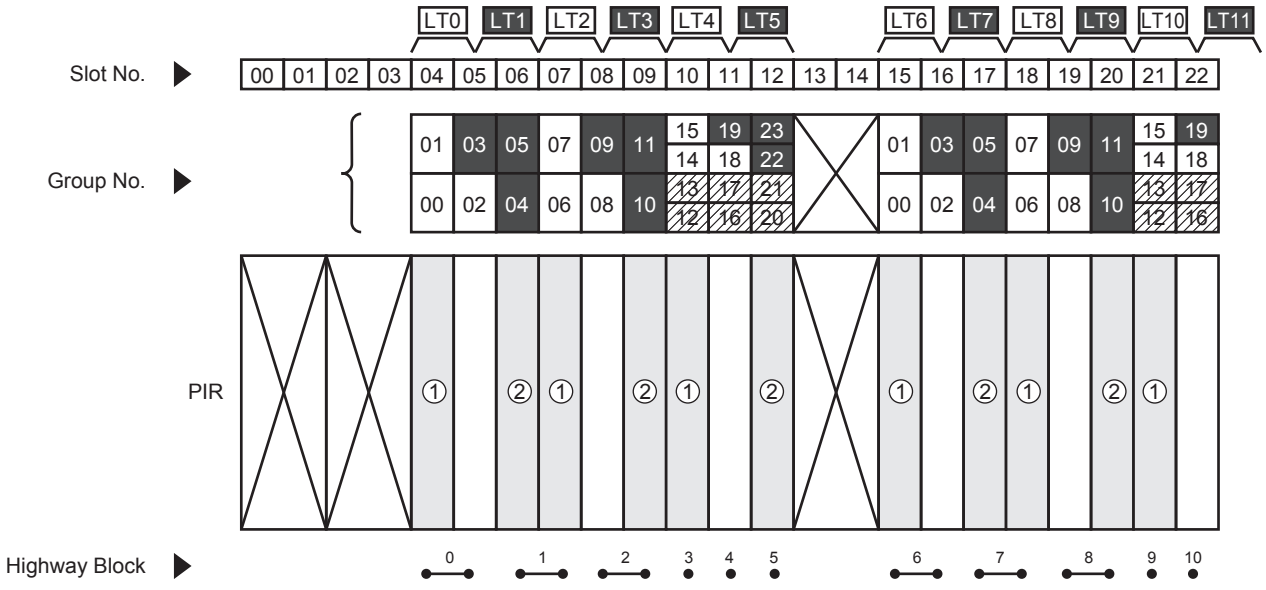
Mounting Module **PIR**

Accommodated in ①
LT 0, 2, 4, 6, 8, 10 Connector

26	B0 (TB0)	1	A0 (TA0)
27	B1 (TB1)	2	A1 (TA1)
28	B2 (TB2)	3	A2 (TA2)
29	B3 (TB3)	4	A3 (TA3)
30	B4 (TB4)	5	A4 (TA4)
31	B5 (TB5)	6	A5 (TA5)
32	B6 (TB6)	7	A6 (TA6)
33	B7 (TB7)	8	A7 (TA7)
34	RB0	9	RA0
35	RB1	10	RA1
36	RB2	11	RA2
37	RB3	12	RA3
38	M0	13	E0
39	M1	14	E1
40	M2	15	E2
41	M3	16	E3
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

Accommodated in ②
LT 1, 3, 5, 7, 9 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34	B0 (TB0)	9	A0 (TA0)
35	B1 (TB1)	10	A1 (TA1)
36	B2 (TB2)	11	A2 (TA2)
37	B3 (TB3)	12	A3 (TA3)
38	B4 (TB4)	13	A4 (TA4)
39	B5 (TB5)	14	A5 (TA5)
40	B6 (TB6)	15	A6 (TA6)
41	B7 (TB7)	16	A7 (TA7)
42	RB0	17	RA0
43	RB1	18	RA1
44	RB2	19	RA2
45	RB3	20	RA3
46	M0	21	E0
47	M1	22	E1
48	M2	23	E2
49	M3	24	E3
50		25	



Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

LT Connector Lead Accommodation (2/2)

Mounting Module **PIR**

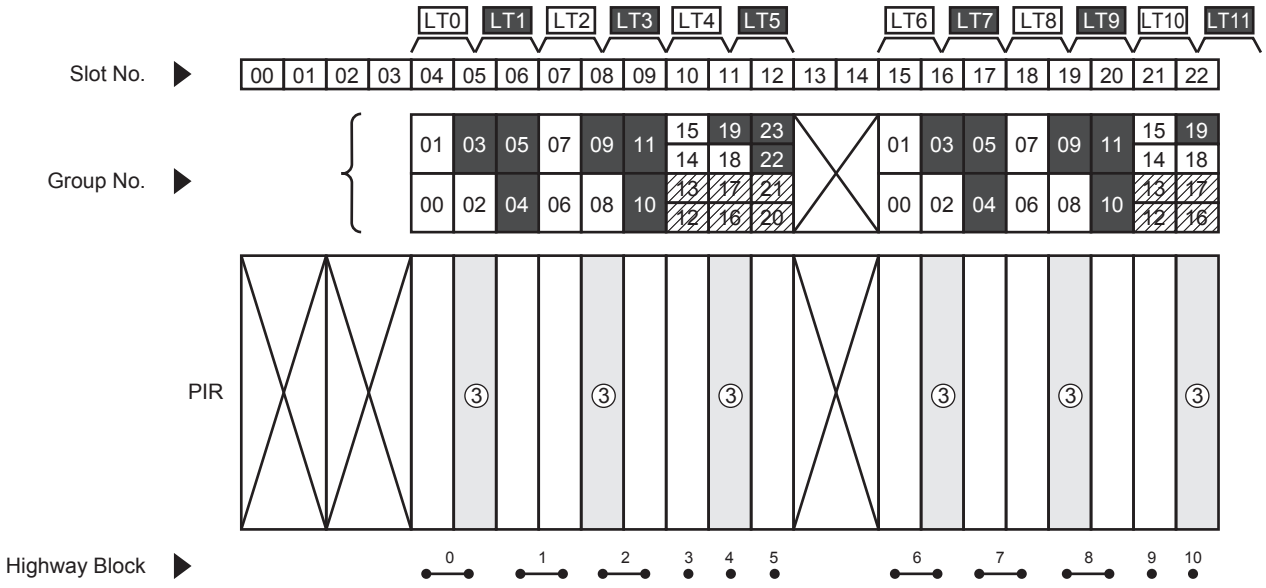
Accommodated in ③

LT 0, 2, 4, 6, 8, 10 Connector

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0 (TB0)	17	A0 (TA0)
43	B1 (TB1)	18	A1 (TA1)
44	B2 (TB2)	19	A2 (TA2)
45	B3 (TB3)	20	A3 (TA3)
46	B4 (TB4)	21	A4 (TA4)
47	B5 (TB5)	22	A5 (TA5)
48	B6 (TB6)	23	A6 (TA6)
49	B7 (TB7)	24	A7 (TA7)
50		25	

LT 1, 3, 5, 7, 9, 11 Connector

26	RB0	1	RA0
27	RB1	2	RA1
28	RB2	3	RA2
29	RB3	4	RA3
30	M0	5	E0
31	M1	6	E1
32	M2	7	E2
33	M3	8	E3
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42		17	
43		18	
44		19	
45		20	
46		21	
47		22	
48		23	
49		24	
50		25	

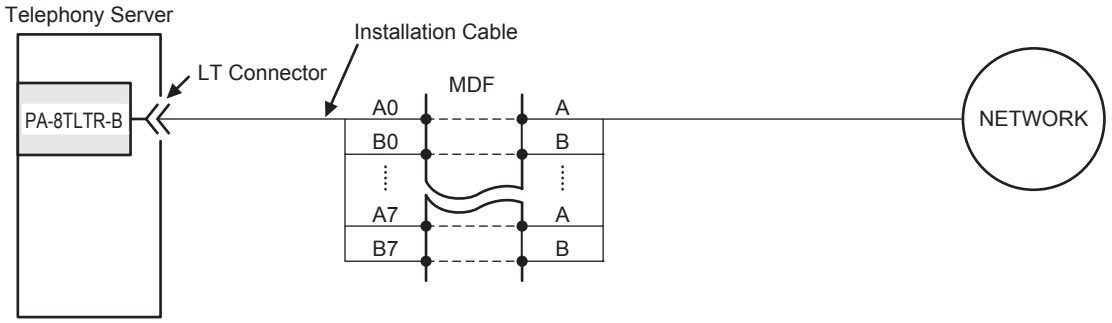


Note: The relationships between LTs and Groups are shown with black and white boxes. If you see Slots 07 to 09, for example, Groups 06 to 08 lead to LT2 and Groups 09 to 11 lead to LT3.

Connecting Route Diagram (LD/DID • 2W E&M)

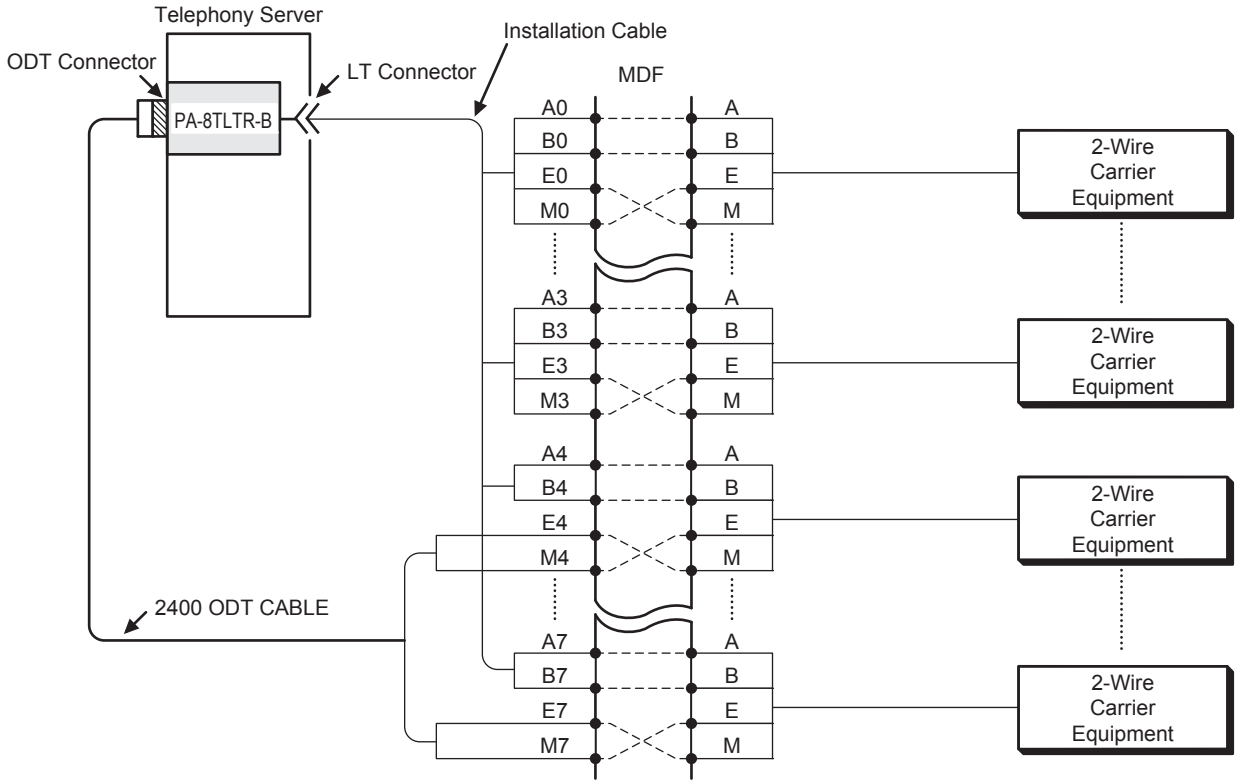
• LD/DID

This diagram shows connecting route diagram when the PA-8TLTR-B is used as a LD or DID trunk.



• 2W E&M

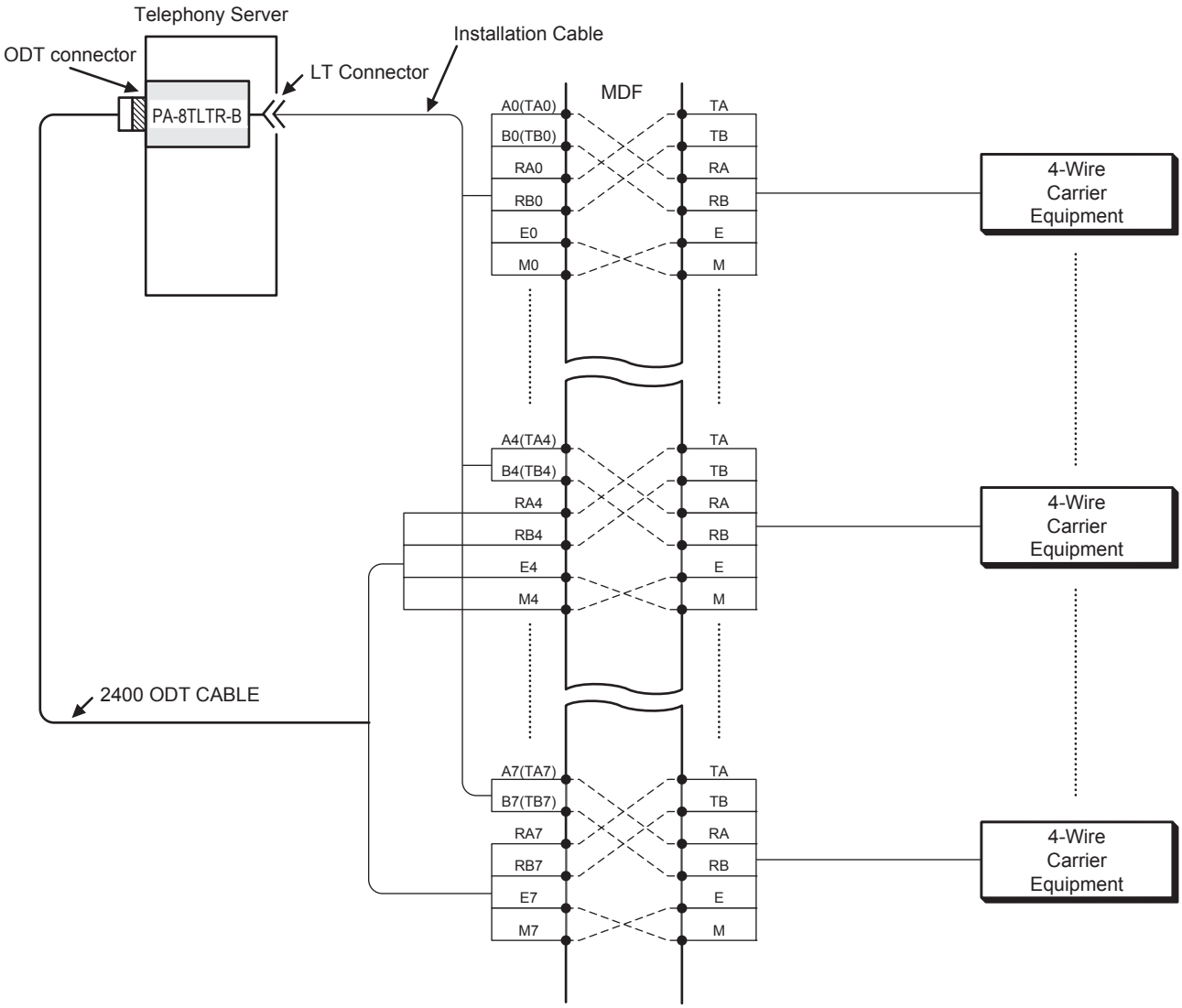
This diagram shows connecting route diagram when the PA-8TLTR-B is used as a 2-wire E&M trunk. In this instance, E&M leads for Channels 4 - 7 appear from the ODT connector equipped on the front edge of this card.



Connecting Route Diagram (4W E&M)

- 4W E&M

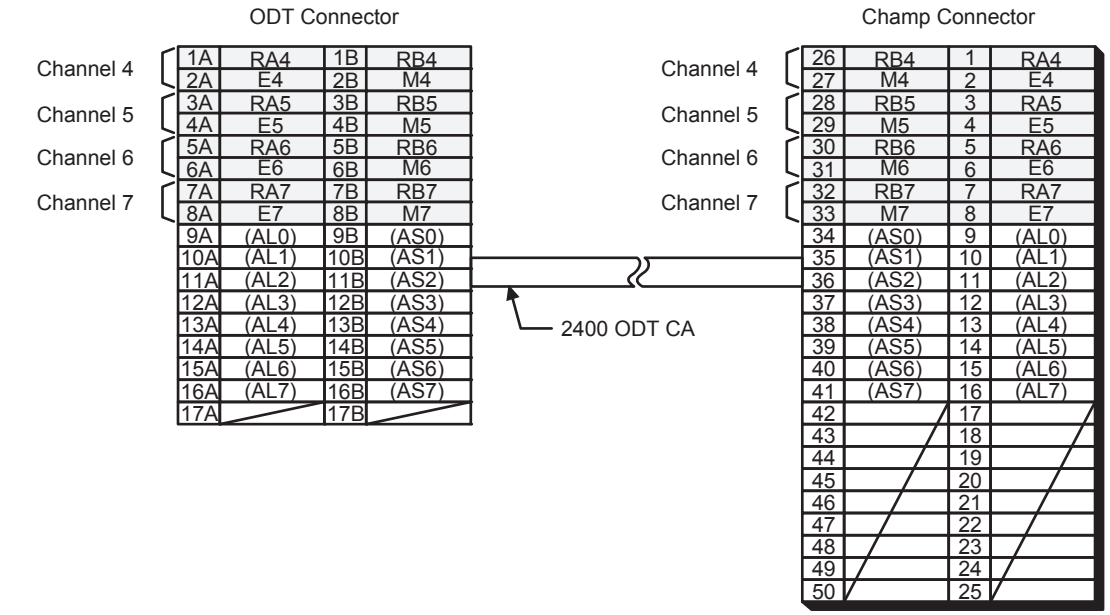
This diagram shows connecting route diagram when the PA-8TLTR-B is used as a 4-wire E&M trunk. In this instance, RA, RB, and E&M leads for Channels 4 - 7 appear from the ODT connector equipped on the front edge of this card.

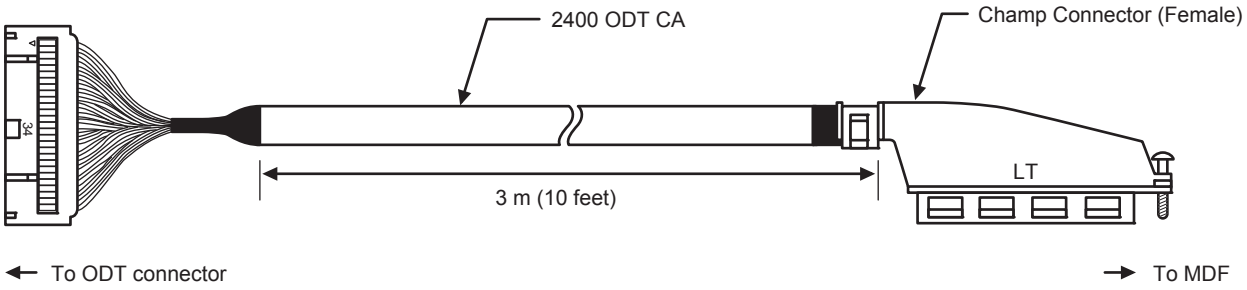


2400 ODT CA Lead Accommodation

- 2400 ODT CA

The 2400 ODT CA has one ODT connector whose lead accommodation is shown below.



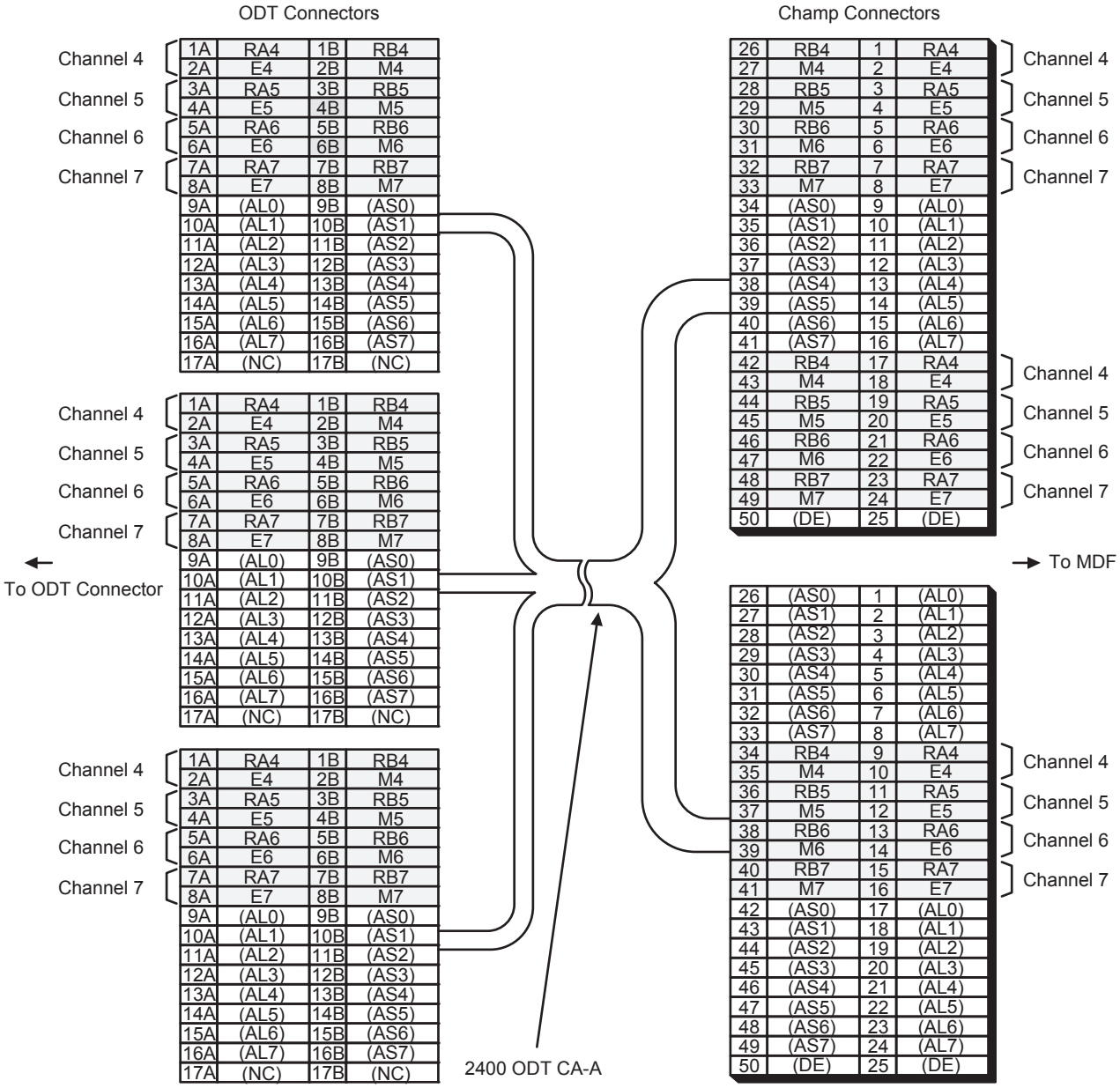


Note: Leads whose names are in parenthesis are not used.

"2400 ODT CA-A" Lead Accommodation

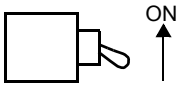
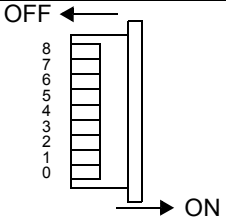
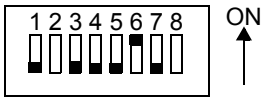
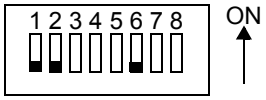
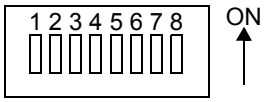
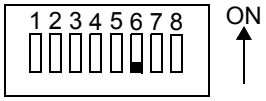
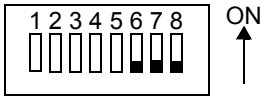
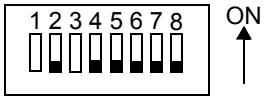
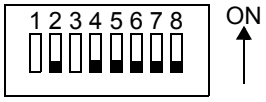
- 2400 ODT CA-A

The 2400 ODT CA-A has three ODT connectors whose lead accommodation is shown below.



Note: Leads whose names are in parenthesis are not used.

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
PIR		SW00 (MB)		
		SW01 (MB0-7)		
		SW10		
		SW11		
		SW12		
		SW13		
		SW14		
		SW15		
		SW16		

CHAPTER 5
CARDS IN TSWR

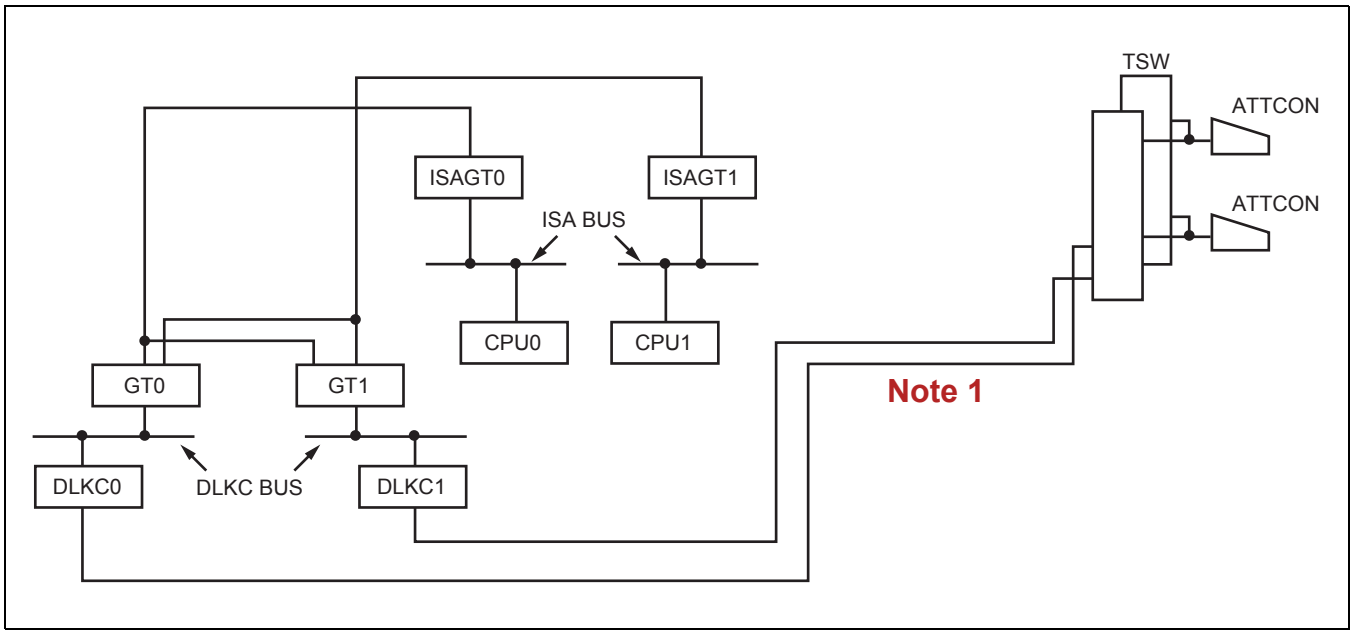
PH-PC20
Data Link Controller

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

This circuit card simultaneously provides all Attendant Consoles (ATTs) in the system (except the 1-IMG system) with information such as the termination/answer/release (abandoned) information of ATT calls, or the station idle/busy information through the TSW system link.

Location of PH-PC20 in the System



Note 1: MG = 01/03/05/07, Unit = 2, Group = 25, Level = 6-7 are used to input the information into TSW by the DLKC.

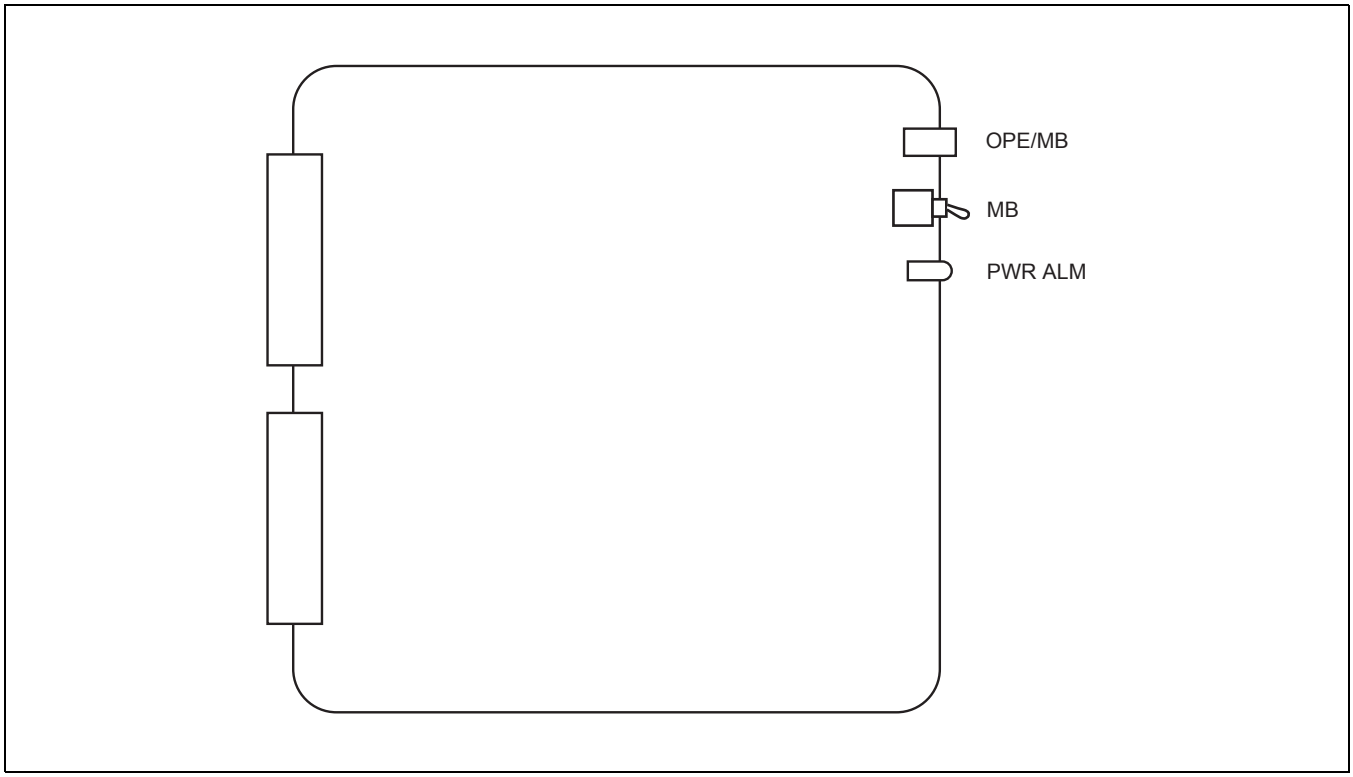
2. Mounting Location/Conditions

Mounting Module **TSWR**

00	01		02	03	04	05	06	07	08	09	10	11	12	13	14	15
			DLKC#0	DLKC#1												

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches and connectors of this circuit card is shown below.



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE/MB	Green	Remains lit while this circuit card is in active state.
	Red	Remains lit while this circuit card is in Make-Busy state or when the firmware is abnormal.
PWR ALM	Red	Lights when the On-Board Power Supply located on this circuit card is abnormal.

5. Switch Settings

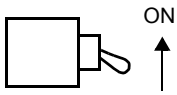
Standard settings of various switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB		UP		Circuit card Make-Busy.
		DOWN		Circuit card Make-Busy cancel.

6. External Interface

Cable connections are not required.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		

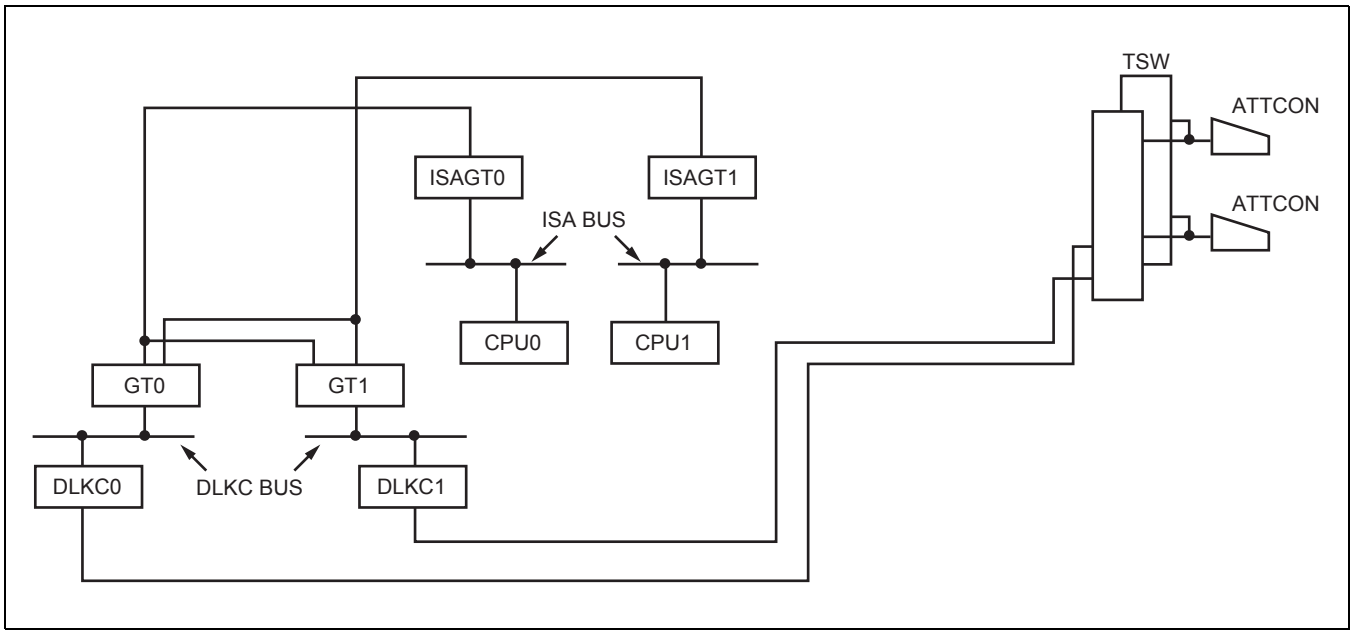
PH-PC20-B
Data Link Controller

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	–

1. General Function

This circuit card simultaneously provides all Attendant Consoles (ATTs) in the system (except the 1-IMG system) with information such as the termination/answer/release (abandoned) information of ATT calls, or the station idle/busy information through the TSW system link.

Location of PH-PC20-B in the System



Note: MG = 01/03/05/07, Unit = 2, Group = 25, Level = 6-7 are used to input the information into TSW by the DLKC.

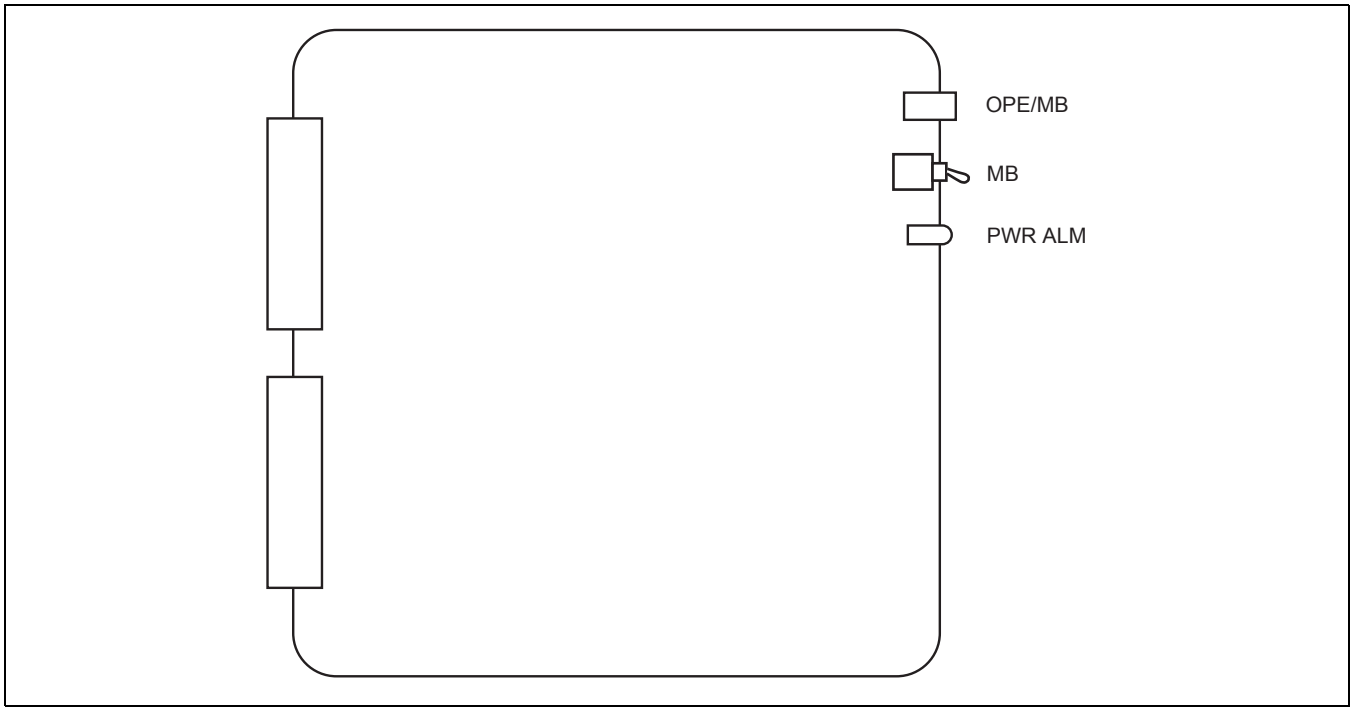
2. Mounting Location/Conditions

Mounting Module **TSWR**

00	01		02	03	04	05	06	07	08	09	10	11	12	13	14	15
			DLKC#0	DLKC#1												

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches and connectors of this circuit card is shown below.



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE/MB	Green	Remains lit while this circuit card is in active state.
	Red	Remains lit while this circuit card is in Make-Busy state or when the firmware is abnormal.
PWR ALM	Red	Lights when the On-Board Power Supply located on this circuit card is abnormal.

5. Switch Settings

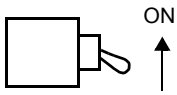
Standard settings of various switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
MB		UP		Circuit card Make-Busy.
		DOWN		Circuit card Make-Busy cancel.

6. External Interface

Cable connections are not required.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		

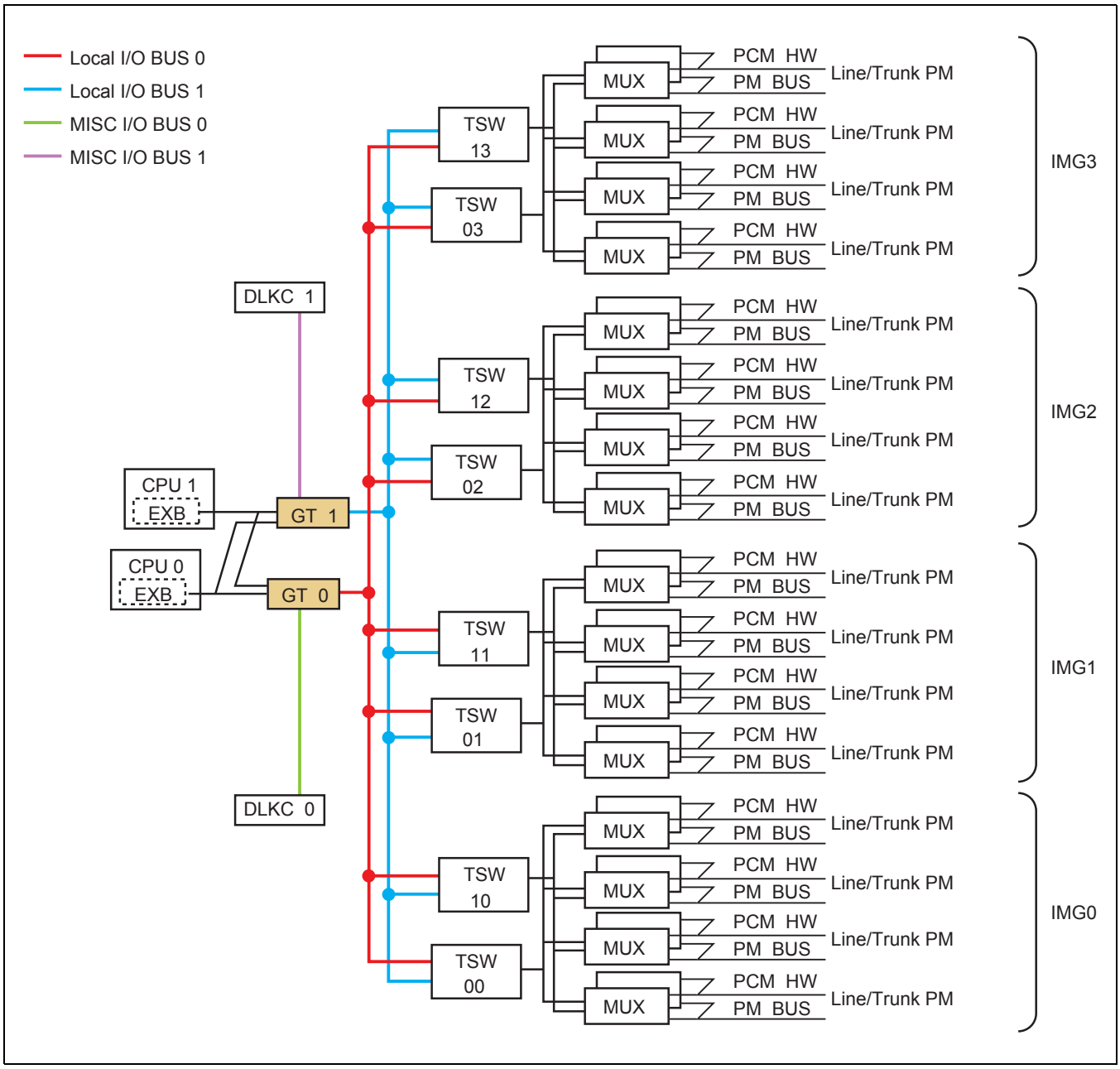
PH-GT09
Gate

AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

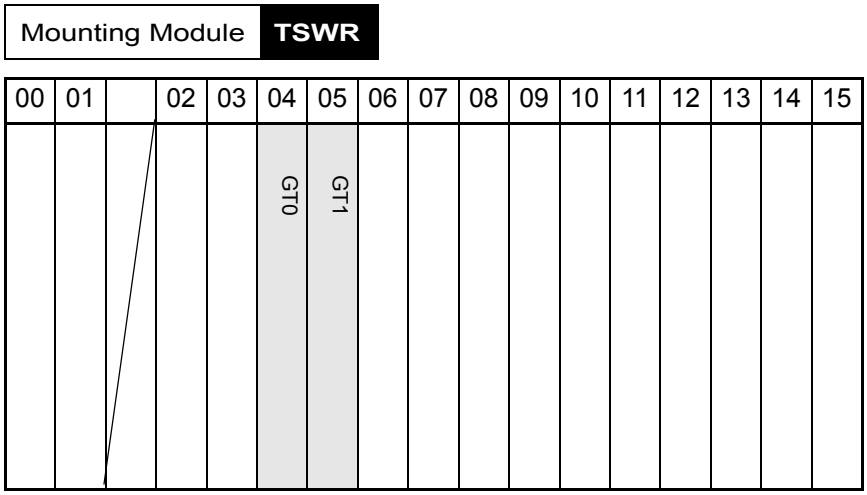
The PH-GT09 (GT) circuit card provides the TSW I/O local bus interface. The Telephony Server controls TSW, PLO, and DLKC via the ISAGT and GT.

Location of PH-GT09 (GT) Card in the System



2. Mounting Location/Condition

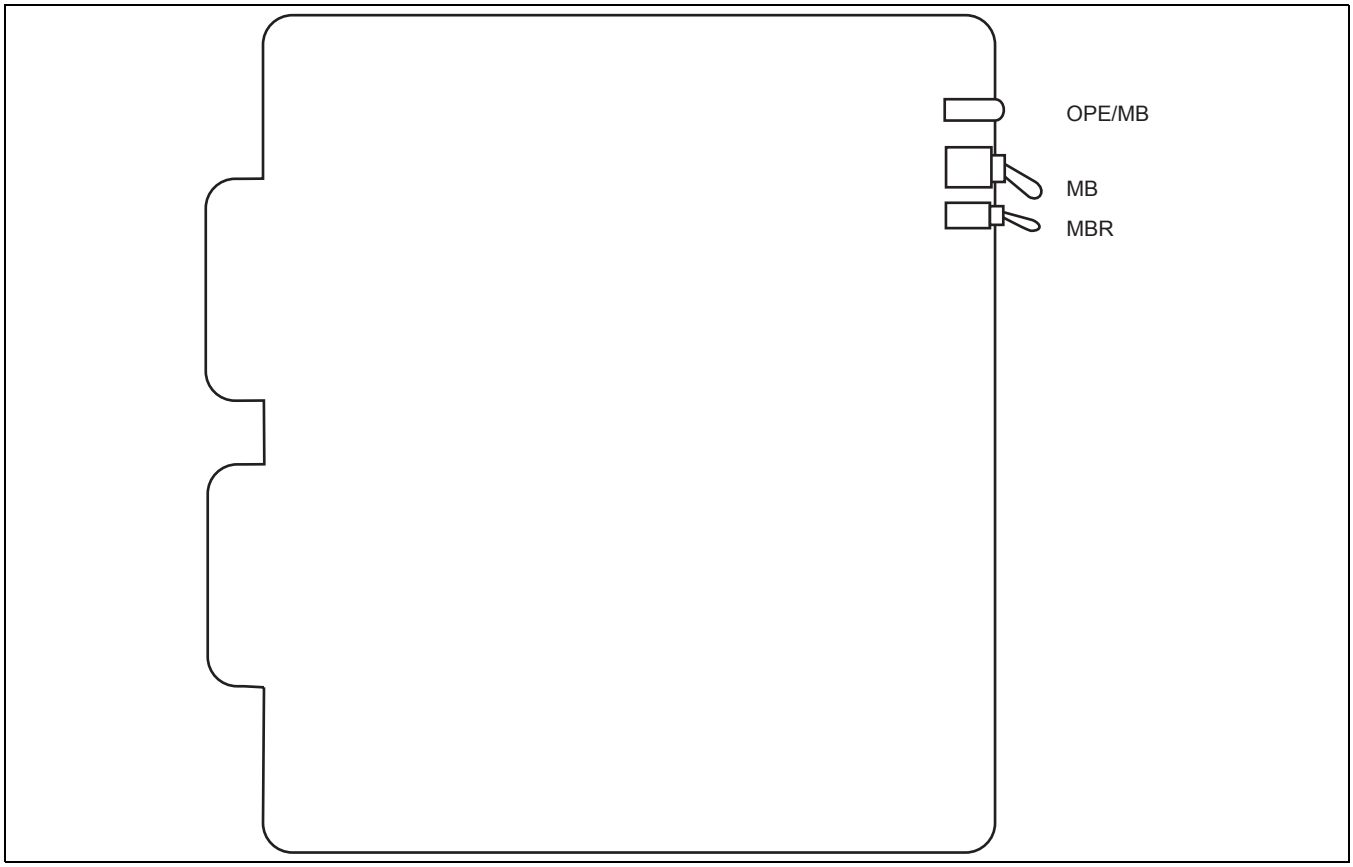
This circuit card is mounted in the TSWR of the slot shown below.



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors is shown below.

Face Layout of PH-GT09 (GT)



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE/MB	Green	Remains lit while this circuit card is in active state.

5. Switch Settings

Standard settings for switches on this circuit card are shown in the table below.

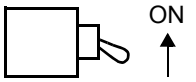
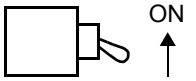
SWITCH NAME	SETTING	STANDARD SETTING	MEANING
MB	UP		Make-Busy of circuit card
	DOWN	×	Normal setting
MBR Note 1	UP		Make-Busy request
	DOWN	×	Normal setting.

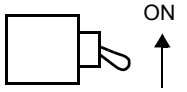
Note 1: Flip the MBR switch on, then flip the MB switch on before extracting the GT card.

6. External Interface

See the Appliance Model Installation Manual.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		
MBR		

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		

PH-CK16
Phase Lock Oscillator

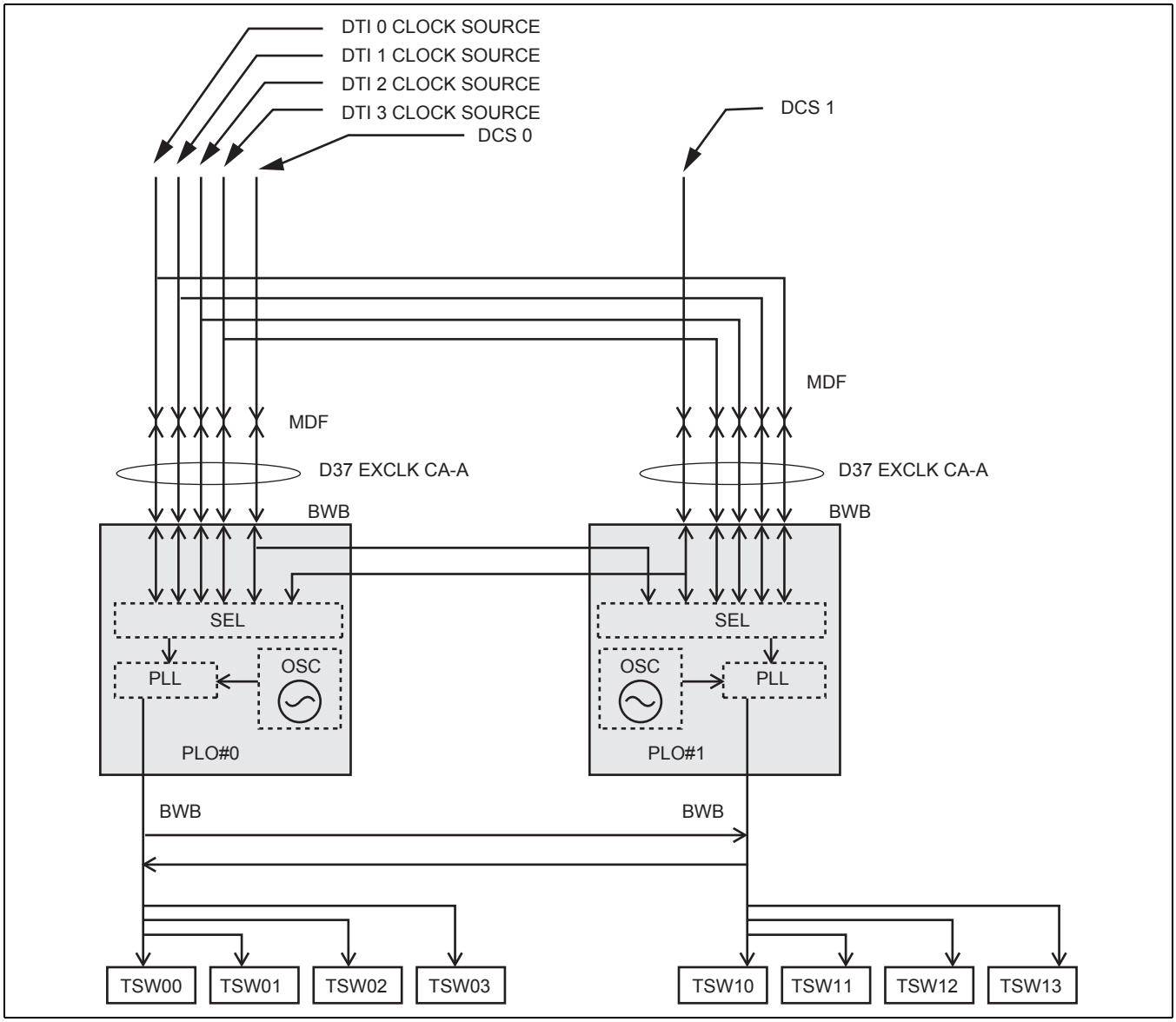
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

This circuit card, used with a digital interface circuit card, sets up network synchronization. With this circuit card, the MMG system can be a clock subordinate office of the digital network. As seen in the figure below, the PLO can be redundant regardless of the system switching network selection.

Note: Using different PLO cards at PLO#0 and PLO#1 is not allowed.

Location of PH-CK16 (PLO) Card in the System



The source clock of the clock subordinate office is either the Digital Clock Supply (DCS) or the digital interface clock (DIU 0 - DIU 3). When clock source failure has occurred, the PLO automatically chooses another clock source in the following order:

1 DCS

2 DIU 0

3 DIU 1

4 DIU 2

5 DIU 3

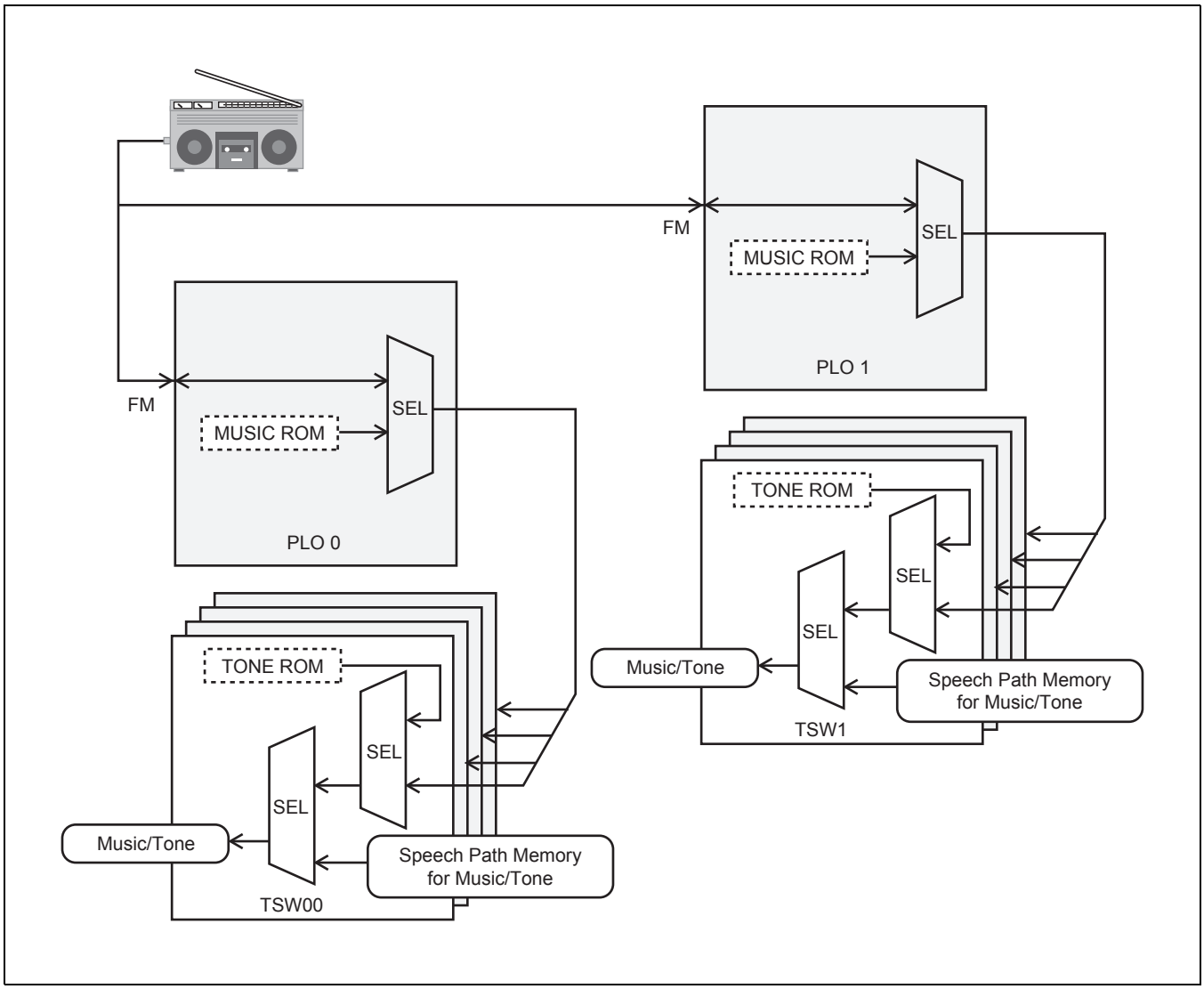
6 PLO changeover or the PLO internal oscillator drifting

The PLO can transmit the Clock (CLK) signals and the Frame Head (FH) Signals as follows:

- 32.768 MHz CLK
- 8 kHz FH
- 5 milliseconds × "n" FH

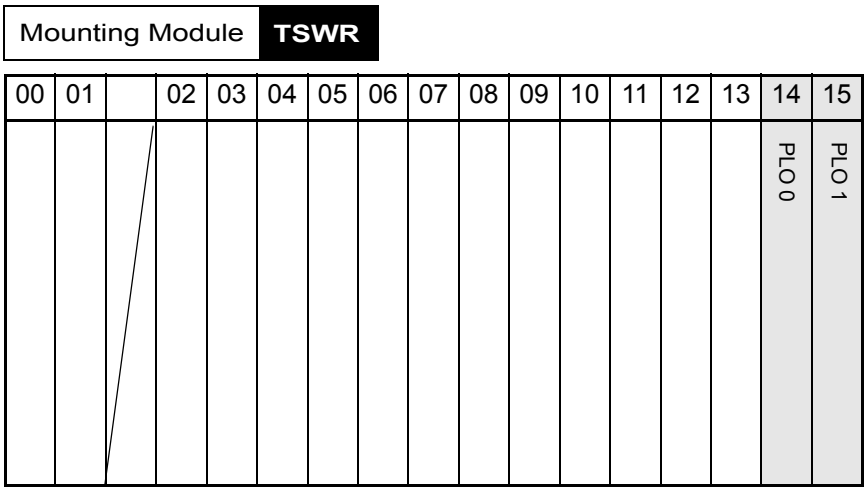
The MUSIC ROM located on this circuit card also contains the hold tone, and is supplied to the TSW circuit card. When an external Music-on-Hold is applied to the MMG system, this circuit card provides the interface for the external hold tone source.

Music Source



2. Mounting Location/Condition

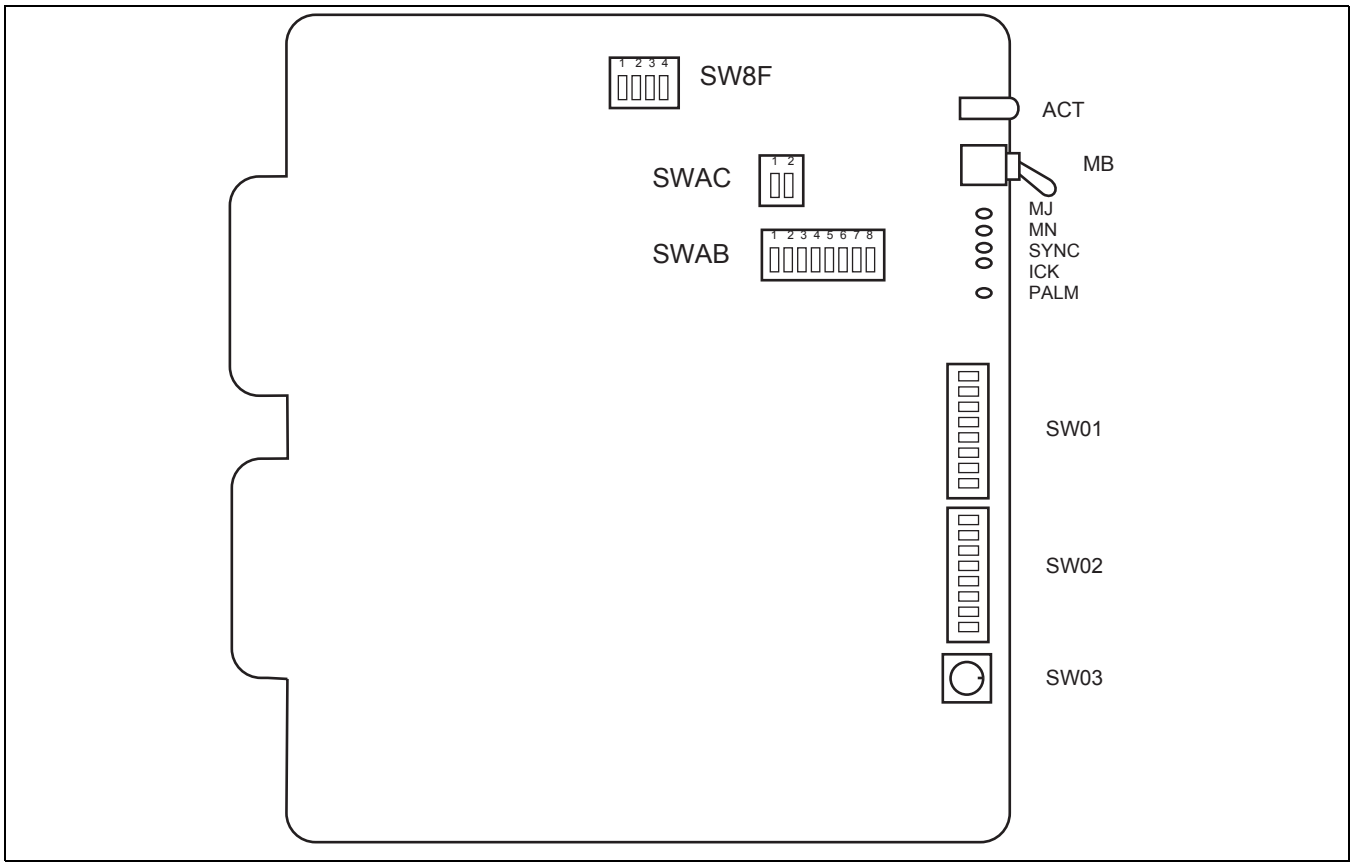
This circuit card is mounted in the TSWR of the slot shown below.



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors is shown below.

Face Layout of PH-CK16 (PLO)



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
ACT	Green	Remains lit while this circuit card is in active state.
	Off	Remains off while this circuit card is in standby state.
MJ	Red	Lights when the following MJ fault has occurred: • All of the clock supply routes have failed when the system operates as the clock subordinate office • 32.768 MHz output clock failure • 8 kHz output FH failure • 5 milliseconds × "n" output FH failure • Input Frame Pulse (FP) failure (FP is supplied by the SYNC card) • Internal OSC (±5 ppm deviation) has failed when the system operates as the clock source office
MN	Red	Lights when the following MN fault has occurred: • One or more (but not all) DTI/DCS clock supply routes failed • Drifting failure • Internal OSC (±5 ppm deviation) failure
SYNC	Green	Remains lit while the system is synchronized with the network.
	Off	Remains off when either of the following has occurred: • DCS clock failure when receiving the clock signals from the DCS • DTI clock failure when receiving the clock signals from the DTI • Drifting failure
ICK	Green	Lights when the internal oscillator is operating normally.
PALM	Red	Remains lit when power is abnormal.

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
MB	UP		Circuit card: Make-Busy.
	DOWN	×	Circuit card: Make-Busy cancel.
SW03	1 - F	1	Fixed to 1.

SWITCH NAME	SWITCH NO.	SETTING	STAN-DARD SETTING	MEANING
SW01	1	ON	×	Clock subordinate office.
		OFF		Clock source office.
	2	ON		Digital Clock Supply route zero (DCS 0) is used.
		OFF		Digital Clock Supply route zero (DCS 0) is not used.
	3	ON		Digital Clock Supply route one (DCS 1) is used.
		OFF		Digital Clock Supply route one (DCS 1) is not used.
	4	ON		8 kHz of Frame Head signals are extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
		OFF		8 kHz of Frame Head signals are not extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
	5	ON		When clock source failure has occurred in all supply routes, the PLO outputs the original clock of the internal oscillator.
		OFF		When clock source failure has not occurred in all supply routes, the PLO continues outputting the current phase clock.
	6	ON		This circuit card is associated with SYNC card and 5m Frame Pulse (FP) is supplied by the SYNC card.
		OFF		This circuit card is not associated with SYNC card.
	7	ON		A-law CODEC is used for the hold music.
		OFF		μ-law CODEC is used for the hold music.
	8	OFF	×	Not used.

SWITCH NAME	SWITCH NO.	SETTING	STAN-DARD SETTING	MEANING
SW02	1	ON		DIU 0 is used as the DTI Clock Supply Route 0.
		OFF		DIU 0 is not used.
	2	ON		DIU 1 is used as the DTI Clock Supply Route 1.
		OFF		DIU 1 is not used.
	3	ON		DIU 2 is used as the DTI Clock Supply Route 2.
		OFF		DIU 2 is not used.
	4	ON		DIU 3 is used as the DTI Clock Supply Route 3.
		OFF		DIU 3 is not used.
	5 **Note 1**	ON	×	1.5 M clock for DIU 0
		OFF		2 M clock for DIU 0
	6 **Note 1**	ON	×	1.5 M clock for DIU 1
		OFF		2 M clock for DIU 1
	7 **Note 1**	ON	×	1.5 M clock for DIU 2
		OFF		2 M clock for DIU 2
	8 **Note 1**	ON	×	1.5 M clock for DIU 3
		OFF		2 M clock for DIU 3
SWAC	1	ON		External hold tone source is used via FM lead.
		OFF	×	MUSIC ROM is used as the hold tone.
	2	OFF	×	Not used.
SW8F	1			
	2			
	3			
	4			

SW8F-1	SW8F-2	Impedance of the External Music Source 0 (FM 0)
OFF	OFF	600 Ω
ON	OFF	8.2 Ω
OFF	ON	47K Ω

SW8F-3	SW8F-4	Impedance of the External Music Source 1 (FM 1)
OFF	OFF	600 Ω
ON	OFF	8.2 Ω
OFF	ON	47K Ω

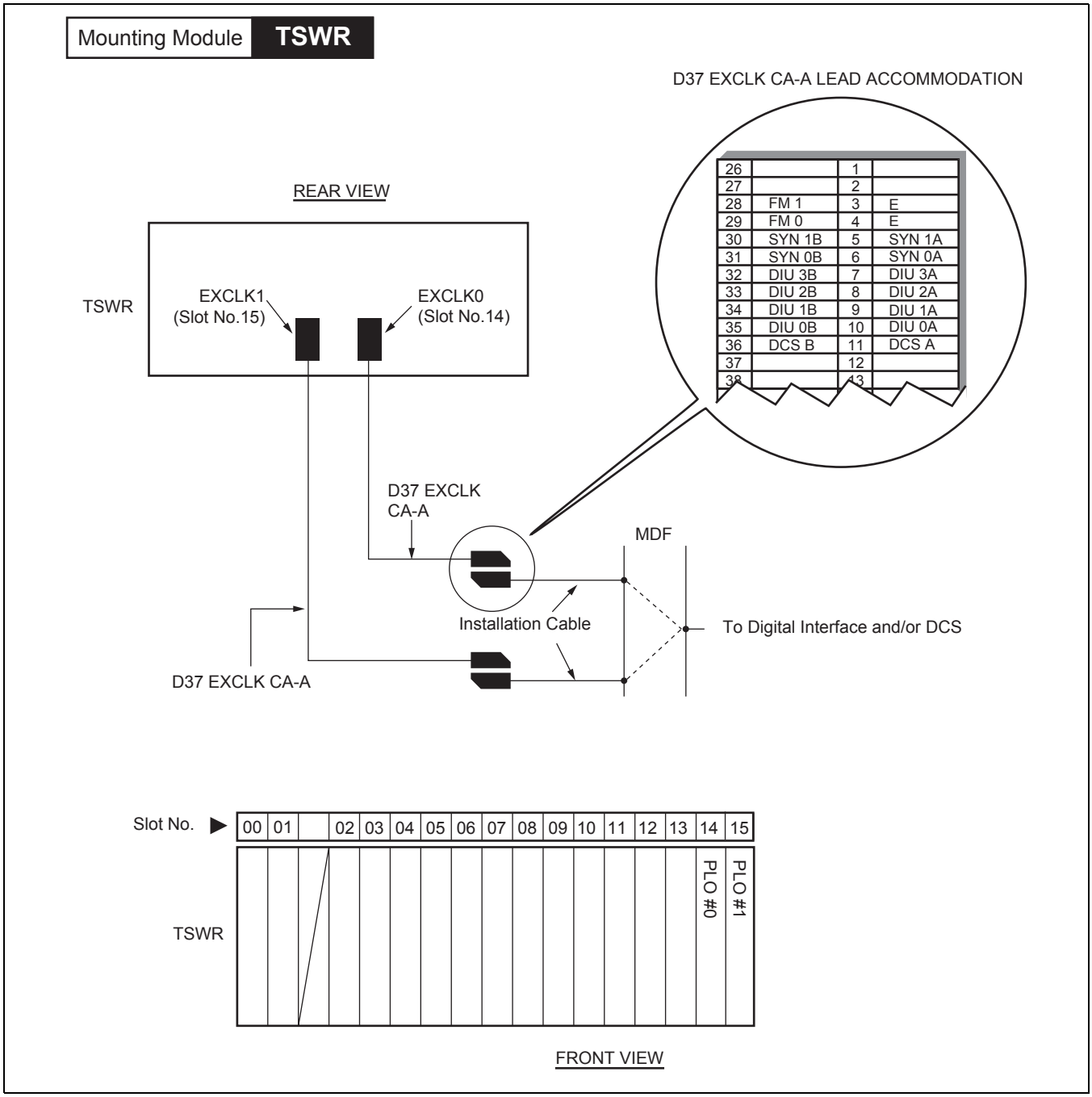
Note 1: The following shows the clock frequency of each circuit card to be supplied to PLO.
- Clock frequency of 2M: 30DTI/30CCT/BRT
- Clock frequency of 1.5M: 24DTI/24CCT/PRT

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STAN-DARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="8">SWAB</td><td>1</td><td colspan="3" rowspan="3"><table><tr><th>SWAB-1</th><th>SWAB-2</th><th>SWAB-3</th><th>MUSIC</th></tr><tr><td>OFF</td><td>OFF</td><td>OFF</td><td>For Elise</td></tr><tr><td>ON</td><td>OFF</td><td>OFF</td><td>Maiden’s prayer</td></tr><tr><td>OFF</td><td>OFF</td><td>ON</td><td>Chime</td></tr><tr><td>OFF</td><td>ON</td><td>OFF</td><td>Buzzer</td></tr></table></td></tr>
<tr><td>2</td></tr>
<tr><td>3</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
<tr><td>5</td><td colspan="3" rowspan="3">MUSIC CH1 selection. The kind of music varies depending on the melody IC located on this circuit card.</td></tr>
<tr><td>6</td></tr>
<tr><td>7</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
</table>

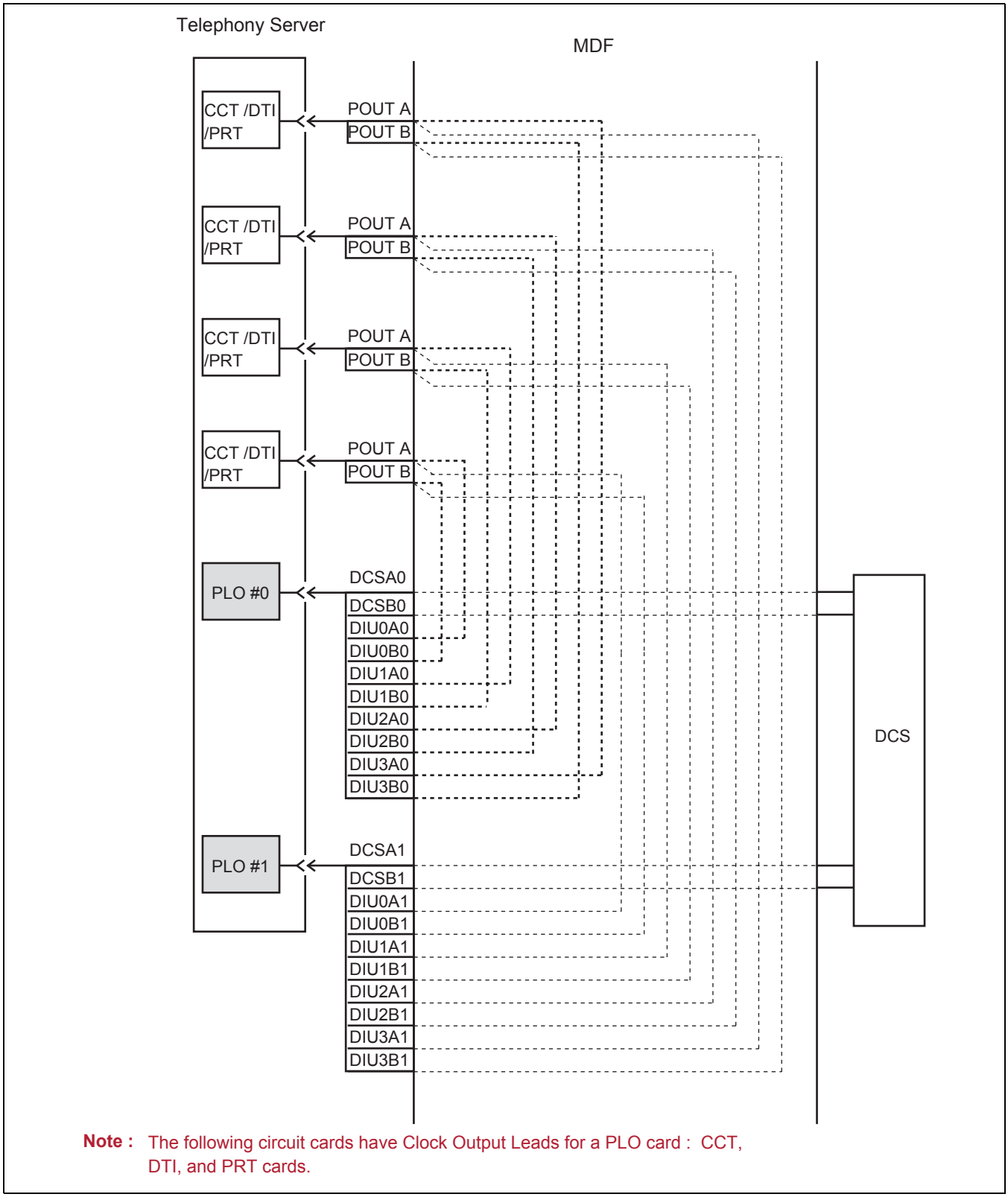
6. External Interface

When this circuit card is located in the TSWR, connect D37 EXCLK CA-A to the EXCLK 0/EXCLK 1 connectors on the backplane of the TSWR.

LT Connector Lead Location of PLO (TSWR)

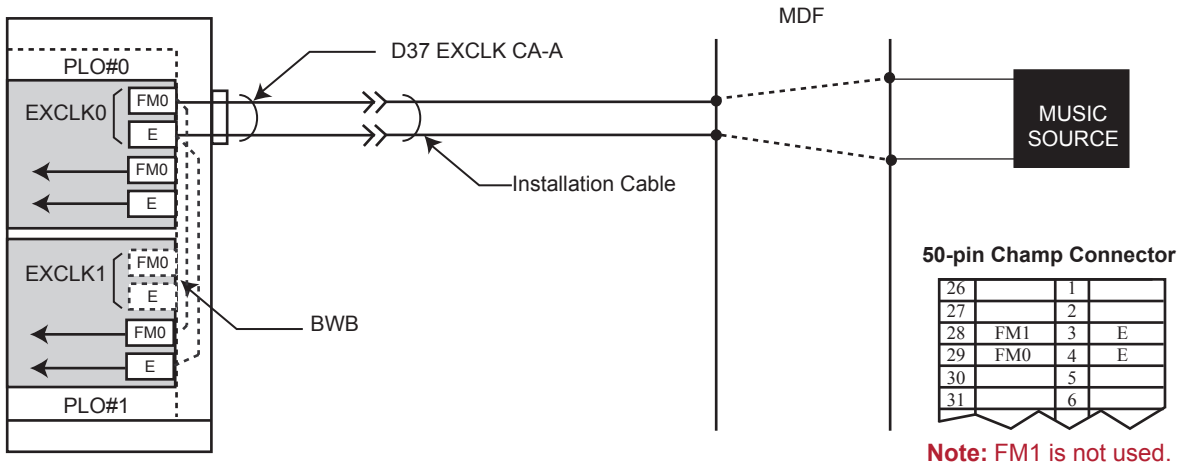


Connecting Route Diagram



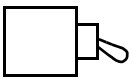
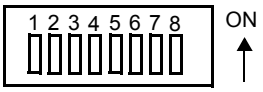
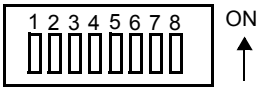
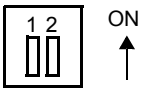
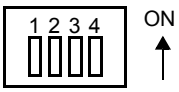
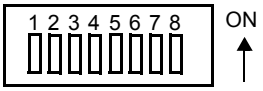
Note : The following circuit cards have Clock Output Leads for a PLO card : CCT, DTI, and PRT cards.

Connection of External Music-On-Hold for MMG System



Note: FM1 is not used.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		
SW01		
SW02		
SW03		
SWAC		
SW8F		
SWAB		

PH-CK16-A
Phase Lock Oscillator

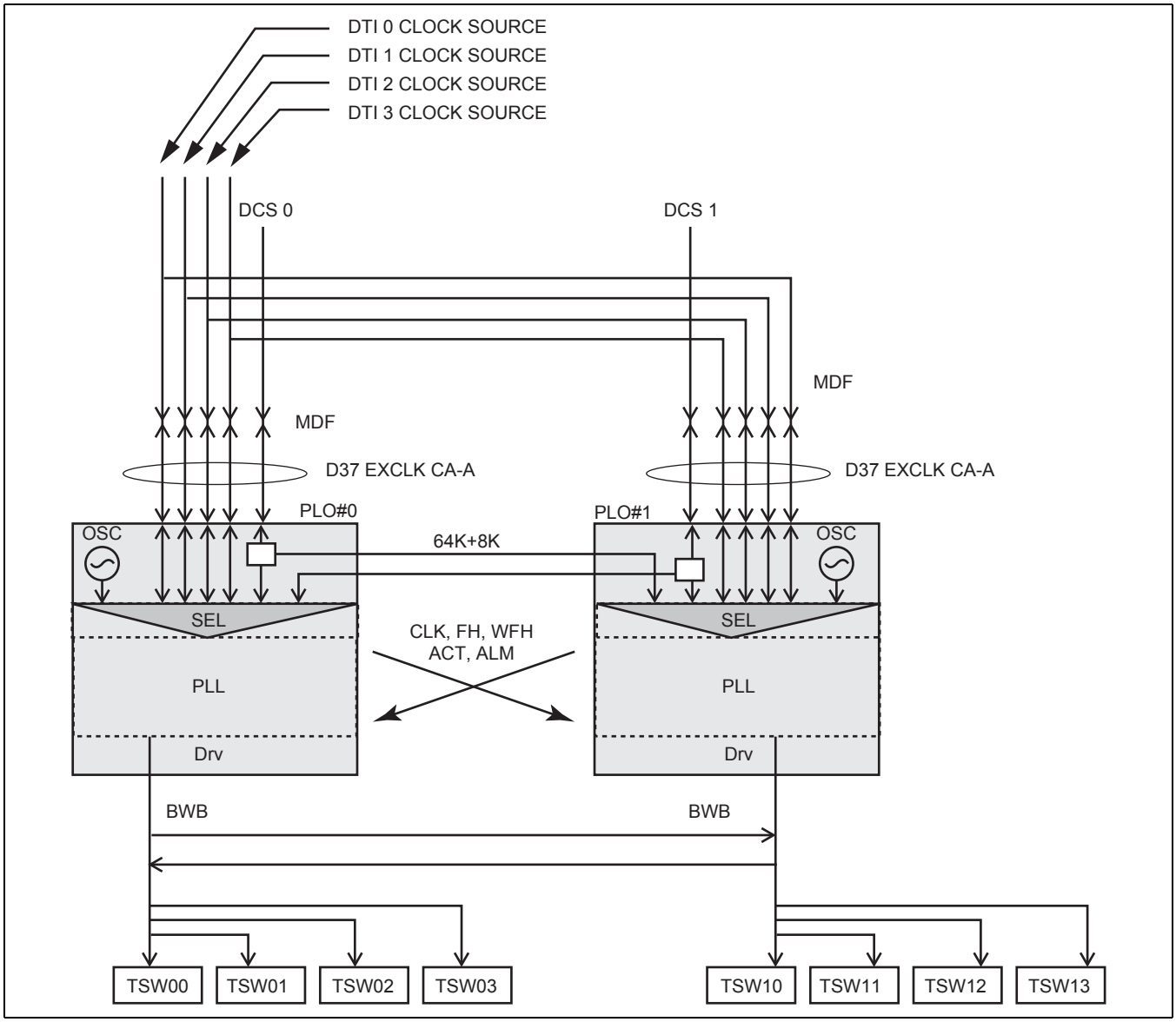
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

This circuit card, used with a digital interface circuit card, sets up network synchronization. With this circuit card, the system can be a clock subordinate office of the digital network. As shown in the figure below, the PLO can be redundant regardless of the system switching network selection.

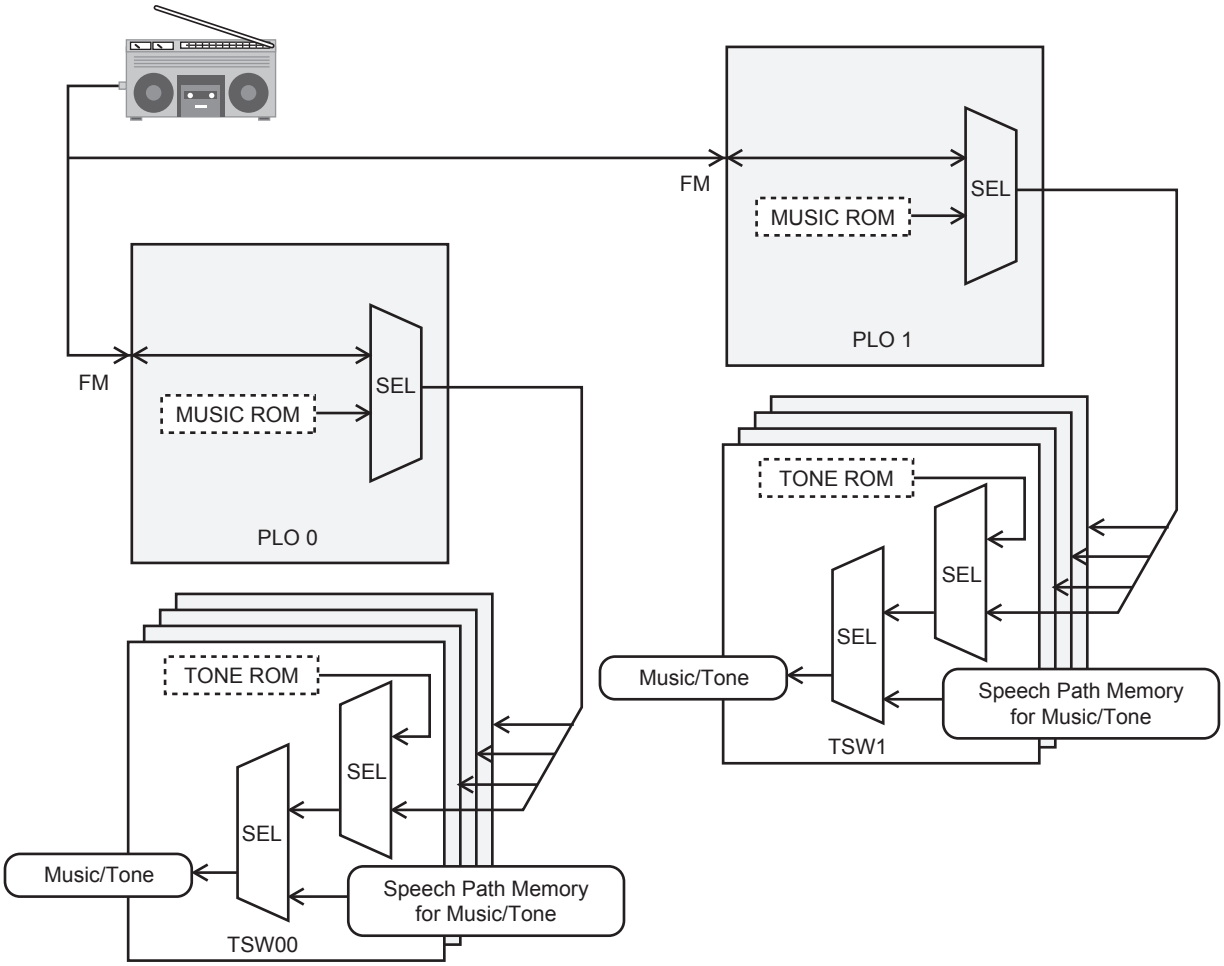
Note: Using different PLO cards at PLO#0 and PLO#1 is not allowed.

Location of PH-CK16-A (PLO) Card in MMG System



The MUSIC ROM located on this circuit card also contains the hold tone, and is supplied to the TSW circuit card. When an external Music-on-Hold is applied to the MMG system, this circuit card provides the interface for the external hold tone source.

Music Source



2. Mounting Location/Condition

This circuit card can be mounted in the shaded slots shown below.

- For MMG System

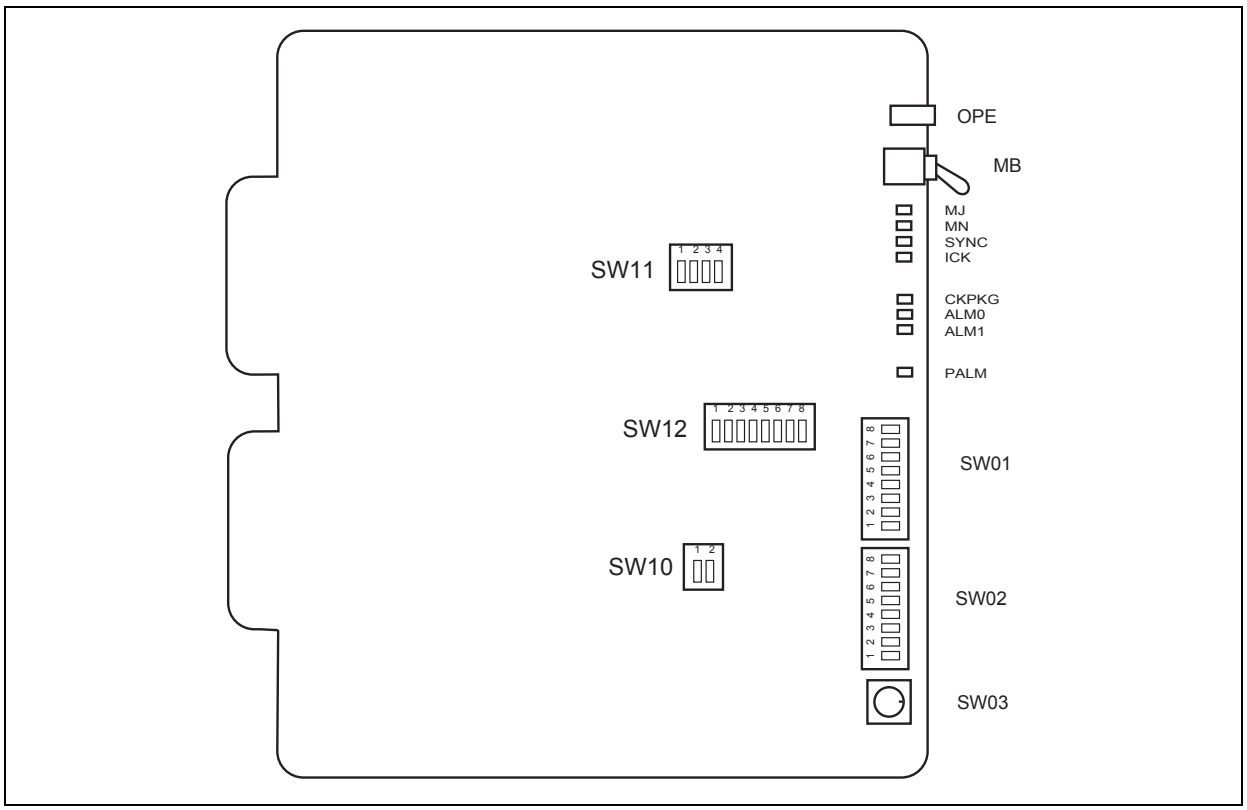
Mounting Module	TSWR

00	01		02	03	04	05	06	07	08	09	10	11	12	13	14	15
															PLO 0	PLO 1

Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors are shown below.

Face Layout of PH-CK16-A (PLO)



3. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is in active state.
MJ	Red	Lights when the following MJ fault has occurred: • All of the clock supply routes have failed when the system operates as the • clock subordinate office • 32.768 MHz output clock failure (including CLK card) • 8 kHz output clock failure (including CLK card) • Input Frame Pulse (FP) failure (FP is supplied by the SYNC card) • Internal OSC (±5 ppm deviation) has failed when the system operates as the clock • source office
MN	Red	Lights when the following MN fault has occurred: • One or more (but not all) DTI/DCS clock supply routes failed • Drifting failure • Internal OSC (±5 ppm deviation) failure
SYNC	Green	Remains lit while the system is synchronized with the network.
ICK	Green	Lights when the internal oscillator is operating normally.
CKPKG **Note 1**	Green	Lights when the CLK card in TSWM 1 is in normal operation.
ALM0 **Note 1**	Red	Lights when clock failure has occurred in the CLK card.
ALM1 **Note 1**	Red	Lights when FH failure has occurred in the CLK card.
PALM	Red	Remains lit when the On-Board Power Supply is abnormal.

Note 1: This lamp is not used.

4. Switch Settings

Standard settings for switches on this circuit card are shown in the table below.

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
MB	UP		Circuit card: Make-Busy
	DOWN	×	Circuit card: Make-Busy cancel
SW03	1 - F	1	Fixed to 1.

SWITCH NAME	SWITCH NO.	SETTING	STANDARD SETTING	MEANING
SW01 Note 1	1	ON	×	Not used.
		OFF		Clock source office.
	2	ON		Digital Clock Supply route zero (DCS 0) is used.
		OFF		Digital Clock Supply route zero (DCS 0) is not used.
	3	ON		Digital Clock Supply route one (DCS 1) is used.
		OFF		Digital Clock Supply route one (DCS 1) is not used.
	4	ON		8 kHz of Frame Head signals are extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
		OFF	×	Not used.
	5	ON		When clock source failure has occurred in all supply routes, the PLO outputs the original clock of the internal oscillator.
		OFF	×	Not used.
	6	ON		This circuit card is associated with SYNC card and 5m Frame Pulse (FP) is supplied by the SYNC card.
		OFF	×	Not used.
	7	ON		A-law CODEC is used for the hold music.
		OFF		μ-law CODEC is used for the hold music.
	8	OFF	×	Not used.

Note 1: When this card is used in the MMG system, specify the clock source (DCS or DTI) according to the clock network configuration for the office.

SWITCH NAME	SWITCH NO.	SETTING	STAN-DARD SETTING	MEANING
SW02	1	ON		DIU 0 is used as the DTI Clock Supply Route 0.
		OFF		DIU 0 is not used.
	2	ON		DIU 1 is used as the DTI Clock Supply Route 1.
		OFF		DIU 1 is not used.
	3	ON		DIU 2 is used as the DTI Clock Supply Route 2.
		OFF		DIU 2 is not used.
	4	ON		DIU 3 is used as the DTI Clock Supply Route 3.
		OFF		DIU 3 is not used.
	5 **Note 2**	ON		1.5 M clock for DIU 0
		OFF		2 M clock for DIU 0
	6 **Note 2**	ON		1.5 M clock for DIU 1
		OFF		2 M clock for DIU 1
	7 **Note 2**	ON		1.5 M clock for DIU 2
		OFF		2 M clock for DIU 2
	8 **Note 2**	ON		1.5 M clock for DIU 3
		OFF		2 M clock for DIU 3
SW10	1	ON		External hold tone source is used via FM lead.
		OFF	×	MUSIC ROM is used as the hold tone.
	2	ON		CLK card is not used. (Fixed to ON for MMG system)
		OFF		CLK card is used.

Note 2: The following shows the clock frequency of each circuit card to be supplied to PLO.
- Clock frequency of 2M: 30DTI/30CCT/BRT
- Clock frequency of 1.5M: 24DTI/24CCT/PRT

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STAN-DARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="4">SW11</td><td rowspan="2">1
2</td><td colspan="3"><table>
<tr><th>SW11-1</th><th>SW11-2</th><th>Impedance of the External Music Source 0 (FM 0)</th></tr>
<tr><td>OFF</td><td>OFF</td><td>600 Ω</td></tr>
<tr><td>ON</td><td>OFF</td><td>8.2 Ω</td></tr>
<tr><td>OFF</td><td>ON</td><td>47K Ω</td></tr>
</table></td></tr>
<tr><td rowspan="2">3
4</td><td colspan="3"><table>
<tr><th>SW11-3</th><th>SW11-4</th><th>Impedance of the External Music Source 1 (FM 1)</th></tr>
<tr><td>OFF</td><td>OFF</td><td>600 Ω</td></tr>
<tr><td>ON</td><td>OFF</td><td>8.2 Ω</td></tr>
<tr><td>OFF</td><td>ON</td><td>47K Ω</td></tr>
</table></td></tr>
<tr><td rowspan="8">SW12</td><td rowspan="3">1
2
3</td><td colspan="3"><table>
<tr><th>SW12-1</th><th>SW12-2</th><th>SW12-3</th><th>MUSIC</th></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>For Elise</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>Maiden’s prayer</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>Chime</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>Buzzer</td></tr>
</table></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
<tr><td>5
6
7</td><td colspan="3">MUSIC (CH1) selection. The music varies depending on the melody IC located on this circuit card.</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
</table>

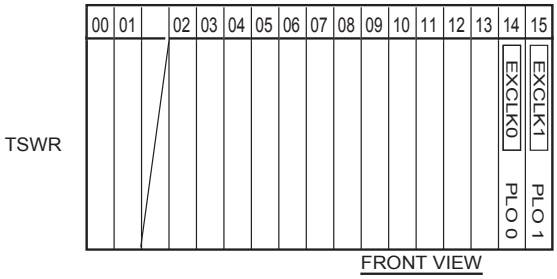
5. External Interface

PLO Pin Assignment for Receiving Clock for MMG System

PLO input leads appear on the LT connectors labeled EXCLK0 and EXCLK1.

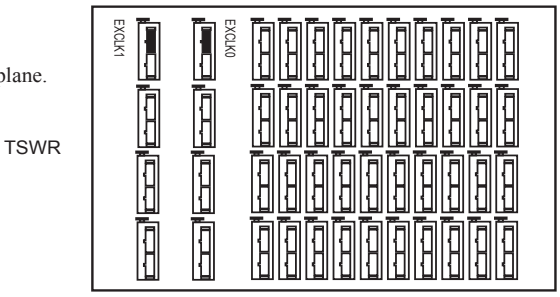
• PLO Mounting Slots

PLO card is mounted in slots 14 and 15 of TSWR.



• LT Cable Connectors

Connect LT cables to the connectors labeled "EXCLK0" and "EXCLK1" on the TSWR backplane.

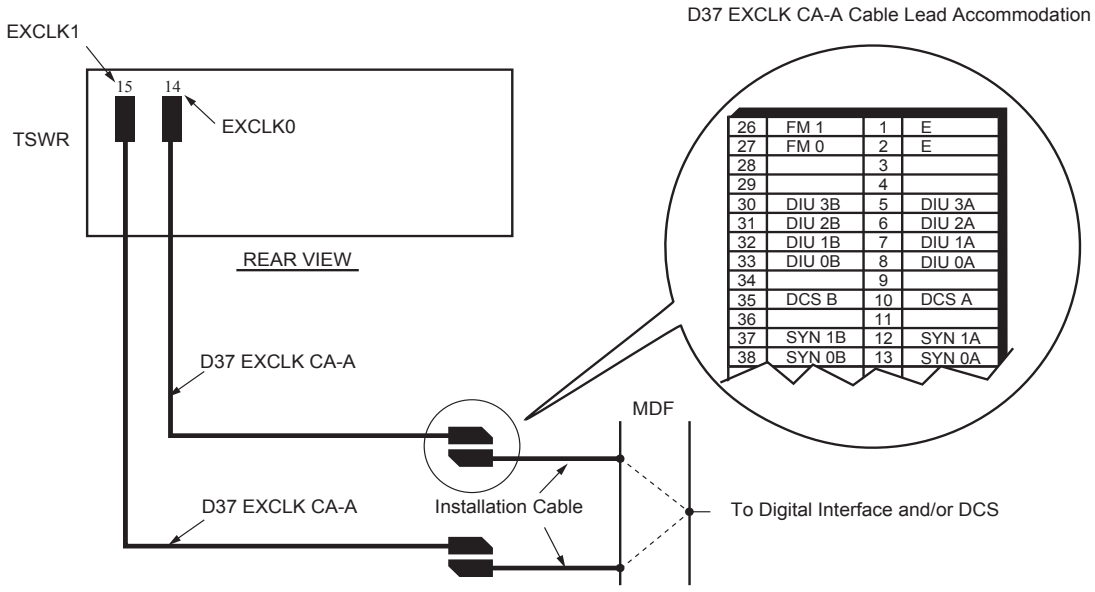


• EXCLK0/EXCLK1 Connector Pin Assignment

Pins are assigned as follows on "EXCLK0/EXCLK1" connector. When clock is distributed from a digital interface, use one pair of "DIUxx" leads among a maximum of four inputs. DIU leads have the following precedence:

DIU0x (High) –> DIU3x (Low)

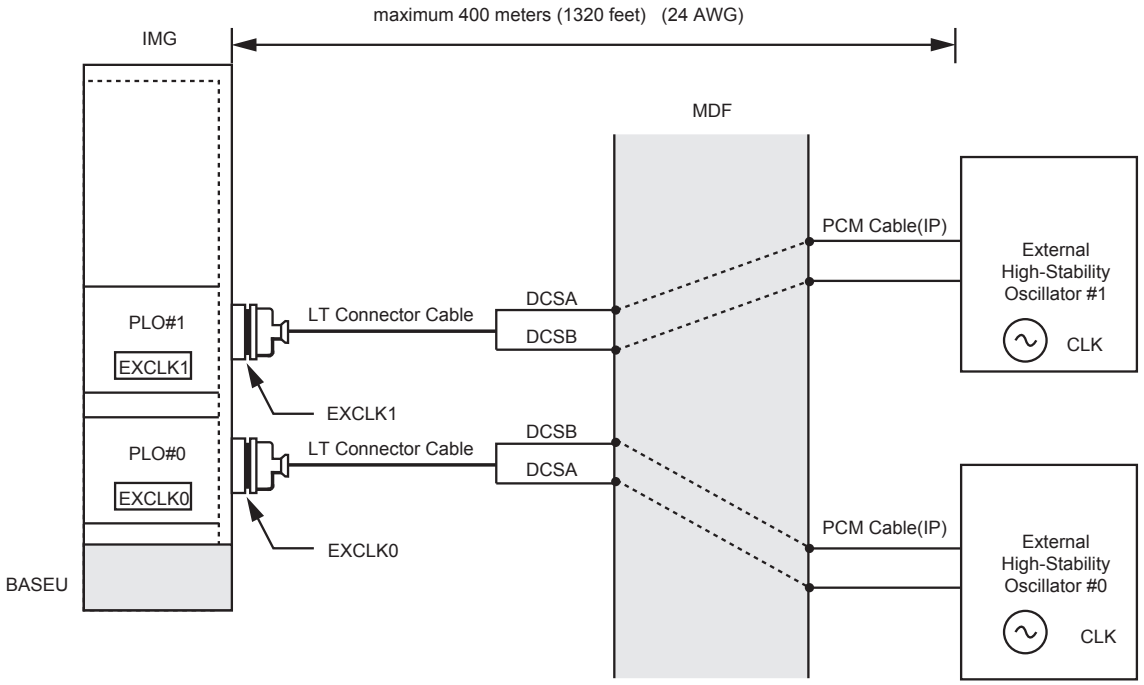
On the contrary, to receive clock from an external high-stability oscillator, use "DCSx" leads.



Cable Connection Diagram for Accepting Synchronization Clocks from an External High-Stability Oscillator

- Cable Connection Diagram

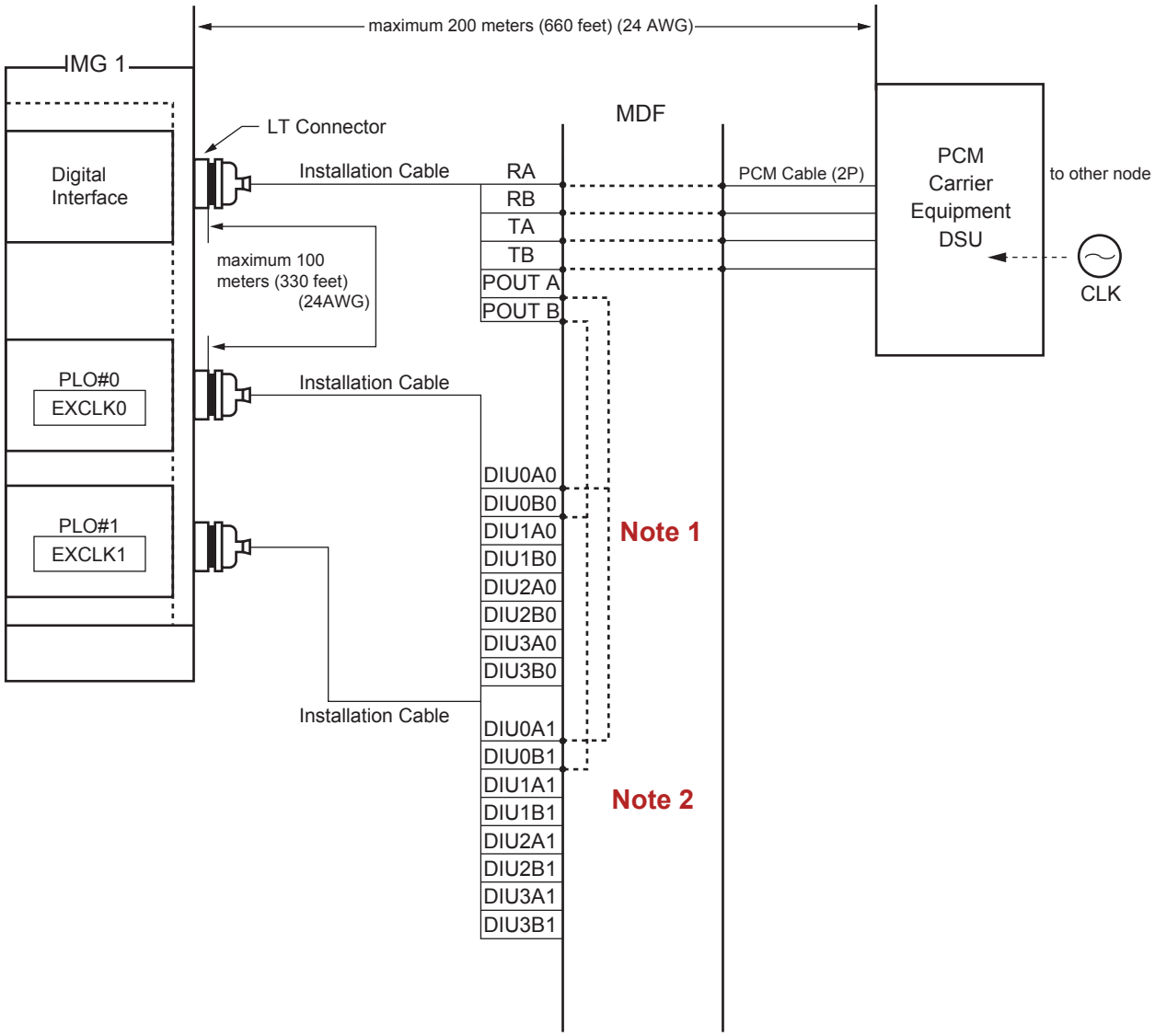
Provide the following wirings at the MDF. The following connection diagram shows an example where the system has the PLO cards in a dual configuration.



Note: This diagram shows connections for a system having dual PLOs.

Cable Connection Diagram for Receiving Clock from Digital Interface for MMG System

This figure shows an example of distributing clock from a digital interface. This example also assumes that the Digital Trunk POUT leads are used as the first clock distribution route.

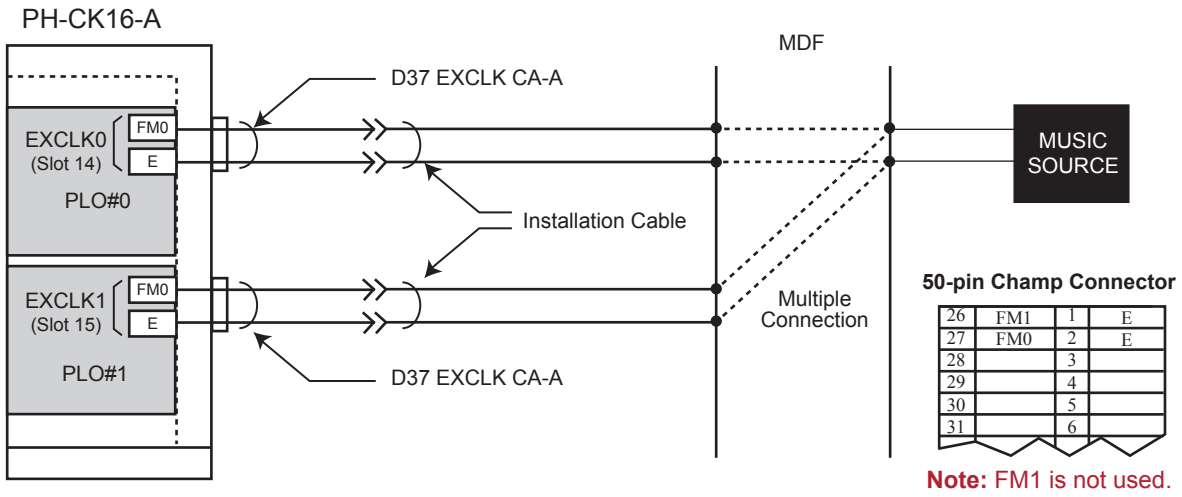


Note 1: PLO has a maximum of four inputs. DIU0xx leads are used for the first clock distribution routes.
DIU3xx leads are used for the fourth. The first input has the highest priority.

Note 2: The connection is required for a dual PLO system.

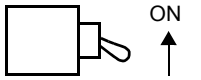
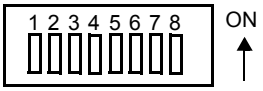
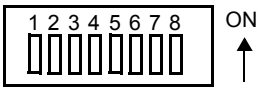
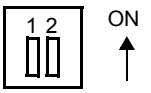
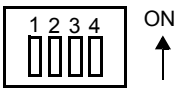
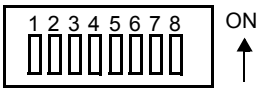
Connection of External Music-On-Hold for MMG System

For more details, refer to Peripheral Equipment Description Volume 3 Chapter 2 "4. Alarm Indicating Panel and External Music-On-Hold."



Note: FM1 is not used.

6. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		
SW01		
SW02		
SW03		
SW10		
SW11		
SW12		

PH-CK16-C
Phase Lock Oscillator

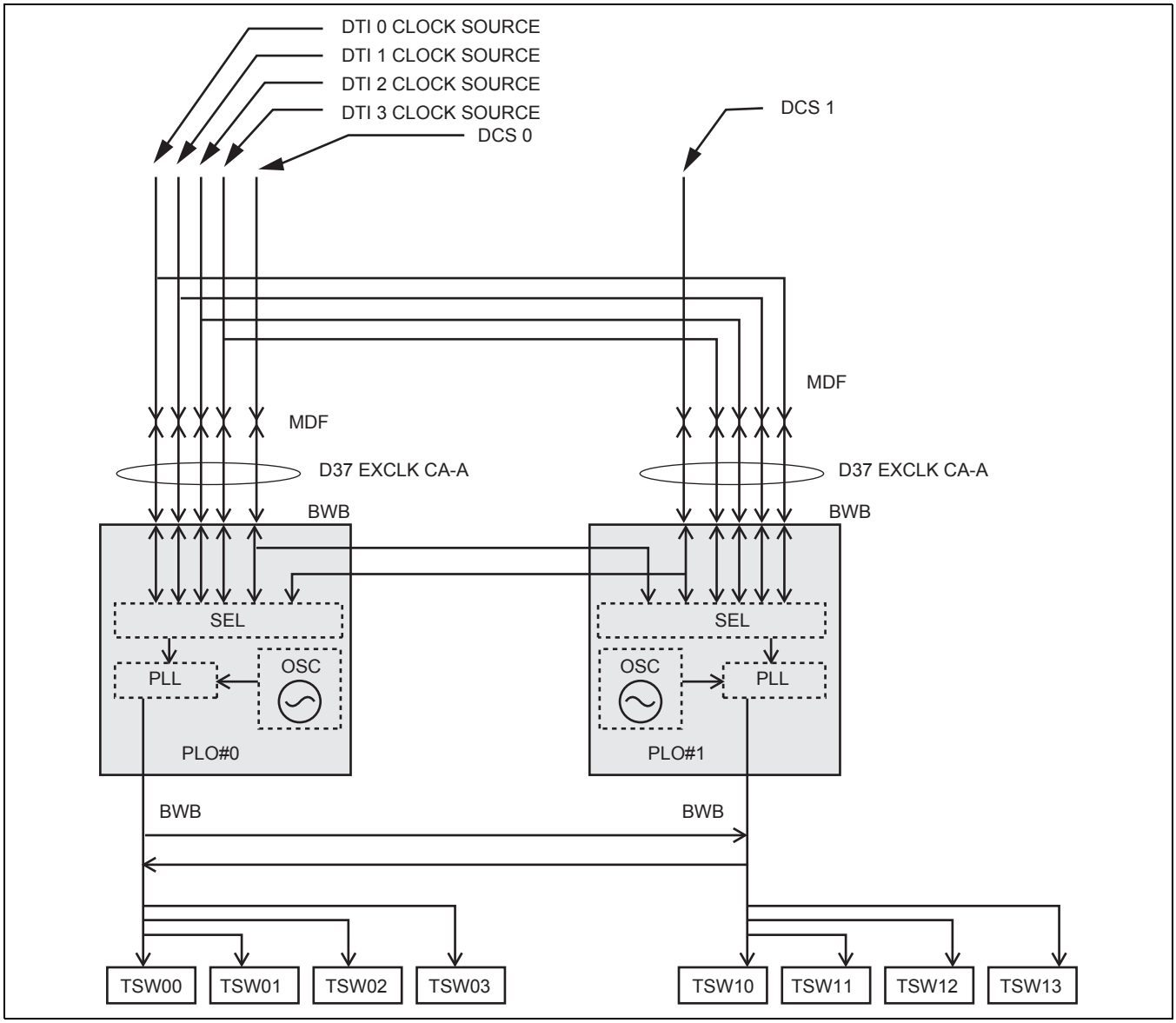
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

This circuit card, used with a digital interface circuit card, sets up network synchronization. With this circuit card, the MMG system can be a clock subordinate office of the digital network. As seen in the figure below, the PLO can be redundant regardless of the system switching network selection.

Note: Using different PLO cards at PLO#0 and PLO#1 is not allowed.

Location of PH-CK16-C (PLO) Card in the System



The source clock of the clock subordinate office is either the Digital Clock Supply (DCS) or the digital interface clock (DIU 0 - DIU 3). When clock source failure has occurred, the PLO automatically chooses another clock source in the following order:

1 DCS

2 DIU 0

3 DIU 1

4 DIU 2

5 DIU 3

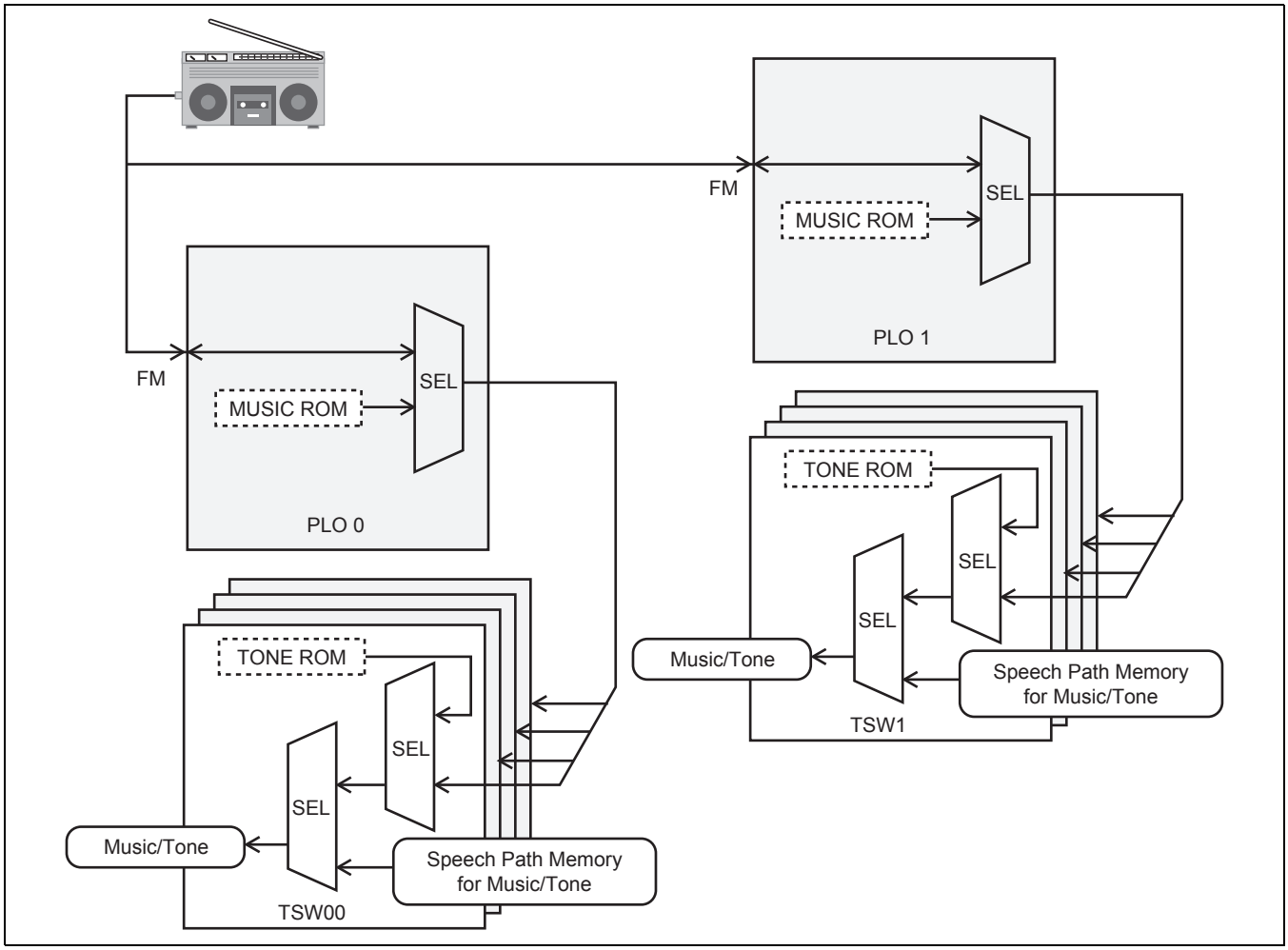
6 PLO changeover or the PLO internal oscillator drifting

The PLO can transmit the Clock (CLK) signals and the Frame Head (FH) Signals as follows:

- 32.768 MHz CLK
- 8 kHz FH
- 5 milliseconds × "n" FH

The MUSIC ROM located on this circuit card also contains the hold tone, and is supplied to the TSW circuit card. When an external Music-on-Hold is applied to the MMG system, this circuit card provides the interface for the external hold tone source.

Music Source



2. Mounting Location/Condition

This circuit card is mounted in the TSWR of the slot shown below.

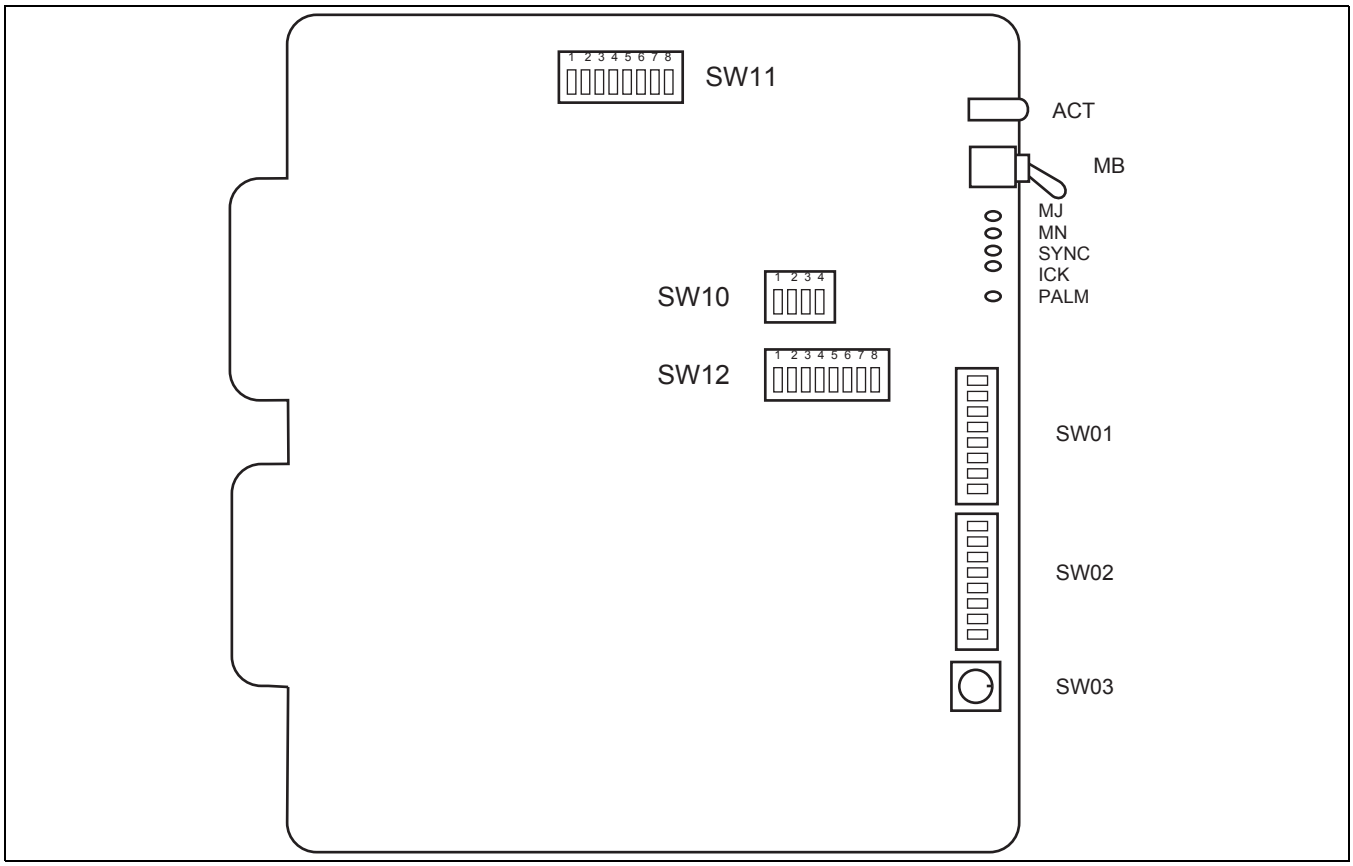
Mounting Module **TSWR**

00	01		02	03	04	05	06	07	08	09	10	11	12	13	14	15
															PLO 0	PLO 1

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors is shown below.

Face Layout of PH-CK16-C (PLO)



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is in active state.
	Off	Remains off while this circuit card is in standby state.
MJ	Red	Lights when the following MJ fault has occurred: • All of the clock supply routes have failed when the system operates as the clock subordinate office • 32.768 MHz output clock failure • 8 kHz output FH failure • 5 milliseconds × "n" output FH failure • Input Frame Pulse (FP) failure (FP is supplied by the SYNC card) • Internal OSC (±5 ppm deviation) has failed when the system operates as the clock source office
MN	Red	Lights when the following MN fault has occurred: • One or more (but not all) DTI/DCS clock supply routes failed • Drifting failure • Internal OSC (±5 ppm deviation) failure
SYNC	Green	Remains lit while the system is synchronized with the network.
	Off	Remains off when either of the following has occurred: • DCS clock failure when receiving the clock signals from the DCS • DTI clock failure when receiving the clock signals from the DTI • Drifting failure
ICK	Green	Lights when the internal oscillator is operating normally.
PALM	Red	Remains lit when power is abnormal.

5. Switch Settings

Standard settings of switches on this circuit card are shown in the table below.

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
MB	UP		Circuit card: Make-Busy.
	DOWN	×	Circuit card: Make-Busy cancel.
SW03	1 - F	1	Fixed to 1.

SWITCH NAME	SWITCH NO.	SETTING	STAN-DARD SETTING	MEANING
SW01	1	ON	×	Clock subordinate office.
		OFF		Clock source office.
	2	ON		Digital Clock Supply route zero (DCS 0) is used.
		OFF		Digital Clock Supply route zero (DCS 0) is not used.
	3	ON		Digital Clock Supply route one (DCS 1) is used.
		OFF		Digital Clock Supply route one (DCS 1) is not used.
	4	ON		8 kHz of Frame Head signals are extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
		OFF		8 kHz of Frame Head signals are not extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
	5	ON		When clock source failure has occurred in all supply routes, the PLO outputs the original clock of the internal oscillator.
		OFF		When clock source failure has not occurred in all supply routes, the PLO continues outputting the current phase clock.
	6	ON		This circuit card is associated with SYNC card and 5m Frame Pulse (FP) is supplied by the SYNC card.
		OFF		This circuit card is not associated with SYNC card.
	7	ON		A-law CODEC is used for the hold music.
		OFF		μ-law CODEC is used for the hold music.
	8	OFF	×	Not used.

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STAN-DARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="16">SW02</td><td rowspan="2">1</td><td>ON</td><td></td><td>DIU 0 is used as the DTI Clock Supply Route 0.</td></tr>
<tr><td>OFF</td><td></td><td>DIU 0 is not used.</td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td><td>DIU 1 is used as the DTI Clock Supply Route 1.</td></tr>
<tr><td>OFF</td><td></td><td>DIU 1 is not used.</td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td><td>DIU 2 is used as the DTI Clock Supply Route 2.</td></tr>
<tr><td>OFF</td><td></td><td>DIU 2 is not used.</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>DIU 3 is used as the DTI Clock Supply Route 3.</td></tr>
<tr><td>OFF</td><td></td><td>DIU 3 is not used.</td></tr>
<tr><td rowspan="2">5
Note 1</td><td>ON</td><td>×</td><td>1.5 M clock for DIU 0</td></tr>
<tr><td>OFF</td><td></td><td>2 M clock for DIU 0</td></tr>
<tr><td rowspan="2">6
Note 1</td><td>ON</td><td>×</td><td>1.5 M clock for DIU 1</td></tr>
<tr><td>OFF</td><td></td><td>2 M clock for DIU 1</td></tr>
<tr><td rowspan="2">7
Note 1</td><td>ON</td><td>×</td><td>1.5 M clock for DIU 2</td></tr>
<tr><td>OFF</td><td></td><td>2 M clock for DIU 2</td></tr>
<tr><td rowspan="2">8
Note 1</td><td>ON</td><td>×</td><td>1.5 M clock for DIU 3</td></tr>
<tr><td>OFF</td><td></td><td>2 M clock for DIU 3</td></tr>
<tr><td rowspan="5">SW10</td><td>1</td><td>OFF</td><td>×</td><td rowspan="2">Refer below.</td></tr>
<tr><td>2</td><td>ON</td><td>×</td></tr>
<tr><td colspan="4"><table>
<tr><th>SW10-1</th><th>SW10-2</th><th>MEANING</th></tr>
<tr><td>ON</td><td>OFF</td><td>External hold tone source is used via FM lead.</td></tr>
<tr><td>OFF</td><td>ON</td><td>MUSIC ROM is used as the hold tone.</td></tr>
</table></td></tr>
<tr><td>3</td><td>ON</td><td>×</td><td rowspan="2">CLK PKG is not used. (Fixed)</td></tr>
<tr><td>4</td><td>OFF</td><td>×</td></tr>
</table>

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STAN-DARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="11">SW11</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="8">Refer below.</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td colspan="4">
<table>
<tr><th>SW11-1</th><th>SW11-2</th><th>SW11-3</th><th>SW11-4</th><th>Impedance of the External Music Source 0 (FM 0)</th></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>600 Ω</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>8.2 Ω</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>47K Ω</td></tr>
</table>
</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td rowspan="8">Refer below.</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td colspan="4">
<table>
<tr><th>SW11-5</th><th>SW11-6</th><th>SW11-7</th><th>SW11-8</th><th>Impedance of the External Music Source 1 (FM 1)</th></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>600 Ω</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>8.2 Ω</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>47K Ω</td></tr>
</table>
</td></tr>
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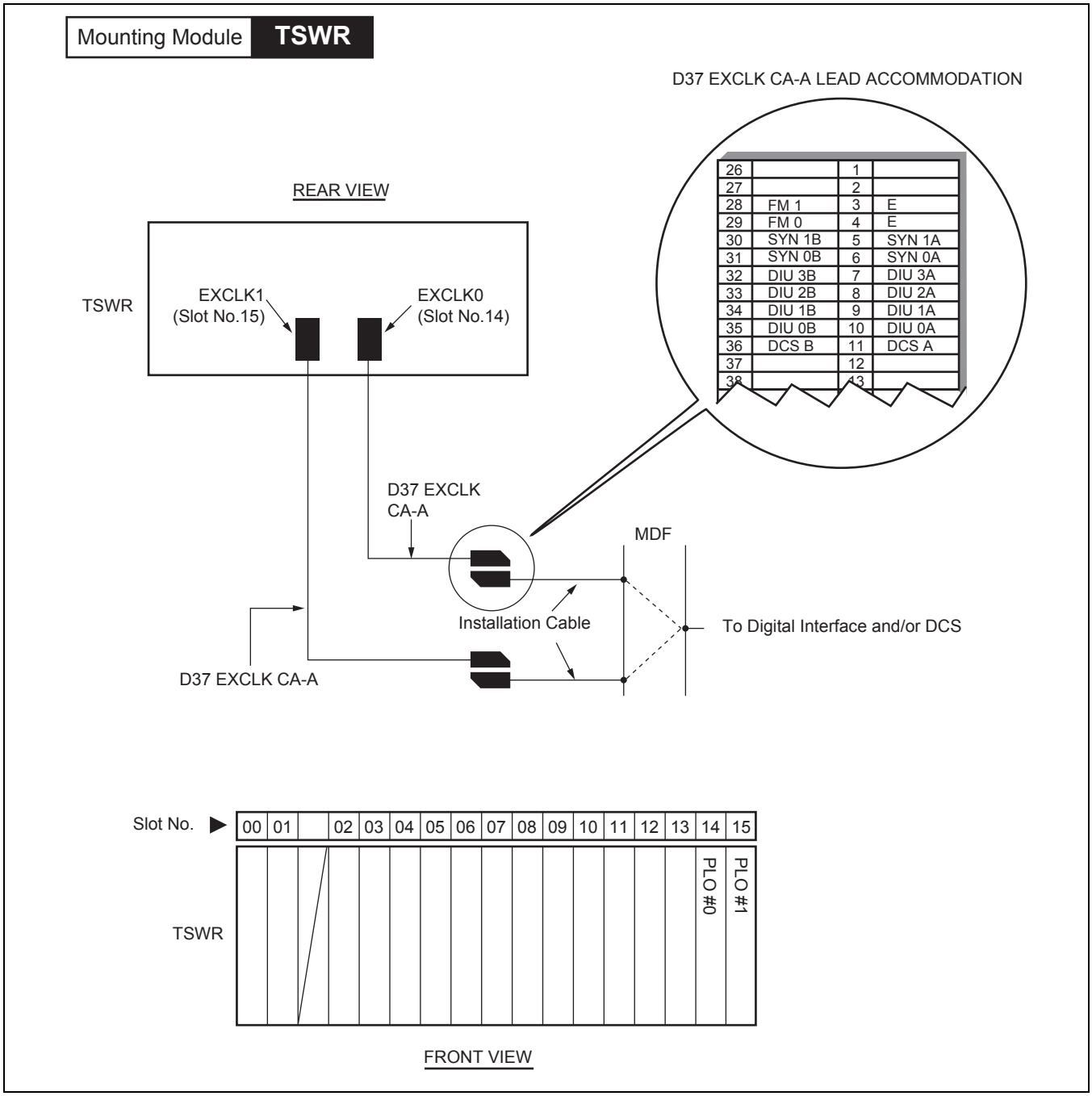
Note 1: The following shows the clock frequency of each circuit card to be supplied to PLO.
- Clock frequency of 2M: 30DTI/30CCT/BRT
- Clock frequency of 1.5M: 24DTI/24CCT/PRT

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STAN-DARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="16">SW12</td><td rowspan="3">1
2
3</td><td colspan="3"><table>
<tr><th>SW12-1</th><th>SW12-2</th><th>SW12-3</th><th>MUSIC</th></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>For Elise</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>Maiden’s prayer</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>Chime</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>Buzzer</td></tr>
</table></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
</table>

6. External Interface

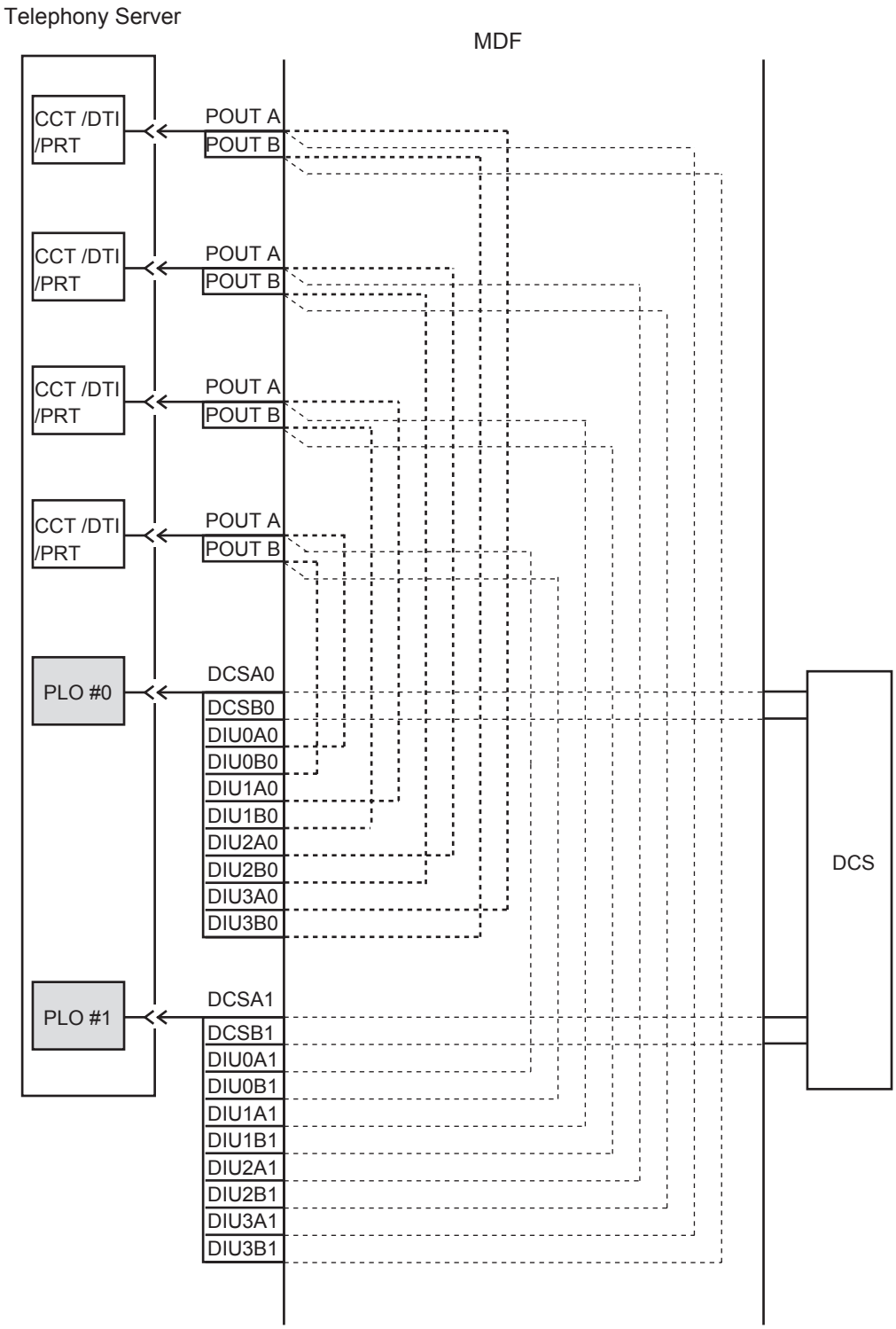
When this circuit card is located in the TSWR, connect D37 EXCLK CA-A to the EXCLK 0/EXCLK 1 connectors on the backplane of the TSWR.

LT Connector Lead Location of PLO (TSWR)



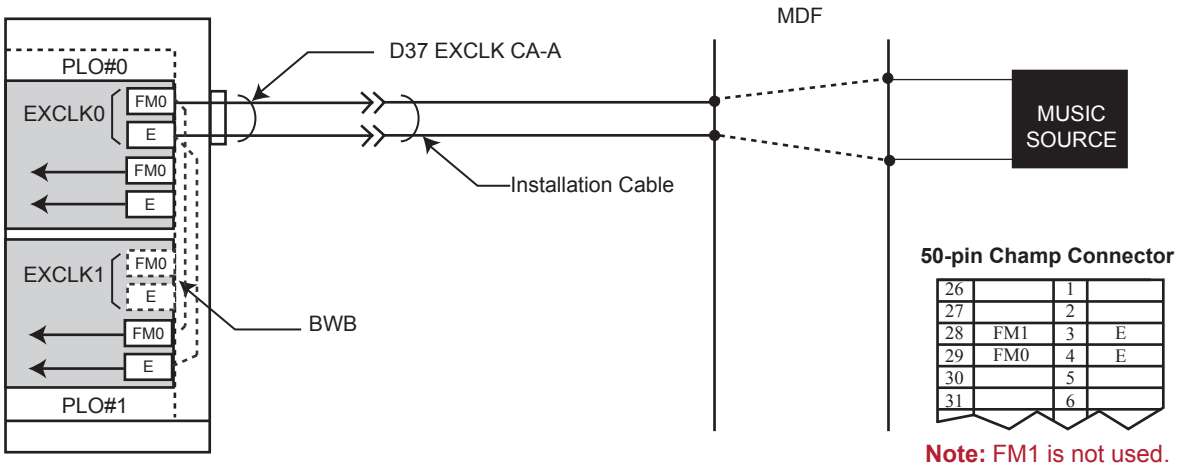
26		1	
27		2	
28	FM 1	3	E
29	FM 0	4	E
30	SYN 1B	5	SYN 1A
31	SYN 0B	6	SYN 0A
32	DIU 3B	7	DIU 3A
33	DIU 2B	8	DIU 2A
34	DIU 1B	9	DIU 1A
35	DIU 0B	10	DIU 0A
36	DCS B	11	DCS A
37		12	
38		13	

Connecting Route Diagram



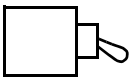
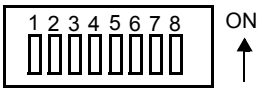
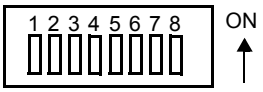
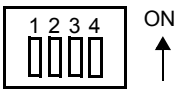
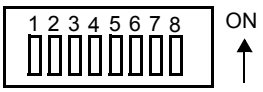
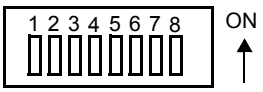
Note : The following circuit cards have Clock Output Leads for a PLO card : CCT, DTI, and PRT cards.

Connection of External Music-On-Hold for MMG System



Note: FM1 is not used.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		
SW01		
SW02		
SW03		
SW10		
SW11		
SW12		

PH-CK16-D
Phase Lock Oscillator

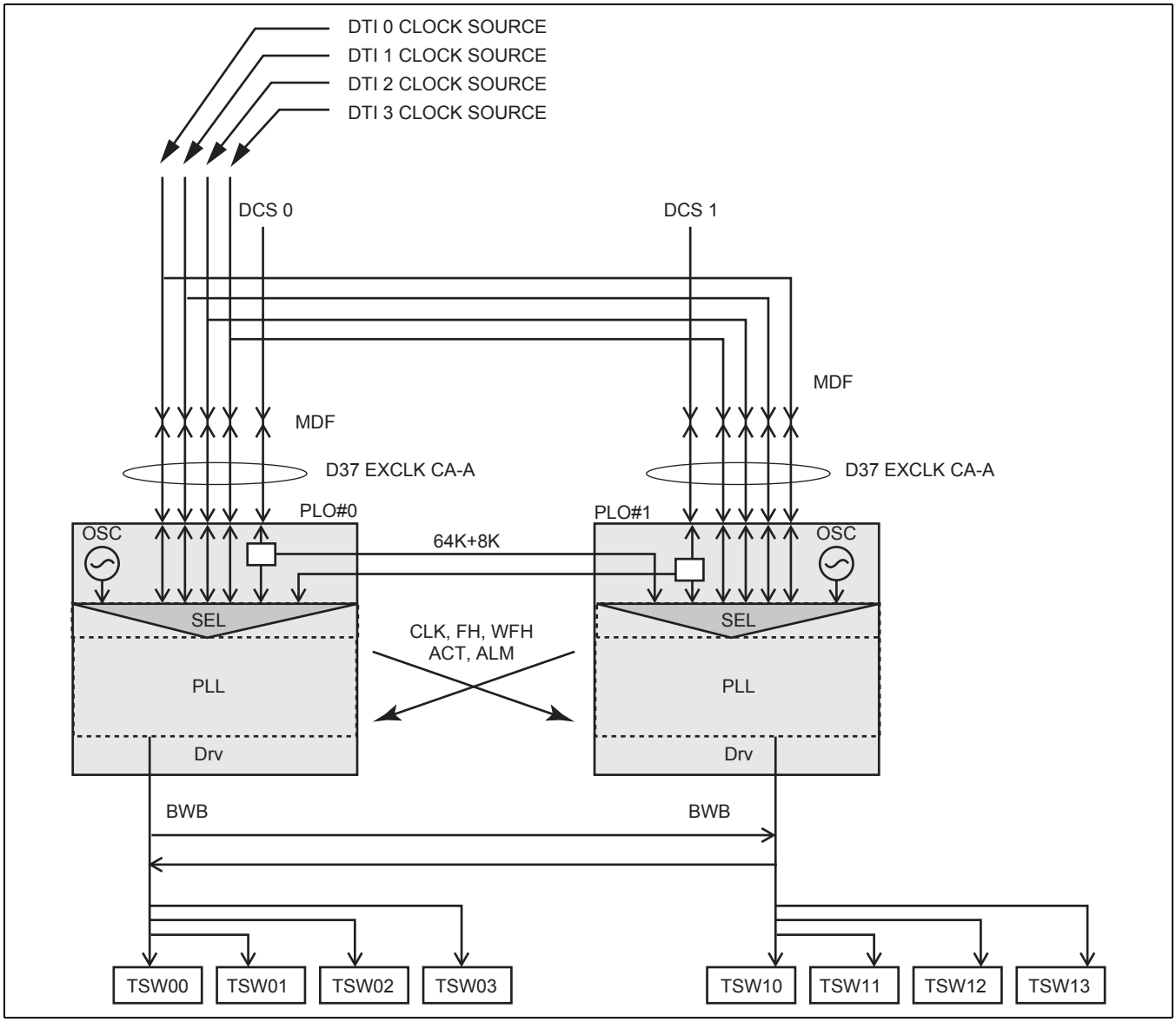
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

This circuit card, used with a digital interface circuit card, sets up network synchronization. With this circuit card, the system can be a clock subordinate office of the digital network. As shown in the figure below, the PLO can be redundant regardless of the system switching network selection.

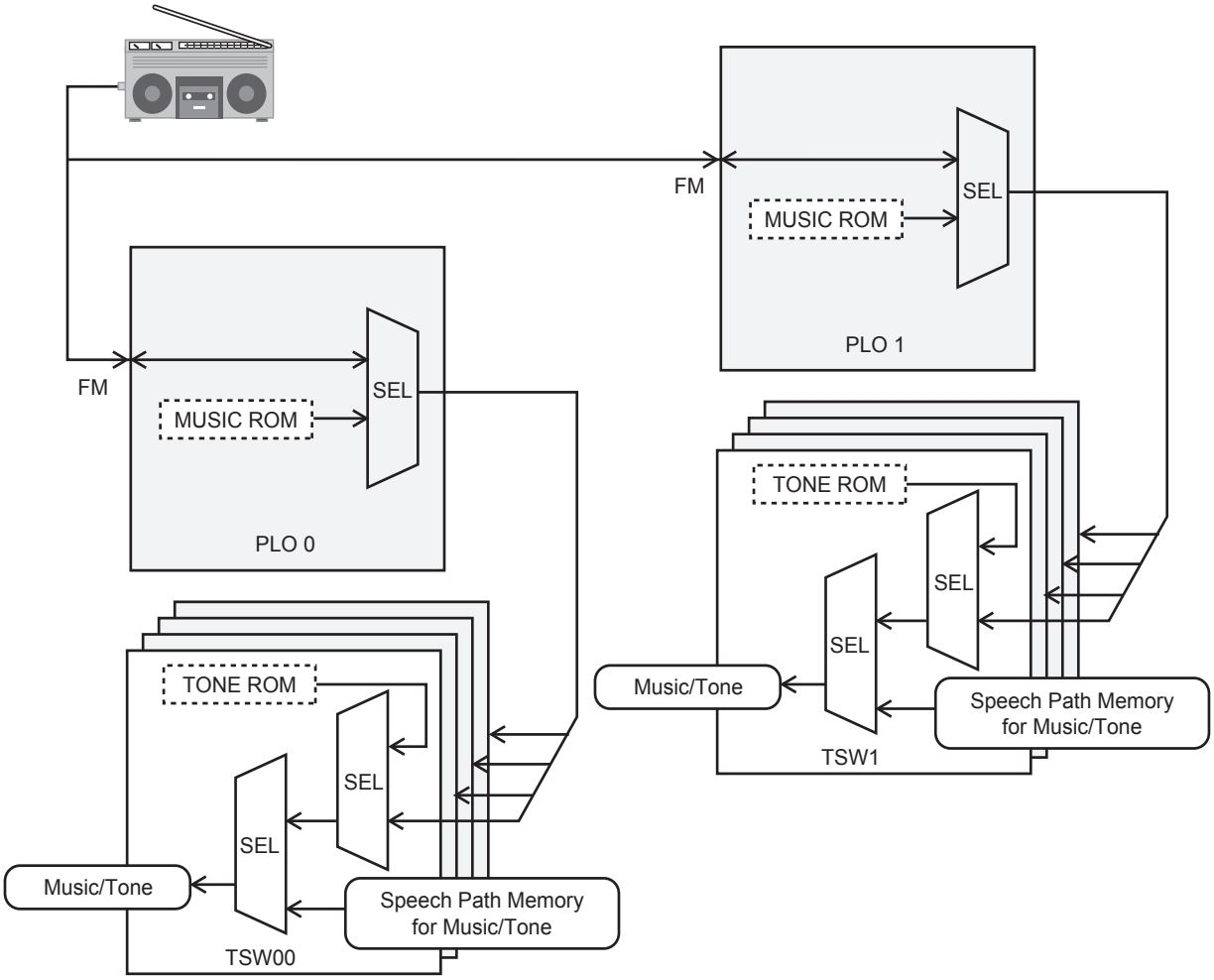
Note: Using different PLO cards at PLO#0 and PLO#1 is not allowed.

Location of PH-CK16-D (PLO) Card in MMG System



The MUSIC ROM located on this circuit card also contains the hold tone, and is supplied to the TSW circuit card. When an external Music-on-Hold is applied to the MMG system, this circuit card provides the interface for the external hold tone source.

Music Source



2. Mounting Location/Condition

This circuit card can be mounted in the shaded slots shown below.

- For MMG System

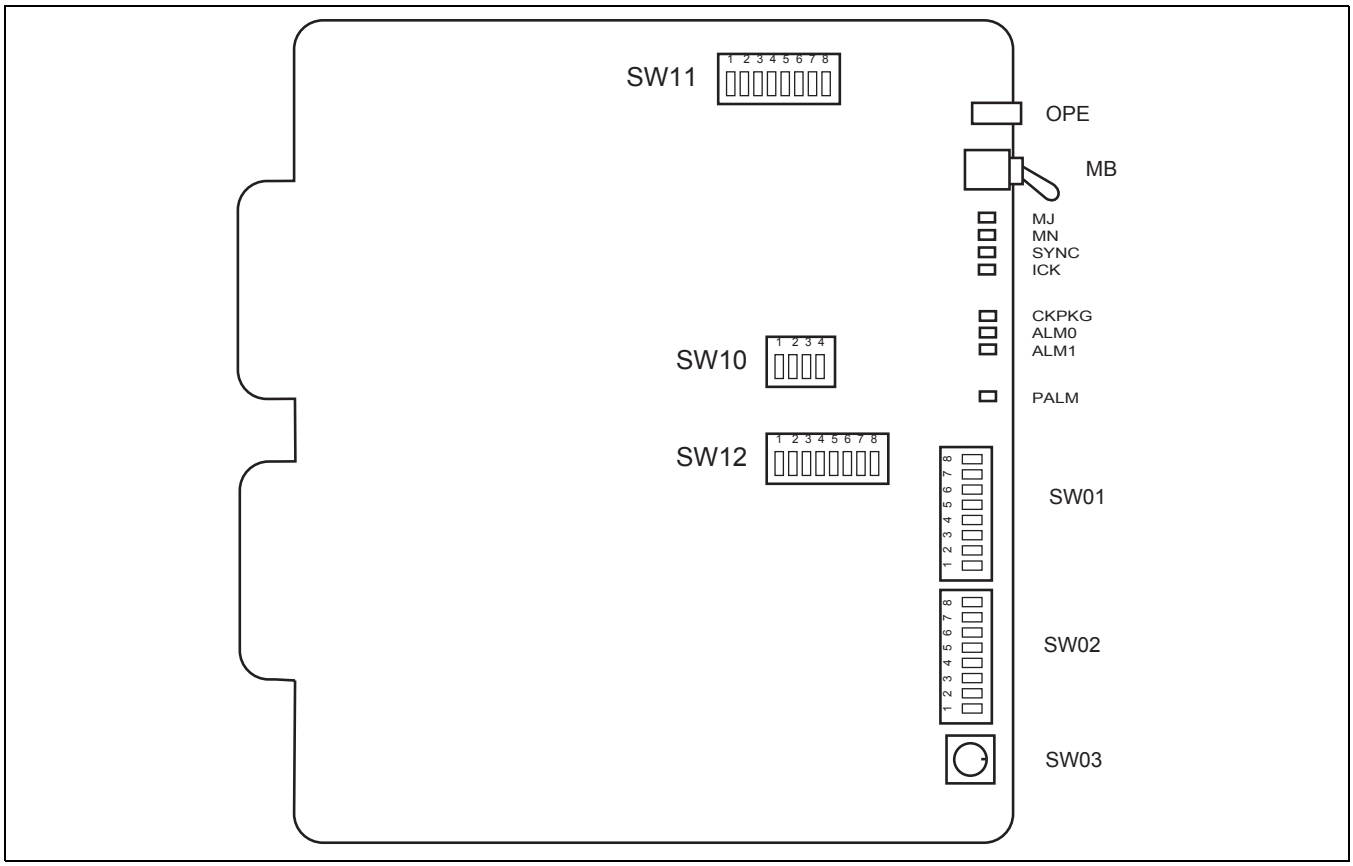
Mounting Module	TSWR

00	01		02	03	04	05	06	07	08	09	10	11	12	13	14	15
															PLO 0	PLO 1

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors are shown below.

Face Layout of PH-CK16-D (PLO)



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is in active state.
MJ	Red	Lights when the following MJ fault has occurred: • All of the clock supply routes have failed when the system operates as the • clock subordinate office • 32.768 MHz output clock failure (including CLK card) • 8 kHz output clock failure (including CLK card) • External 5m Frame Pulse (FP) failure • Internal OSC (±5 ppm deviation) has failed when the system operates as the clock • source office
MN	Red	Lights when the following MN fault has occurred: • One or more (but not all) DTI/DCS clock supply routes failed • Drifting failure • Internal OSC (±5 ppm deviation) failure
SYNC	Green	Remains lit while the system is synchronized with the network.
ICK	Green	Lights when the internal oscillator is operating normally.
CKPKG **Note 1**	Green	Lights when the CLK card in TSWM 1 is in normal operation.
ALM0 **Note 1**	Red	Lights when clock failure has occurred in the CLK card.
ALM1 **Note 1**	Red	Lights when FH failure has occurred in the CLK card.
PALM	Red	Remains lit when the On-Board Power Supply is abnormal.

Note 1: This lamp is not used.

5. Switch Settings

Standard settings for switches on this circuit card are shown in the table below.

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
MB	UP		Circuit card: Make-Busy
	DOWN	×	Circuit card: Make-Busy cancel
SW03	1 - F	1	Fixed to 1.

SWITCH NAME	SWITCH NO.	SETTING	STAN-DARD SETTING	MEANING
SW01 **Note 1**	1	ON	×	Not used.
		OFF		Clock source office.
	2	ON		Digital Clock Supply route zero (DCS 0) is used.
		OFF		Digital Clock Supply route zero (DCS 0) is not used.
	3	ON		Digital Clock Supply route one (DCS 1) is used.
		OFF		Digital Clock Supply route one (DCS 1) is not used.
	4	ON		8 kHz of Frame Head signals are extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
		OFF	×	Not used.
	5	ON		When clock source failure has occurred in all supply routes, the PLO outputs the original clock of the internal oscillator.
		OFF	×	Not used.
	6	ON		5m Frame Pulse (FP) is supplied to this circuit card.
		OFF	×	Not used.
	7	ON		A-law CODEC is used for the hold music.
		OFF		μ-law CODEC is used for the hold music.
	8	OFF	×	Not used.

Note 1: When this card is used in the MMG system, specify the clock source (DCS or DTI) according to the clock network configuration for the office.

SWITCH NAME	SWITCH NO.	SETTING	STAN-DARD SETTING	MEANING
SW02	1	ON		DIU 0 is used as the DTI Clock Supply Route 0.
		OFF		DIU 0 is not used.
	2	ON		DIU 1 is used as the DTI Clock Supply Route 1.
		OFF		DIU 1 is not used.
	3	ON		DIU 2 is used as the DTI Clock Supply Route 2.
		OFF		DIU 2 is not used.
	4	ON		DIU 3 is used as the DTI Clock Supply Route 3.
		OFF		DIU 3 is not used.
	5 **Note 2**	ON		1.5 M clock for DIU 0
		OFF		2 M clock for DIU 0
	6 **Note 2**	ON		1.5 M clock for DIU 1
		OFF		2 M clock for DIU 1
	7 **Note 2**	ON		1.5 M clock for DIU 2
		OFF		2 M clock for DIU 2
	8 **Note 2**	ON		1.5 M clock for DIU 3
		OFF		2 M clock for DIU 3
SW10	1	OFF	×	Refer below.
	2	ON	×	

SW10-1	SW10-2	MEANING
ON	OFF	External hold tone source is used via FM lead.
OFF	ON	MUSIC ROM is used as the hold tone.

SW10	3	ON		Refer below.
		OFF		
	4	ON		
		OFF		

SW10-3	SW10-4	MEANING
ON	OFF	CLK card is not used. (Fixed to ON for MMG system)
OFF	ON	CLK card is used.

Note 2: The following shows the clock frequency of each circuit card to be supplied to PLO.
- Clock frequency of 2M: 30DTI/30CCT/BRT
- Clock frequency of 1.5M: 24DTI/24CCT/PRT

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STAN-DARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="10">SW11</td><td rowspan="2">1</td><td>ON</td><td></td><td rowspan="8">Refer below.</td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">2</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">3</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td></tr>
<tr><td>OFF</td><td></td></tr>
<tr><td colspan="4"><table>
<tr><th>SW11-1</th><th>SW11-2</th><th>SW11-3</th><th>SW11-4</th><th>Impedance of the External Music Source 0 (FM 0)</th></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>600 Ω</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>8.2 Ω</td></tr>
<tr><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>47K Ω</td></tr>
</table></td></tr>
<tr><td>5</td><td>OFF</td><td>Fixed</td><td rowspan="4"></td></tr>
<tr><td>6</td><td>OFF</td><td>Fixed</td></tr>
<tr><td>7</td><td>OFF</td><td>Fixed</td></tr>
<tr><td>8</td><td>OFF</td><td>Fixed</td></tr>
</table>

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STAN-DARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="11">SW12</td><td>1</td><td colspan="3" rowspan="3"><table>
<tr><th>SW12-1</th><th>SW12-2</th><th>SW12-3</th><th>MUSIC</th></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>For Elise</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>Maiden’s prayer</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>Chime</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>Buzzer</td></tr>
</table></td></tr>
<tr><td>2</td></tr>
<tr><td>3</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
<tr><td rowspan="2">5</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
<tr><td rowspan="2">6</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
<tr><td rowspan="2">7</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
</table>

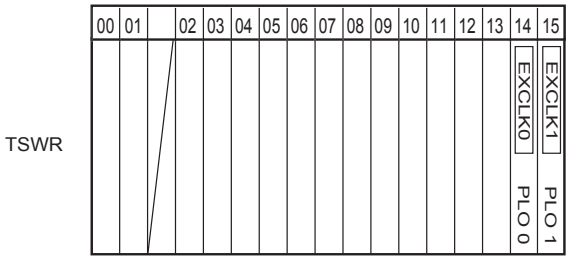
6. External Interface

PLO Pin Assignment for Receiving Clock for MMG System

PLO input leads appear on the LT connectors labeled EXCLK0 and EXCLK1.

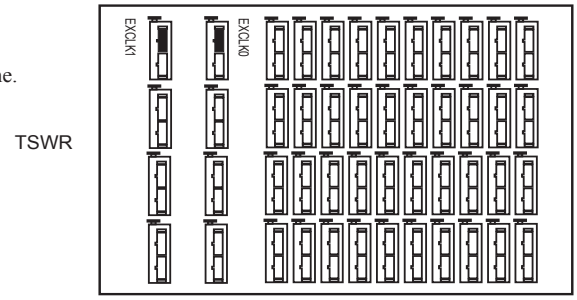
• PLO Mounting Slots

PLO card is mounted in slots 14 and 15 of TSWR.



• LT Cable Connectors

Connect LT cables to the connectors labeled "EXCLK0" and "EXCLK1" on the TSWR backplane.

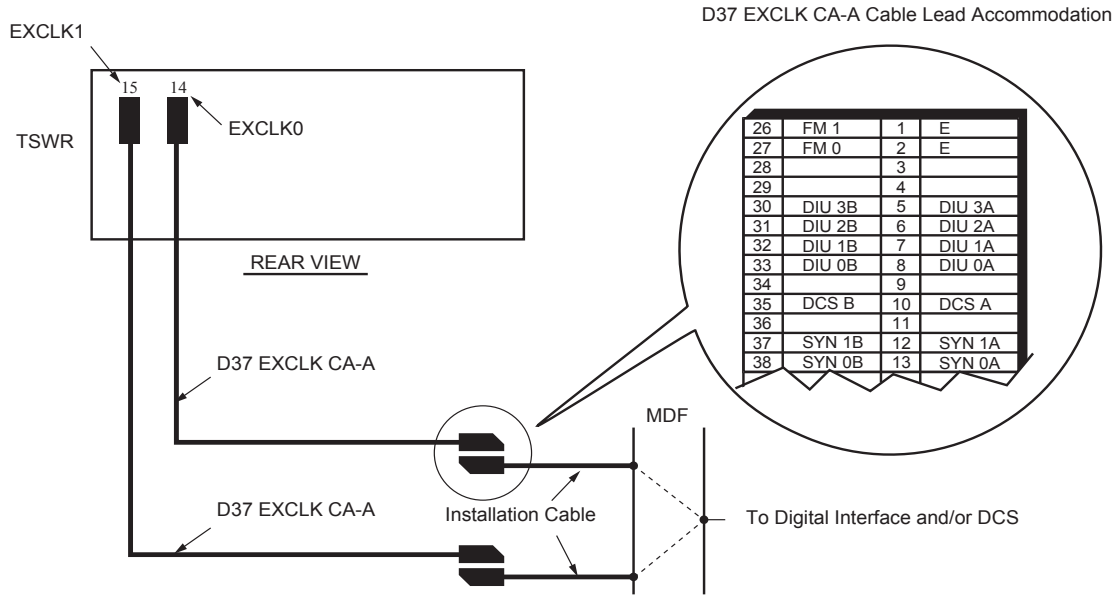


• EXCLK0/EXCLK1 Connector Pin Assignment

Pins are assigned as follows on "EXCLK0/EXCLK1" connector. When clock is distributed from a digital interface, use one pair of "DIUxx" leads among a maximum of four inputs. DIU leads have the following precedence:

DIU0x (High) –> DIU3x (Low)

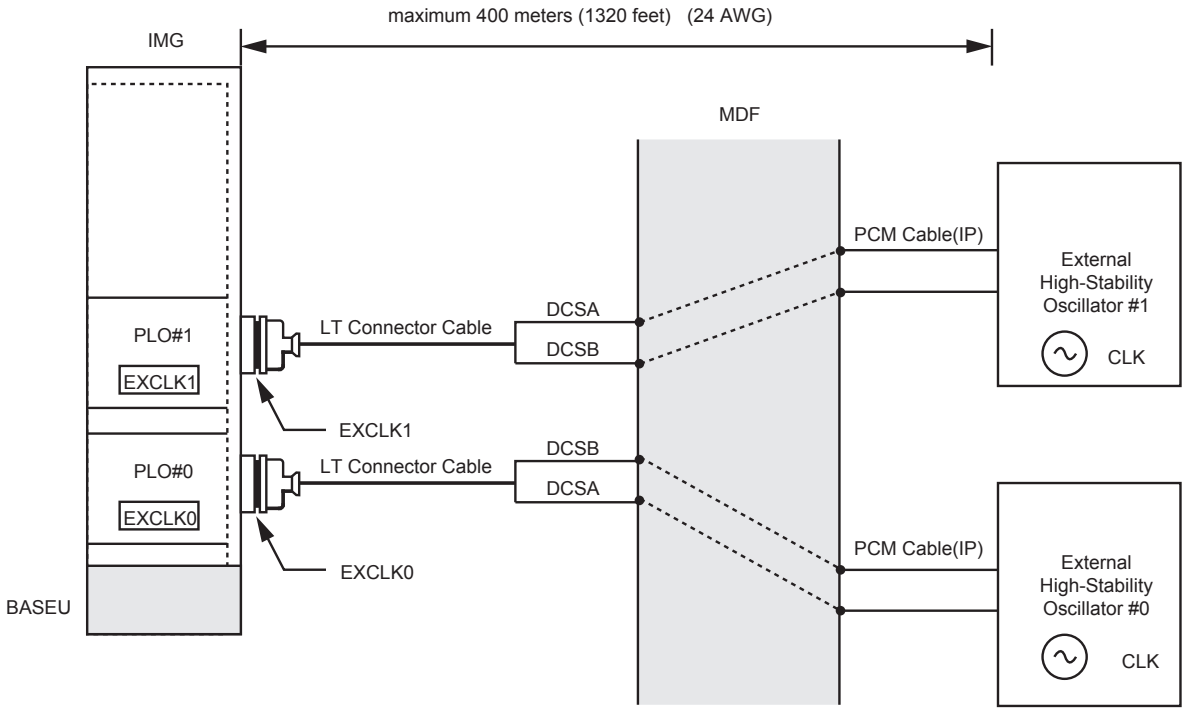
On the contrary, to receive clock from an external high-stability oscillator, use "DCSx" leads.



Cable Connection Diagram for Accepting Synchronization Clocks from an External High-Stability Oscillator

- Cable Connection Diagram

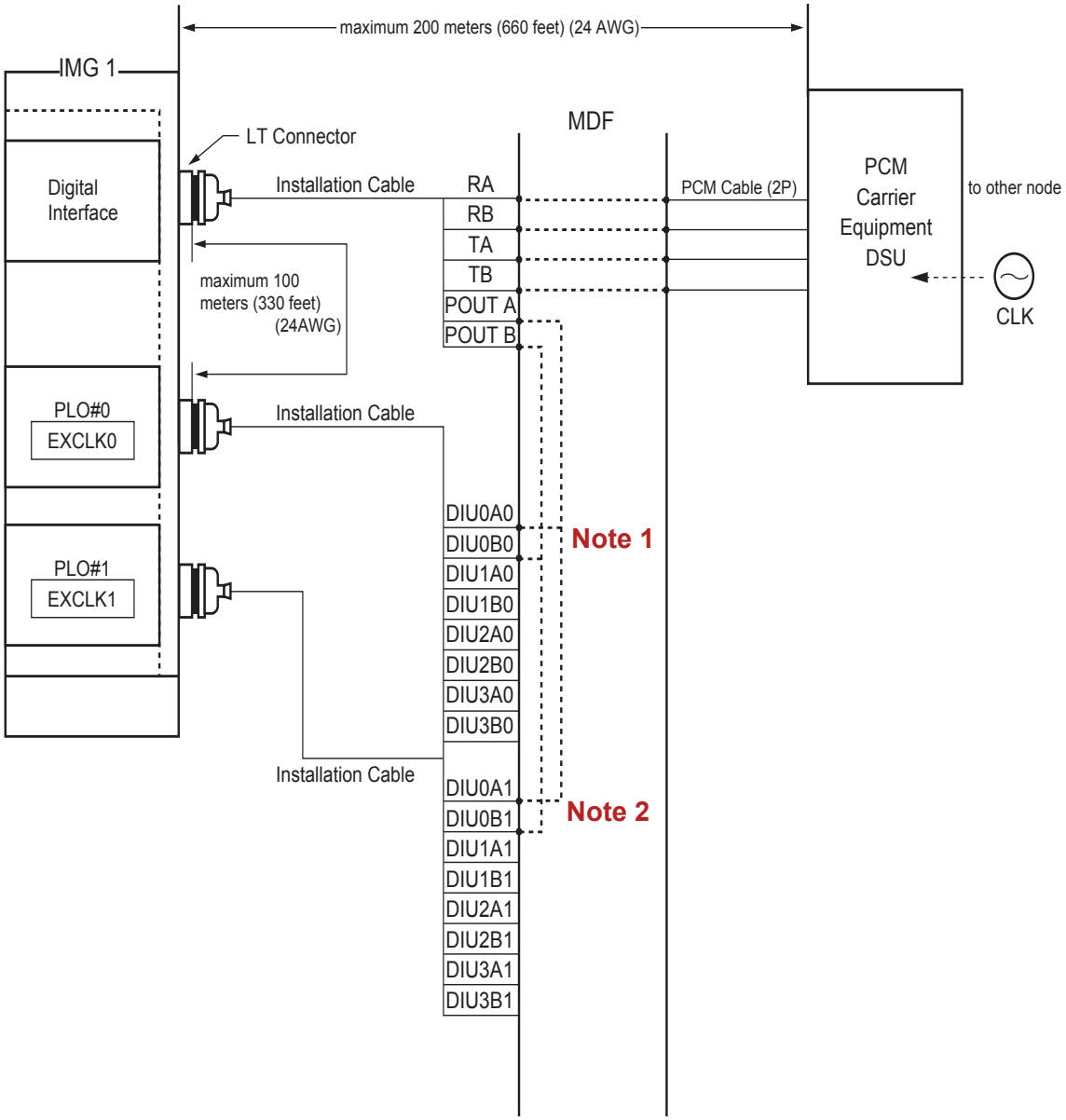
Provide the following wirings at the MDF. The following connection diagram shows an example where the system has the PLO cards in a dual configuration.



Note: This diagram shows connections for a system having dual PLOs.

Cable Connection Diagram for Receiving Clock from Digital Interface for MMG System

This figure shows an example of distributing clock from a digital interface. This example also assumes that the Digital Trunk POUT leads are used as the first clock distribution route.

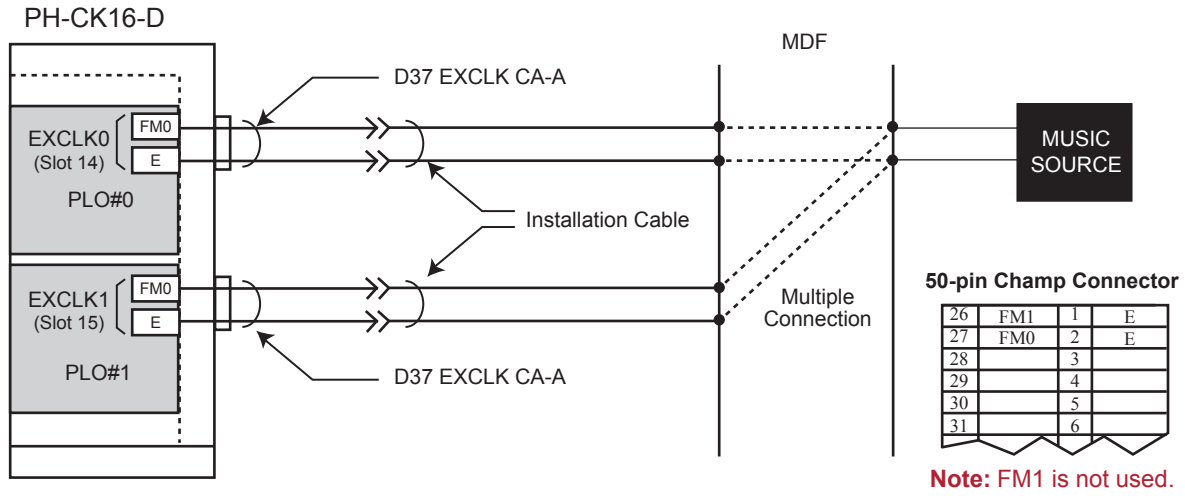


Note 1: PLO has a maximum of four inputs. DIU0xx leads are used for the first clock distribution routes.
DIU3xx leads are used for the fourth. The first input has the highest priority.

Note 2: The connection is required for a dual PLO system.

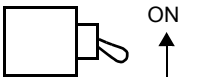
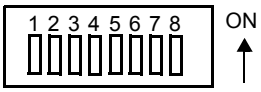
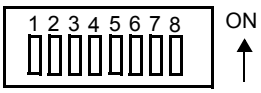
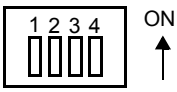
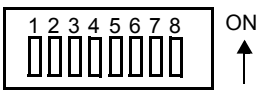
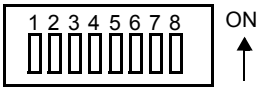
Connection of External Music-On-Hold for MMG System

For more details, refer to Peripheral Equipment Description Volume 3 Chapter 2 "4. Alarm Indicating Panel and External Music-On-Hold."



Note: FM1 is not used.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		
SW01		
SW02		
SW03		
SW10		
SW11		
SW12		

PH-CK17
Phase Lock Oscillator

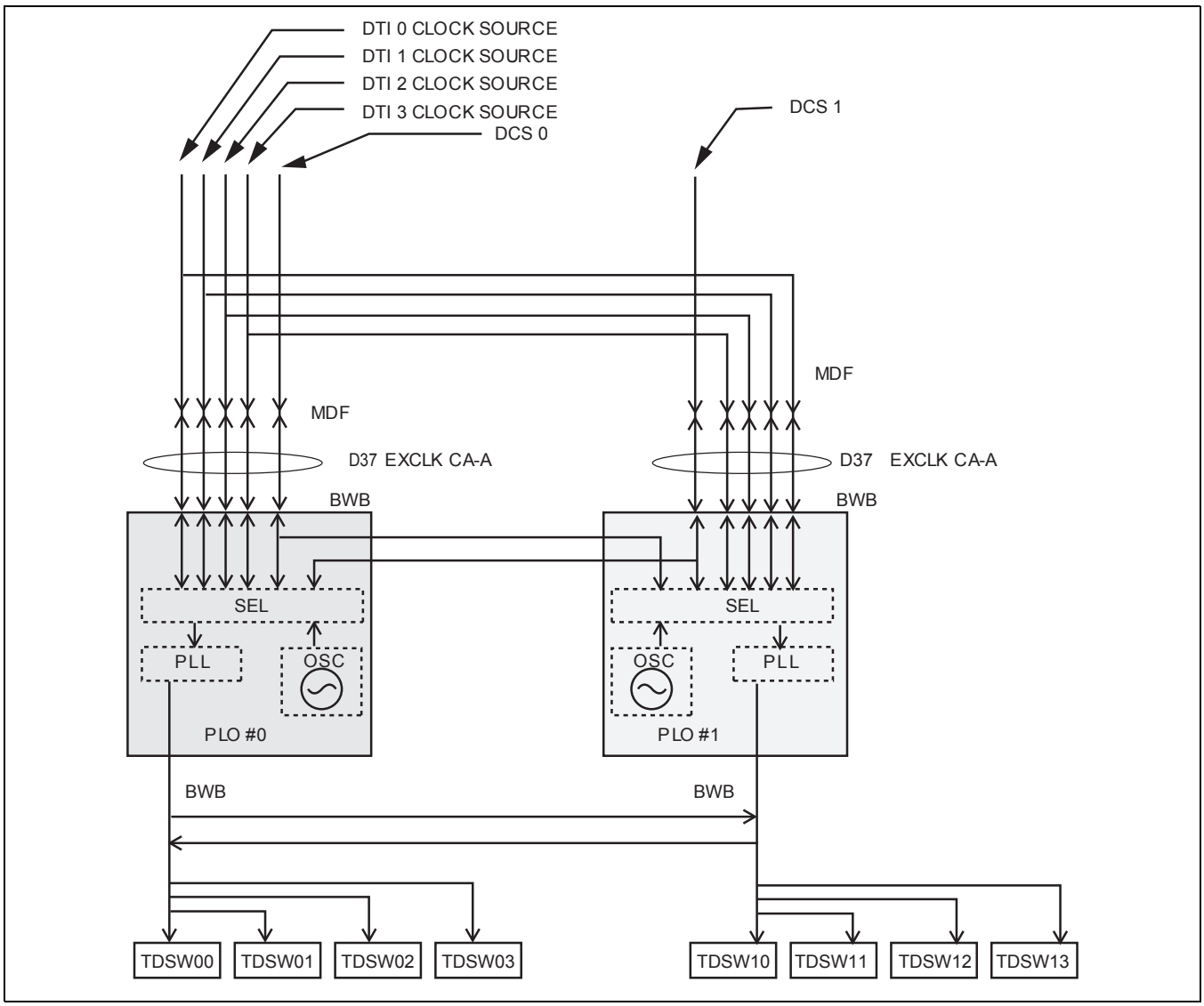
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

This circuit card, used with a digital interface circuit card, sets up network synchronization. Since this circuit card provides a high precision base clock oscillator, the MMG system can be a clock source office for the digital network. As seen in the figure below, the PLO can be redundant regardless of the system switching network selection.

Note: Using different PLO cards at PLO#0 and PLO#1 is not allowed.

Location of PH-CK17 (PLO) Card in the System



The source clock of the clock subordinate office is either the Digital Clock Supply (DCS) or the Digital Interface Clock (DIU 0 - DIU 3). When clock source failure has occurred, the PLO automatically chooses another clock source in the following order:

1 DCS

2 DIU 0

3 DIU 1

4 DIU 2

5 DIU 3

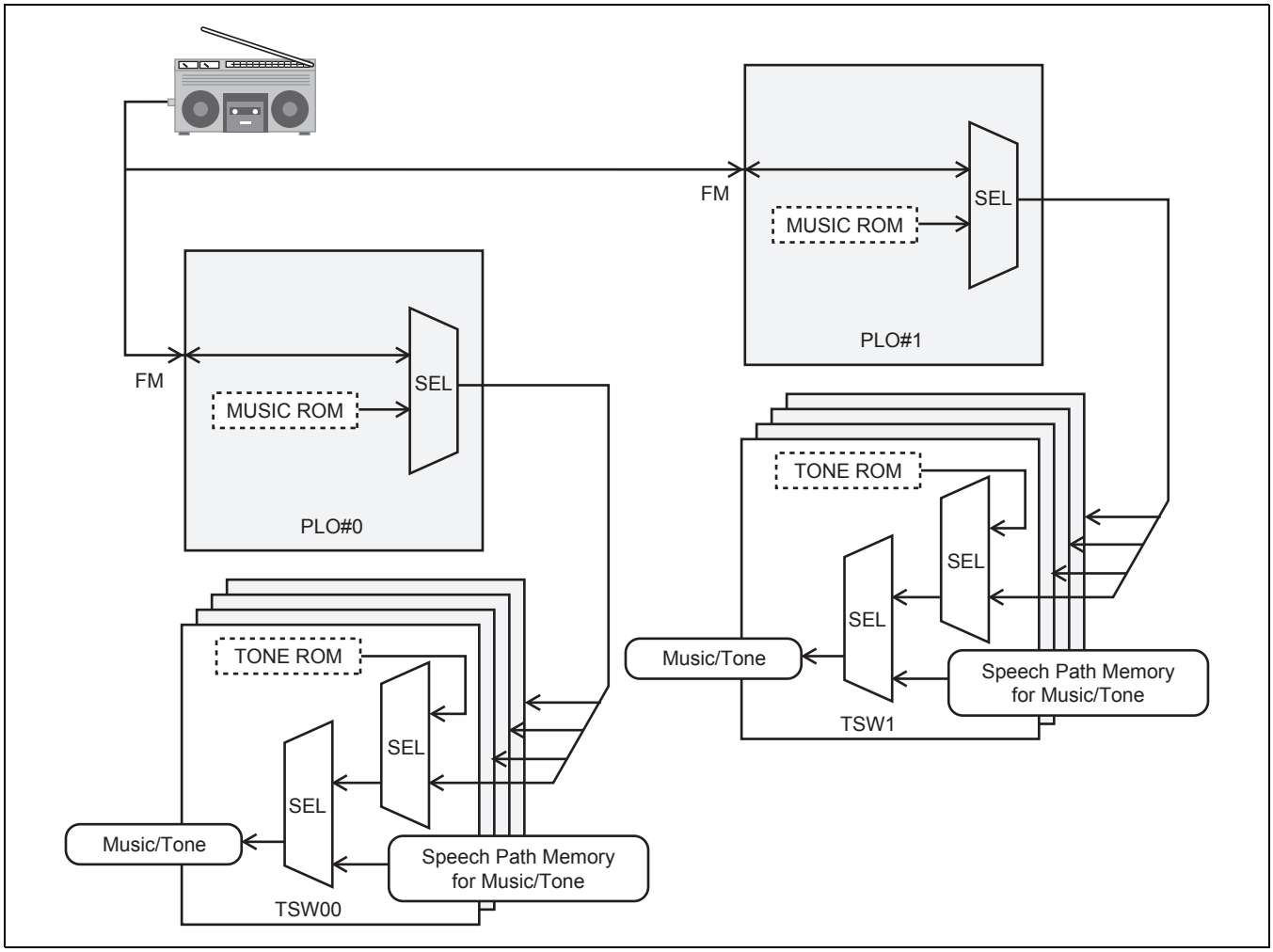
6 PLO changeover or the PLO internal oscillator drifting

The PLO can transmit Clock (CLK) signals and the Frame Head (FH) signals as follows:

- 32.768 MHz CLK
- 8 kHz FH
- 5 milliseconds × “n” FH

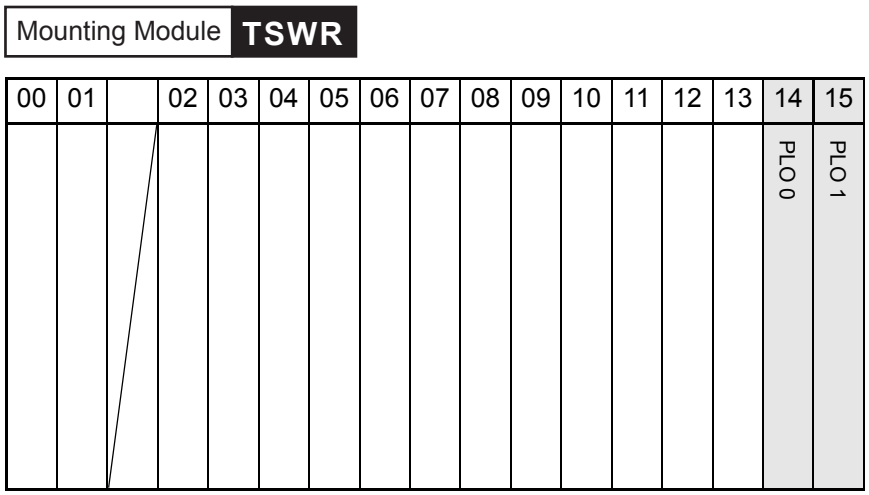
The MUSIC ROM located on this circuit card also contains the hold tone, and is supplied to the TSW circuit card. When an external Music-on-Hold is applied to the 4-MG system, this circuit card provides the interface for the external hold tone source.

Music Source



2. Mounting Location/Condition

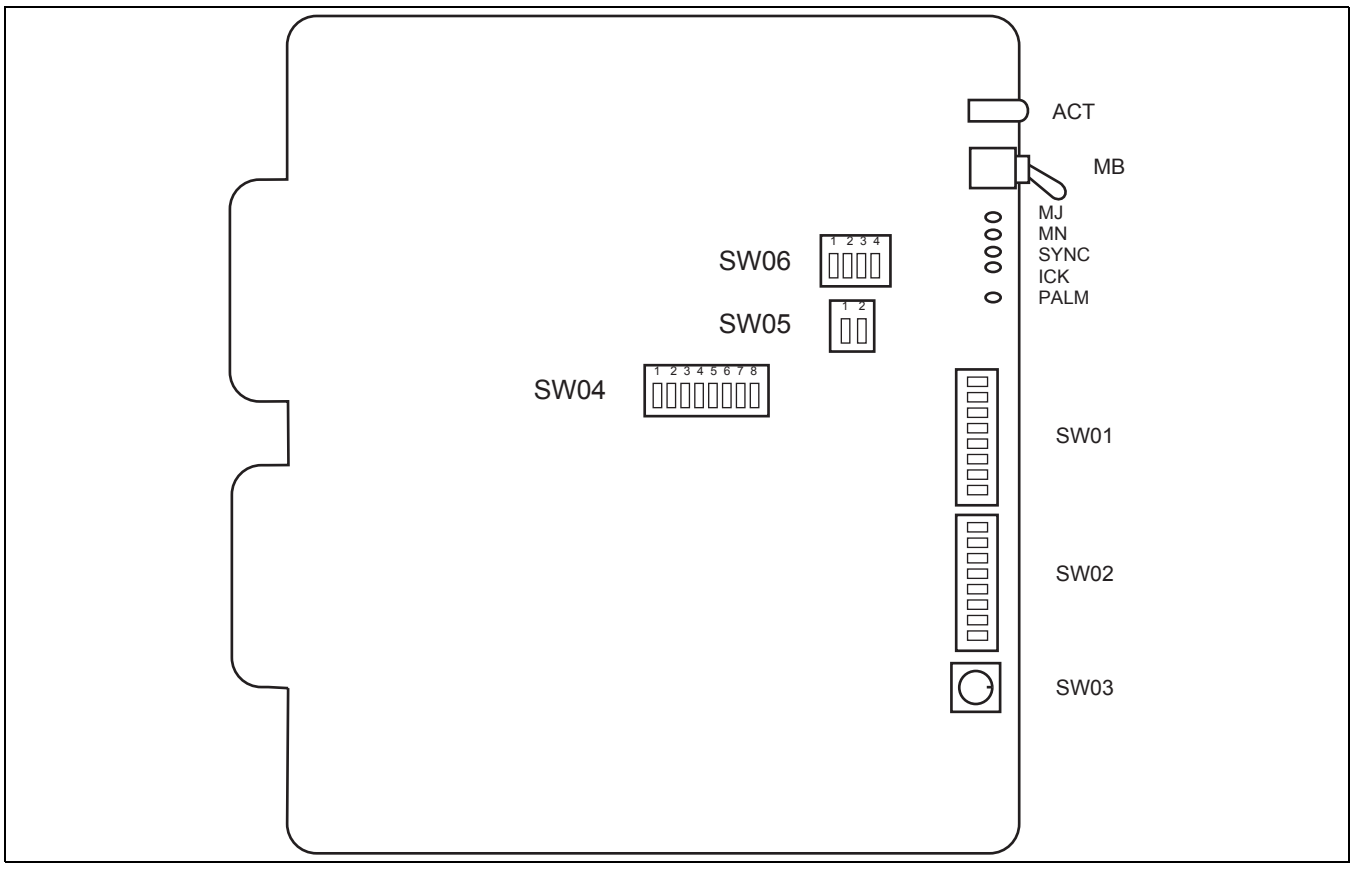
This circuit card is mounted in the TSWR of the slot shown below.



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors is shown below.

Face Layout of PH-CK17 (PLO)



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
ACT	Green	Remains lit while this circuit card is in active state.
	Off	Remains off while this circuit card is in standby state.
MJ	Red	Lights when the following MJ fault has occurred: • All of the clock supply routes have failed when the system operates as the clock subordinate office. • 32.768 MHz output clock failure. • 8 kHz output FH failure. • 5 milliseconds × "n" output FH failure. • Input Frame Pulse (FP) failure (FP is supplied by the SYNC card). • Internal OSC (±0.3 ppm deviation) has failed when the system operates as the clock source office.
MN	Red	Lights when the following MN fault has occurred: • One or more (but not all) DTI/DCS clock supply routes failed. • Drifting failure. • Internal OSC (±0.3 ppm deviation) failure.
SYNC	Green	Remains lit while the system is synchronized with the network.
	Off	Remains OFF when either of the following has occurred. • DCS clock failure when receiving the clock signals from the DCS. • DTI clock failure when receiving the clock signals from the DTI. • Drifting failure.
ICK	Green	Lights when the internal oscillator is operating normally.
PALM	Red	Remains lit when power is abnormal.

5. Switch Settings

Standard settings for switches on this circuit card are shown in the table below.

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
MB	UP		Circuit card: Make-Busy.
	DOWN	×	Circuit card: Make-Busy cancel.
SW03	1 - F	1	Fixed to 1.

SWITCH NAME	SWITCH NO.	SETTING	STAN-DARD SETTING	MEANING
SW01	1	ON		Clock subordinate office.
		OFF		Clock source office.
	2	ON		Digital Clock Supply route zero (DCS 0) is used.
		OFF		Digital Clock Supply route zero (DCS 0) is not used.
	3	ON		Digital Clock Supply route one (DCS 1) is used.
		OFF		Digital Clock Supply route one (DCS 1) is not used.
	4	ON		8 kHz of Frame Head signals are extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
		OFF		8 kHz of Frame Head signals are not extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
	5	ON		When clock source failure has occurred in all supply routes, the PLO outputs the original clock of the internal oscillator.
		OFF		When clock source failure has occurred in all supply routes, the PLO continues outputting the current phase clock.
	6	ON		This circuit card is associated with SYNC card and 5mHz Frame Pulse (FP) is supplied by the SYNC card.
		OFF		This circuit card is not associated with SYNC card.
	7	ON		A-law CODEC is used for the hold music.
		OFF		μ-law CODEC is used for the hold music.
	8	OFF	×	Not used.

SWITCH NAME	SWITCH NO.	SETTING	STAN-DARD SETTING	MEANING
SW02	1	ON		DIU 0 is used as the DTI Clock Supply Route 0.
		OFF		DIU 0 is not used.
	2	ON		DIU 1 is used as the DTI Clock Supply Route 1.
		OFF		DIU 1 is not used.
	3	ON		DIU 2 is used as the DTI Clock Supply Route 2.
		OFF		DIU 2 is not used.
	4	ON		DIU 3 is used as the DTI Clock Supply Route 3.
		OFF		DIU 3 is not used.
	5 **Note 1**	ON	×	1.5 M clock for DIU 0
		OFF		2 M clock for DIU 0
	6 **Note 1**	ON	×	1.5 M clock for DIU 1
		OFF		2 M clock for DIU 1
	7 **Note 1**	ON	×	1.5 M clock for DIU 2
		OFF		2 M clock for DIU 2
	8 **Note 1**	ON	×	1.5 M clock for DIU 3
		OFF		2 M clock for DIU 3
SW05	1	ON		External hold tone source is used via FM lead.
		OFF	×	MUSIC ROM is used as the hold tone.
	2	OFF		Not used.
SW06	1			
	2			
	3			
	4			

SW8F-1	SW8F-2	Impedance of the External Music Source 0 (FM 0)
OFF	OFF	600 Ω
ON	OFF	8.2 Ω
OFF	ON	47K Ω

SW8F-3	SW8F-4	Impedance of the External Music Source 1 (FM 1)
OFF	OFF	600 Ω
ON	OFF	8.2 Ω
OFF	ON	47K Ω

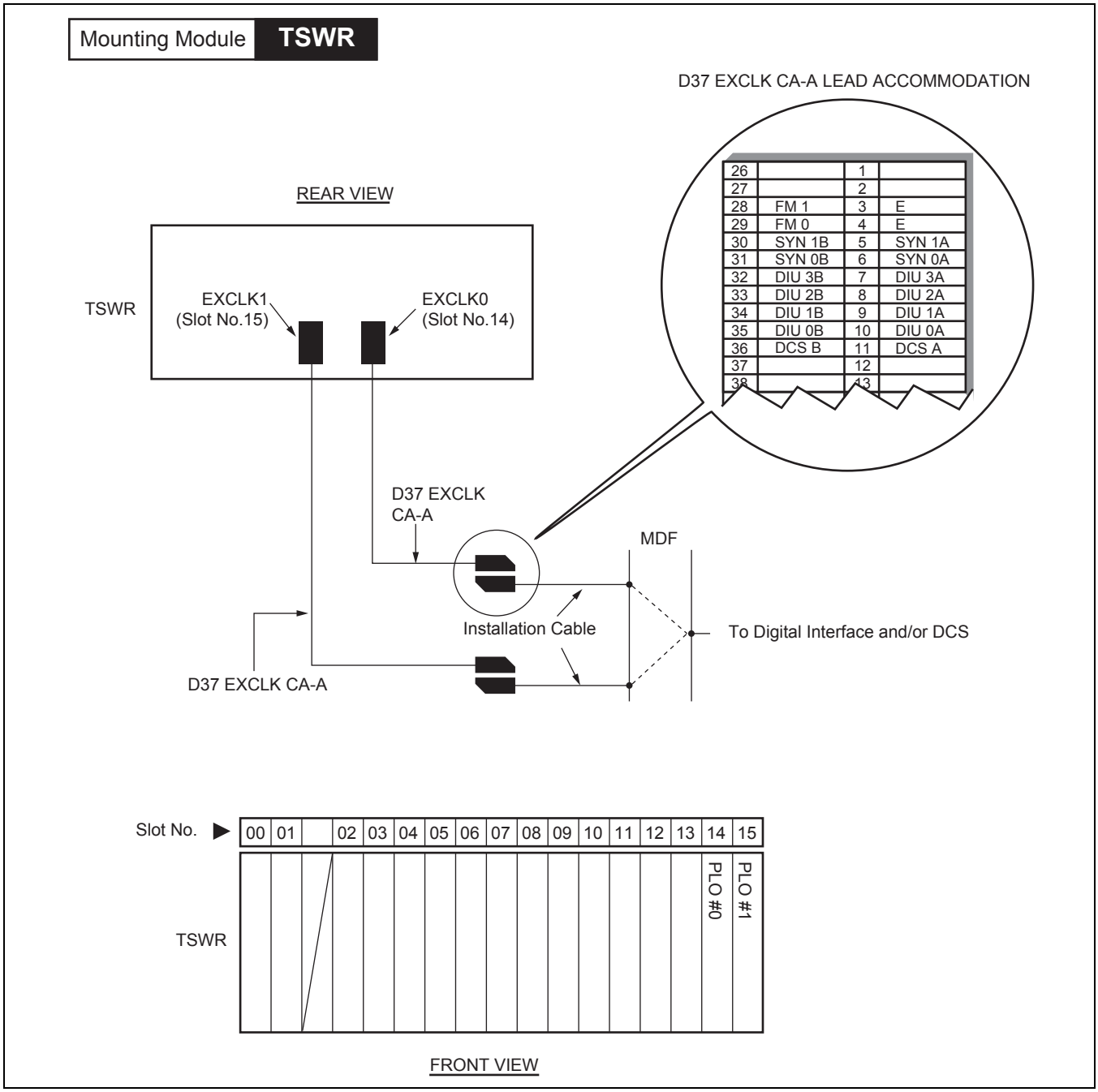
Note 1: The following shows the clock frequency of each circuit card to be supplied to PLO.
- Clock frequency of 2M: 30DTI/30CCT/BRT
- Clock frequency of 1.5M: 24DTI/24CCT/PRT

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STAN-DARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="8">SW04</td><td rowspan="3">1
2
3</td><td colspan="3"><table>
<tr><th>SW04-1</th><th>SW04-2</th><th>SW04-3</th><th>MUSIC</th></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>For Elise</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>Maiden’s prayer</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>Chime</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>Buzzer</td></tr>
</table></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
<tr><td>5
6
7</td><td colspan="3">MUSIC (CH1) selection. The music varies depending on the melody IC located on this circuit card.</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
</table>

6. External Interface

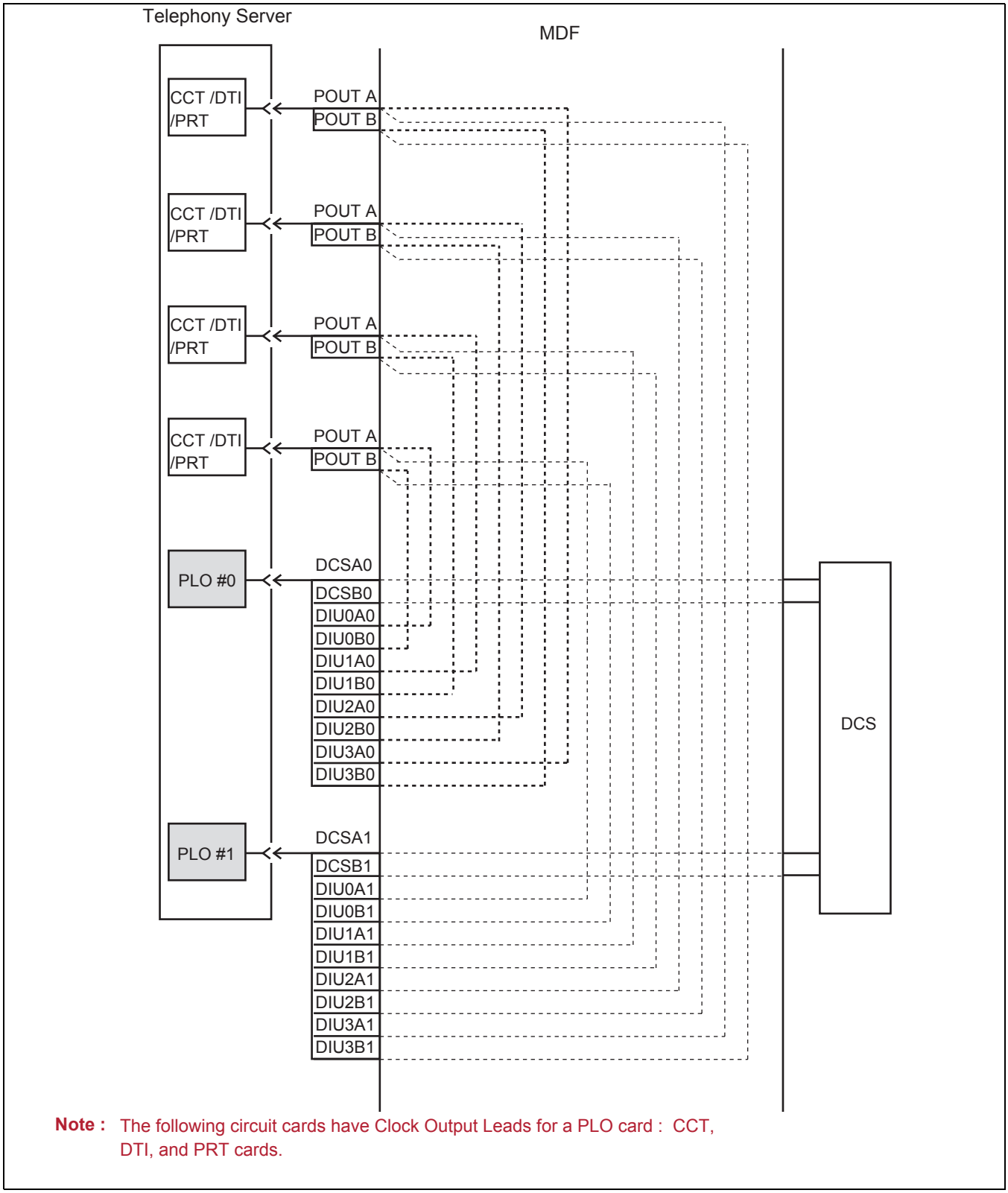
When this circuit card is located in the TSWR, connect D37 EXCLK CA-A to the EXCLK 0/EXCLK 1 connectors on the backplane of the TSWR.

LT Connector Lead Location of PLO (TSWR)



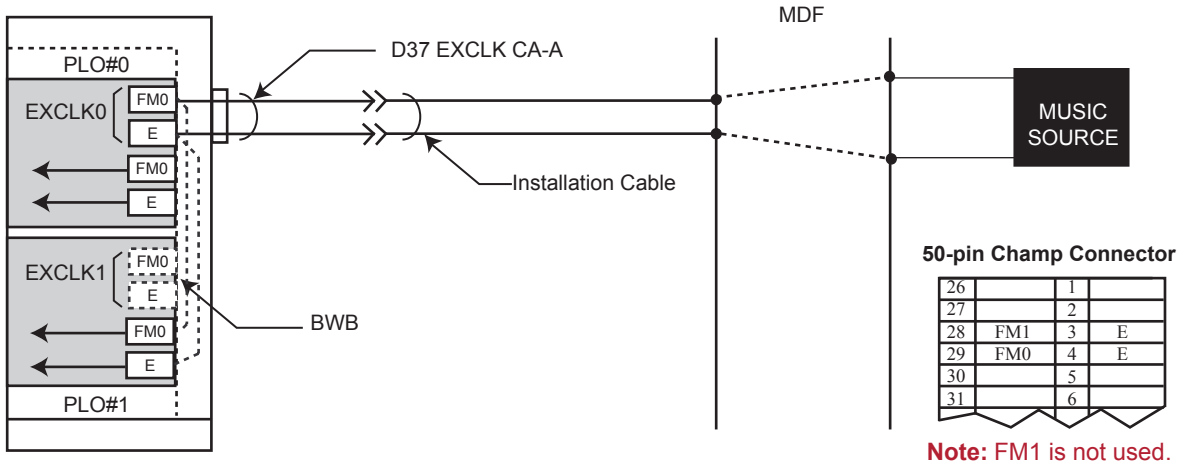
26		1	
27		2	
28	FM 1	3	E
29	FM 0	4	E
30	SYN 1B	5	SYN 1A
31	SYN 0B	6	SYN 0A
32	DIU 3B	7	DIU 3A
33	DIU 2B	8	DIU 2A
34	DIU 1B	9	DIU 1A
35	DIU 0B	10	DIU 0A
36	DCS B	11	DCS A
37		12	
38		13	

Connecting Route Diagram



Note : The following circuit cards have Clock Output Leads for a PLO card : CCT, DTI, and PRT cards.

Connection of External Music-On-Hold for MMG System



Note: FM1 is not used.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB	ON	
SW01	1 2 3 4 5 6 7 8 ON	
SW02	1 2 3 4 5 6 7 8 ON	
SW03		
SW05	1 2 ON	
SW06	1 2 3 4 ON	
SW04	1 2 3 4 5 6 7 8 ON	

PH-CK17-A
Phase Lock Oscillator

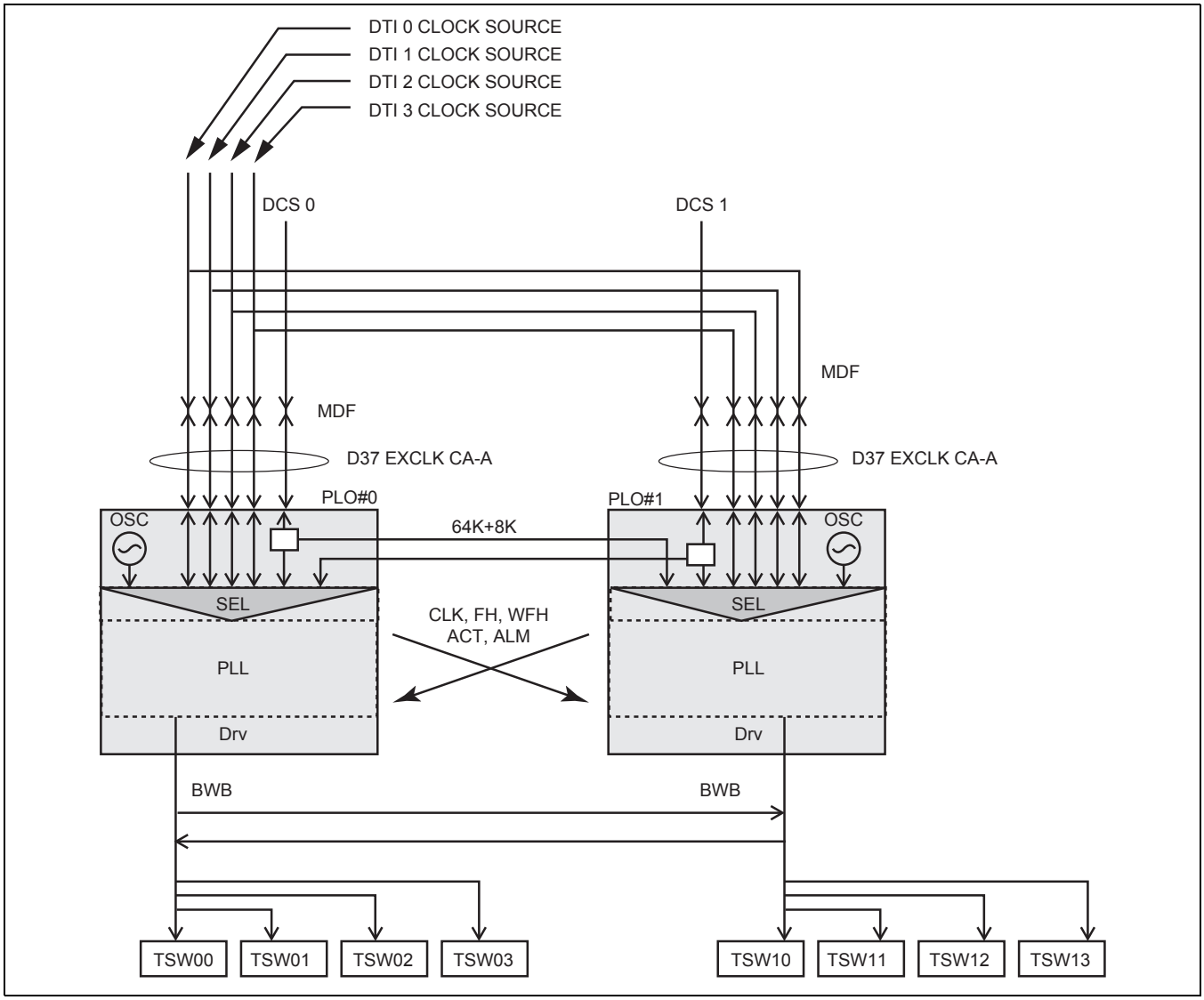
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	-

1. General Function

This circuit card, used with a digital interface circuit card, sets up network synchronization. Since this circuit card provides a high-precision base clock oscillator, the system containing this circuit card can be a clock source office of the digital network. As shown in the figure below, the PLO can be redundant regardless of the system switching network selection.

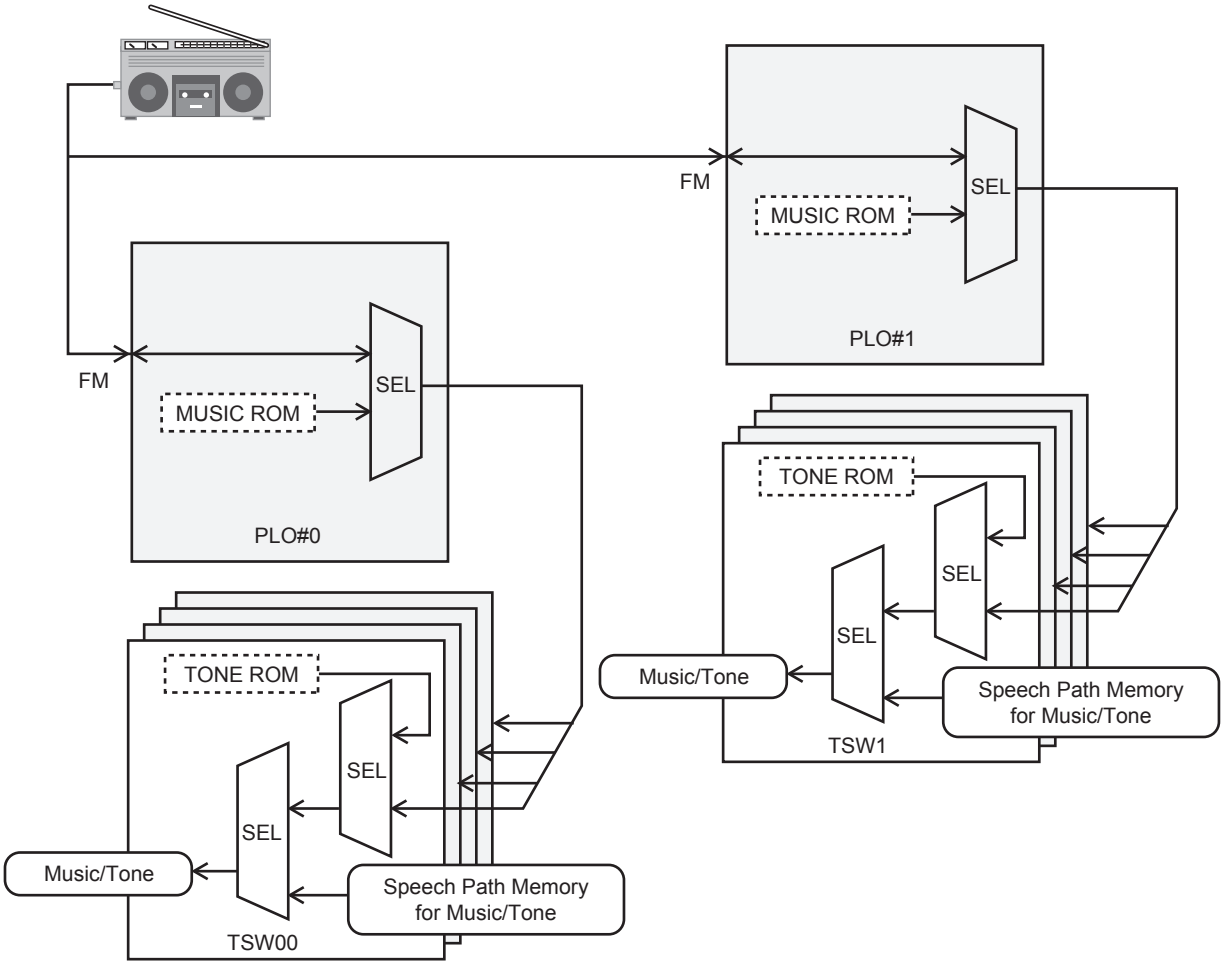
Note: Using different PLO cards at PLO#0 and PLO#1 is not allowed.

Location of PH-CK17-A Card in MMG System



The MUSIC ROM located on this circuit card also contains the hold tone, and is supplied to the TSW circuit card. When an external Music-on-Hold is applied to the MMG system, this circuit card provides the interface for the external hold tone source.

Music Source



2. Mounting Location/Condition

This circuit card can be mounted in the shaded slots shown below.

- For MMG System

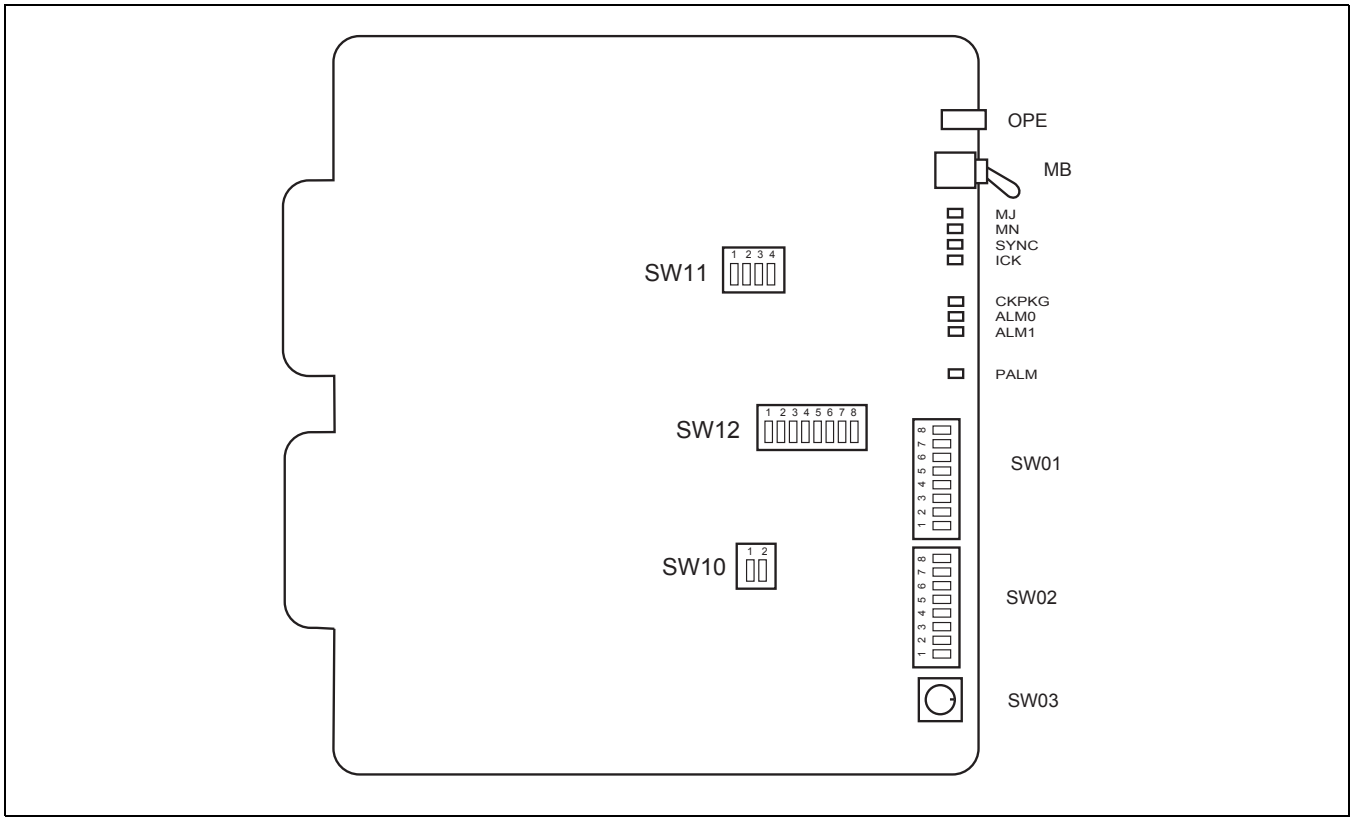
Mounting Module	TSWR

00	01		02	03	04	05	06	07	08	09	10	11	12	13	14	15
															PLO 0	PLO 1

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors are shown below.

Face Layout of PH-CK17-A (PLO)



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is in active state.
MJ	Red	Lights when the following MJ fault has occurred: • All of the clock supply routes have failed when the system operates as the • clock subordinate office • 32.768 MHz output clock failure (including CLK card) • 8 kHz output clock failure (including CLK card) • Input Frame Pulse (FP) failure (FP is supplied by the SYNC card) • Internal OSC (±5 ppm deviation) has failed when the system operates as the clock • source office
MN	Red	Lights when the following MN fault has occurred: • One or more (but not all) DTI/DCS clock supply routes failed • Drifting failure • Internal OSC (±5 ppm deviation) failure
SYNC	Green	Remains lit while the system is synchronized with the network.
ICK	Green	Lights when the internal oscillator is operating normally.
CKPKG **Note 1**	Green	Lights when the CLK card in TSWM 1 is in normal operation.
ALM0 **Note 1**	Red	Lights when clock failure has occurred in the CLK card.
ALM1 **Note 1**	Red	Lights when FH failure has occurred in the CLK card.
PALM	Red	Remains lit when the On-Board Power Supply is abnormal.

Note 1: This lamp is not used.

5. Switch Settings

Standard settings for switches on this circuit card are shown in the table below.

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
MB	UP		Circuit card: Make-Busy.
	DOWN	×	Circuit card: Make-Busy cancel.
SW03	1 - F	1	Fixed to 1.

SWITCH NAME	SWITCH NO.	SETTING	STAN-DARD SETTING	MEANING
SW01 Note 1	1	ON	×	Not used.
		OFF		Clock source office.
	2	ON		Digital Clock Supply route zero (DCS 0) is used.
		OFF		Digital Clock Supply route zero (DCS 0) is not used.
	3	ON		Digital Clock Supply route one (DCS 1) is used.
		OFF		Digital Clock Supply route one (DCS 1) is not used.
	4	ON		8 kHz of Frame Head signals are extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
		OFF	×	Not used.
	5	ON		When clock source failure has occurred in all supply routes, the PLO outputs the original clock of the internal oscillator.
		OFF	×	Not used.
	6	ON		This circuit card is associated with SYNC card and 5m Frame Pulse (FP) is supplied by the SYNC card.
		OFF	×	Not used.
	7	ON		A-law CODEC is used for the hold music.
		OFF		μ-law CODEC is used for the hold music.
	8	OFF	×	Not used.

Note 1: When this card is used in the MMG system, specify the clock source (DCS or DTI) according to the clock network configuration for the office.

SWITCH NAME	SWITCH NO.	SETTING	STAN-DARD SETTING	MEANING
SW02	1	ON		DIU 0 is used as the DTI Clock Supply Route 0.
		OFF		DIU 0 is not used.
	2	ON		DIU 1 is used as the DTI Clock Supply Route 1.
		OFF		DIU 1 is not used.
	3	ON		DIU 2 is used as the DTI Clock Supply Route 2.
		OFF		DIU 2 is not used.
	4	ON		DIU 3 is used as the DTI Clock Supply Route 3.
		OFF		DIU 3 is not used.
	5 **Note 2**	ON		1.5 M clock for DIU 0
		OFF		2 M clock for DIU 0
	6 **Note 2**	ON		1.5 M clock for DIU 1
		OFF		2 M clock for DIU 1
	7 **Note 2**	ON		1.5 M clock for DIU 2
		OFF		2 M clock for DIU 2
	8 **Note 2**	ON		1.5 M clock for DIU 3
		OFF		2 M clock for DIU 3
SW10	1	ON		External hold tone source is used via FM lead.
		OFF	×	MUSIC ROM is used as the hold tone.
	2	ON		CLK card is not used.
		OFF		CLK card is used.

Note 2: The following shows the clock frequency of each circuit card to be supplied to PLO.
- Clock frequency of 2M: 30DTI/30CCT/BRT
- Clock frequency of 1.5M: 24DTI/24CCT/PRT

6. External Interface

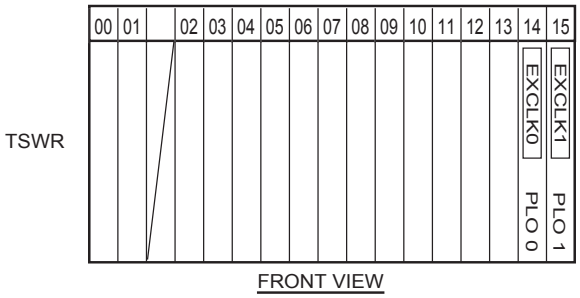
<table>
<tr><th>SWITCH NAME</th><th>SWITCH NO.</th><th>SETTING</th><th>STAN-DARD SETTING</th><th>MEANING</th></tr>
<tr><td rowspan="4">SW11</td><td>1</td><td colspan="3" rowspan="2">
<table>
<tr><th>SW11-1</th><th>SW11-2</th><th>Impedance of the External Music Source 0 (FM 0)</th></tr>
<tr><td>OFF</td><td>OFF</td><td>600 Ω</td></tr>
<tr><td>ON</td><td>OFF</td><td>8.2 Ω</td></tr>
<tr><td>OFF</td><td>ON</td><td>47K Ω</td></tr>
</table>
</td></tr>
<tr><td>2</td></tr>
<tr><td>3</td><td colspan="3" rowspan="2">
<table>
<tr><th>SW11-3</th><th>SW11-4</th><th>Impedance of the External Music Source 1 (FM 1)</th></tr>
<tr><td>OFF</td><td>OFF</td><td>600 Ω</td></tr>
<tr><td>ON</td><td>OFF</td><td>8.2 Ω</td></tr>
<tr><td>OFF</td><td>ON</td><td>47K Ω</td></tr>
</table>
</td></tr>
<tr><td>4</td></tr>
<tr><td rowspan="8">SW12</td><td>1</td><td colspan="3" rowspan="3">
<table>
<tr><th>SW12-1</th><th>SW12-2</th><th>SW12-3</th><th>MUSIC</th></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>For Elise</td></tr>
<tr><td>ON</td><td>OFF</td><td>OFF</td><td>Maiden’s prayer</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>Chime</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>Buzzer</td></tr>
</table>
</td></tr>
<tr><td>2</td></tr>
<tr><td>3</td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
<tr><td>5</td><td colspan="3" rowspan="3">MUSIC (CH1) selection. The music varies depending on the melody IC located on this circuit card.</td></tr>
<tr><td>6</td></tr>
<tr><td>7</td></tr>
<tr><td rowspan="2">8</td><td>ON</td><td></td><td>Not used.</td></tr>
<tr><td>OFF</td><td>×</td><td>Not used.</td></tr>
</table>

PLO Pin Assignment for Receiving Clock for MMG System

PLO input leads appear on the LT connectors labeled EXCLK0 and EXCLK1.

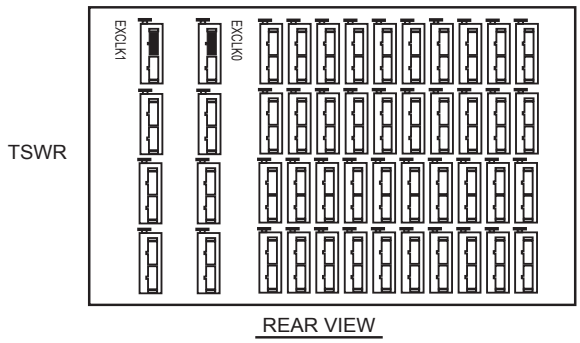
• PLO Mounting Slots

PLO card is mounted in slots 14 and 15 of TSWR.



• LT Cable Connectors

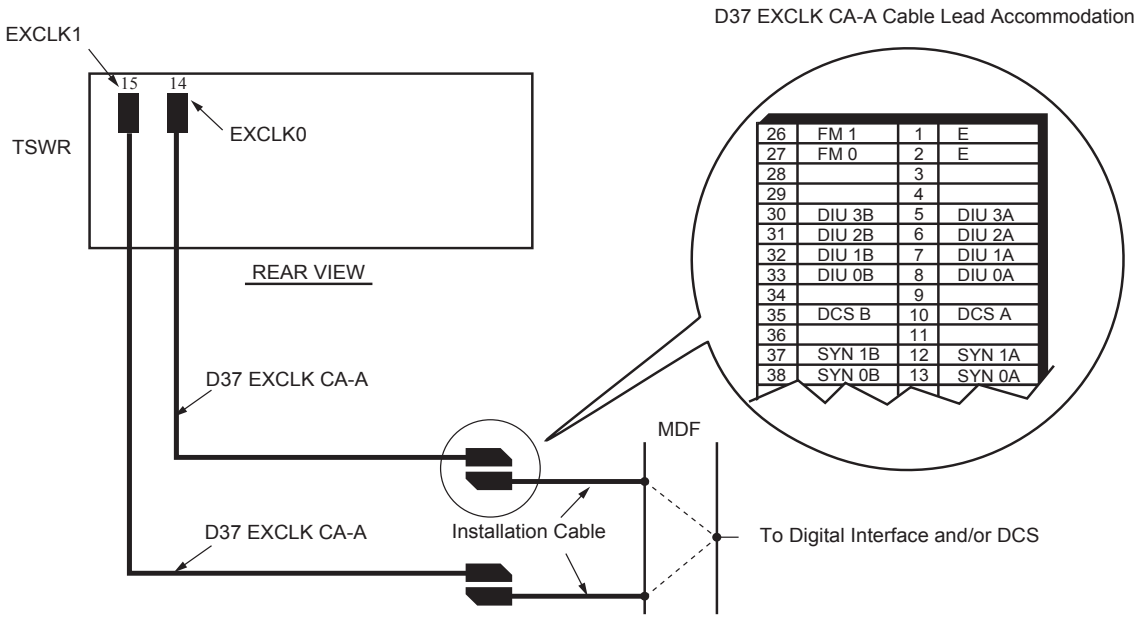
Connect LT cables to the connectors labeled "EXCLK0" and "EXCLK1" on the TSWR backplane.



• EXCLK0/EXCLK1 Connector Pin Assignment

Pins are assigned as follows on EXCLK0/EXCLK1 connectors. When the clock is distributed from a digital interface, use one pair of DIUxxx in one of the four inputs (There are a maximum of four inputs.) DIU leads have the following precedence: DIU0xx (high) > DIU3xx (low).

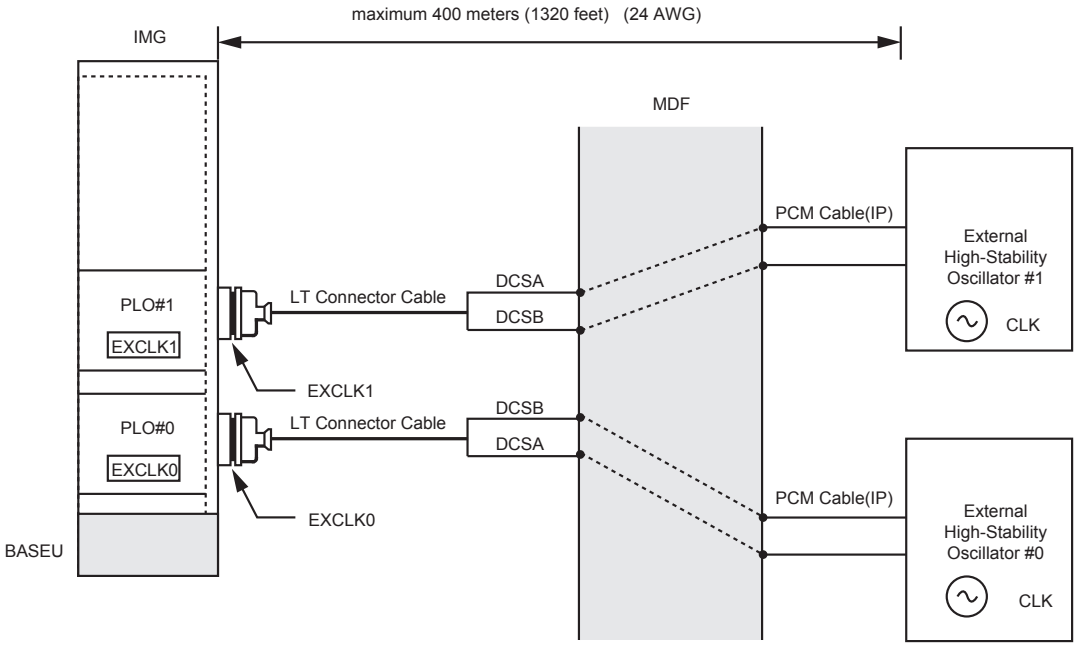
On the contrary, to receive clock from an external high-stability oscillator, use "DCSx" leads.



Cable Connection Diagram for Accepting Synchronization Clocks from an External High-Stability Oscillator

- Cable Connection Diagram

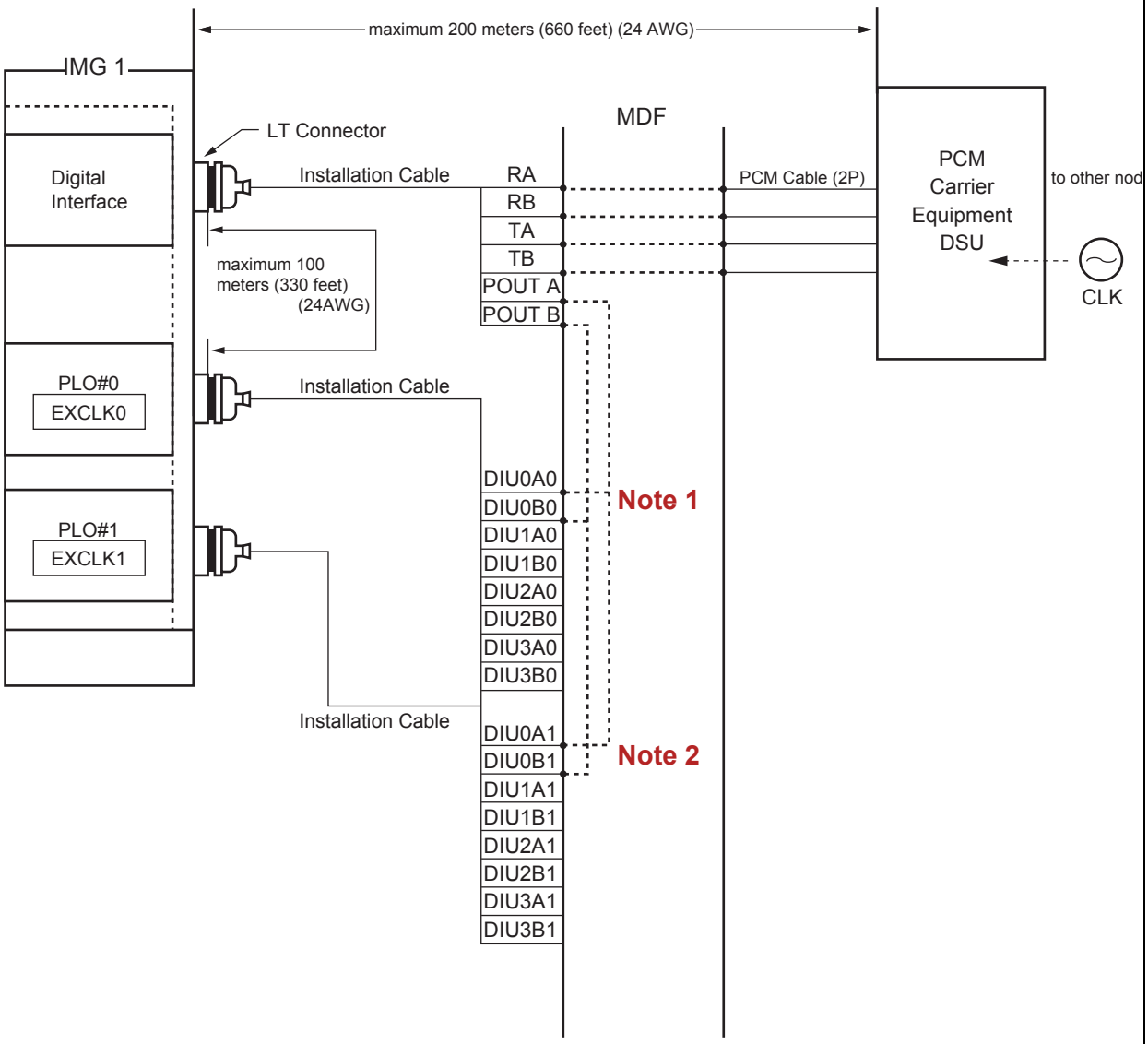
Provide the following wirings at the MDF. The following connection diagram shows an example where the system has the PLO cards in a dual configuration.



Note: This diagram shows connections for a system having dual PLOs.

Cable Connection Diagram for Receiving Clock from Digital Interface (MMG system)

This figure shows an example of distributing clock from a digital interface. This example assumes that the Digital Trunk POUT leads are used as the first clock distribution route.

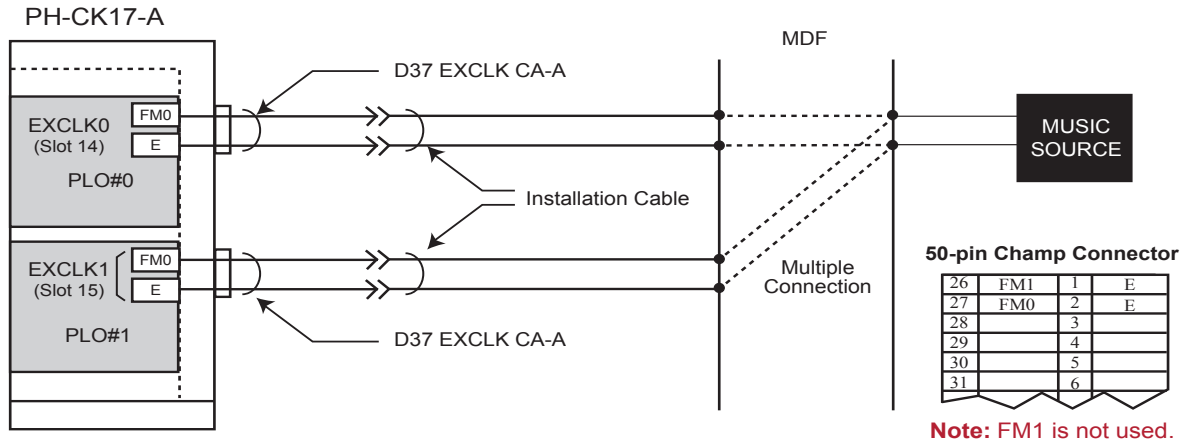


Note 1: PLO has a maximum of four inputs. DIU0xx leads are used for the first clock distribution routes.
DIU3xx leads are used for the fourth. The first input has the highest priority.

Note 2: The connection is required for a dual PLO system.

Connection of External Music-On-Hold (MMG system)

For more details, refer to Peripheral Equipment Description Volume 3 Chapter 2 "4. Alarm Indicating Panel and External Music-On-Hold."



7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB	ON	
SW01	1 2 3 4 5 6 7 8 ON	
SW02	1 2 3 4 5 6 7 8 ON	
SW03		
SW10	1 2 ON	
SW11	1 2 3 4 ON	
SW12	1 2 3 4 5 6 7 8 ON	

PH-CK20
Phase Lock Oscillator

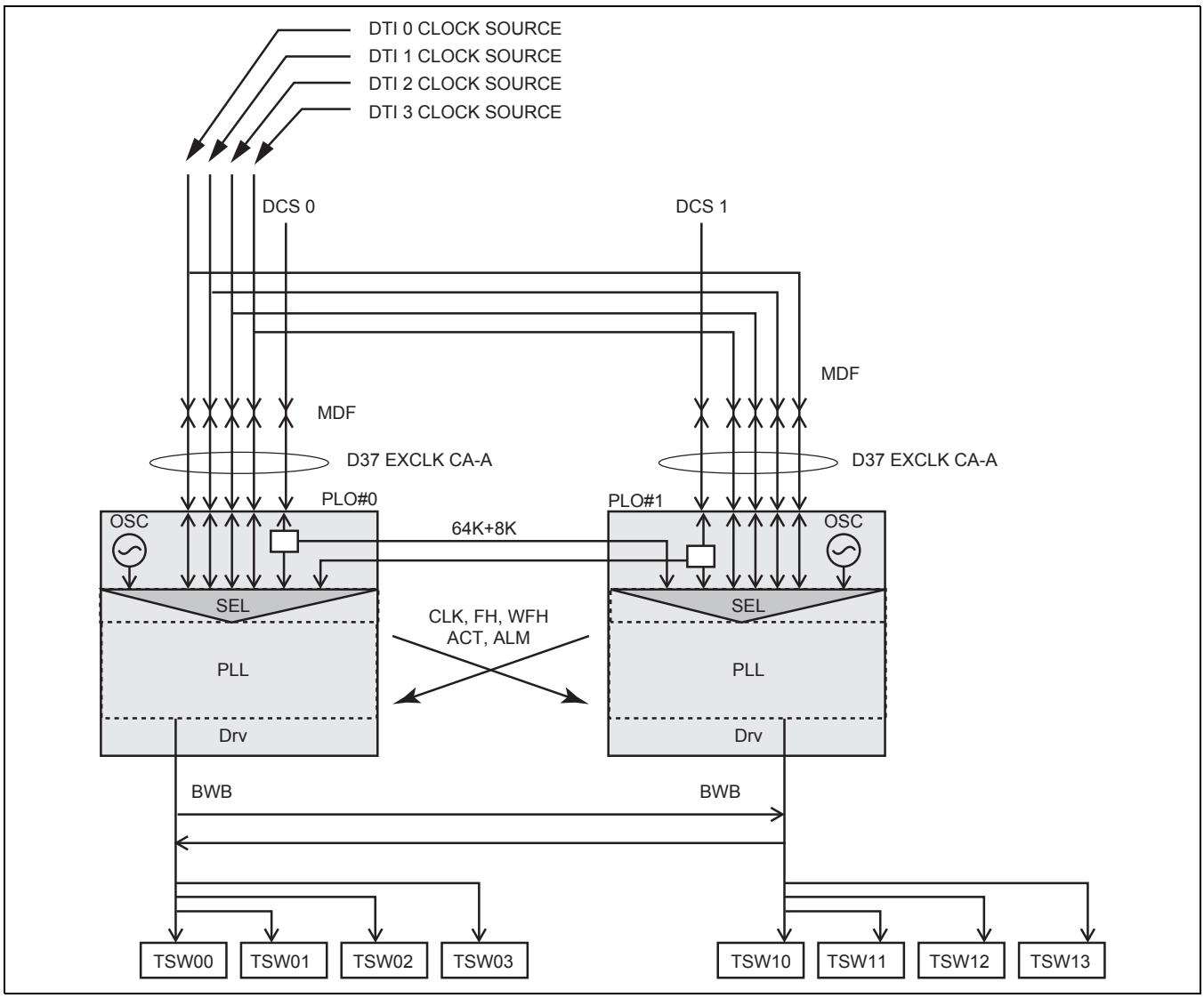
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

This circuit card, used with a digital interface circuit card, sets up network synchronization. With this circuit card, the system can be a clock subordinate office of the digital network. As shown in the figure below, the PLO can be redundant regardless of the system switching network selection.

Note: This circuit card can be used with PH-CK16-A/PH-CK16-D only. Other PLO cards cannot be used with this circuit card regardless of whether PLO#0 or PLO#1.

Location of PH-CK20 (PLO) Card in MMG System



The source clock of the clock subordinate office is either the Digital Clock Supply (DCS) or the digital interface clock (DIU 0 - DIU 3). When clock source failure has occurred, the PLO automatically chooses another clock source in the following order:

1 DCS

2 DIU 0

3 DIU 1

4 DIU 2

5 DIU 3

6 PLO changeover or the PLO internal oscillator drifting

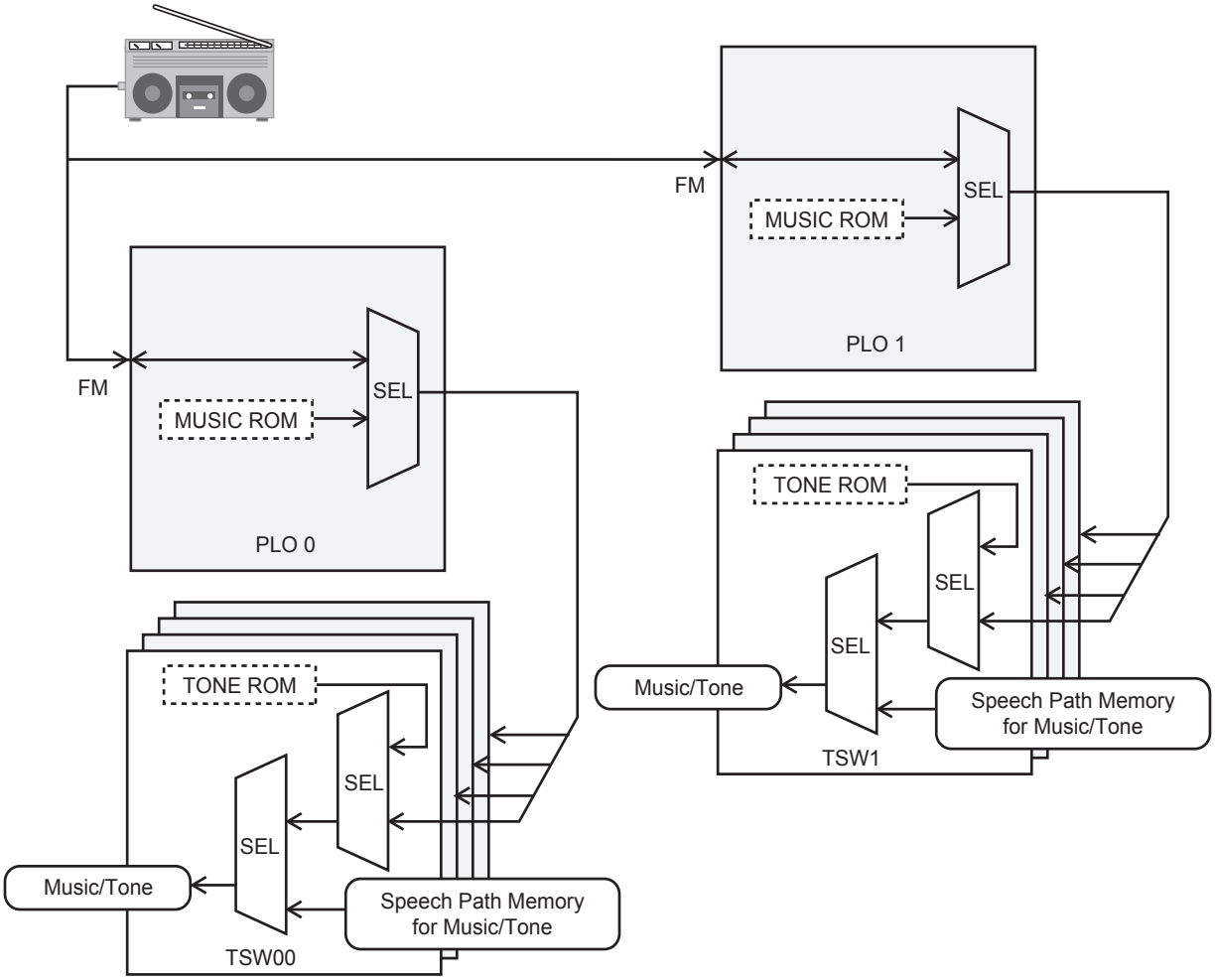
The PLO can transmit the Clock (CLK) signals and the Frame Head (FH) Signals as follows:

- 32.768 MHz CLK
- 8 kHz FH
- 5 milliseconds FH

Note: The precision of the base clock oscillator which is mounted in this circuit card is32.768MHz ± 5ppm. The reliability of the digital network can be improved by using the PLO (PH-CK17-D) which is mounted with high-precision base clock oscillator (32.768MHz ± o.3ppm) instead of this circuit card when the system is operating as the clock source office or the system has the potential to become the clock source office.

The MUSIC ROM located on this circuit card also contains the hold tone, and is supplied to the TSW circuit card. When an external Music-on-Hold is applied to the MMG system, this circuit card provides the interface for the external hold tone source.

Music Source



2. Mounting Location/Condition

This circuit card can be mounted in the shaded slots shown below.

- For MMG System

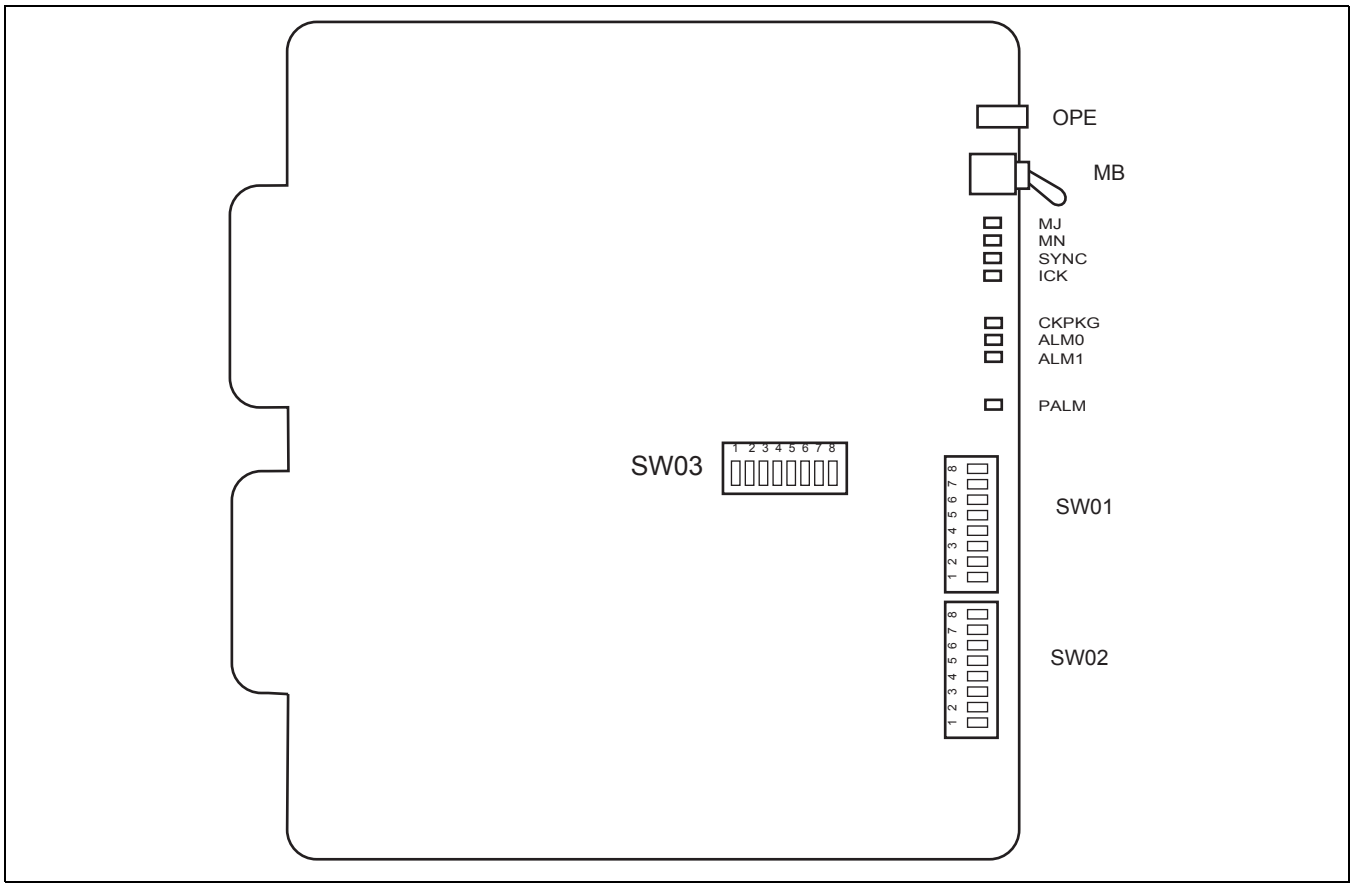
Mounting Module	TSWR

00	01		02	03	04	05	06	07	08	09	10	11	12	13	14	15
															PLO 0	PLO 1

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors are shown below.

Face Layout of PH-CK20 (PLO)



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
OPE	Green	Remains lit while this circuit card is in active state.
MJ	Red	Lights when the following MJ fault has occurred: • All of the clock supply routes have failed when the system operates as the • clock subordinate office • 32.768 MHz output clock failure (including CLK card) • 8 kHz output clock failure (including CLK card) • 5 milliseconds output FH failure. • Input Frame Pulse (FP) failure (FP is supplied by the SYNC card). • Internal OSC (±5 ppm deviation) has failed when the system operates as the clock • source office
MN	Red	Lights when the following MN fault has occurred: • One or more (but not all) DTI/DCS clock supply routes failed • Drifting failure • Internal OSC (±5 ppm deviation) failure
SYNC	Green	Remains lit while the system is synchronized with the network.
ICK	Green	Lights when the internal oscillator is operating normally.
CKPKG	Green	Not used.
ALM0	Red	Not used.
ALM1	Red	Not used.
PALM	Red	Remains lit when the On-Board Power Supply is abnormal.

5. Switch Settings

Standard settings for switches on this circuit card are shown in the table below.

SWITCH NAME	SETTING	STANDARD SETTING	MEANING
MB	UP		Circuit card: Make-Busy
	DOWN	×	Circuit card: Make-Busy cancel

SWITCH NAME	SWITCH NO.	SETTING	STAN-DARD SETTING	MEANING
SW01 **Note 1**	1	ON	×	Clock subordinate office.
		OFF		Clock source office.
	2	ON		Digital Clock Supply route zero (DCS 0) is used.
		OFF		Digital Clock Supply route zero (DCS 0) is not used.
	3	ON		Digital Clock Supply route one (DCS 1) is used.
		OFF		Digital Clock Supply route one (DCS 1) is not used.
	4	ON		8 kHz of Frame Head signals are extracted from the DCS signals (which is composed of 64 kHz + 8 kHz).
		OFF	×	Not used.
	5	ON		When clock source failure has occurred in all supply routes, the PLO outputs the original clock of the internal oscillator.
		OFF	×	Not used.
	6	ON		5m Frame Pulse (FP) is supplied to this circuit card.
		OFF	×	Not used.
	7	OFF	×	Not used.
	8	OFF	×	Not used.

Note 1: When this card is used in the MMG system, specify the clock source (DCS or DTI) according to the clock network configuration for the office.

SWITCH NAME	SWITCH NO.	SETTING	STAN-DARD SETTING	MEANING
SW02	1	ON		DIU 0 is used as the DTI Clock Supply Route 0.
		OFF		DIU 0 is not used.
	2	ON		DIU 1 is used as the DTI Clock Supply Route 1.
		OFF		DIU 1 is not used.
	3	ON		DIU 2 is used as the DTI Clock Supply Route 2.
		OFF		DIU 2 is not used.
	4	ON		DIU 3 is used as the DTI Clock Supply Route 3.
		OFF		DIU 3 is not used.
	5 **Note 2**	ON		1.5 M clock for DIU 0
		OFF		2 M clock for DIU 0
	6 **Note 2**	ON		1.5 M clock for DIU 1
		OFF		2 M clock for DIU 1
	7 **Note 2**	ON		1.5 M clock for DIU 2
		OFF		2 M clock for DIU 2
	8 **Note 2**	ON		1.5 M clock for DIU 3
		OFF		2 M clock for DIU 3

Note 2: The following shows the clock frequency of each circuit card to be supplied to PLO.
- Clock frequency of 2M: 30DTI/30CCT/BRT
- Clock frequency of 1.5M: 24DTI/24CCT/PRT

SWITCH NAME	SWITCH NO.	SETTING	STAN-DARD SETTING	MEANING
SW03	1	ON		Used for external music-on-hold.
		OFF		Used for internal music-on-hold.
	2	ON		Music-On-Hold: Setting of A-law.
		OFF		Music-On-Hold: Setting of μ-law.
	3	OFF	×	Fixed to OFF.
	4	ON		Gain level setting for external music-on-hold. **Note 2** **Available when SW03-1 is ON.*
		OFF	×	
	5	ON		
		OFF	×	
	6	ON		Internal music-on-hold setting. **Note 3** **Available when SW03-1 is OFF.*
		OFF		
	7	ON		
		OFF		
	8	ON		
		OFF		

Note 3: To avoid over-current signal, output level of external hold tone source needs to be set from lower to higher. Adjust the sending volume level on external hold tone source equipment by monitoring the telephone terminal connected via PSTN. When the equipment has no volume control, adjust the gain level by SW03-4 and SW03-5. Input impedance from the external hold tone source needs to be within the ranges of 8Ω - 50Ω. Make sure not to exceed this range. Depending on the external tone source, when grounding cable is not connected between the Telephony Server's FG terminal and the external tone source equipment, there may be the case to hear inductive noise.

SW03-4	SW03-5	Gain Level [dB]
OFF	OFF	0 dB
ON	OFF	10 dB
OFF	ON	15 dB **Note 4**
ON	ON	20 dB

Note 4: See the table below for internal music-on-hold setting:

SW03-6	SW03-7	SW03-8	Music-On-Hold Type
ON	ON	ON	Not used.
ON	ON	OFF	When the Saint Go Marching' In

SW03-6	SW03-7	SW03-8	Music-On-Hold Type
ON	OFF	ON	Minuet
ON	OFF	OFF	Nocturne
OFF	ON	ON	Buzzer
OFF	ON	OFF	Chime
OFF	OFF	ON	Maiden's Prayer
OFF	OFF	OFF	For Elise

Note: When using this circuit card with PH-CK16-A/PH-CK16-D, the volume level on external tone source can be set equivalent to the volume level of PH-CK16-A/PH-CK16-D by setting 15dB for Gain Level.

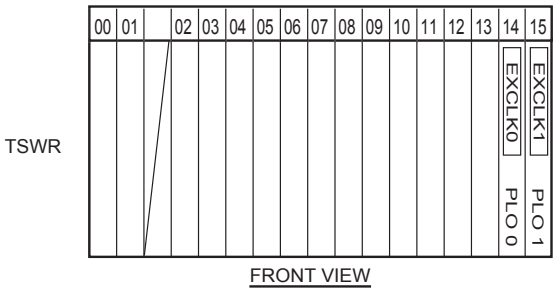
6. External Interface

PLO Pin Assignment for Receiving Clock for MMG System

PLO input leads appear on the LT connectors labeled EXCLK0 and EXCLK1.

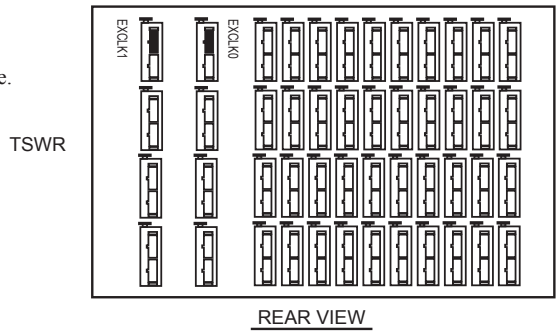
• PLO Mounting Slots

PLO card is mounted in slots 14 and 15 of TSWR.



• LT Cable Connectors

Connect LT cables to the connectors labeled "EXCLK0" and "EXCLK1" on the TSWR backplane.

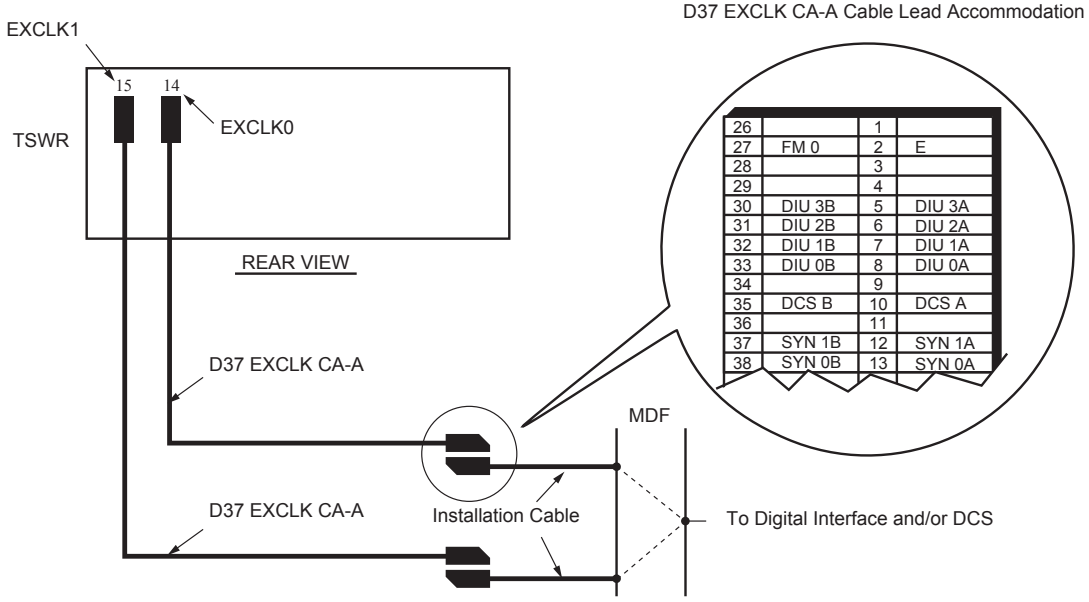


• EXCLK0/EXCLK1 Connector Pin Assignment

Pins are assigned as follows on "EXCLK0/EXCLK1" connector. When clock is distributed from a digital interface, use one pair of "DIUxx" leads among a maximum of four inputs. DIU leads have the following precedence:

DIU0x (High) –> DIU3x (Low)

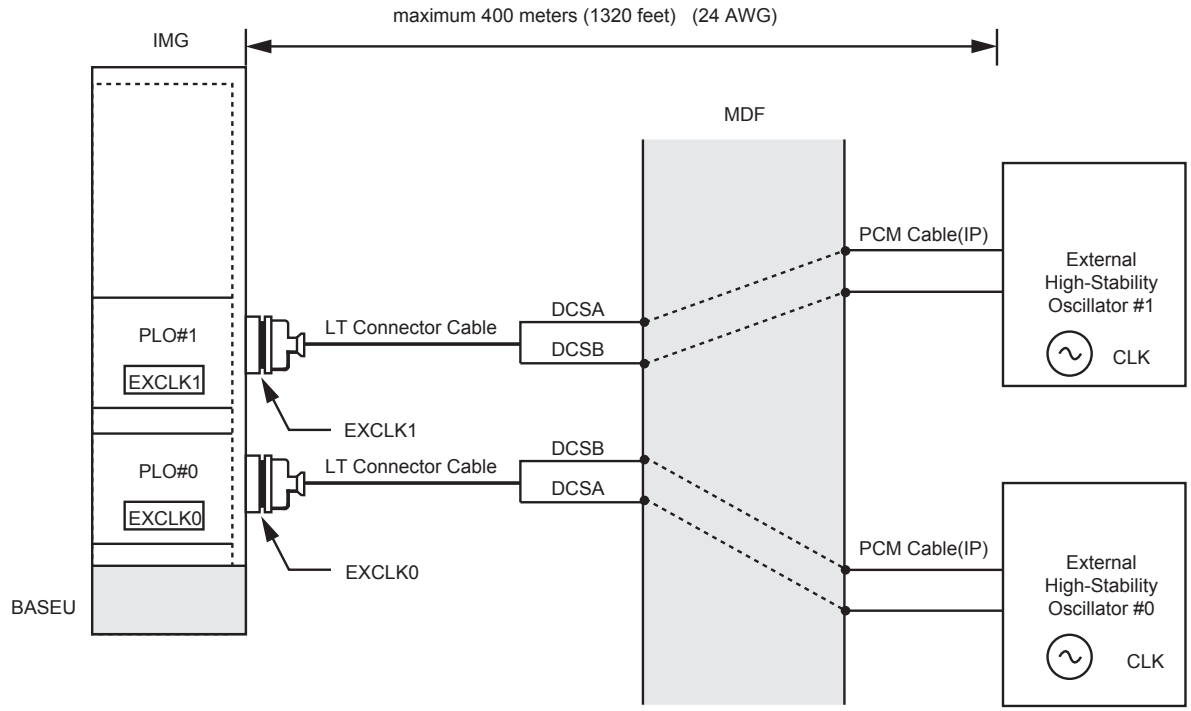
On the contrary, to receive clock from an external high-stability oscillator, use "DCSx" leads.



Cable Connection Diagram for Accepting Synchronization Clocks from an External High-Stability Oscillator

- Cable Connection Diagram

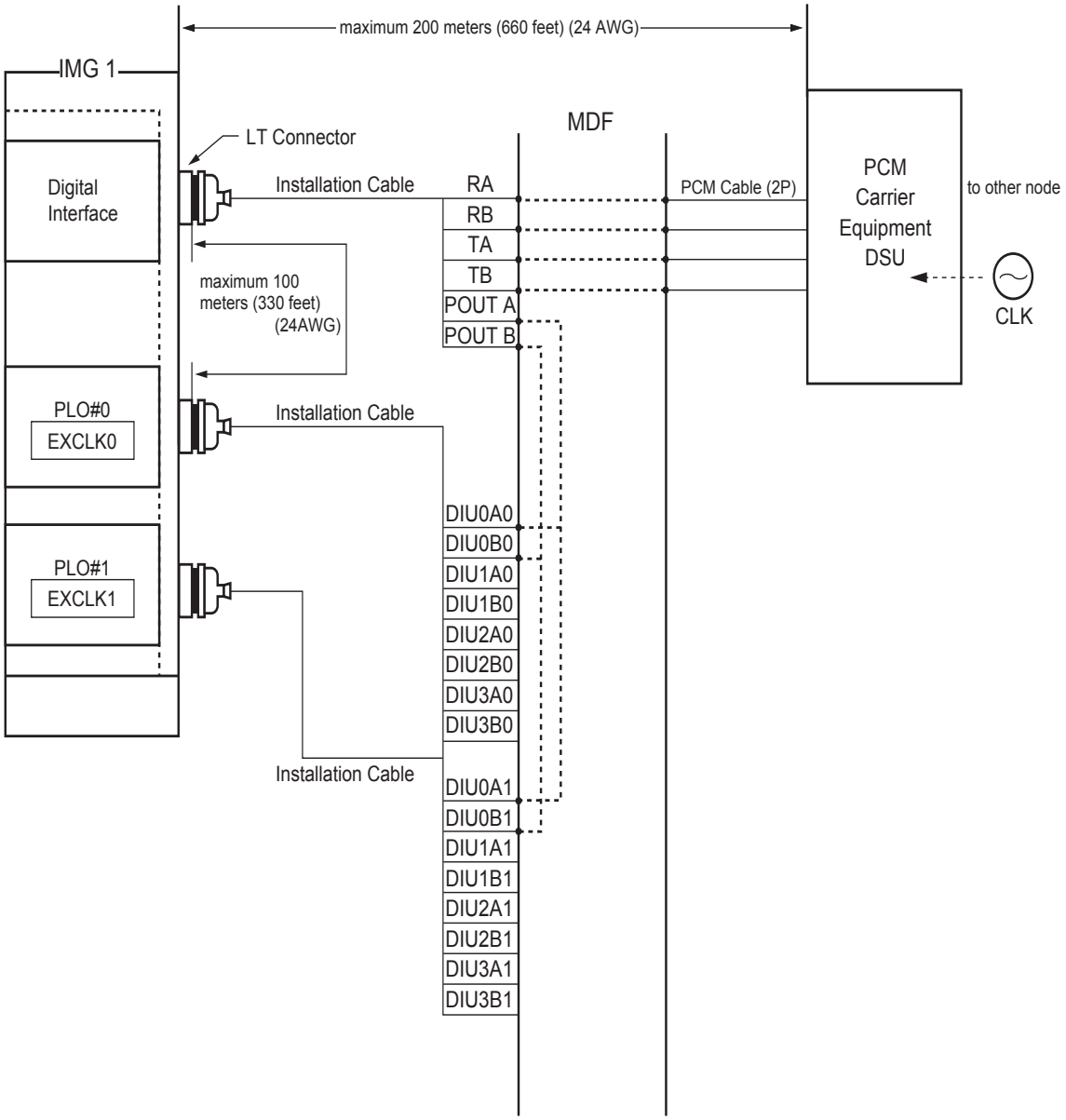
Provide the following wirings at the MDF. The following connection diagram shows an example where the system has the PLO cards in a dual configuration.



Note: This diagram shows connections for a system having dual PLOs.

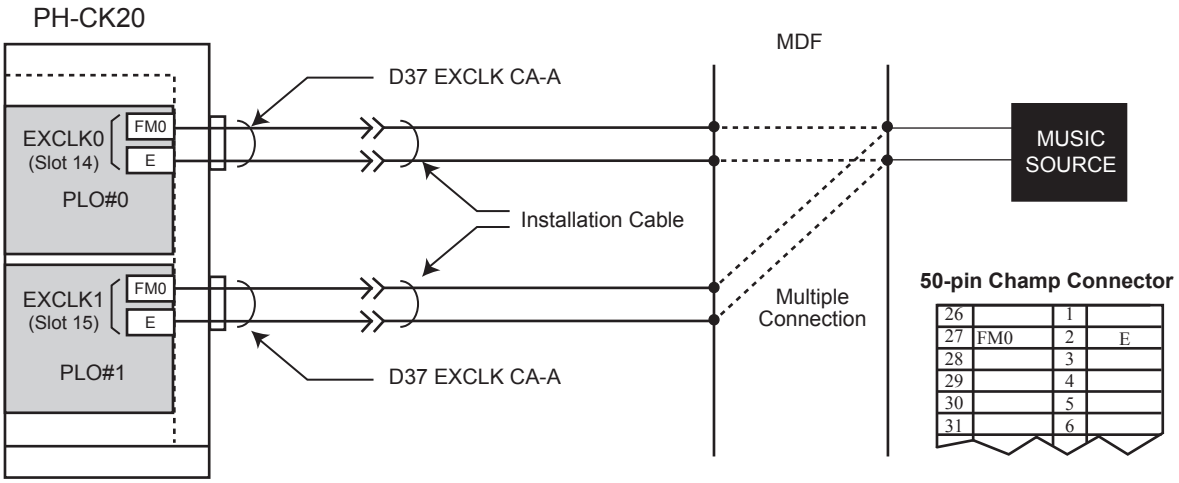
Cable Connection Diagram for Receiving Clock from Digital Interface for MMG System

This figure shows an example of distributing clock from a digital interface. This example also assumes that the Digital Trunk POUT leads are used as the first clock distribution route.



Connection of External Music-On-Hold for MMG System

For more details, refer to Peripheral Equipment Description Volume 3 Chapter 2 "4. Alarm Indicating Panel and External Music-On-Hold."



7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB	ON	
SW01	1 2 3 4 5 6 7 8 ON	
SW02	1 2 3 4 5 6 7 8 ON	
SW03	1 2 3 4 5 6 7 8 ON	

PH-PW14
Power Switch

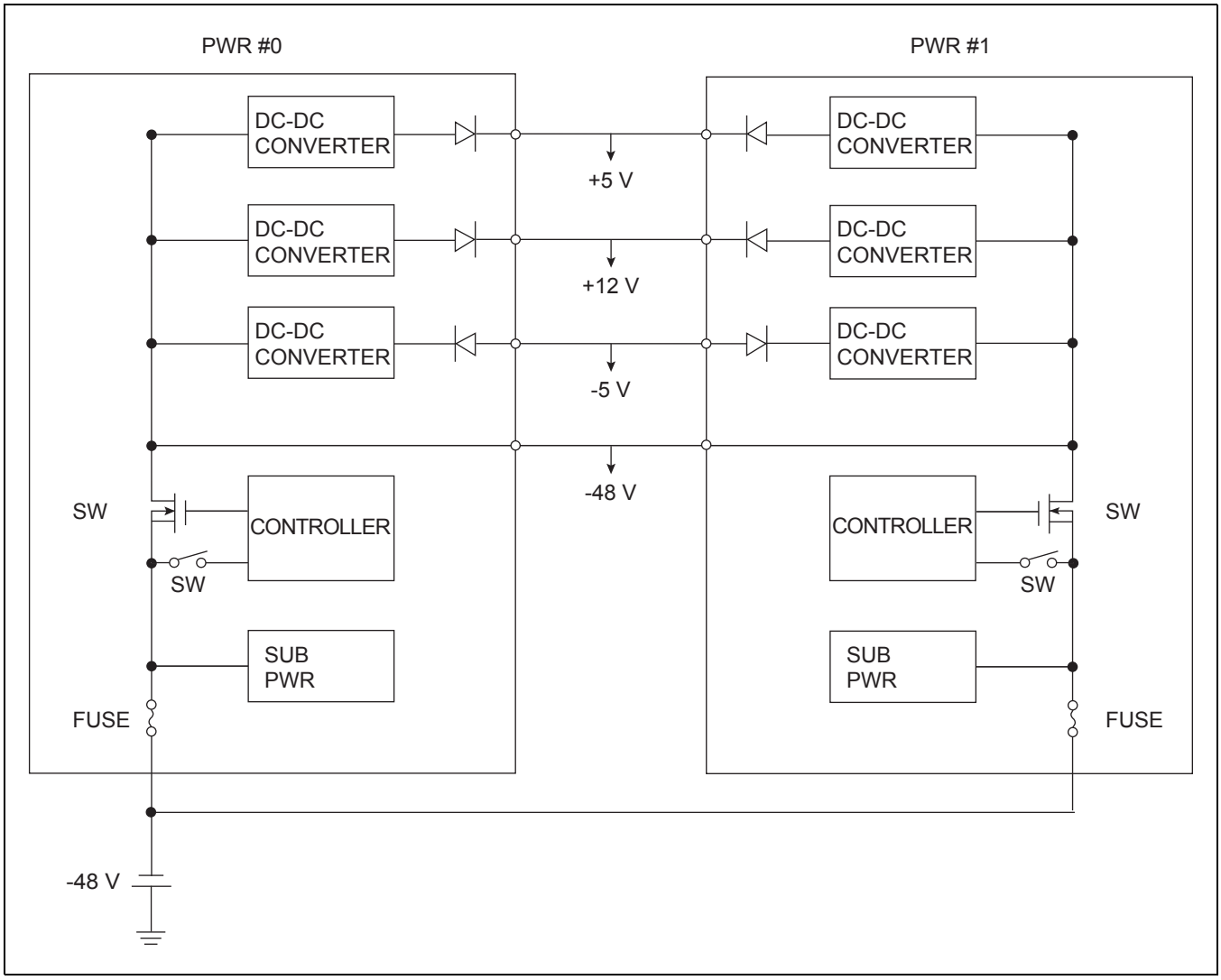
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

This circuit card is a power supply card that supplies DC -48 V operating power to the circuit cards mounted in the TSWR. It also provides the DC-DC converter function that generates output power DC +5 V, -5 V, and +12 V to MISC slots.

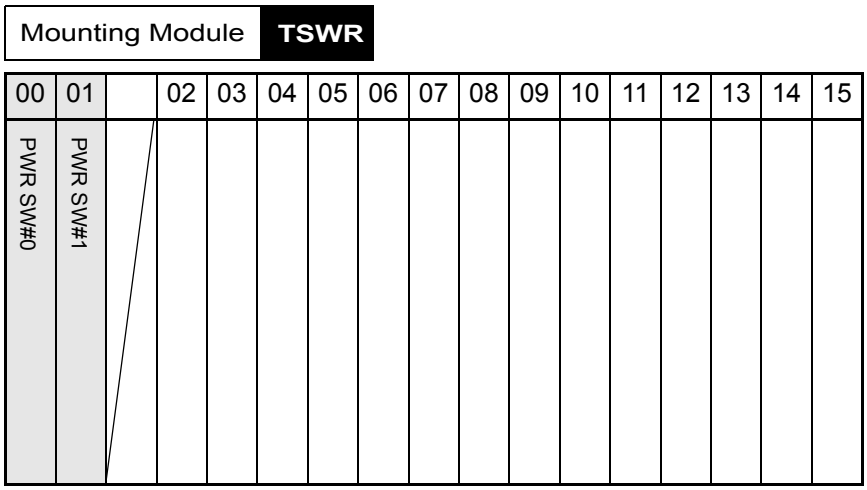
The two PWR SWs cards make the power supply redundant.

-48 V Output Circuit Diagram



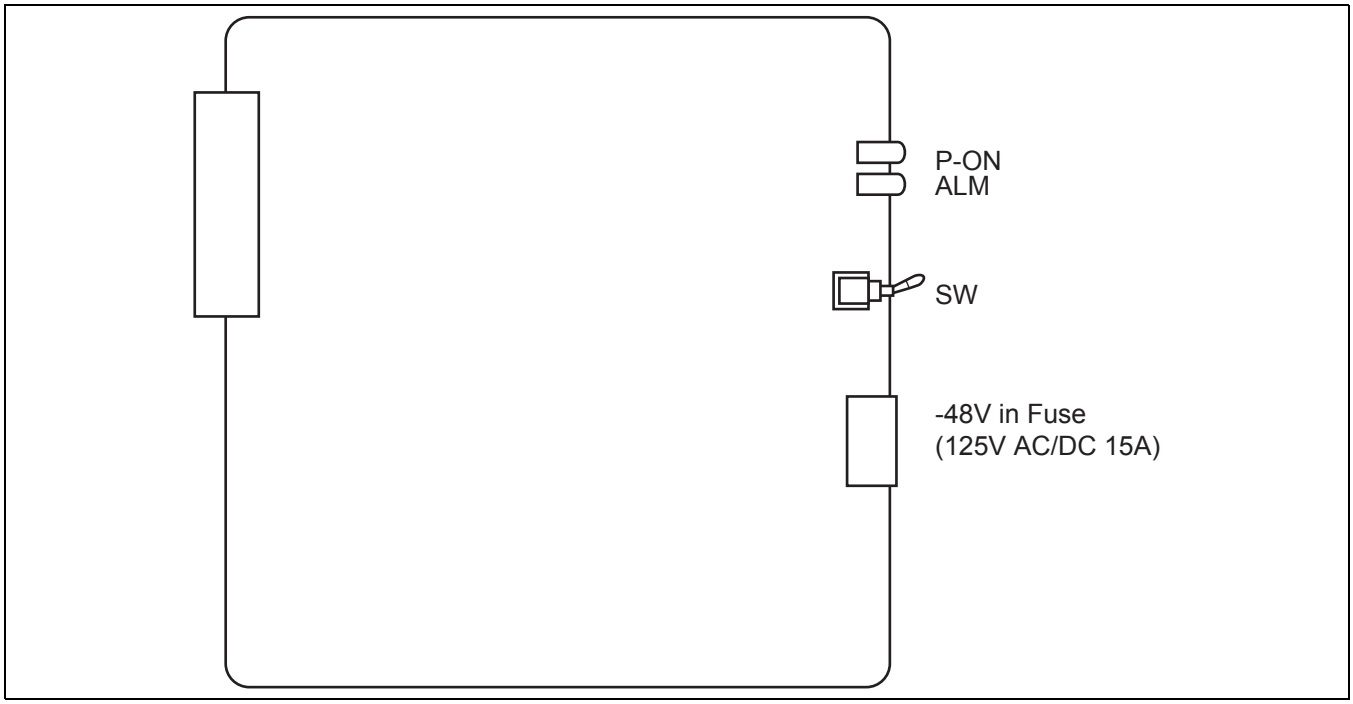
2. Mounting Location/Conditions

This circuit card is mounted in the following shaded slots (00, 01).



3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors for this circuit card is shown below.



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
P-ON	Green	Remains lit while this circuit card is operating.
ALM	Red	Lights when SW switch is set at OFF position or it is faulty.

5. Switch Settings

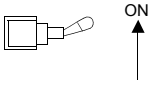
Standard settings for various switches on this circuit card are shown in the table below.

SWITCH NAME	SWITCH NUMBER	SETTING	STANDARD SETTING	MEANING
SW		ON	×	The card supplies the operating power to various circuit cards.
		OFF		

6. External Interface

Cable connections are not required.

7. Switch Setting Sheet

MODULE	SLOT NUMBER	SWITCH NAME	SWITCH SHAPE	REMARKS
	00 01	SW		-48 V operating power is supplied to various circuit cards.

PH-SW12
Time Division Switch

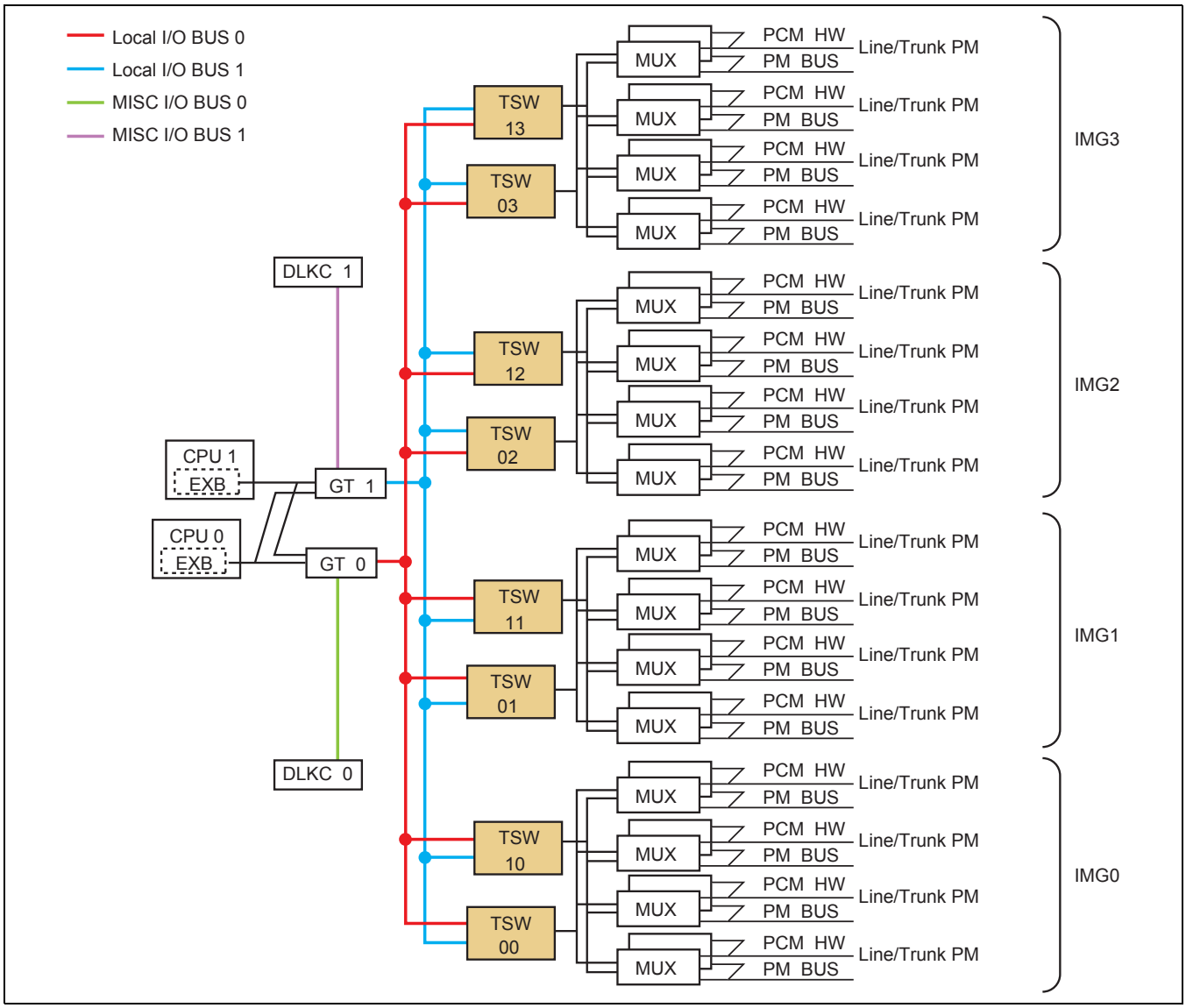
AUSTRALIA	ASIA	LATIN AMERICA	MIDDLE EAST COUNTRIES	NORTH AMERICA	RUSSIA	EU
X	X	X	X	X	X	X

1. General Function

This circuit card provides the Time Division Switch (TSW) for the system. Each TSW card is capable of 8192 × 2048 Time Slot (TS) switching for an Interface Module Group (IMG). Four cards allow 8192 × 8192 TS switching for the MMG configuration.

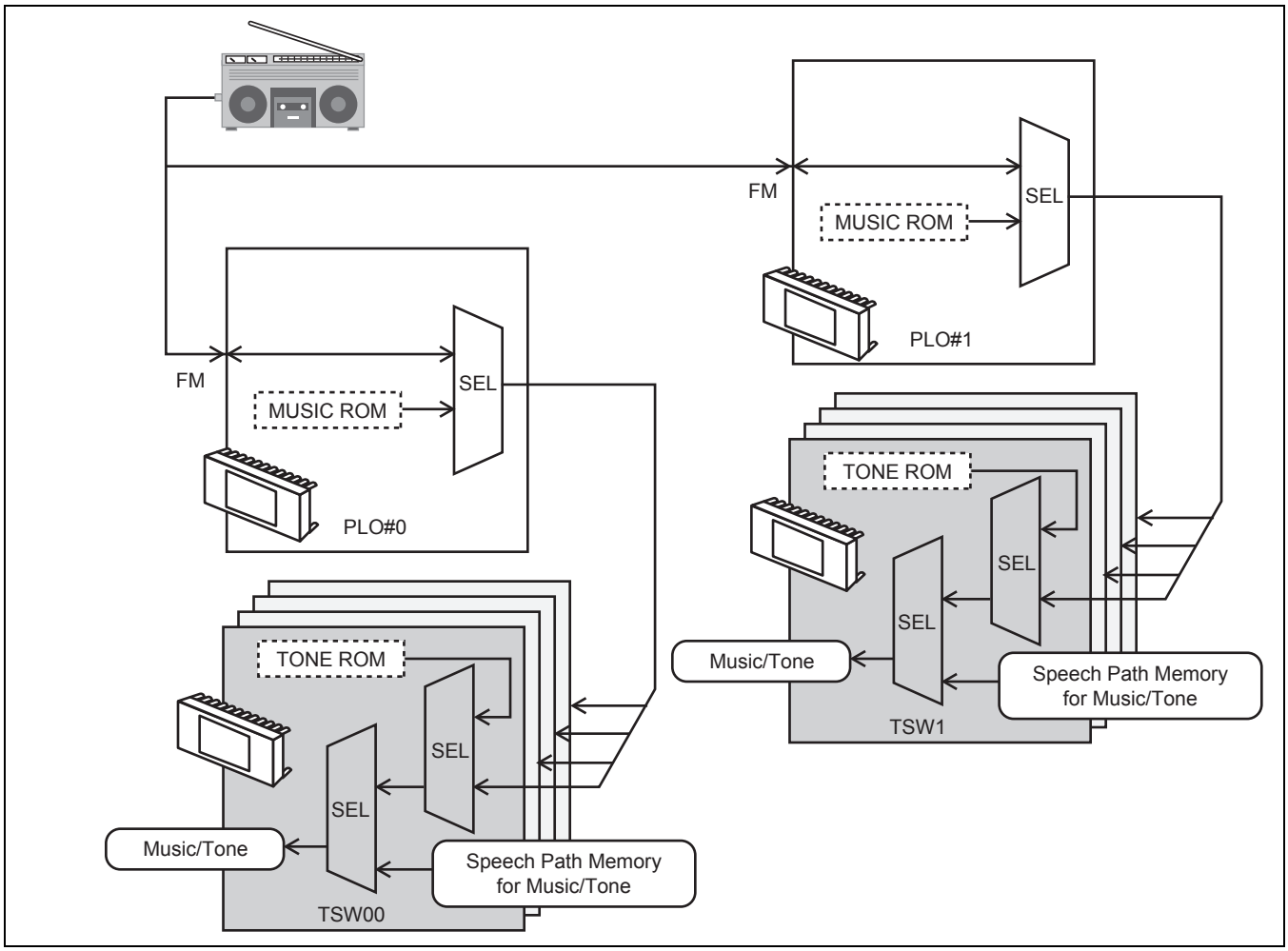
The controlled MUX is an intermediate circuit of the Telephony Server that controls and administers the Port Microprocessor (PM) for line/trunk circuit cards.

TSW Configuration

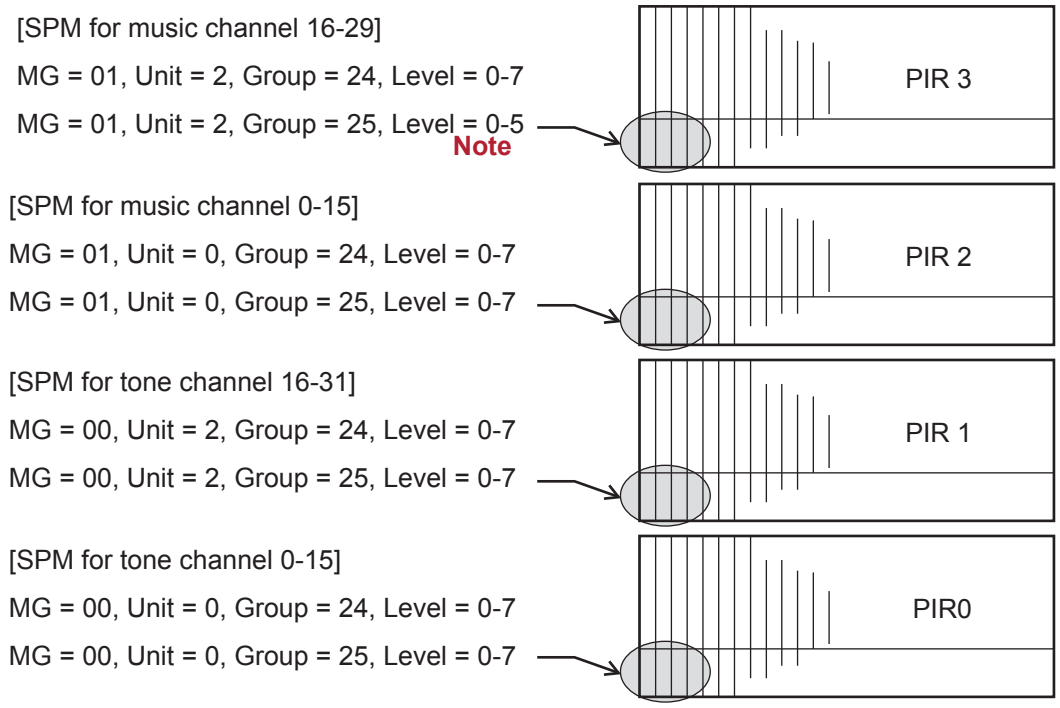


The Tone ROM located on this circuit card contains the audible tones, such as Dial Tone, Busy Tone, Ringback Tone. The Music-on-Hold source, either the Music ROM or the external source via FM lead, is located on the PLO card. The tone and the music are inserted into their time slot at this circuit card. Additionally, this circuit card provides the Voice Prompt function that inserts the designated time slot of PCM (Speech Path Memory: SPM) into the tone or music time slot.

Music/Tone Insertion



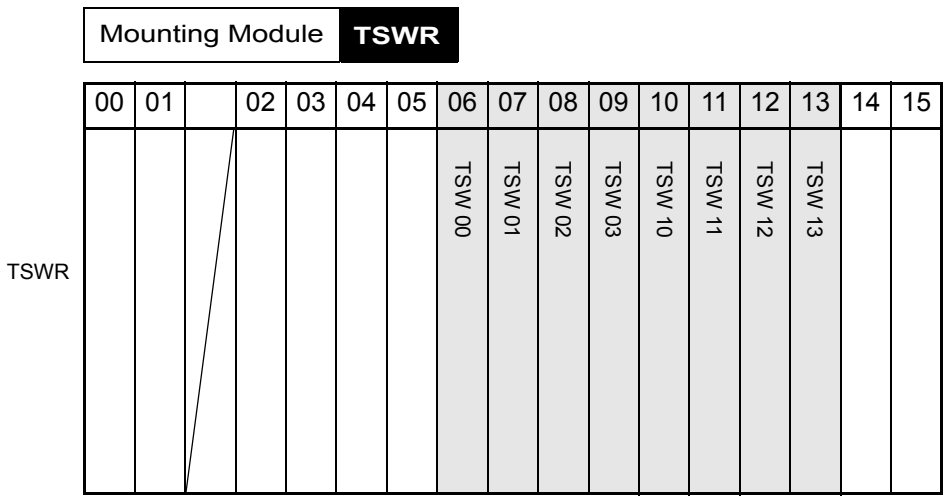
Speech Path Memory (SPM) for Voice Prompt Function



Note : MG = 01,Unit = 2, Group = 25, Level = 6-7 are exclusively used by the DLKC.

2. Mounting Location/Condition

This circuit card is mounted in the TSWR of the slot shown below.



The definitions of the TSW 00 - TSW 03/TSW 10 - TSW 13 are listed below.

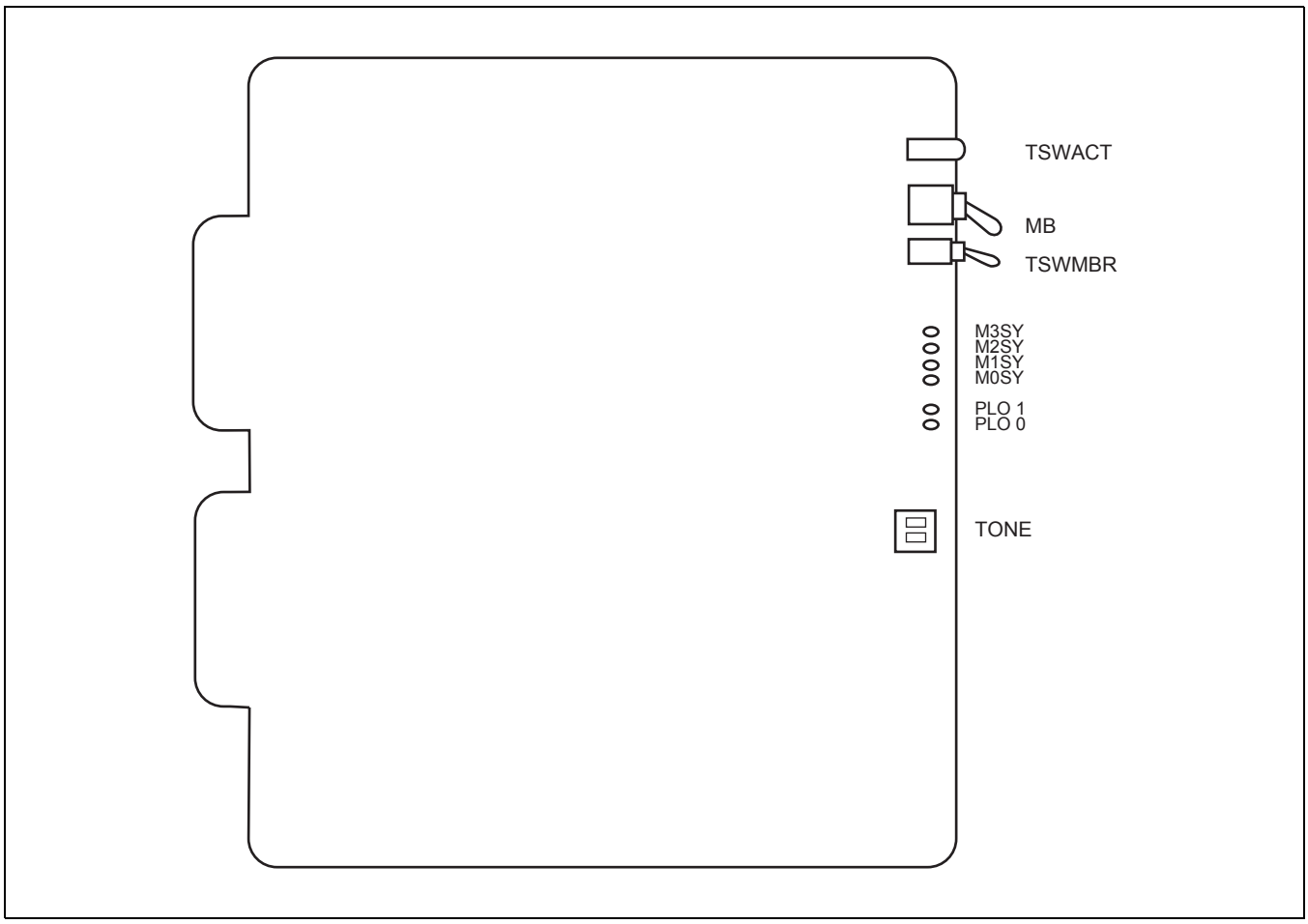
- MMG- System

SYMBOL	SYSTEM	CONTROLLED IMG
TSW00	0	IMG 0
TSW01		IMG 1
TSW02		IMG 2
TSW03		IMG 3
TSW10	1	IMG 0
TSW11		IMG 1
TSW12		IMG 2
TSW13		IMG 3

3. Face Layout of Lamps, Switches, and Connectors

The face layout of lamps, switches, and connectors is shown below.

Face Layout of PH-SW12 (TSW)



4. Lamp Indications

Lamp indications for this circuit card are shown in the table below.

LAMP NAME	COLOR	STATE
TSWACT	Green	Remains lit while the TSW block is in active state.
	Red	Remains lit while the TSW block is in Make-Busy state.
	Off	Remains off while the TSW block in standby state.
M3SY	Green	Lights when MUX 3 synchronization has been established.
M2SY	Green	Lights when MUX 2 synchronization has been established.
M1SY	Green	Lights when MUX 1 synchronization has been established.
M0SY	Green	Lights when MUX 0 synchronization has been established.
PLO 1	Green	Lights when the Frame Head signal and clock signals are received from the PLO 1.
PLO 0	Green	Lights when the Frame Head signal and clock signals are received from the PLO 0.

5. Switch Settings

Standard settings for switches on this circuit card are shown in the table below.

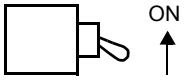
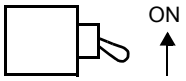
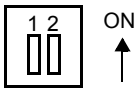
SWITCH NAME	SETTING	STANDARD SETTING	MEANING
MB	UP		Circuit card: Make-Busy.
	DOWN	×	Circuit card: Make-Busy cancel.
TSWMBR	UP		TSW Make-Busy request.
	DOWN	×	TSW Make-Busy request cancel.

SWITCH NAME	SWITCH NUMBER	SETTING	STAN-DARD SETTING	MEANING
TONE	1	OFF	×	Fixed.
	2	ON		(The last byte data of the DTG ROM is “FE.”)
		OFF	×	(The last byte data of the DTG ROM is “FF.”)

6. External Interface

See the Appliance Model Installation Manual for information about the cable connection to MUX.

7. Switch Setting Sheet

SWITCH NAME	SWITCH SHAPE	REMARKS
MB		
TSWMBR		
TONE		

CHAPTER 6
MAINTENANCE

Software Switch Setting

Most of the settings on the 7U-PIR card are configured with software switches instead of hardware switches on the card. Note that some cards are exceptions and equipped with hardware switches.

There are two ways to configure the software switch settings:

- With PCPro commands
- With serial console commands

Note: The hardware switch settings including the MB key cannot be configured.

Note: The default settings are used if no software switch settings have been configured.

There are three kinds of memories within a card: Saving memory (Non-volatile Memory) to store switch information, operational memory (Volatile Memory) to refer to the stored switch information during an operation and editing memory (Volatile Memory) to refer to the stored switch information while editing such information with a serial console command.

Memory	General Description
Saving memory (Non-volatile Memory)	• Memory to store the software switch information. • Card initialization is required after editing.
Operational memory (Volatile Memory)	• Memory to store the software switch information temporarily to refer to during an operation. • Card initialization is not required after editing.
Editing memory (Volatile Memory)	• Memory to store the software switch information temporarily, and also to refer to while editing the software switch settings with a serial console. • Updates settings on saving memory and operational memory with the save/save all/save flash command after editing is complete.

There are two kinds of software switches within a card:

Name	General Description
Soft Switch	It is set on the saving memory of a card.
Immediate Switch	It is set on the saving memory or the operational memory of a card.

[1] Setting with the PCPro command

The software switch settings can be configured with the CPSW command. For more information, refer to Software Switch Setting with PCPro Command.

Note: When configuring the software switch settings with the CPSW command, refer to “CPSW” in Chapter 7 Maintenance Commands in Operations and Maintenance Manual.

Note: Card initialization will be performed if software switch settings of the saving memory have been configured.

[2] Setting with serial console command

The software switch settings can be configured with serial console commands by connecting a card to a maintenance device with Console Cable (RJ-45 to RS-232C serial cable (optional accessory)). For more information, refer to "Software Switch Setting with Serial Console Commands."

1. Software Switch Setting with PCPro Command

General Description

The software switch is composed of two types of switches: Soft switch and Immediate switch.

Use the CPSW command to configure the software switch settings of a card.

There are three modes available for the configuration of the soft switch settings or the immediate switch settings:

Mode	General Description
Normal	• Used to store the settings of software switches (soft and immediate switches) in the Saving memory of a card. • The card will be automatically initialized after the settings have been configured.
Temporary	• Used to reflect immediate switch settings which requires an immediate update in the Operational memory without initializing the card. • The card will not be automatically initialized after the settings have been configured. **Note:** When initializing the card, the switch information set in the temporary mode will be reset to the previous state.
Initialization	• Used when initializing the software switch settings to the default settings stored in firmware. • The card will be automatically initialized.

The table below shows whether it is possible to modify the settings for both switches in each mode.

	Normal mode	Temporary mode
Soft Switch	Modifiable	Non Modifiable
Immediate Switch	Modifiable	Modifiable
Hardware Switch	Non Modifiable	Non Modifiable

Operating Procedure

None

Service Conditions

<Important Notices>

(1) Card initialization will be automatically performed when the soft switch settings/immediate switch settings are configured in the normal mode or initialization mode.

<Interactions with Other Features>

None

<Hardware/Software>

The software switch settings of a card of other Remote Node cannot be configured from the Remote Node of the RNIP system.

Note: North America only.

<Interactions with Networks>

None

<Conditions Specific to This Feature>

(1) The default settings will be used when soft switch settings/immediate switch settings have not been configured.

(2) The settings for hardware switches including the MB key cannot be configured.

(3) Switch data cannot be edited when the OPE lamp of a card does not light.

(4) System messages “MB key ON” and “MB key OFF” are output if software switch settings have been changed. For detailed information on system messages, refer to Chapter 3. System Messages in Operations and Maintenance Manual.

<Others>

(1) The setting status of a card can be checked with the LPSW command/DPSW command.

(2) The mounting status of a card can be checked with the DPKG command.

Programming

For details on the software switch information, refer to Chapter 3 Cards in 7U-PIR.

[1] CPSW (Editing the card switch data)

This command is used when editing, initializing the software switch settings of a card or copying the switch settings to the same type of cards which have the same card name and card issue.

Individual Edit: Edit the software switch settings of a card.

Individual Initialization: Reset a card to the default value stored in firmware.

Bulk Copy: Copy the software switch settings to the same type of cards.

Bulk Initialization: Reset the software switch settings of multiple cards to the default value stored in firmware.

[In the case of Individual Edit]

PMN: Port Micro Processor Number

Modification Mode

- Normal

Used to store the settings of software switches (soft and immediate switches) in the saving memory of a card. The card will be automatically initialized after the changes are saved.

- Temporary

Used to reflect immediate switch settings in the Operational memory.

Circuit Card Information: Displays the circuit card name and firm name/issue on its firmware

Switch Information List: Displays all the switch information

Edit Switch Information: Edits the each software switch settings

[In the case of Individual Initialization]

PMN: Port Micro Processor Number

Circuit Card Information: Displays the circuit card name and firm name/issue on its firmware

Switch Information List: Displays all the switch information

[In the case of Bulk Copy]

Copy Source

PMN: Port Micro Processor Number of the copy source

Reads per Execution from: Reading range of the subject for copy (MG/LP **Note1**/ALL) **Note2**

MG: Module Group Number

LP No.: LP Number

Modification Mode: Normal (Fixed)

Circuit Card Information: Displays the circuit card name and firmware name/issue of the copy source

Switch Information List: Displays all the switch information of the copy source

List of Circuit Cards to be Executed: Selects a card to copy

Note: If a card to be copied has switch information written in the temporary mode, the switch information cannot be read or bulk copied.

Note 1: **LP** can be selected only when you are logged in to a UMGi system or an RNIP system. (RNIP systems are available only for North America.)

Note 2: **List of Circuit Cards to be Executed** shows all cards in the range specified in this parameter that exactly match the firmware information given in **FirmName/ Issue**.

[In the case of Bulk Initialization]

Reads per Execution from: Reading range of the subject for initialization (MG/LP **Note3**/ALL) **Note4**

MG: Module Group Number

LP No.: LP Number

List of Circuit Cards to be Executed: Select a card to initialize

Note 3: LP can be selected only when you are logged in to a UMGi system or an RNIP system. (RNIP systems are available only for North America.)

Note 4: **List of Circuit Cards to be Executed** shows all cards in the range specified in this parameter that exactly match the firmware information given in **FirmName/ Issue**.

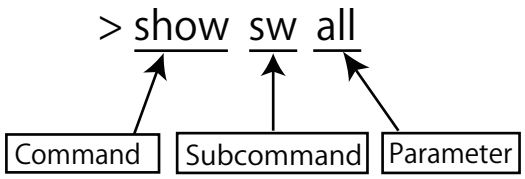
2. Software Switch Setting with Serial Console Commands

You can read out and configure the software switch settings with serial console commands. These commands are available through VT-100 compliant communication software such as Hyper Terminal running on a maintenance device. To use this feature, you need to connect the target card and the maintenance device with Console Cable (RJ-45 to RS-232C serial cable (optional accessory)). The serial connector for the cable is located on the front of the card.

In the case of a DAT or IPPAD card, cancel "card make-busy" by setting SW00 (MB) to OFF. Enter "config" after a prompt (->) on the configuration command main menu screen, then press ENTER. Another prompt (>) is displayed and the serial console command will then be available.

For cases other than the DAT or IPPAD card, when "card make-busy" is canceled by setting SW00 (MB) to OFF, a prompt (>) is displayed and the serial console command will then be available.

Example of a serial console command:



" " (Space) is used to separate a command, subcommand and parameter.

Command displays operation requests such as "set", "save" and "show". Subcommand indicates the target of an operation request such as "softswitch" and "card status". Parameter shows set/delete information to the target of an operation request, and also adds more conditions to a subcommand. Command is necessary, however, subcommand and parameter vary depending on commands. There are cases where subcommand and parameter do not exist.

When all data (command name, sub command name, parameter) is specified correctly, the command executes the required data processing, and then displays the processed result on the screen. Enter "exit" to quit a serial console command.

<Service Conditions>

[1] You can connect Console Cable to a running card's serial connector (located on the front of the card), and use the serial console.

[2] If "card make-busy" is canceled with Console Cable connected to the serial connector on the front of the card, the card will be waiting for an input from the serial console and it will not switch from the maintenance mode to the operation mode except for the PRT/CCT/IPPAD/DAT/CFT cards. To set the card to the operation mode, quit the serial console command by typing "exit."

[3] Card will automatically restart itself when the "save" command is executed during operation. If a card is not in operation, it will not restart automatically even with such a command.

[4] Conditions for communication software are listed below:

Speed	38400 bps
Data length	8 bit
Parity bit	None
Stop bit	2 bit
Flow control	None

Serial Console Command List

Command	Subcommand	Parameter	Descriptions	Remarks
set	sw	-	Configures settings of all software switches	
		xx (Number)	Configures settings of a specified software switch	
		ini	Resets all software switch settings to the default.	
	config	-	Configures settings of a specified software switch. “config” is displayed. **Note1**	Available only for PRT/ CCT/IPPAD/DAT/CFT
	trace	-	Traces information settings **Note1**	Available only for PRT/ CCT/IPPAD/DAT/CFT
	time		Date and time information settings	Available only for DAT

Command	Subcommand	Parameter	Descriptions	Remarks
show	flashinfo	-	Displays the number of use of FLASHROM.	
	log	all	Displays all internal log **Note1**	
		all del	Deletes all internal log **Note1**	Available only for PRT/ CCT/IPPAD/DAT/CFT **Note2**
		data	Displays an internal log **Note1**	Available only for PRT/ CCT/CFT
	resetlog	-	Displays a reset log **Note1**	
	status	-	Displays statuses of all lines	
		xx (Number)	Displays statuses of a specified group	
		card	Displays various statuses of a card	Available only for PRT/ CCT/IPPAD /DAT/CFT
		ch	Displays detailed statuses of all lines per channel	Available only for PRT/CCT /DAT/CFT
		media	Displays statuses of Voice channel **Note1**	Available only for IPPAD
	sw	-	Displays the settings of all switches	
		xx (Number)	Displays settings of a specified switch	
		all	Displays settings of all switches	
	version	-	Displays the version of a card	
	arp	-	Displays the arp information	Available only for IPPAD/ DAT
	config	-	Displays the editing status of all switches (configuration display)	Available only for PRT/ CCT/IPPAD/DAT /CFT
		both	Displays the editing and operation status of all switches (configuration display)	Available only for PRT/ CCT/IPPAD/DAT/CFT
		now	Displays the operation status of all switches	Available only for PRT/ CCT/IPPAD/DAT /CFT
	flog	-	Displays an internal log **Note1**	Available only for IPPAD/ DAT
	performance	-	Displays the result of a performance measurement	Available only for PRT/ CCT/CFT
	terminal	-	Displays the information of a connected terminal	Available only for ELC
	trace	-	Displays the setting status of trace information **Note1**	Available only for PRT/ CCT/IPPAD/DAT/CFT
	circuit	memory	Displays the memory of a card **Note1**	Available only for PRT/ CCT/CFT
	rec_data	-	Displays the state of memory record (SRAM)	Available only for DAT

Command	Subcommand	Parameter	Descriptions	Remarks
save	-	-	Saves all software switch settings in FLASH ROM.	
	all	-	Saves all software switch settings in FLASH ROM even when no change has been made prior to this change.	
	flash	-	Saves all software switch settings in FLASH ROM even when a change has been made only to the immediate switch settings.	Available only for PRT/ CCT/CFT
dump	xx (start address)	xx (display range)	Displays the data of a specified address (specify a start address and display range)	
dumpa	xx (start address)	xx (ending address)	Displays the data of a specified address (specify a start and ending addresses)	
help	-	-	Displays the command list	
exit	-	-	Quits the serial console command	Not available for PRT/CCT/ CFT
download	-	-	Download	Available only for IPPAD/ DAT
logout	-	-	Quits the serial console command	Available only for IPPAD/ DAT
ping	-	-	Ping command	Available only for IPPAD/ DAT
reboot	-	-	Card restart	Available only for IPPAD/ DAT

Note 1: For use by or as indicated by a certified technician.

Note 2: With the PRT/CCT/CFT cards, when the internal log saved in FLASH ROM reaches the maximum capacity a message, “Fault Message Data Save Area Not Space!!” is displayed on a serial console at the time of the launch of a card. Delete all the internal log with the “show log all del” command to save a new internal log.

See the table below for cards categorized into PRT/CCT/IPPAD/ELC/DAT/CFT.

Type	Card Name
PRT	CH-PRTA (1.5M PRT) CH-PRTA (2M PRT) CH-PRTA (1.5M DTI) CH-PRTA (2M DTI)
CCT	CH-PRTA (1.5M CCT) CH-PRTA (2M CCT)
IPPAD	CH-IPDA
ELC	CH-16ELCA
DAT	CH-DATA
CFT	CH-CFTA

Help Function

Help function of command and subcommand is available when the serial console is in use. Enter “help” in command or “?” in subcommand. Displayed commands vary by the type of card.

```
>help
dumpa
dump
exit
help
save all
save
set sw ini
set sw
set ?
show flashinfo
show log all
show resetlog
show status
show sw all
show sw
show version

>show ?
show flashinfo
show log all
show resetlog
show status
show sw all
show sw
show version

>
```

Available commands are displayed.

Help information for “show” command is displayed.

Set

This section describes the set commands listed in the table below.

Note: The console screens shown below are examples of display image. They may differ from the actual displays.

Category	Command
set sw	set sw, set sw xx (number), set sw ini
set config	set config
set trace	set trace
set time	set time

[1] set sw

This command configures settings of all software switches. Below is an example of a console screen.

```
>set sw

                                  12345678 (0:OFF/1:ON)
SW 10 current setting <Soft > : 00000001
Input new setting             : 00000100

SW 11 current setting <Soft > : 10101100
Input new setting             : 11111111

SW 12 current setting <Soft > : 10101100
Input new setting             : 101

Illegal Parameter!!

SW 12 current setting <Soft > : 00000000
Input new setting             :

SW 17 current setting <Imm  > : 00000000
Input new setting             : 11111111

>
```

Settings of editing memory for each software switch are displayed.

Enter the settings for each software switch.
0: OFF
1: ON

Re-entry is induced in the case of not enough digits entered or invalid input.

If no modification is necessary, press the enter key to skip the setting process.

Note: To update the software switch settings after changes have been made, execute one of the following commands: “save”, “save all” or “save flash”.

[2] set sw xx (number)

This command configures the settings of a specified software switch. Below is an example of a console screen.

```
>set sw 10

                                12345678 (0:OFF/1:ON)
SW 10 current setting <Soft > : 00000100
Input new setting             : 10000000

>
```

Editing memory settings of a specified software switch are displayed.

Enter the specified software switch settings.
0: OFF
1: ON

Note: To update the software switch settings after changes have been made, execute one of the following commands: “save”, “save all” or “save flash”.

[3] set sw ini

This command resets all software switch settings to the default. Examples of the console screen are shown below.

- IPPAD/DAT card
- Cards other than IPPAD/DAT card

(a) IPPAD/DAT card

```
>set sw ini

2013/09/01 12:34:56.789

<< Current Setting >>

                12345678 (0:OFF/1:ON)
-------------------------------------
SW 10 <Soft > : 11111111
SW 11 <Soft > : 00000001
SW 12 <Soft > : 00001000
SW 13 <Soft > : 00000010
SW 14 <Soft > : 00010100
SW 15 <Soft > : 00000000
SW 16 <Soft > : 00000000
SW 17 <Soft > : 00000000
SW 18 <Soft > : 00011000
SW 19 <Soft > : 00000000
SW 20 <Soft > : 00000000
SW 21 <Soft > : 00000000
SW 22 <Soft > : 00000000
SW 23 <Soft > : 00000000
SW 24 <Soft > : 00000000
SW 25 <Soft > : 00000000
SW 26 <Soft > : 00000000
SW 27 <Soft > : 00000000
SW 28 <Soft > : 00000000
SW 29 <Soft > : 00000000
-------------------------------------
```

Software switch settings before initialization are displayed.

```
  Do you want to initial switch data really? [y(yes) / n(no)] : y

  2013/09/01 12:34:56.789
  << Result Seeting >>

                12345678 (0:OFF/1:ON)
  -------------------------------------
  SW 10 <Soft > : 00000000
  SW 11 <Soft > : 00000001
  SW 12 <Soft > : 00001000
  SW 13 <Soft > : 00000010
  SW 14 <Soft > : 00010100
  SW 15 <Soft > : 00000000
  SW 16 <Soft > : 00000000
  SW 17 <Soft > : 00000000
  SW 18 <Soft > : 00011000
  SW 19 <Soft > : 00000000
  SW 20 <Soft > : 00000000
  SW 21 <Soft > : 00000000
  SW 22 <Soft > : 00000000
  SW 23 <Soft > : 00000000
  SW 24 <Soft > : 00000000
  SW 25 <Soft > : 00000000
  SW 26 <Soft > : 00000000
  SW 27 <Soft > : 00000000
  SW 28 <Soft > : 00000000
  SW 29 <Soft > : 00000000
  -------------------------------------
```

Software switch settings are reset to the default.

Software switch settings after initialization are displayed.

Note: To update the software switch settings after changes have been made with this command, execute one of the following commands: “save” or “save all”.

(b) Cards other than IPPAD/DAT card

```
  >set sw ini

  Do you want to initial switch data really? (y/n) : y

                12345678 (0:OFF/1:ON)
  -------------------------------------
  SW 10 <Soft > : 00000001
  SW 11 <Soft > : 10101100
  SW 12 <Soft > : 10001000
  SW 13 <Soft > : 10000000
  SW 14 <Soft > : 00000000
  SW 15 <Soft > : 11110000
  SW 16 <Soft > : 10110110
  SW 17 <Imm  > : 00000000
  -------------------------------------

  >
```

Initialize the settings.

Software switch settings after initialization are displayed.

Note: To update the software switch settings after changes have been made with this command, execute one of the following commands: “save”, “save all” or “save flash”.

[4] set config

Configure the settings of a specified software switch on interactive mode.

- PRT card (1.5M PRT)
- PRT card (2M PRT)
- CCT card (1.5M CCT)
- CCT card (2M CCT)
- IPPAD card
- DAT Card
- CFT Card

(a) PRT card (1.5M PRT)

Note: The software switch setting below refers to a card manual for CH-PRTA (1.5M PRT). When configuring the settings for CH-PRTA (1.5M DTI), see a card manual for CH-PRTA (1.5M DTI).

```
>set config

0 = Maintenance
1 = Layer 1 Interface
2 = Function
3 = PAD
4 = ACIS/ISDN Interface
5 = Layer 2 Interface

Input : 0

<< Current Setting >>
------------------------------------------------
Maintenance
  Local Loopback              : OFF
  Line Loopback               : OFF
  Payload Loopback            : OFF
  All Bch Make-Busy           : OFF
  DCH Make-Busy               : OFF
  DCH Loopback                : OFF
  DCH Bit Error Test          : OFF
------------------------------------------------

Select Local Loopback.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input : 1



Select Line Loopback.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input :
```

All current switch settings read from the editing memory are displayed.

Setting of Local Loopback (Corresponds to SW01-1)

Type: Type of switch
- SP: Short Plug (jumper switch)
- 8Dip: 8-Dip switch
- Soft: Soft switch
- Imm: Immediate switch

Current: Display of current switch settings (editing memory)

Setting of Line Loopback (Corresponds to SW01-2)

Input: If left blank, the current value is used.

```
Select Payload Loopback.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input :

Select All Bch Make-Busy.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input :

Select DCH Make-Busy.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input :

Select DCH Loopback.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input :

Select DCH Bit Error Test.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input :

<< Result >>
-------------------------------------------------
Maintenance
  Local Loopback              : ON
  Line Loopback               : OFF
  Payload Loopback            : OFF
  All Bch Make-Busy           : OFF
  DCH Make-Busy               : OFF
  DCH Loopback                : OFF
  DCH Bit Error Test          : OFF
-------------------------------------------------
```

Setting of Payload Loopback (Corresponds to SW01-3)

Setting of All B Channel Make-Busy (Corresponds to SW01-4)

Setting of DCH Make-Busy (Corresponds to SW01-5) (No setting is required for CH-PRTA (1.5M DTI))

Setting of DCH Loopback (Corresponds to SW01-6) (No setting is required for CH-PRTA (1.5M DTI))

Setting of DCH Bit Error Test (Corresponds to SW01-8) (Fixed to OFF) (No setting required for CH-PRTA (1.5M DTI))

All current switch settings read from the editing memory are displayed.

```
>set config

0 = Maintenance
1 = Layer 1 Interface
2 = Function
3 = PAD
4 = ACIS/ISDN Interface
5 = Layer 2 Interface

Input : 1

<< Current Setting >>
-----------------------------------------------
Layer 1 Interface
  Remote Alarm Sending        : Allowed
  Remote Alarm                : Data Link
  Alarm Operation Mode        : JP
  Alarm Release Time          : Short
  Alarm Detect Type           : Normal
  Main SIG. All 1 PLO Control : Disabled
  PLO Clock Supply            : Supply
  DCH Layer 1 Alarm Release   : Disabled
  Equalizer                   : 0- 40m
  ITU-T G.704/JT-G704         : ITU-T G.704
  Line Signal                 : B8ZS
  Frame Format                : 24MF
  4k Data Link                : MOS
  MOS/BOM Operation Mode      : MODE 3
  Signaling In Channel        : OFF
  M-Bit Activation Mode       : User
-----------------------------------------------

Select Remote Alarm Sending.
(Type : Imm / Current : Allowed)

0 = Allowed
1 = Restricted

Input :

Select Remote Alarm.
(Type : Imm / Current : Data Link)

  0 = Data Link
  1 = In Channel

Input :

Select Alarm Operation Mode.
(Type : Imm / Current : JP)

  0 = JP
  1 = US

Input :
```

All current switch settings read from the editing memory are displayed.

Setting of Remote Alarm Send Out (Corresponds to SW10-1)

Setting of Remote Alarm (Corresponds to SW10-2)

Setting of Alarm Operation Mode (Corresponds to SW10-3)

```
Select Alarm Release Time.
(Type : Imm / Current : Short)

0 = Short
1 = Long
Input :

Select Alarm Detect Type.
(Type : Imm / Current : Normal)

  0 = Normal
  1 = AT&T

Input :

Select Main SIG.All 1 PLO Control.
(Type : Imm / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :

Select PLO Clock Supply.
(Type : Imm / Current : Supply)

  0 = Supply
  1 = Not Supply

Input :

Select DCH Layer 1 Alarm Release.
(Type : Imm / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :

Select Equalizer.
(Type : Soft / Current : 0- 40m)

  0 = 0- 40m
  1 = 40- 80m
  2 = 80-120m
  3 = 120-160m
  4 = 160-200m

Input :

Select ITU-T G.704/ JT-G704.
(Type : Soft / Current : ITU-T G.704)

  0 = ITU-T G.704
  1 = JT-G704 Issue.2

Input :
```

Setting of Alarm Release Time (Corresponds to SW10-4)

Setting of Alarm Detect/Release type (Corresponds to SW10-5)

Setting of Main SIGNAL ALL 1 PLO Control (Corresponds to SW10-6)

Setting of PLO Clock Supply Control (Corresponds to SW10-7)

Setting of DCH Layer 1 Alarm Release (Corresponds to SW10-8)

Setting of Transmitting Equalizer (Corresponds to SW11-1 to SW11-3)

TTC JT-G704 (only 1st edition and 2nd edition) / ITU-T G.704 Mode (Corresponds to SW11-8)

```
Select Line Signal.
(Type : Soft / Current : B8ZS)

  0 = B8ZS
  1 = AMI/ZCS

Input :

Select Frame Format.
(Type : Soft / Current : 24MF)

  0 = 24MF
  1 = 12MF

Input :

Select 4k Data Link.
(Type : Soft / Current : MOS)

  0 = BOM
  1 = MOS

Input :

Select MOS/BOM Operation Mode.
(Type : Soft / Current : MODE 3)

  0 = MODE 0
  1 = MODE 1
  2 = MODE 2
  3 = MODE 3

Input :

Select Signaling In Channel.
(Type : Soft / Current : OFF)

  0 = OFF
  1 = ON

Input :

Select M-Bit Activation Mode.
(Type : Soft / Current : User)

  0 = User
  1 = Network

Input :
```

Setting of Line Signal (Corresponds to SW12-1)

Setting of Multiframe (Corresponds to SW12-2)

Setting of 4k Data Link (Corresponds to SW12-3)

Setting of MOS/BOM Operation Mode (Corresponds to SW12-4 to SW12-5)

Setting of Signaling In Channel (Corresponds to SW12-6) (Fixed to OFF)

Setting of 4k Data Link Activation Mode (Corresponds to SW24-8)

Note: If this setting is changed, “DCH activation mode” is also changed automatically. Two modes are linked to one another.

```
<< Result >>
------------------------------------------------
Layer 1 Interface
  Remote Alarm Sending        : Allowed
  Remote Alarm                : Data Link
  Alarm Operation Mode        : JP
  Alarm Release Time          : Short
  Alarm Detect Type           : Normal
  Main SIG. All 1 PLO Control : Disabled
  PLO Clock Supply            : Supply
  DCH Layer 1 Alarm Release   : Disabled
  Equalizer                   : 0- 40m
  ITU-T G.704/JT-G704         : ITU-T G.704
  Line Signal                 : B8ZS
  Frame Format                : 24MF
  4k Data Link                : MOS
  MOS/BOM Operation Mode      : MODE 3
  Signaling In Channel        : OFF
  M-Bit Activation Mode       : User
------------------------------------------------

>set config

0 = Maintenance
1 = Layer 1 Interface
2 = Function
3 = PAD
4 = ACIS/ISDN Interface
5 = Layer 2 Interface

Input : 2

<< Current Setting >>
------------------------------------------------
Function
  Main Signal ALL 1           : Disabled
  Idle Code Sending           : Disabled
  DP Relay for FCCS           : Disabled
  SSD                         : Enabled
  Counter Node when SSD       : Activate
  L1 Alarm Notification       : Enabled
  CAS Control of DCH          : ON
  Collision Processing        : Disabled
------------------------------------------------

Select Main Signal ALL 1.
(Type : Imm / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

Setting of Main Signal All 1 (Corresponds to SW13-1)

```
Select Idle Code Sending.
(Type : Imm / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :
```

Setting of Idle Code Sending (Corresponds to SW13-2)

```
Select DP Relay for FCCS.
(Type : Imm / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :
```

Setting of DP Relay Function for FCCS (Corresponds to SW13-3)

```
Select SSD.
(Type : Imm / Current : Enabled)

  0 = Enabled
  1 = Disabled

Input :
```

Setting of Simultaneous Seizure Detection (Corresponds to SW13-4)

```
Select Counter Node when SSD.
(Type : Imm / Current : Activate)

  0 = Activate
  1 = Not Activate

Input :
```

Setting of Counter Node when SSD has been detected (Corresponds to SW13-5)

```
Select L1 Alarm Notification.
(Type : Imm / Current : Enabled)

  0 = Enabled
  1 = Disabled

Input :
```

Setting of Layer 1 Alarm Notification (Corresponds to SW13-6)

```
Select CAS Control of DCH.
(Type : Imm / Current : ON)

  0 = ON
  1 = OFF

Input :
```

Setting of CAS Control when DCH is used. (Corresponds to SW13-7)

```
Select Collision Processing.
(Type : Imm / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :
```

Setting of Incoming/Outgoing Call Collision Processing (Corresponds to SW13-8)

```
<<< Result >>
  ------------------------------------------------
  Function
    Main Signal ALL 1           : Disabled
    Idle Code Sending           : Disabled
    DP Relay for FCCS           : Disabled
    SSD                         : Enabled
    Counter Node when SSD       : Activate
    L1 Alarm Notification       : Enabled
    CAS Control of DCH          : ON
    Collision Processing        : Disabled
  ------------------------------------------------

  >set config

  0 = Maintenance
  1 = Layer 1 Interface
  2 = Function
  3 = PAD
  4 = ACIS/ISDN Interface
  5 = Layer 2 Interface

  Input : 3

  << Current Setting >>
  ------------------------------------------------
  PAD
    Reception PAD 1             : 2(Loss)
    Reception PAD 2             : 4(Loss)
    Reception PAD 3             : 12(Loss)
    Reception PAD 4             : 8(Loss)
    Transmission PAD 1          : 2(Loss)
    Transmission PAD 2          : 4(Loss)
    Transmission PAD 3          : 12(Loss)
    Transmission PAD 4          : 8(Loss)
    Data PAD Pattern            : 64k
    PAD Control                 : Reception
    PAD Field                   : u-Law
    PAD Pattern                 : Pattern 1
    PAD Kind                    : Standard
  ------------------------------------------------

  Select Reception PAD 1.
  (Type : Imm / Current : 2(Loss))

    [(-8)-(17)]
    18 = through

  Input :

  Select Reception PAD 2.
  (Type : Imm / Current : 4(Loss))

    [(-8)-(17)]
    18 = through

  Input :
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 1 is set with the ARTD/APAD command) (Corresponds to SW14-1 to SW14-5)

Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 2 is set with the ARTD/APAD command) (Corresponds to SW15-1 to SW15-5)

```
Select Reception PAD 3.
(Type : Imm / Current : 12(Loss))

  [(-8)-(17)]
  18 = through

Input :

Select Reception PAD 4.
(Type : Imm / Current : 8(Loss))

  [(-8)-(17)]
  18 = through

Input :

Select Transmission PAD 1.
(Type : Imm / Current : 2(Loss))

  [(-8)-(17)]
  18 = through

Input :

Select Transmission PAD 2.
(Type : Imm / Current : 4(Loss))

  [(-8)-(17)]
  18 = through

Input :

Select Transmission PAD 3.
(Type : Imm / Current : 12(Loss))

  [(-8)-(17)]
  18 = through

Input :

Select Transmission PAD 4.
(Type : Imm / Current : 8(Loss))

  [(-8)-(17)]
  18 = through

Input :

Select Data PAD Pattern.
(Type : Imm / Current : 64k)

  0 = 64k
  1 = 64k INV.
  2 = 56k
  3 = 48k

Input :
```

Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 3 is set with the ARTD/APAD command) (Corresponds to SW16-1 to SW16-5)

Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 4 is set with the ARTD/APAD command) (Corresponds to SW17-1 to SW17-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set with the ARTD/APAD command) (Corresponds to SW18-1 to SW18-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set with the ARTD/APAD command) (Corresponds to SW19-1 to SW19-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set with the ARTD/APAD command) (Corresponds to SW20-1 to SW20-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set with the ARTD/APAD command) (Corresponds to SW21-1 to SW21-5)

Data PAD Pattern Selection (Corresponds to SW17-7 to SW17-8)

```
Select PAD Control.
(Type : Imm / Current : Reception)

  0 = Reception
  1 = Transmission
  2 = Fixed to ARTD
  3 = Bothway

Input :
```

PAD Control Method (Using Both Flexible/Standard PAD) (Corresponds to SW14-7 to SW14-8)

```
Select PAD Field.
(Type : Imm / Current : u-Law)

  0 = u-Law
  1 = A-Law
  2 = A-Law to u-Law
  3 = u-Law to A-Law

Input :
```

PAD Selection (Using Both Flexible/Standard PAD) (Corresponds to SW15-7 to SW15-8)

```
Select PAD Pattern.
(Type : Imm / Current : Pattern 1)

  0 = Pattern 1
  1 = Pattern 2
  2 = Pattern 3
  3 = Pattern 4

Input :
```

PAD Pattern Selection (Corresponds to SW16-7 to SW16-8)

```
Select PAD Kind.
(Type : Imm / Current : Standard)

  0 = Standard
  1 = Flexible

Input :
```

Setting of PAD Kind (Corresponds to SW18-7)

```
<< Result >>
-------------------------------------------------
PAD
  Reception PAD 1             : 2(Loss)
  Reception PAD 2             : 4(Loss)
  Reception PAD 3             : 12(Loss)
  Reception PAD 4             : 8(Loss)
  Transmission PAD 1          : 2(Loss)
  Transmission PAD 2          : 4(Loss)
  Transmission PAD 3          : 12(Loss)
  Transmission PAD 4          : 8(Loss)
  Data PAD Pattern            : 64k
  PAD Control                 : Reception
  PAD Field                   : u-Law
  PAD Pattern                 : Pattern 1
  PAD Kind                    : Standard
-------------------------------------------------
```

All current switch settings read from the editing memory are displayed.

```
>set config

0 = Maintenance
1 = Layer 1 Interface
2 = Function
3 = PAD
4 = ACIS/ISDN Interface
5 = Layer 2 Interface

Input : 4

<< Current Setting >>
-------------------------------------------------
ACIS/ISDN Interface
  ACIS/ISDN Operation Mode    : ISDN Mode
  Guard Time                  : 48ms
  Detection Time              : 56ms
  Detection Supervisory Time  : 1320ms
  Answer Detection Time       : 200ms
  Send Signaling Pattern      : B/S Inhibited
  Receive Signaling Pattern   : B/S Inhibited
  Send Signaling A Logic      : Negative
  Receive Signaling A Logic   : Negative
  Haul Mode                   : Short
  DCH Activation Mode         : User
-------------------------------------------------

Select ACIS/ISDN Operation Mode.
(Type : Imm / Current : ISDN Mode)

  0 = ISDN Mode
  1 = ISDN + ACIS Mode
  2 = ACIS Mode
  3 = ISDN + ACIS Mode

Input :

Select Guard Time.
(Type : Imm / Current : 48ms)

  [(0)-(168)]ms

Input :

Select Detection Time.
(Type : Imm / Current : 56ms)

  [(0)-(356)]ms

Input :

Select Detection Supervisory Time.
(Type : Imm / Current : 1320ms)

  [(0)-(1320)]ms

Input :
```

All current switch settings read from the editing memory are displayed.

Setting of ACIS/ISDN Operation Mode. (Corresponds to SW12-7 to SW12-8)
Fixed to 0 (ISDN Mode) for the PRT card.
Fixed to 2 (ACIS Mode) for the DTI card.

Setting of Seizure Acknowledgement Guard Time (Corresponds to SW22-1 to SW22-4)

Setting of Seizure Acknowledgement Detection Time (Corresponds to SW22-5 to SW22-8)

Setting of Seizure Acknowledgement Monitoring Time (Corresponds to SW23-1 to SW23-3)

```
Select Answer Detection Time.
(Type : Imm / Current : 200ms)

  [(0)-(1650)]ms

Input :

Select Send Signaling Pattern.
(Type : Soft / Current : B/S Inhibited)

  0 = AAAA
  1 = ABAB
  2 = B/S Inhibited
  3 = ABCD

Input :

Select Receive Signaling Pattern.
(Type : Soft / Current : B/S Inhibited)

  0 = AAAA
  1 = ABAB
  2 = B/S Inhibited
  3 = ABCD

Input :

Select Send Signaling A Logic.
(Type : Soft / Current : Negative)

  0 = Positive
  1 = Negative

Input :

Select Receive Signaling A Logic.
(Type : Soft / Current : Negative)

  0 = Positive
  1 = Negative
Input :

Select Haul Mode.
(Type : Soft / Current : Short)

  0 = Short
  1 = Long
Input :

Select DCH Activation Mode.
(Type : Soft / Current : User)

  0 = User
  1 = Network

Input :
```

Setting of Answer Detection Time (Corresponds to SW23-4 to SW23-8)

Send Signaling Pattern Selection (Corresponds to SW24-1 to SW24-2)

Receive Signaling Pattern Selection (Corresponds to SW24-3 to SW24-4)

Setting of Send Signaling A Logic (Corresponds to SW24-5)

Setting of Receive Signaling A Logic (Corresponds to SW24-6)

Setting of Haul Mode (Corresponds to SW24-7)

Setting of DCH Activation Mode (Corresponds to SW24-8)

Note: If this setting is changed, “4k Data Link Activation Mode” is also changed automatically. Two modes are linked to one another.

```
<< Result >>
------------------------------------------------
ACIS/ISDN Interface
  ACIS/ISDN Operation Mode    : ISDN Mode
  Guard Time                  : 48ms
  Detection Time              : 56ms
  Detection Supervisory Time  : 1320ms
  Answer Detection Time       : 200ms
  Send Signaling Pattern      : B/S Inhibited
  Receive Signaling Pattern   : B/S Inhibited
  Send Signaling A Logic      : Negative
  Receive Signaling A Logic   : Negative
  Haul Mode                   : Short
  DCH Activation Mode         : User
------------------------------------------------

>set config

0 = Maintenance
1 = Layer 1 Interface
2 = Function
3 = PAD
4 = ACIS/ISDN Interface
5 = Layer 2 Interface

Input : 5

<< Current Setting >>
------------------------------------------------
Layer 2 Interface
  DCH Operation Mode          : ITU-T
  SABME Wait Timer            : Disabled
  Speed Rate                  : 64kbps
  DCH Time Slot               : 23
  DCH Signaling Logic         : Positive
  Congestion Detection Threshold : 75/90
------------------------------------------------

Select DCH Operation Mode.
(Type : Soft / Current : ITU-T)

  0 = ITU-T
  1 = TTC
  2 = AT&T
  3 = Thai

Input :

Select SABME Wait Timer.
(Type : Soft / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

Setting of DCH Operation Mode (Corresponds to SW25-1 to SW25-3) (No setting is required for CH-PRTA (1.5M DTI))

Setting of SABME Wait Timer (Corresponds to SW25-4) (No setting is required for CH-PRTA (1.5M DTI))

```
Select Speed Rate.
(Type : Soft / Current : 64kbps)

  0 = 64kbps
  1 = 56kbps
  2 = 48kbps(S)
  3 = 32kbps(F)
  4 = 32kbps(B)
  5 = 16kbps(F)
  6 = 16kbps(B)
  7 =  8kbps(F)
  8 =  8kbps(B)
  9 = 48kbps(O)

Input :
```

Setting of DCH Transfer Rate (Corresponds to SW25-5 to SW25-8) (No setting is required for CH-PRTA (1.5M DTI))

```
Select DCH Time Slot.
(Type : Soft / Current : 23)

  [(0)-(23)]

Input :
```

DCH Time Slot Setting (Corresponds to SW26-1 to SW26-5) (No setting is required for CH-PRTA (1.5M DTI))

```
Select DCH Signaling Logic.
(Type : Soft / Current : Positive)

  0 = Positive
  1 = Negative

Input :
```

Setting of DCH Signaling Logic (Corresponds to SW26-8) (No setting is required for CH-PRTA (1.5M DTI))

```
Select Congestion Detection Threshold.
(Type : Soft / Current : 75/90)

  0 = 75/90
  1 = 15/35
  2 = 20/40
  3 = 25/45
  4 = 30/50
  5 = 40/60
  6 = 50/65
  7 = 55/70
  8 = 60/75
  9 = 65/80
  10 = 70/85
  11 = 80/90
  12 = 85/90
  13 = 90/95
  14 = Always
  15 = No Detection

Input :
```

Congestion Detection Threshold (QUE remainder ratio) (Corresponds to SW27-1 to SW27-4) (No setting is required for CH-PRTA (1.5M DTI))

```
<< Result >>
------------------------------------------------
ACIS/ISDN Interface
  DCH Operation Mode          : ITU-T
  SABME Wait Timer            : Disabled
  Speed Rate                  : 64kbps
  DCH Time Slot               : 23
  DCH Signaling Logic         : Positive
  Congestion Detection Threshold : 75/90
------------------------------------------------

>
```

All current switch settings read from the editing memory are displayed.

(b) PRT card (2M PRT)

Note: The software switch settings below refers to a card manual for CH-PRTA (2M PRT). When configuring the settings for CH-PRTA (2M DTI), see a card manual for CH-PRTA (2M DTI).

```
>set config

0 = Maintenance
1 = Layer 1 Interface
2 = Function
3 = PAD
4 = ACIS/ISDN Interface
5 = Layer 2 Interface

Input : 0

<< Current Setting >>
------------------------------------------------
Maintenance
   Local Loopback                 : OFF
   Line Loopback                  : OFF
   Payload Loopback               : OFF
   All Bch Make-Busy              : OFF
   DCH Make-Busy                  : OFF
   DCH Loopback                   : OFF
   DCH Bit Error Test             : OFF
------------------------------------------------

Select Local Loopback.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :

Select Line Loopback.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :
```

All current switch settings read from the editing memory are displayed.

Setting of Local Loopback (Corresponds to SW01-1)

Type: Type of switch
- SP: Short Plug (jumper switch)
- 8Dip : 8-Dip switch
- Soft: Soft switch
- Imm: Immediate switch

Current: Display of current switch settings (editing memory)

Setting of Line Loopback (Corresponds to SW01-2)

Input: If left blank, the current value is used.

```
Select Payload Loopback.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :

Select All Bch Make-Busy.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :

Select DCH Make-Busy.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :

Select DCH Loopback.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :

Select DCH Bit Error Test.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :

<< Result >>
-------------------------------------------------
Maintenance
   Local Loopback                : OFF
   Line Loopback                 : OFF
   Payload Loopback              : OFF
   All Bch Make-Busy             : OFF
   DCH Make-Busy                 : OFF
   DCH Loopback                  : OFF
   DCH Bit Error Test            : OFF
-------------------------------------------------
```

Setting of Payload Loopback (Corresponds to SW01-3)

Setting of All B Channel Make-Busy (Corresponds to SW01-4)

Setting of DCH Make-Busy (Corresponds to SW01-5) (No setting is required for CH-PRTA (2M DTI))

Setting of DCH Loopback (Corresponds to SW01-6) (No setting is required for CH-PRTA (2M DTI))

Setting of DCH Bit Error Test (Corresponds to SW01-8) (Fixed to OFF) (No setting required for CH-PRTA (2M DTI))

All current switch settings read from the editing memory are displayed.

```
>set config

0 = Maintenance
1 = Layer 1 Interface
2 = Function
3 = PAD
4 = ACIS/ISDN Interface
5 = Layer 2 Interface

Input : 1

<< Current Setting >>
------------------------------------------------
Layer 1 Interface
   Remote Alarm Sending           : Allowed
   Jitter Attenuation Mode        : Disabled
   MFRM Remote Alarm Sending      : Allowed
   Alarm Release Time             : Short
   Alarm Detect Type              : Normal
   Main SIG. All 1 PLO Control    : Disabled
   PLO Clock Supply               : Supply
   DCH Layer 1 Alarm Release      : Disabled
   Line Signal                    : HDB3
   CRC-4 Control                  : CRC-4 Multiframe
   E-bit Sending                  : Automatic
   Signaling Format               : ITU-T
   TS16 Control                   : Data Through
   CRC MFRM Format                : Normal
------------------------------------------------

Select Remote Alarm Sending.
(Type : Imm   / Current : Allowed)

0 = Allowed
1 = Restricted

Input :

Select Jitter Attenuation Mode.
(Type : Imm   / Current : Disabled)

0 = Disabled
1 = Enabled

Input :

Select MFRM Remote Alarm Sending.
(Type : Imm   / Current : Allowed)

0 = Allowed
1 = Restricted

Input :
```

All current switch settings read from the editing memory are displayed.

Setting of Remote Alarm Send Out (Corresponds to SW10-1)

Setting of Jitter Attenuation mod (Corresponds to SW10-2) (Fixed to “Disabled”)

Setting of Multiframe Remote Alarm Sending (Corresponds to SW10-3)

```
Select Alarm Release Time.
(Type : Imm   / Current : Short)

0 = Short
1 = Long

Input :

Select Alarm Detect Type.
(Type : Imm   / Current : Normal)

0 = Normal
1 = ETSI

Input :

Select Main SIG. All 1 PLO Control.
(Type : Imm   / Current : Disabled)

0 = Disabled
1 = Enabled

Input :

Select PLO Clock Supply.
(Type : Imm   / Current : Supply)

0 = Supply
1 = Not Supply

Input :

Select DCH Layer 1 Alarm Release.
(Type : Imm   / Current : Disabled)

0 = Disabled
1 = Enabled

Input :
```

Setting of Alarm Release Time (Corresponds to SW10-4)

Setting of Alarm Detect/Release type (Corresponds to SW10-5)

Setting of Main Signal ALL 1 PLO Control (Corresponds to SW10-6)

Setting of PLO Clock Supply Control (Corresponds to SW10-7)

Setting of DCH Layer 1 Alarm Release (Corresponds to SW10-8)

Input: If left blank, the current value is used.

```
Select Line Signal.
(Type : Soft  / Current : HDB3)

0 = HDB3
1 = AMI

Input :

Select CRC-4 Control.
(Type : Soft  / Current : CRC-4 Multiframe)

0 = CRC-4 Multiframe
1 = Basic Frame

Input :

Select E-bit Sending.
(Type : Soft  / Current : Automatic)

0 = Automatic
1 = CPU

Input :

Select Signaling Format.
(Type : Soft  / Current : ITU-T)

0 = ITU-T
1 = CEPT

Input :

Select TS16 Control.
(Type : Soft  / Current : Data Through)

0 = Signaling
1 = Data Through

Input :

Select CRC MFRM Format.
(Type : Soft  / Current : Normal)

0 = Normal
1 = G.706 Annex-B

Input :
```

Setting of Line Signal (Corresponds to SW12-1)

Setting of CRC-4 Control (Corresponds to SW12-2)

Setting of E-Bit Sending (Corresponds to SW12-3)

Setting of Signaling Format (Corresponds to SW12-4)

Setting of TS16 Control (Corresponds to SW12-5)

Setting of CRC-4 Multiframe Format (Corresponds to SW12-6)

```
<< Result >>
-----------------------------------------------
Layer 1 Interface
   Remote Alarm Sending           : Allowed
   Jitter Attenuation Mode        : Disabled
   MFRM Remote Alarm Sending      : Allowed
   Alarm Release Time             : Short
   Alarm Detect Type              : Normal
   Main SIG. All 1 PLO Control    : Disabled
   PLO Clock Supply               : Supply
   DCH Layer 1 Alarm Release      : Disabled
   Line Signal                    : HDB3
   CRC-4 Control                  : CRC-4 Multiframe
   E-bit Sending                  : Automatic
   Signaling Format               : ITU-T
   TS16 Control                   : Data Through
   CRC MFRM Format                : Normal
-----------------------------------------------

>set config

0 = Maintenance
1 = Layer 1 Interface
2 = Function
3 = PAD
4 = ACIS/ISDN Interface
5 = Layer 2 Interface

Input : 2

<< Current Setting >>
-----------------------------------------------
Function
   Main Signal ALL 1              : Disabled
   Idle Code Sending              : Disabled
   DP Relay for FCCS              : Disabled
   SSD                            : Enabled
   Counter Node when SSD          : Activate
   L1 Alarm Notification          : Enabled
   CAS Control of DCH             : ON
   Collision Processing           : Enabled
-----------------------------------------------

Select Main Signal ALL 1.
(Type : Imm   / Current : Disabled)

0 = Disabled
1 = Enabled

Input :
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

Setting of Main Signal All 1 (Corresponds to SW13-1)

```
Select Idle Code Sending.
(Type : Imm   / Current : Disabled)

0 = Disabled
1 = Enabled

Input :
```

Setting of Idle Code Sending (Corresponds to SW13-2)

```
Select DP Relay for FCCS.
(Type : Imm   / Current : Disabled)

0 = Disabled
1 = Enabled

Input :
```

Setting of DP Relay Function for FCCS (Corresponds to SW13-3)

```
Select SSD.
(Type : Imm   / Current : Enabled)

0 = Enabled
1 = Disabled

Input :
```

Setting of Simultaneous Seizure Detection (Corresponds to SW13-4)

```
Select Counter Node when SSD.
(Type : Imm   / Current : Activate)

0 = Activate
1 = Not Activate

Input :
```

Setting of Counter Node when SSD has been detected (Corresponds to SW13-5)

```
Select L1 Alarm Notification.
(Type : Imm   / Current : Enabled)

0 = Enabled
1 = Disabled

Input :
```

Setting of Layer 1 Alarm Notification (Corresponds to SW13-6)

```
Select CAS Control of DCH.
(Type : Imm   / Current : ON)

0 = ON
1 = OFF

Input :
```

Setting of CAS Control of DCH (Corresponds to SW13-7)

```
Select Collision Processing.
(Type : Imm   / Current : Enabled)

0 = Disabled
1 = Enabled

Input :
```

Setting of Incoming/Outgoing Call Collision Processing (Corresponds to SW13-8)

```
<< Result >>
------------------------------------------------
Function
   Main Signal ALL 1              : Disabled
   Idle Code Sending              : Disabled
   DP Relay for FCCS              : Disabled
   SSD                            : Enabled
   Counter Node when SSD          : Activate
   L1 Alarm Notification          : Enabled
   CAS Control of DCH             : ON
   Collision Processing           : Enabled
------------------------------------------------

>set config

0 = Maintenance
1 = Layer 1 Interface
2 = Function
3 = PAD
4 = ACIS/ISDN Interface
5 = Layer 2 Interface

Input : 3

<< Current Setting >>
------------------------------------------------
PAD
   Reception PAD 1                : 2(Loss)
   Reception PAD 2                : 4(Loss)
   Reception PAD 3                : 6(Loss)
   Reception PAD 4                : 8(Loss)
   Transmission PAD 1             : 2(Loss)
   Transmission PAD 2             : 4(Loss)
   Transmission PAD 3             : 6(Loss)
   Transmission PAD 4             : 8(Loss)
   Data PAD Pattern               : 64k
   PAD Control                    : Reception
   PAD Field                      : A-Law
   PAD Pattern                    : Pattern 1
   PAD Kind                       : Standard
   PAD Selection                  : Standard
------------------------------------------------

Select Reception PAD 1.
(Type : Imm   / Current :  2(Loss))

   [(-8) - (17)]
   18 : through

Input :
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 1 is set with the ARTD/APAD command) (Corresponds to SW14-1 to SW14-5)

```
Select Reception PAD 2.
(Type : Imm   / Current :  4(Loss))

   [(-8) - (17)]
   18 : through

Input :

Select Reception PAD 3.
(Type : Imm   / Current :  6(Loss))

   [(-8) - (17)]
   18 : through

Input :

Select Reception PAD 4.
(Type : Imm   / Current :  8(Loss))

   [(-8) - (17)]
   18 : through

Input :

Select Transmission PAD 1.
(Type : Imm   / Current :  2(Loss))

   [(-8) - (17)]
   18 : through

Input :

Select Transmission PAD 2.
(Type : Imm   / Current :  4(Loss))

   [(-8) - (17)]
   18 : through

Input :

Select Transmission PAD 3.
(Type : Imm   / Current :  6(Loss))

   [(-8) - (17)]
   18 : through

Input :

Select Transmission PAD 4.
(Type : Imm   / Current :  8(Loss))

   [(-8) - (17)]
   18 : through

Input :
```

Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 2 is set with the ARTD/APAD command) (Corresponds to SW15-1 to SW15-5)

Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 3 is set with the ARTD/APAD command) (Corresponds to SW16-1 to SW16-5)

Reception PAD Value Setting (Flexible PAD) (Reception PAD value when 4 is set with the ARTD/APAD command) (Corresponds to SW17-1 to SW17-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set with the ARTD/APAD command) (Corresponds to SW18-1 to SW18-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set with the ARTD/APAD command) (Corresponds to SW19-1 to SW19-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set with the ARTD/APAD command) (Corresponds to SW20-1 to SW20-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set with the ARTD/APAD command) (Corresponds to SW21-1 to SW21-5)

```
<< Result >>
-------------------------------------------------
PAD
   Reception PAD 1                :  2(Loss)
   Reception PAD 2                :  4(Loss)
   Reception PAD 3                :  6(Loss)
   Reception PAD 4                :  8(Loss)
   Transmission PAD 1             :  2(Loss)
   Transmission PAD 2             :  4(Loss)
   Transmission PAD 3             :  6(Loss)
   Transmission PAD 4             :  8(Loss)
   Data PAD Pattern               : 64k
   PAD Control                    : Reception
   PAD Field                      : A-Law
   PAD Pattern                    : Pattern 1
   PAD Kind                       : Standard
   PAD Selection                  : Standard
-------------------------------------------------

>set config

0 = Maintenance
1 = Layer 1 Interface
2 = Function
3 = PAD
4 = ACIS/ISDN Interface
5 = Layer 2 Interface

Input : 4

<< Current Setting >>
-------------------------------------------------
ACIS/ISDN Interface
   ACIS Operation Mode            : ITU-T STD
   ACIS/ISDN Operation Mode       : ISDN Mode
   Guard Time                     : 48ms
   Detection Time                 : 56ms
   Detection Supervisory Time     : 1320ms
   Answer Detection Time          : 200ms
   Sa4 Bit Control                : Sa4 Disable
   Sa5 Bit Control                : Sa5 Disable
   Sa6 Bit Control                : Sa6 Disable
   Sa7 Bit Control                : Sa7 Disable
   Sa8 Bit Control                : Sa8 Disable
   Haul Mode                      : Short
   DCH Activation Mode            : User
-------------------------------------------------
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

```
 Select Data PAD Pattern.
 (Type : Imm   / Current : 64k)

 0 = 64k
 1 = 64k INV.
 2 = 56k
 3 = 48k

 Input :


 Select PAD Control.
 (Type : Imm   / Current : Reception)
 0 = Reception
 1 = Transmission
 2 = Fixed to ARTD
 3 = Bothway

 Input :

 Select PAD Field.
 (Type : Imm   / Current : A-Law)

 0 = u-Law
 1 = A-Law
 2 = A-Law to u-Law
 3 = u-Law to A-Law

 Input :

 Select PAD Pattern.
 (Type : Imm   / Current : Pattern 1)

0 = Pattern 1
1 = Pattern 2
2 = Pattern 3
3 = Pattern 4

 Input :

 Select PAD Kind.
 (Type : Imm   / Current : Standard)

 0 = Standard
 1 = Flexible

 Input :

 Select PAD Selection.
 (Type : Imm   / Current : Standard)

0 = Standard
1 = UK

 Input :
```

Data PAD Pattern Selection (Corresponds to SW17-7 to SW17-8)

Setting of PAD Control Method (Using Both Flexible/Standard PAD) (Corresponds to SW14-7 to SW14-8)

PAD Selection (Using Both Flexible/Standard PAD) (Corresponds to SW15-7 to SW15-8)

PAD Pattern Selection (Corresponds to SW16-7 to SW16-8)

Setting of PAD Kind (Corresponds to SW18−7)

PAD Selection (Corresponds to SW18-8)

All current switch settings read from the editing memory are displayed.

```
Select ACIS Operation Mode.
(Type : Soft  / Current : ITU-T STD)

0 = ITU-T STD
1 = ITU-T PLS CLB
2 = ITU-T PLS ANS
3 = AUST
4 = CHINA
5 = THAI
6 = BRAZIL LME
7 = BRAZIL CCB
8 = BRAZIL(A/P)
9 = BRAZIL(A/N)
10 = BRAZIL(B/P)
11 = IRAN TCI
12 = PERU(A/P)
13 = PERU(A/N)
14 = UK
15 = ETSI

Input :
```

Setting of ACIS Operation Mode

```
Select ACIS/ISDN Operation Mode.
(Type : Soft   / Current : ISDN Mode)

0 = ISDN Mode
1 = ISDN + ACIS Mode
2 = ACIS Mode
3 = ISDN + ACIS Mode

Input :

Select Guard Time.
(Type : Imm    / Current : 48ms)

   [(0) - (168)] ms

Input :

Select Detection Time.
(Type : Imm    / Current : 56ms)

   [(0) - (356)] ms

Input :

Select Detection Supervisory Time.
(Type : Imm    / Current : 1320ms)

   [(0) - (1320)] ms

Input :

Select Answer Detection Time.
(Type : Imm    / Current : 200ms)

   [(0) - (1650)] ms

Input :
```

Setting of ACIS/ISDN Operation Mode. (Corresponds to SW12-7 to SW12-8)
Fixed to 0 (ISDN Mode) for the PRT card.
Fixed to 2 (ACIS Mode) for the DTI card.

Setting of Seizure Acknowledgement Guard Time (Corresponds to SW22-1 to SW22-4)

Setting of Seizure Acknowledgement Detection Time (Corresponds to SW22-5 to SW22-8)

Setting of Seizure Acknowledgement Monitoring Time (Corresponds to SW23-1 to SW23-3)

Setting of Answer Detection Time (Corresponds to SW23-4 to SW23-8)

```
Select Sa4 Bit Control.
(Type : Soft  / Current : Sa4 Disable)

0 = Sa4 Disable
1 = Sa4 Enable

Input :
```

Setting of Sa4 Bit Control (Corresponds to SW24-1) (Fixed to OFF)

```
Select Sa5 Bit Control.
(Type : Soft  / Current : Sa5 Disable)

0 = Sa5 Disable
1 = Sa5 Enable

Input :
```

Setting of Sa5 Bit Control (Corresponds to SW24-2) (Fixed to OFF)

```
Select Sa6 Bit Control.
(Type : Soft  / Current : Sa6 Disable)

0 = Sa6 Disable
1 = Sa6 Enable

Input :
```

Setting of Sa6 Bit Control (Corresponds to SW11-8) (Fixed to OFF)

```
Select Sa7 Bit Control.
(Type : Soft  / Current : Sa7 Disable)

0 = Sa7 Disable
1 = Sa7 Enable

Input :
```

Setting of Sa7 Bit Control (Corresponds to SW24-3) (Fixed to OFF)

```
Select Sa8 Bit Control.
(Type : Soft  / Current : Sa8 Disable)

0 = Sa8 Disable
1 = Sa8 Enable

Input :
```

Setting of Sa8 Bit Control (Corresponds to SW24-4) (Fixed to OFF)

```
Select Haul Mode.
(Type : Soft  / Current : Short)

0 = Short
1 = Long

Input :
```

Setting of Haul Mode (Corresponds to SW24-7)

```
Select DCH Activation Mode.
(Type : Soft  / Current : User)

0 = User
1 = Network

Input :
```

Setting of DCH Activation Mode (Corresponds to SW24-8)

```
<< Result >>
-------------------------------------------------
ACIS/ISDN Interface
   ACIS Operation Mode             : ITU-T STD
   ACIS/ISDN Operation Mode        : ISDN Mode
   Guard Time                      : 48ms
   Detection Time                  : 56ms
   Detection Supervisory Time      : 1320ms
   Answer Detection Time           : 200ms
   Sa4 Bit Control                 : Sa4 Disable
   Sa5 Bit Control                 : Sa5 Disable
   Sa6 Bit Control                 : Sa6 Disable
   Sa7 Bit Control                 : Sa7 Disable
   Sa8 Bit Control                 : Sa8 Disable
   Haul Mode                       : Short
   DCH Activation Mode             : User
-------------------------------------------------

>set config

0 = Maintenance
1 = Layer 1 Interface
2 = Function
3 = PAD
4 = ACIS/ISDN Interface
5 = Layer 2 Interface

Input : 5

<< Current Setting >>
-------------------------------------------------
Layer 2 Interface
   DCH Operation Mode              : ITU-T
   SABME Wait Timer                : Disabled
   Speed Rate                      : 64kbps
   DCH Time Slot                   : 16
   DCH Signaling Logic             : Positive
   Congestion Detection Threshold : 75/90
-------------------------------------------------

Select DCH Operation Mode.
(Type : Soft  / Current : ITU-T)

0 = ITU-T
1 = TTC
2 = AT&T
3 = Thai

Input :

Select SABME Wait Timer.
(Type : Soft  / Current : Disabled)

0 = Disabled
1 = Enabled

Input :
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

Setting of DCH Operation Mode (Corresponds to SW25-1 to SW25-3) (No setting is required for CH-PRTA (2M DTI))

Setting of SABME Wait Timer (Corresponds to SW25-4) (No setting is required for CH-PRTA (2M DTI))

```
Select Speed Rate.
(Type : Soft  / Current : 64kbps)

0 = 64kbps
1 = 56kbps
2 = 48kbps(S)
3 = 32kbps(F)
4 = 32kbps(B)
5 = 16kbps(F)
6 = 16kbps(B)
7 =  8kbps(F)
8 =  8kbps(B)
9 = 48kbps(O)

Input :

Select DCH Time Slot.
(Type : Soft  / Current : 16)

   [(1) - (31)]

Input :

Select DCH Signaling Logic.
(Type : Soft  / Current : Positive)

0 = Positive
1 = Negative

Input :

Select Congestion Detection Threshold.
(Type : Soft  / Current : 75/90)

0 = 75/90
1 = 15/35
2 = 20/40
3 = 25/45
4 = 30/50
5 = 40/60
6 = 50/65
7 = 55/70
8 = 60/75
9 = 65/80
10 = 70/85
11 = 80/90
12 = 85/90
13 = 90/95
14 = Always
15 = No Detection

Input :
```

Setting of DCH Transfer Rate (Corresponds to SW25-5 to SW25-8) (No setting is required for CH-PRTA (2M DTI))

DCH Time Slot Setting (Corresponds to SW26-1 to SW26-5) (No setting is required for CH-PRTA (2M DTI))

Setting of DCH Signaling Logic (Corresponds to SW26-8) (No setting is required for CH-PRTA (2M DTI))

Setting of Congestion Detection Threshold (QUE remainder ratio) (Corresponds to SW27-1 to SW27-4) (No setting is required for CH-PRTA (2M DTI))

```
<< Result >>
-------------------------------------------------
Layer 2 Interface
   DCH Operation Mode             : ITU-T
   SABME Wait Timer               : Disabled
   Speed Rate                     : 64kbps
   DCH Time Slot                  : 16
   DCH Signaling Logic            : Positive
   Congestion Detection Threshold : 75/90
-------------------------------------------------

>
```

All current switch settings read from the editing memory are displayed.

(c) CCT card (1.5M CCT)

```
>set config

0 = Maintenance
1 = Level 1 Interface
2 = Function
3 = PAD
4 = ACIS/CCIS Interface
5 = Level 2 Interface

Input : 0

<< Current Setting >>
------------------------------------------------
Maintenance
  Local Loopback              : OFF
  Line Loopback               : OFF
  Payload Loopback            : OFF
  All Bch Make-Busy           : OFF
  CCH Make-Busy               : OFF
  CCH Loopback                : OFF
  CCH Bit Error Test          : OFF
------------------------------------------------

Select Local Loopback.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input : 1



Select Line Loopback.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input :
```

All current switch settings read from the editing memory are displayed.

Setting of Local Loopback (Corresponds to SW01-1)

Type: Type of switch
SP: Short Plug (jumper switch)
8Dip : 8-Dip switch
Soft: Soft switch
Imm: Immediate switch
Current: Display of current settings (editing memory)

Setting of Line Loopback (Corresponds to SW01-2)

Input: If left blank, the current value is used.

```
Select Payload Loopback.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input :

Select All Bch Make-Busy.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input :

Select CCH Make-Busy.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input :

Select CCH Loopback.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input :

Select CCH Bit Error Test.
(Type : Imm / Current : OFF)

0 = OFF
1 = ON

Input :

<< Result >>
------------------------------------------------
Maintenance
  Local Loopback              : ON
  Line Loopback               : OFF
  Payload Loopback            : OFF
  All Bch Make-Busy           : OFF
  CCH Make-Busy               : OFF
  CCH Loopback: Disabled      : OFF
  CCH Bit Error Test          : OFF
------------------------------------------------
```

Setting of Payload Loopback (Corresponds to SW01-3)

Setting of All B Channel Make-Busy (Corresponds to SW01-4)

Setting of CCH Make-Busy (Corresponds to SW01-5)

Setting of CCH Loopback (Corresponds to SW01-6)

CCH Bit Error Test (Corresponds to SW01-8) (Fixed to OFF)

All current switch settings read from the editing memory are displayed.

```
>set config

0 = Maintenance
1 = Level 1 Interface
2 = Function
3 = PAD
4 = ACIS/CCIS Interface
5 = Level 2 Interface

Input : 1

<< Current Setting >>
-----------------------------------------------
Level 1 Interface
  Remote Alarm Sending        : Allowed
  Remote Alarm                : Data Link
  Alarm Operation Mode        : JP
  Alarm Release Time          : Short
  Alarm Detect Type           : Normal
  Main SIG. All 1 PLO Control : Disabled
  PLO Clock Supply            : Supply
  CCH Level 1 Alarm Release   : Disabled
  Equalizer                   : 0- 40m
  ITU-T G.704/JT-G704         : ITU-T G.704
  Line Signal                 : B8ZS
  Frame Format                : 24MF
  4k Data Link                : MOS
  MOS/BOM Operation Mode      : MODE 3
  Signaling In Channel        : OFF
  M-Bit Activation Mode       : User
-----------------------------------------------

Select Remote Alarm Sending.
(Type : Imm / Current : Allowed)

0 = Allowed
1 = Restricted

Input :

Select Remote Alarm.
(Type : Imm / Current : Data Link)

  0 = Data Link
  1 = In Channel

Input :

Select Alarm Operation Mode.
(Type : Imm / Current : JP)

  0 = JP
  1 = US

Input :
```

All current switch settings read from the editing memory are displayed.

Setting of Remote Alarm Send Out (Corresponds to SW10-1)

Setting of Remote Alarm (Corresponds to SW10-2)

Setting of Remote Alarm to when AIS has been detected (Corresponds to SW10-3)

```
Select Alarm Release Time.
(Type : Imm / Current : Short)

0 = Short
1 = Long

Input :
```

Setting of Alarm Release Time (Corresponds to SW10-4)

```
Select Alarm Detect Type.
(Type : Imm / Current : Normal)

  0 = Normal
  1 = AT&T

Input :
```

Setting of Alarm Detect/Release Type (Corresponds to SW10-5)

```
Select Main SIG.All 1 PLO Control.
(Type : Imm / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :
```

Setting of Main SIGNAL ALL 1 PLO Control. (Corresponds to SW10-6)

```
Select PLO Clock Supply.
(Type : Imm / Current : Supply)

  0 = Supply
  1 = Not Supply

Input :
```

Setting of PLO Clock Supply (Corresponds to SW10-7)

```
Select CCH Level 1 Alarm Release.
(Type : Imm / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :
```

Setting of CCH Level 1 Alarm Release (Corresponds to SW10-8)

```
Select Equalizer.
(Type : Soft / Current : 0- 40m)

  0 = 0- 40m
  1 = 40- 80m
  2 = 80-120m
  3 = 120-160m
  4 = 160-200m

Input :
```

Transmission Equalizer Settings (Corresponds to SW11-1 to SW11-3)

```
Select ITU-T G.704/ JT-G704.
(Type : Soft / Current : ITU-T G.704)

  0 = ITU-T G.704
  1 = JT-G704 Issue.2
Input :
```

TTC JT-G704 (only 1st edition and 2nd edition) / ITU-T G.704 Compliance mode (Corresponds to SW11-8)

```
Select Line Signal.
(Type : Soft / Current : B8ZS)

  0 = B8ZS
  1 = AMI/ZCS

Input :
```

Setting of Line Signal (Corresponds to SW12-1)

```
Select Frame Format.
(Type : Soft / Current : 24MF)

  0 = 24MF
  1 = 12MF

Input :
```

Setting of Multiframe (Corresponds to SW12-2)

```
Select 4k Data Link.
(Type : Soft / Current : MOS)

  0 = BOM
  1 = MOS

Input :
```

Setting of 4k Data Link (Corresponds to SW12-3)

```
Select MOS/BOM Operation Mode.
(Type : Soft / Current : MODE 3)

  0 = MODE 0
  1 = MODE 1
  2 = MODE 2
  3 = MODE 3

Input :
```

Setting of MOS/BOM Operation Mode (Corresponds to SW12-4 to SW12-5)

```
Select Signaling In Channel.
(Type : Soft / Current : OFF)

  0 = OFF
  1 = ON

Input :
```

Setting of Signaling In Channel (Corresponds to SW12-6) (Fixed to OFF)

```
Select M-Bit Activation Mode.
(Type : Soft / Current : User)

  0 = User
  1 = Network

Input :
```

Setting of 4k Data Link Activation Mode (Corresponds to SW24-8)

```
<< Result >>
------------------------------------------------
Level 1 Interface
  Remote Alarm Sending        : Allowed
  Remote Alarm                : Data Link
  Alarm Operation Mode        : JP
  Alarm Release Time          : Short
  Alarm Detect Type           : Normal
  Main SIG. All 1 PLO Control : Disabled
  PLO Clock Supply            : Supply
  CCH Level 1 Alarm Release   : Disabled
  Equalizer                   : 0- 40m
  ITU-T G.704/JT-G704         : ITU-T G.704
  Line Signal                 : B8ZS
  Frame Format                : 24MF
  4k Data Link                : MOS
  MOS/BOM Operation Mode      : MODE 3
  Signaling In Channel        : OFF
  M-Bit Activation Mode       : User
------------------------------------------------

>set config

0 = Maintenance
1 = Level 1 Interface
2 = Function
3 = PAD
4 = ACIS/CCIS Interface
5 = Level 2 Interface

Input : 2

<< Current Setting >>
------------------------------------------------
Function
  Main Signal ALL 1           : Disabled
  Idle Code Sending           : Disabled
  DP Relay for FCCS           : Disabled
  SSD                         : Enabled
  Counter Node when SSD       : Activate
  L1 Alarm Notification       : Enabled
  CAS Control of CCH          : ON
  Collision Processing        : Disabled
------------------------------------------------

Select Main Signal ALL 1.
(Type : Imm / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

Setting of Main Signal All 1 (Corresponds to SW13-1)

```
Select Idle Code Sending.
(Type : Imm / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :
```

Setting of Idle Code Sending (Corresponds to SW13-2)

```
Select DP Relay for FCCS.
(Type : Imm / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :
```

Setting of DP Relay Function for FCCS (Corresponds to SW13-3)

```
Select SSD.
(Type : Imm / Current : Enabled)

  0 = Enabled
  1 = Disabled

Input :
```

Setting of Simultaneous Seizure Detection (Corresponds to SW13-4)

```
Select Counter Node when SSD.
(Type : Imm / Current : Activate)

  0 = Activate
  1 = Not Activate

Input :
```

Setting of Counter Node when SSD has been detected (Corresponds to SW13-5)

```
Select L1 Alarm Notification.
(Type : Imm / Current : Enabled)

  0 = Enabled
  1 = Disabled

Input :
```

Setting of Level 1 Alarm Notification (Corresponds to SW13-6)

```
Select CAS Control of CCH.
(Type : Imm / Current : ON)

  0 = ON
  1 = OFF

Input :
```

Setting of CAS Control of CCH (Corresponds to SW13-7)

```
Select Collision Processing.
(Type : Imm / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :
```

Setting of Incoming/Outgoing Call Collision Processing (Corresponds to SW13-8)

```
<< Current Setting >>
-------------------------------------------------
Function
  Main Signal ALL 1           : Disabled
  Idle Code Sending           : Disabled
  DP Relay for FCCS           : Disabled
  SSD                         : Enabled
  Counter Node when SSD       : Activate
  L1 Alarm Notification       : Enabled
  CAS Control of CCH          : ON
  Collision Processing        : Disabled
-------------------------------------------------

>set config

0 = Maintenance
1 = Level 1 Interface
2 = Function
3 = PAD
4 = ACIS/CCIS Interface
5 = Level 2 Interface

Input : 3

<< Current Setting >>
-------------------------------------------------
PAD
  Reception PAD 1             : 2(Loss)
  Reception PAD 2             : 4(Loss)
  Reception PAD 3             : 12(Loss)
  Reception PAD 4             : 8(Loss)
  Transmission PAD 1          : 2(Loss)
  Transmission PAD 2          : 4(Loss)
  Transmission PAD 3          : 12(Loss)
  Transmission PAD 4          : 8(Loss)
  Data PAD Pattern            : 64k
  PAD Control                 : Reception
  PAD Field                   : u-Law
  PAD Pattern                 : Pattern 1
  PAD Kind                    : Standard
-------------------------------------------------

Select Reception PAD 1.
(Type : Imm / Current : 2(Loss))

  [(-8)-(17)]
  18 = through

Input :

Select Reception PAD 2.
(Type : Imm / Current : 4(Loss))

  [(-8)-(17)]
  18 = through

Input :
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set with the ARTD/APAD command.) (Corresponds to SW14-1 to SW14-5)

Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 2 is set with the ARTD/APAD command.) (Corresponds to SW15-1 to SW15-5)

```
Select Reception PAD 3.
(Type : Imm / Current : 12(Loss))

  [(-8)-(17)]
  18 = through

Input :

Select Reception PAD 4.
(Type : Imm / Current : 8(Loss))

  [(-8)-(17)]
  18 = through

Input :

Select Transmission PAD 1.
(Type : Imm / Current : 2(Loss))

  [(-8)-(17)]
  18 = through

Input :

Select Transmission PAD 2.
(Type : Imm / Current : 4(Loss))

  [(-8)-(17)]
  18 = through

Input :

Select Transmission PAD 3.
(Type : Imm / Current : 12(Loss))

  [(-8)-(17)]
  18 = through

Input :

Select Transmission PAD 4.
(Type : Imm / Current : 8(Loss))

  [(-8)-(17)]
  18 = through

Input :

Select Data PAD Pattern.
(Type : Imm / Current : 64k)

  0 = 64k
  1 = 64k INV.
  2 = 56k
  3 = 48k

Input :
```

Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 3 is set with the ARTD/APAD command.) (Corresponds to SW16-1 to SW16-5)

Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 4 is set with the ARTD/APAD command.) (Corresponds to SW17-1 to SW17-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set with the ARTD/APAD command) (Corresponds to SW18-1 to SW18-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set with the ARTD/APAD command) (Corresponds to SW19-1 to SW19-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set with the ARTD/APAD command) (Corresponds to SW20-1 to SW20-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set with the ARTD/APAD command) (Corresponds to SW21-1 to SW21-5)

Data PAD Pattern Selection (Corresponds to SW17-7 to SW17-8)

```
Select PAD Control.
(Type : Imm / Current : Reception)

  0 = Reception
  1 = Transmission
  2 = Fixed to ARTD
  3 = Bothway

Input :
```

Setting of PAD Control Method (Using Both Flexible/Standard PAD) (Corresponds to SW14-7 to SW14-8)

```
Select PAD Field.
(Type : Imm / Current : u-Law)

  0 = u-Law
  1 = A-Law
  2 = A-Law to u-Law
  3 = u-Law to A-Law

Input :
```

PAD Selection (Using Both Flexible/Standard PAD) (Corresponds to SW15-7 to SW15-8)

```
Select PAD Pattern.
(Type : Imm / Current : Pattern 1)

  0 = Pattern 1
  1 = Pattern 2
  2 = Pattern 3
  3 = Pattern 4

Input :
```

PAD Pattern Selection (Corresponds to SW16-7 to SW16-8)

```
Select PAD Kind.
(Type : Imm / Current : Standard)

  0 = Standard
  1 = Flexible

Input :
```

Setting of PAD Kind (Corresponds to SW18-7)

```
<< Current Setting >>
-------------------------------------------------
PAD
  Reception PAD 1             : 2(Loss)
  Reception PAD 2             : 4(Loss)
  Reception PAD 3             : 12(Loss)
  Reception PAD 4             : 8(Loss)
  Transmission PAD 1          : 2(Loss)
  Transmission PAD 2          : 4(Loss)
  Transmission PAD 3          : 12(Loss)
  Transmission PAD 4          : 8(Loss)
  Data PAD Pattern            : 64k
  PAD Control                 : Reception
  PAD Field                   : u-Law
  PAD Pattern                 : Pattern 1
  PAD Kind                    : Standard
-------------------------------------------------
```

All current switch settings read from the editing memory are displayed.

```
>set config

0 = Maintenance
1 = Level 1 Interface
2 = Function
3 = PAD
4 = ACIS/CCIS Interface
5 = Level 2 Interface

Input : 4

<< Current Setting >>
------------------------------------------------
ACIS/CCIS Interface
  ACIS/CCIS Operation Mode    : CCIS Mode
  Guard Time                  : 48ms
  Detection Time              : 56ms
  Detection Supervisory Time  : 1320ms
  Answer Detection Time       : 200ms
  Send Signaling Pattern      : B/S Inhibited
  Receive Signaling Pattern   : B/S Inhibited
  Send Signaling A Logic      : Negative
  Receive Signaling A Logic   : Negative
  Haul Mode                   : Short
------------------------------------------------

Select ACIS/CCIS Operation Mode.
(Type : Imm / Current : CCIS Mode)

  0 = CCIS Mode
  1 = CCIS + ACIS Mode
  2 = ACIS Mode
  3 = CCIS + ACIS Mode

Input :

Select Guard Time.
(Type : Imm / Current : 48ms)

  [(0)-(168)]ms

Input :

Select Detection Time.
(Type : Imm / Current : 56ms)

  [(0)-(356)]ms

Input :

Select Detection Supervisory Time.
(Type : Imm / Current : 1320ms)

  [(0)-(1320)]ms

Input :
```

All current switch settings read from the editing memory are displayed.

Setting of ACIS/CCIS Operation Mode (Corresponds to SW12-7 to SW12-8)

Setting of Seizure Acknowledgement Guard Time (Corresponds to SW22-1 to SW22-4)

Setting of Seizure Acknowledgement Detection Time (Corresponds to SW22-5 to SW22-8)

Setting of Seizure Acknowledgement Monitoring Time (Corresponds to SW23-1 to SW23-3)

```
Select Answer Detection Time.
(Type : Imm / Current : 200ms)

  [(0)-(1650)]ms

Input :

Select Send Signaling Pattern.
(Type : Soft / Current : B/S Inhibited)

  0 = AAAA
  1 = ABAB
  2 = B/S Inhibited
  3 = ABCD

Input :

Select Receive Signaling Pattern.
(Type : Soft / Current : B/S Inhibited)

  0 = AAAA
  1 = ABAB
  2 = B/S Inhibited
  3 = ABCD

Input :

Select Send Signaling A Logic.
(Type : Soft / Current : Negative)

  0 = Positive
  1 = Negative

Input :

Select Receive Signaling A Logic.
(Type : Soft / Current : Negative)

  0 = Positive
  1 = Negative

Input :

Select Haul Mode.
(Type : Soft / Current : Short)

  0 = Short
  1 = Long

Input :
```

Setting of Answer Detection Time (Corresponds to SW23-4 to SW23-8)

Send Signaling Pattern Selection (Corresponds to SW24-1 to SW24-2)

Receive Signaling Pattern Selection (Corresponds to SW24-3 to SW24-4)

Setting of Send Signaling A Logic (Corresponds to SW24-5)

Setting of Receive Signaling A Logic (Corresponds to SW24-6)

Setting of Haul Mode (Corresponds to SW24-7)

```
<< Current Setting >>
-------------------------------------------------
ACIS/CCIS Interface
  ACIS/CCIS Operation Mode    : CCIS Mode
  Guard Time                  : 48ms
  Detection Time              : 56ms
  Detection Supervisory Time  : 1320ms
  Answer Detection Time       : 200ms
  Send Signaling Pattern      : B/S Inhibited
  Receive Signaling Pattern   : B/S Inhibited
  Send Signaling A Logic      : Negative
  Receive Signaling A Logic   : Negative
  Haul Mode                   : Short
-------------------------------------------------
>set config

0 = Maintenance
1 = Level 1 Interface
2 = Function
3 = PAD
4 = ACIS/CCIS Interface
5 = Level 2 Interface

Input : 5

<< Current Setting >>
-----------------------------------------------------
Level 2 Interface
  CCH Operation Mode          : ITU-T(E)
  SIOS Signal output          : Consecutive
  Speed Rate                  : 64kbps
  CCH Time Slot               : 23
  CCH Signaling Logic         : Positive
  Congestion Detection Threshold : 75/90
  CCIS Level 2 Error Threshold : CCH Error Level 1
  CCH Octet Counting Mode     : Disabled
-----------------------------------------------------
Select CCH Operation Mode.
(Type : Soft / Current : ITU-T(E))

  0 = ITU-T(E)
  1 = ITU-T(N)
  2 = NTT
  3 = TTC
  4 = 24CCTA+TTC
  5 = 2CCHA
  6 = 24CCTA
  7 = ITU-T(E)+PS

Input :

Select SIOS Signal output.
(Type : Soft / Current : Consecutive)

  0 = Consecutive
  1 = 3sec
Input :
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

Setting of CCH Operation Mode (Corresponds to SW25-1 to SW25-3)

Setting of SIOS Signal Output (Corresponds to SW25-4)

```
Select Speed Rate.
(Type : Soft / Current : 64kbps)

  0 = 64kbps
  1 = 56kbps
  2 = 48kbps(S)
  3 = 32kbps(F)
  4 = 32kbps(B)
  5 = 16kbps(F)
  6 = 16kbps(B)
  7 =  8kbps(F)
  8 =  8kbps(B)
  9 = 48kbps(O)

Input :
```

Setting of CCH Transfer Rate (Corresponds to SW25-5 to SW25-8)

```
Select CCH Time Slot.
(Type : Soft / Current : 23)

  [(0)-(23)]

Input :
```

CCH Time Slot Setting (Corresponds to SW26-1 to SW26-5)

```
Select CCH Signaling Logic.
(Type : Soft / Current : Positive)

  0 = Positive
  1 = Negative

Input :
```

Setting of CCH Signaling Logic (Corresponds to SW26-8)

```
Select Congestion Detection Threshold.
(Type : Soft / Current : 75/90)

  0 = 75/90
  1 = 15/35
  2 = 20/40
  3 = 25/45
  4 = 30/50
  5 = 40/60
  6 = 50/65
  7 = 55/70
  8 = 60/75
  9 = 65/80
  10 = 70/85
  11 = 80/90
  12 = 85/90
  13 = 90/95
  14 = Always
  15 = No Detection

Input :
```

Setting of Congestion Detection Threshold (QUE remainder ratio) (Corresponds to SW27-1 to SW27-4)

```
Select CCIS Level 2 Error Threshold.
(Type : Soft / Current : CCH Error Level 1)

  0 = CCH Error Level 1
  1 = CCH Error Level 2
  2 = CCH Error Level 3
  3 = CCH Error Level 4
  4 = CCH Error Level 5
  5 = CCH Error Level 6
  6 = CCH Error Level 7
  7 = CCH Error Level 8

Input :

Select CCH Octet Counting Mode.
(Type : Soft / Current : Disabled)

  0 = Disabled
  1 = Enabled

Input :

<< Current Setting >>
-----------------------------------------------------
Level 2 Interface
   CCH Operation Mode          : ITU-T(E)
   SIOS Signal output          : Consecutive
   Speed Rate                  : 64kbps
   CCH Time Slot               : 23
   CCH Signaling Logic         : Positive
   Congestion Detection Threshold : 75/90
   CCIS Level 2 Error Threshold : CCH Error Level 1
   CCH Octet Counting Mode     : Disabled
-----------------------------------------------------

>
```

Setting of CCIS Level 2 Error Threshold (Corresponds to SW27-5 to SW27-7) (Fixed to 0 (CCH Error Level 1))

Setting of CCH Octet Counting Mode (Corresponds to SW27-8)

All current switch settings read from the editing memory are displayed.

(d) CCT card (2M CCT)

```
>set config

0 = Maintenance
1 = Level 1 Interface
2 = Function
3 = PAD
4 = ACIS/CCIS Interface
5 = Level 2 Interface

Input : 0

<< Current Setting >>
-------------------------------------------------
  Maintenance
  Local Loopback                 : OFF
  Line Loopback                  : OFF
  Payload Loopback               : OFF
  All Bch Make-Busy              : OFF
  CCH Make-Busy                  : OFF
  CCH Loopback                   : OFF
  CCH Bit Error Test             : OFF
-------------------------------------------------

Select Local Loopback.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :

Select Line Loopback.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :
```

All current switch settings read from the editing memory are displayed.

Setting of Local Loopback (Corresponds to SW01-1)

Type: Type of switch
SP: Short Plug (jumper switch)
8Dip : 8-Dip switch
Soft: Soft switch
Imm: Immediate switch
Current: Display of current settings (editing memory)

Setting of Line Loopback (Corresponds to SW01-2)

Input: If left blank, the current value is used.

```
Select Payload Loopback.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :

Select All Bch Make-Busy.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :

Select CCH Make-Busy.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :

Select CCH Loopback.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :

Select CCH Bit Error Test.
(Type : Imm   / Current : OFF)

0 = OFF
1 = ON

Input :

<< Result >>
------------------------------------------------
Maintenance
  Local Loopback                : OFF
  Line Loopback                 : OFF
  Payload Loopback              : OFF
  All Bch Make-Busy             : OFF
  CCH Make-Busy                 : OFF
  CCH Loopback                  : OFF
  CCH Bit Error Test            : OFF
------------------------------------------------
```

Setting of Payload Loopback (Corresponds to SW01-3)

Setting of All B Channel Make-Busy (Corresponds to SW01-4)

Setting of CCH Make-Busy (Corresponds to SW01-5)

Setting of CCH Loopback (Corresponds to SW01-6)

Settings of CCH Bit Error Test (Corresponds to SW01-8) (Fixed to OFF)

All current switch settings read from the editing memory are displayed.

```
>set config

0 = Maintenance
1 = Level 1 Interface
2 = Function
3 = PAD
4 = ACIS/CCIS Interface
5 = Level 2 Interface

Input : 1

<< Current Setting >>
------------------------------------------------
Level 1 Interface
  Remote Alarm Sending           : Allowed
  Jitter Attenuation Mode        : Disabled
  MFRM Remote Alarm Sending      : Allowed
  Alarm Release Time             : Short
  Alarm Detect Type              : Normal
  Main SIG. All 1 PLO Control    : Disabled
  PLO Clock Supply               : Supply
  CCH Level 1 Alarm Release      : Disabled
  Line Signal                    : HDB3
  CRC-4 Control                  : CRC-4 Multiframe
  E-bit Sending                  : Automatic
  Signaling Format               : ITU-T
  TS16 Control                   : Data Through
  CRC MFRM Format                : Normal
------------------------------------------------

Select Remote Alarm Sending.
(Type : Imm   / Current : Allowed)

0 = Allowed
1 = Restricted

Input :

Select Jitter Attenuation Mode.
(Type : Imm   / Current : Disabled)

0 = Disabled
1 = Enabled

Input :

Select MFRM Remote Alarm Sending.
(Type : Imm   / Current : Allowed)

0 = Allowed
1 = Restricted

Input :
```

All current switch settings read from the editing memory are displayed.

Setting of Remote Alarm Send Out (Corresponds to SW10-1)

Setting of Jitter Attenuation Mode (Corresponds to SW10-2) (Fixed to OFF)

Setting of Multiframe Remote Alarm Sending (Corresponds to SW10-3)

```
Select Alarm Release Time.
(Type : Imm   / Current : Short)

0 = Short
1 = Long

Input :
```

Setting of Alarm Release Time (Corresponds to SW10-4)

```
Select Alarm Detect Type.
(Type : Imm   / Current : Normal)

0 = Normal
1 = ETSI

Input :
```

Setting of Alarm Detect/Release Type (Corresponds to SW10-5)

```
Select Main SIG. All 1 PLO Control.
(Type : Imm   / Current : Disabled)

0 = Disabled
1 = Enabled

Input :
```

Setting of Main Signal All 1 PLO Control (Corresponds to SW10-6)

```
Select PLO Clock Supply.
(Type : Imm   / Current : Supply)

0 = Supply
1 = Not Supply

Input :
```

Setting of PLO Clock Supply Control (Corresponds to SW10-7)

```
Select CCH Level 1 Alarm Release.
(Type : Imm   / Current : Disabled)

0 = Disabled
1 = Enabled

Input :
```

Setting of CCH Level 1 Alarm Release (Corresponds to SW10-8)

```
Select Line Signal.
(Type : Soft  / Current : HDB3)

0 = HDB3
1 = AMI

Input :
```

Setting of Line Signal (Corresponds to SW12-1)

```
Select CRC-4 Control.
(Type : Soft  / Current : CRC-4 Multiframe)

0 = CRC-4 Multiframe
1 = Basic Frame

Input :
```

Setting of CRC-4 Control (Corresponds to SW12-2)

```
Select E-bit Sending.
(Type : Soft  / Current : Automatic)

0 = Automatic
1 = CPU

Input :

Select Signaling Format.
(Type : Soft  / Current : ITU-T)

0 = ITU-T
1 = CEPT

Input :

Select TS16 Control.
(Type : Soft  / Current : Data Through)

0 = Signaling
1 = Data Through

Input :

Select CRC MFRM Format.
(Type : Soft  / Current : Normal)

0 = Normal
1 = G.706 Annex-B

Input :
```

Setting of E-Bit Sending (Corresponds to SW12−3)

Signaling Format Setting (Corresponds to SW12−4)

Setting of TS16 Control (Corresponds to SW12−5)

Setting of CRC-4 Multiframe Format (Corresponds to SW12−6)

```
<< Result >>
------------------------------------------------
Level 1 Interface
  Remote Alarm Sending           : Allowed
  Jitter Attenuation Mode        : Disabled
  MFRM Remote Alarm Sending      : Allowed
  Alarm Release Time             : Short
  Alarm Detect Type              : Normal
  Main SIG. All 1 PLO Control    : Disabled
  PLO Clock Supply               : Supply
  CCH Level 1 Alarm Release      : Disabled
  Line Signal                    : HDB3
  CRC-4 Control                 : CRC-4 Multiframe
  E-bit Sending                  : Automatic
  Signaling Format               : ITU-T
  TS16 Control                   : Data Through
  CRC MFRM Format                : Normal
------------------------------------------------

>set config

0 = Maintenance
1 = Level 1 Interface
2 = Function
3 = PAD
4 = ACIS/CCIS Interface
5 = Level 2 Interface

Input : 2

<< Current Setting >>
------------------------------------------------
Function
  Main Signal ALL 1              : Disabled
  Idle Code Sending              : Disabled
  DP Relay for FCCS              : Disabled
  SSD                            : Enabled
  Counter Node when SSD          : Activate
  L1 Alarm Notification          : Enabled
  CAS Control of CCH             : ON
  Collision Processing           : Enabled
------------------------------------------------

Select Main Signal ALL 1.
(Type : Imm   / Current : Disabled)

0 = Disabled
1 = Enabled

Input :
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

Setting of Main Signal ALL 1 (Corresponds to SW13-1)

```
Select Idle Code Sending.
(Type : Imm   / Current : Disabled)

0 = Disabled
1 = Enabled

Input :
```

Setting of Idle Code Sending (Corresponds to SW13−2)

```
Select DP Relay for FCCS.
(Type : Imm   / Current : Disabled)

0 = Disabled
1 = Enabled

Input :
```

Setting of DP Relay Function for FCCS (Corresponds to SW13-3)

```
Select SSD.
(Type : Imm   / Current : Enabled)

0 = Enabled
1 = Disabled

Input :
```

Setting of Simultaneous Seizure Detection (Corresponds to SW13-4)

```
Select Counter Node when SSD.
(Type : Imm   / Current : Activate)

0 = Activate
1 = Not Activate

Input :
```

Setting of Counter Node when SSD has been detected (Corresponds to SW13-5)

```
Select L1 Alarm Notification.
(Type : Imm   / Current : Enabled)

0 = Enabled
1 = Disabled

Input :
```

Setting of Level 1 Alarm Notification (Corresponds to SW13-6)

```
Select CAS Control of CCH.
(Type : Imm   / Current : ON)

0 = ON
1 = OFF

Input :
```

Setting of CAS Control of CCH (Corresponds to SW13-7)

```
Select Collision Processing.
(Type : Imm   / Current : Enabled)

0 = Disabled
1 = Enabled

Input :
```

Setting of Incoming/Outgoing call collision processing to be used. (Corresponds to SW13-8)

```
<< Result >>
-----------------------------------------------
Function
  Main Signal ALL 1              : Disabled
  Idle Code Sending              : Disabled
  DP Relay for FCCS              : Disabled
  SSD                            : Enabled
  Counter Node when SSD          : Activate
  L1 Alarm Notification          : Enabled
  CAS Control of CCH             : ON
  Collision Processing           : Enabled
-----------------------------------------------

>set config

0 = Maintenance
1 = Level 1 Interface
2 = Function
3 = PAD
4 = ACIS/CCIS Interface
5 = Level 2 Interface

Input : 3

<< Current Setting >>
-----------------------------------------------
PAD
  Reception PAD 1                : 2(Loss)
  Reception PAD 2                : 4(Loss)
  Reception PAD 3                : 6(Loss)
  Reception PAD 4                : 8(Loss)
  Transmission PAD 1             : 2(Loss)
  Transmission PAD 2             : 4(Loss)
  Transmission PAD 3             : 6(Loss)
  Transmission PAD 4             : 8(Loss)
  Data PAD Pattern               : 64k
  PAD Control                    : Reception
  PAD Field                      : A-Law
  PAD Pattern                    : Pattern 1
  PAD Kind                       : Standard
  PAD Selection                  : Standard
-----------------------------------------------

Select Reception PAD 1.
(Type : Imm   / Current :  2(Loss))

   [(-8) - (17)]
   18 : through

Input :
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 1 is set with the ARTD/APAD command.) (Corresponds to SW14-1 to SW14-5)

```
Select Reception PAD 2.
(Type : Imm   / Current :  4(Loss))

   [(-8) - (17)]
   18 : through

Input :

Select Reception PAD 3.
(Type : Imm   / Current :  6(Loss))

   [(-8) - (17)]
   18 : through

Input :

Select Reception PAD 4.
(Type : Imm   / Current :  8(Loss))

   [(-8) - (17)]
   18 : through

Input :

Select Transmission PAD 1.
(Type : Imm   / Current :  2(Loss))

   [(-8) - (17)]
   18 : through

Input :

Select Transmission PAD 2.
(Type : Imm   / Current :  4(Loss))

   [(-8) - (17)]
   18 : through

Input :

Select Transmission PAD 3.
(Type : Imm   / Current :  6(Loss))

   [(-8) - (17)]
   18 : through

Input :

Select Transmission PAD 4.
(Type : Imm   / Current :  8(Loss))

   [(-8) - (17)]
   18 : through

Input :
```

Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 2 is set with the ARTD/APAD command.) (Corresponds to SW15-1 to SW15-5)

Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 3 is set with the ARTD/APAD command.) (Corresponds to SW16-1 to SW16-5)

Reception PAD Value Setting (Flexible PAD) (Reception PAD Value when 4 is set with the ARTD/APAD command.) (Corresponds to SW17-1 to SW17-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 1 is set with the ARTD/APAD command) (Corresponds to SW18-1 to SW18-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 2 is set with the ARTD/APAD command) (Corresponds to SW19-1 to SW19-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 3 is set with the ARTD/APAD command) (Corresponds to SW20-1 to SW20-5)

Transmission PAD Value Setting (Flexible PAD) (Transmission PAD value when 4 is set with the ARTD/APAD command) (Corresponds to SW21-1 to SW21-5)

```
Select Data PAD Pattern.
(Type : Imm   / Current : 64k)

0 = 64k
1 = 64k INV.
2 = 56k
3 = 48k

Input :
```

Data PAD Pattern Selection (Corresponds to SW17-7 to SW17-8)

```
Select PAD Control.
(Type : Imm   / Current : Reception)
0 = Reception
1 = Transmission
2 = Fixed to ARTD
3 = Bothway

Input :
```

Setting of PAD Control Method (Using Both Flexible/Standard PAD) (Corresponds to SW14-7 to SW14-8)

```
Select PAD Field.
(Type : Imm   / Current : A-Law)

0 = u-Law
1 = A-Law
2 = A-Law to u-Law
3 = u-Law to A-Law

Input :
```

PAD Selection (Using Both Flexible/Standard PAD) (Corresponds to SW15-7 to SW15-8)

```
Select PAD Pattern.
(Type : Imm   / Current : Pattern 1)

0 = Pattern 1
1 = Pattern 2
2 = Pattern 3
3 = Pattern 4

Input :
```

PAD Pattern Selection (Corresponds to SW16-7 to SW16-8)

```
Select PAD Kind.
(Type : Imm   / Current : Standard)

0 = Standard
1 = Flexible

Input :
```

Setting of PAD Kind (Corresponds to SW18-7)

```
Select PAD Selection.
(Type : Imm   / Current : Standard)

0 = Standard
1 = UK

Input :
```

PAD Selection (Corresponds to SW18-8)

```
<< Result >>
-------------------------------------------------
PAD
  Reception PAD 1                : 2(Loss)
  Reception PAD 2                : 4(Loss)
  Reception PAD 3                : 6(Loss)
  Reception PAD 4                : 8(Loss)
  Transmission PAD 1             : 2(Loss)
  Transmission PAD 2             : 4(Loss)
  Transmission PAD 3             : 6(Loss)
  Transmission PAD 4             : 8(Loss)
  Data PAD Pattern               : 64k
  PAD Control                    : Reception
  PAD Field                      : A-Law
  PAD Pattern                    : Pattern 1
  PAD Kind                       : Standard
  PAD Selection                  : Standard
-------------------------------------------------

>set config

0 = Maintenance
1 = Level 1 Interface
2 = Function
3 = PAD
4 = ACIS/CCIS Interface
5 = Level 2 Interface

Input : 4

<< Current Setting >>
-------------------------------------------------
ACIS/CCIS Interface
  ACIS Operation Mode            : ITU-T STD
  ACIS/CCIS Operation Mode       : CCIS Mode
  Guard Time                     : 48ms
  Detection Time                 : 56ms
  Detection Supervisory Time     : 1320ms
  Answer Detection Time          : 200ms
  Sa4 Bit Control                : Sa4 Disable
  Sa5 Bit Control                : Sa5 Disable
  Sa6 Bit Control                : Sa6 Disable
  Sa7 Bit Control                : Sa7 Disable
  Sa8 Bit Control                : Sa8 Disable
  Haul Mode                      : Short
-------------------------------------------------
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

```
Select ACIS Operation Mode.
(Type : Soft   / Current : ITU-T STD)

0 = ITU-T STD
1 = ITU-T PLS CLB
2 = ITU-T PLS ANS
3 = AUST
4 = CHINA
5 = THAI
6 = BRAZIL LME
7 = BRAZIL CCB
8 = BRAZIL(A/P)
9 = BRAZIL(A/N)
10 = BRAZIL(B/P)
11 = IRAN TCI
12 = PERU(A/P)
13 = PERU(A/N)
14 = UK
15 = ETSI

Input :
```

Setting of ACIS Operation Mode

```
Select ACIS/CCIS Operation Mode.
(Type : Soft   / Current : CCIS Mode)

0 = CCIS Mode
1 = CCIS + ACIS Mode
2 = ACIS Mode
3 = CCIS + ACIS Mode

Input :
```

Setting of ACIS/CCIS Operation Mode (Corresponds to SW12-7 to SW12-8)

```
Select Guard Time.
(Type : Imm    / Current : 48ms)

   [(0) - (168)] ms

Input :
```

Setting of Seizure Acknowledgement Guard Time (Corresponds to SW22-1 to SW22-4)

```
Select Detection Time.
(Type : Imm    / Current : 56ms)

   [(0) - (356)] ms

Input :
```

Setting of Seizure Acknowledgement Detection Time (Corresponds to SW22-5 to SW22-8)

```
Select Detection Supervisory Time.
(Type : Imm    / Current : 1320ms)

   [(0) - (1320)] ms

Input :
```

Setting of Seizure Acknowledgement Monitoring Time (Corresponds to SW23-1 to SW23-3)

```
Select Answer Detection Time.
(Type : Imm   / Current : 200ms)

   [(0) - (1650)] ms

Input :
```

Setting of Answer Detection Time (Corresponds to SW23-4 to SW23-8)

```
Select Sa4 Bit Control.
(Type : Soft  / Current : Sa4 Disable)

0 = Sa4 Disable
1 = Sa4 Enable

Input :
```

Setting of Sa4 Bit Control (Corresponds to SW24-1) (Fixed to OFF)

```
Select Sa5 Bit Control.
(Type : Soft  / Current : Sa5 Disable)

0 = Sa5 Disable
1 = Sa5 Enable

Input :
```

Setting of Sa5 Bit Control (Corresponds to SW24-2) (Fixed to OFF)

```
Select Sa6 Bit Control.
(Type : Soft  / Current : Sa6 Disable)

0 = Sa6 Disable
1 = Sa6 Enable

Input :
```

Setting of Sa6 Bit Control (Corresponds to SW11-8) (Fixed to OFF)

```
Select Sa7 Bit Control.
(Type : Soft  / Current : Sa7 Disable)

0 = Sa7 Disable
1 = Sa7 Enable

Input :
```

Setting of Sa7 Bit Control (Corresponds to SW24−3) (Fixed to OFF)

```
Select Sa8 Bit Control.
(Type : Soft  / Current : Sa8 Disable)

0 = Sa8 Disable
1 = Sa8 Enable

Input :
```

Setting of Sa8 Bit Control (Corresponds to SW24-4)

```
Select Haul Mode.
(Type : Soft  / Current : Short)

0 = Short
1 = Long

Input :
```

Setting of Haul Mode (Corresponds to SW24−7)

```
<< Result >>
-----------------------------------------------
ACIS/CCIS Interface
  ACIS Operation Mode            : ITU-T STD
  ACIS/CCIS Operation Mode       : CCIS Mode
  Guard Time                     : 48ms
  Detection Time                 : 56ms
  Detection Supervisory Time     : 1320ms
  Answer Detection Time          : 200ms
  Sa4 Bit Control                : Sa4 Disable
  Sa5 Bit Control                : Sa5 Disable
  Sa6 Bit Control                : Sa6 Disable
  Sa7 Bit Control                : Sa7 Disable
  Sa8 Bit Control                : Sa8 Disable
  Haul Mode                      : Short
-----------------------------------------------

>set config

0 = Maintenance
1 = Level 1 Interface
2 = Function
3 = PAD
4 = ACIS/CCIS Interface
5 = Level 2 Interface

Input : 5

<< Current Setting >>
-----------------------------------------------
Level 2 Interface
  CCH Operation Mode             : ITU-T(E)
  SIOS Signal output             : Consecutive
  Speed Rate                     : 64kbps
  CCH Time Slot                  : 16
  CCH Signaling Logic            : Positive
  Congestion Detection Threshold : 75/90
  CCIS Level 2 Error Threshold   : CCH Error Level 1
  CCH Octet Counting Mode        : Disabled
-----------------------------------------------

Select CCH Operation Mode.
(Type : Soft  / Current : ITU-T(E))

0 = ITU-T(E)
1 = ITU-T(N)
2 = NTT
3 = TTC
4 = 30CCTB+TTC
5 = 2CCHA
6 = 30CCTB
7 = ITU-T(E)+PS

Input :
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

Setting of CCH Operation Mode (Corresponds to SW25-1 to SW25-3)

```
Select SIOS Signal output.
(Type : Soft  / Current : Consecutive)

0 = Consecutive
1 = 3sec

Input :

Select Speed Rate.
(Type : Soft  / Current : 64kbps)

0 = 64kbps
1 = 56kbps
2 = 48kbps(S)
3 = 32kbps(F)
4 = 32kbps(B)
5 = 16kbps(F)
6 = 16kbps(B)
7 =  8kbps(F)
8 =  8kbps(B)
9 = 48kbps(O)

Input :

Select CCH Time Slot.
(Type : Soft  / Current : 16)

   [(1) - (31)]

Input :

Select CCH Signaling Logic.
(Type : Soft  / Current : Positive)

0 = Positive
1 = Negative

Input :
```

Setting of SIOS Signal Output (Corresponds to SW25-4)

Setting of CCH Transfer Rate (Corresponds to SW25-5 to SW25-8)

CCH Time Slot Setting (Corresponds to SW26-1 to SW26-5)

Setting of CCH Signaling Logic (Corresponds to SW26-8)

```
<< Result >>
-----------------------------------------------
Level 2 Interface
  CCH Operation Mode              : ITU-T(E)
  SIOS Signal output              : Consecutive
  Speed Rate                      : 64kbps
  CCH Time Slot                   : 16
  CCH Signaling Logic             : Positive
  Congestion Detection Threshold : 75/90
  CCIS Level 2 Error Threshold    : CCH Error Level 1
  CCH Octet Counting Mode         : Disabled
-----------------------------------------------

>
```

All current switch settings read from the editing memory are displayed.

```
Select Congestion Detection Threshold.
(Type : Soft  / Current : 75/90)

0 = 75/90
1 = 15/35
2 = 20/40
3 = 25/45
4 = 30/50
5 = 40/60
6 = 50/65
7 = 55/70
8 = 60/75
9 = 65/80
10 = 70/85
11 = 80/90
12 = 85/90
13 = 90/95
14 = Always
15 = No Detection

Input :
```

Setting of Congestion Detection Threshold (QUE remainder ratio) (Corresponds to SW27-1to SW27-4)

```
Select CCIS Level 2 Error Threshold.
(Type : Soft  / Current : CCH Error Level 1)

0 = CCH Error Level 1
1 = CCH Error Level 2
2 = CCH Error Level 3
3 = CCH Error Level 4
4 = CCH Error Level 5
5 = CCH Error Level 6
6 = CCH Error Level 7
7 = CCH Error Level 8

Input :
```

Setting of CCIS Level 2 Error Threshold (Corresponds to SW27-5 to SW27-7) (Fixed to 0 (CCH Error Level 1))

```
Select CCH Octet Counting Mode.
(Type : Soft  / Current : Disabled)

0 = Disabled
1 = Enabled

Input :
```

Setting of CCH Octet Counting Mode (Corresponds to SW27-8)

(e) IPPAD card

```
>set config

2013/09/01 12:34:00

0 = Layer 1 Interface
1 = PAD
2 = SmoothPAD
3 = EC(Echo Canceller)
4 = DTMF
5 = FAX
Q/q = Quit

Input : 0

<< Current Setting >>
-----------------------------------------------------------------
Speed/Duplex    : Automatic Negotiation ON
-----------------------------------------------------------------

Select Speed/Duplex.
  0 = Automatic Negotiation ON
  1 = 100Base-TX/Full-duplex
  2 = 100Base-TX/Half-duplex
  3 = 10Base-T/Full-duplex
  4 = 10Base-T/Half-duplex

Current : 0
Input :

<< Result Setting >>
-----------------------------------------------------------------
Speed/Duplex    : Automatic Negotiation ON
-----------------------------------------------------------------

>set config

2013/09/01 12:35:00

0 = Layer 1 Interface
1 = PAD
2 = SmoothPAD
3 = EC(Echo Canceller)
4 = DTMF
5 = FAX
Q/q = Quit

Input : 1

<< Current Setting >>
-----------------------------------------------------------------
PAD Selection    : PAD pattern 1
```

All current switch settings read from the editing memory are displayed.

LAN speed setting(Corresponds to SW15-1 to SW15-3)

Current: Current value is displayed (editing memory)
Input: Leave it blank when a modification is not necessary.

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

```
[MU-Law pattern 1]              [A-Law pattern 1]
+---------+---------+---------++---------+---------+---------+
| PAD No. | TSW->IP | IP->TSW || PAD No. | TSW->IP | IP->TSW |
+---------+---------+---------++---------+---------+---------+
|    7    |  0[dB]  |  0[dB]  ||    7    |  0[dB]  |  0[dB]  |
|    1    |  0[dB]  |  2[dB]  ||    1    |  0[dB]  |  2[dB]  |
|    2    |  0[dB]  |  4[dB]  ||    2    |  0[dB]  |  4[dB]  |
|    3    |  0[dB]  | 12[dB]  ||    3    |  0[dB]  |  6[dB]  |
|    4    |  0[dB]  |  8[dB]  ||    3    |  0[dB]  |  8[dB]  |
+---------+---------+---------++---------+---------+---------+
-----------------------------------------------------------------

Select PAD Selection.
  0 = PAD pattern 1 (DEFAULT SETTING)
  1 = PAD pattern 2
  2 = PAD pattern 3
  3 = PAD pattern 4

Current : 0
Input :

<< Result Setting >>
-----------------------------------------------------------------
PAD Selection    : PAD pattern 1

[MU-Law pattern 1]              [A-Law pattern 1]
+---------+---------+---------++---------+---------+---------+
| PAD No. | TSW->IP | IP->TSW || PAD No. | TSW->IP | IP->TSW |
+---------+---------+---------++---------+---------+---------+
|    7    |  0[dB]  |  0[dB]  ||    7    |  0[dB]  |  0[dB]  |
|    1    |  0[dB]  |  2[dB]  ||    1    |  0[dB]  |  2[dB]  |
|    2    |  0[dB]  |  4[dB]  ||    2    |  0[dB]  |  4[dB]  |
|    3    |  0[dB]  | 12[dB]  ||    3    |  0[dB]  |  6[dB]  |
|    4    |  0[dB]  |  8[dB]  ||    3    |  0[dB]  |  8[dB]  |
+---------+---------+---------++---------+---------+---------+
-----------------------------------------------------------------

>set config

2013/09/01 12:36:00

0 = Layer 1 Interface
1 = PAD
2 = SmoothPAD
3 = EC(Echo Canceller)
4 = DTMF
5 = FAX
Q/q = Quit

Input : 2

<< Current Setting >>
-----------------------------------------------------------------
2-wire trunk    : -2dB limit
extension       : +2dB limit
-----------------------------------------------------------------
```

PAD pattern selection (Corresponds to SW10-6 to SW10-7)

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

```
Select Smooth PAD(2-wire trunk).
  0 = No setting is necessary
  1 = +2dB limit (DEFAULT SETTING)
  2 = -5dB limit
  3 = -2dB limit

Current : 3
Input :

Select Smooth PAD(extension).
  0 = No setting is necessary
  1 = +2dB limit (DEFAULT SETTING)
  2 = -5dB limit
  3 = -2dB limit

Current : 1
Input :

<< Result Setting >>
-----------------------------------------------------------------
2-wire trunk    : +2dB limit
extension       : +3dB limit
-----------------------------------------------------------------

>set config

2013/09/01 12:37:00

0 = Layer 1 Interface
1 = PAD
2 = SmoothPAD
3 = EC(Echo Canceller)
4 = DTMF
5 = FAX
Q/q = Quit

Input : 3

<< Current Setting >>
-----------------------------------------------------------------
EC Setting Control Precedence
    : Conforms to IPPAD data assignment
IPPAD EC Setting
    :  forcibly EC ON

+----------+--------------+-----------+
| IPPAD    | AIVCL        | Operation |
+----------+--------------+-----------+
| forcibly | Not Assigned | EC ON     |
| EC ON    | EC OFF       | EC ON     |
|          | EC OFF       | EC ON     |
+----------+--------------+-----------+
```

Setting of maximum voice level sent to TSW when connected with a 2-wire trunk. (Corresponds to SW14-4 to SW14-5)

Setting of maximum voice level sent to TSW when connected with a station or a trunk except for a 2-wire trunk. (Corresponds to SW14-6 to SW14-7)

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

```
EC Training
    : Enable
Echo Canceller Bypassed
    :  Echo Canceller is not bypassed
       when FAX answer tone is detected.(2100 Hz)
-----------------------------------------------------------------
Select IPPAD/Auto Mode.
  0 = Conforms to telephony server data assignment
  1 = Conforms to IPPAD data assignment (DEFAULT SETTING)

Current : 1
Input :

Select IPPAD EC Setting.
  0 = forcibly EC ON (DEFAULT SETTING)
  1 = forcibly EC OFF

Current : 0
Input :

Select EC Training.
  0 = Enable (DEFAULT SETTING)
  1 = Disable

Current : 0
Input :

Select Echo Canceller Bypassed
  0 = Echo Canceller is not bypassed
        when FAX answer tone is detected. (2100 Hz)
        (DEFAULT SETTING)
  1 = Echo Canceller is bypassed
         when FAX answer tone is detected. (2100 Hz)

Current : 0
Input :

<< Result Setting >>
-----------------------------------------------------------------
EC Setting Control Precedence
    : Conforms to IPPAD data assignment
IPPAD EC Setting
    :  forcibly EC ON
+----------+--------------+-----------+
| IPPAD    | AIVCL        | Operation |
+----------+--------------+-----------+
| forcibly | Not Assigned | EC ON     |
| EC ON    | EC OFF       | EC ON     |
|          | EC OFF       | EC ON     |
+----------+--------------+-----------+

EC Training
    : Enable
Echo Canceller Bypassed
    :  Echo Canceller is not bypassed
       when FAX answer tone is detected.(2100 Hz)
-----------------------------------------------------------------
```

Setting of Echo Canceler Operation (Corresponds to SW12-5)

Setting of Echo Canceler Operation (Corresponds to SW12-6)

Setting of EC Training (Corresponds to SW14-8)

Setting of Echo Canceler when FAX answer tone (2100 Hz) is detected. (Corresponds to SW13-5)

All current switch settings read from the editing memory are displayed.

```
>set config

2013/09/01 12:38:00

0 = Layer 1 Interface
1 = PAD
2 = SmoothPAD
3 = EC(Echo Canceller)
4 = DTMF
5 = FAX
Q/q = Quit

Input : 4

<< Current Setting >>
-----------------------------------------------------------------
DTMF Mode
    : Outband UII/NEC unique method
DTMF generation cycle
    : DTMF Duration: 60ms + Pause: 70ms
RFC2833 Transfer Mode
    : Enable DTMF relay and disable voice
 -----------------------------------------------------------------

Select DTMF Mode.
  0 = Outband UII/NEC unique method (DEFAULT SETTING)
  1 = Outband RFC2833
  2 = Inband

Current : 0
Input :

Select DTMF generation cycle.
  0 = DTMF Duration: 60ms + Pause: 70ms (DEFAULT SETTING)
  1 = DTMF Duration: 120ms + Pause: 180ms

Current : 0
Input :

Select RFC2833 Transfer Mode.
  0 = Enable DTMF relay and mute voice (DEFAULT SETTING)
  1 = Enable DTMF relay and disable voice

Current : 1
Input :
```

All current switch settings read from the editing memory are displayed.

Setting of DTMF sending method (Corresponds to SW11-7) and setting of DTMF relay (Corresponds to SW16-2)

Setting of DTMF and Pause generation cycle. (Corresponds to SW11-1)

Setting of sending RTP (no tone) packets during DTMF relay. (RFC2833) (Corresponds to SW16-5)

```
   << Result Setting >>
   ---------------------------------------------------------------
   DTMF Mode
       : Outband UII/NEC unique method
   DTMF generation cycle
       : DTMF Duration: 60ms + Pause: 70ms
   RFC2833 Transfer Mode
       : Enable DTMF relay and disable voice
    ---------------------------------------------------------------

   >set config

   2013/09/01 12:39:00

   0 = Layer 1 Interface
   1 = PAD
   2 = SmoothPAD
   3 = EC(Echo Canceller)
   4 = DTMF
   5 = FAX
   Q/q = Quit

   Input : 5

   << Current Setting >>
   ---------------------------------------------------------------
   FAX Setting Control Precedence
       : Conforms to telephony server data assignment
   FAX Mode Control Precedence
       : Conforms to telephony server data assignment
   FAX Detection Timer
       : 1 minute
   ---------------------------------------------------------------

   Select IPPAD/Auto Setting.
     0 = Conforms to telephony server data assignment (DEFAULT SET-
TING)
     1 = Conforms to IPPAD data assignment

   Current : 0
   Input :

   Select FAX Mode.
     0 = Conforms to telephony server data assignment (DEFAULT SET-
TING)
     1 = Voice FAX (G.711)
     2 = Voice FAX (G.726)
     3 = T.30
     4 = T.38(UDP)

   Current : 0
   Input :
```

All current switch settings read from the editing memory are displayed.

All current switch settings read from the editing memory are displayed.

Setting of FAX Setting Priority (Corresponds to SW16-3)

Setting of FAX Control (Corresponds to SW17-1 to SW17-3)

```
Select FAX Detection Timer.
  0 = 1 minute (DEFAULT SETTING)
  1 = 2 minutes
  2 = 3 minutes
  3 = 4 minutes
  4 = 5 minutes
  5 = 0 minutes (Fixed to voice mode)
  6 = No Timer (Voice/FAX automatic distinction)

Current : 0
Input :


<< Result Setting >>
-----------------------------------------------------------------
FAX Setting Control Precedence
    : Conforms to telephony server data assignment
FAX Mode Control Precedence
    : Conforms to telephony server data assignment
FAX Detection Timer
    : 1 minute
 -----------------------------------------------------------------

>
```

Setting of Available Period of Switching to FAX (Corresponds to SW14-1 to SW14-3)

All current switch settings read from the editing memory are displayed.

- When [q/Q] is entered the setting process is concluded.

```
Select
(Type  : Imm    /Current : Enable)

   0 = Bothway Talking
   1 = Oneway Talking

Input : q


>
```

(f) DAT Card

```
>set config

2014/09/01 23:33:33

0 = Layer 1 Interface
1 = IP Address
2 = VLAN
3 = WEB
4 = Make Busy Request
5 = Playback Mode
6 = Announcement
Q/q = Quit

Input : 0

<< Current Setting >>
-----------------------------------------------------------------
Speed/Duplex    : Automatic Negotiation ON
-----------------------------------------------------------------

Select Speed/Duplex.
  0 = Automatic Negotiation ON
  1 = 100Base-TX/Full-duplex
  2 = 100Base-TX/Half-duplex
  3 = 10Base-T/Full-duplex
  4 = 10Base-T/Half-duplex

Current : 0
Input : 1



<< Result Setting >>
-----------------------------------------------------------------
Speed/Duplex    : 100Base-TX/Full-duplex
-----------------------------------------------------------------
```

Current time and menu are displayed.

Layer 1 related settings

All current switch settings read from the editing memory are displayed.

Settings of LAN Transfer rate (Corresponds to SW10-1 to SW10-3)

Current: current value is displayed (editing memory).
Input: Leave it blank when a modification is not necessary.

Resulting switch settings read from the editing memory are displayed.

```
>set config

2014/09/01 23:33:33

0 = Layer 1 Interface
1 = IP Address
2 = VLAN
3 = WEB
4 = Make Busy Request
5 = Playback Mode
6 = Announcement
Q/q = Quit

Input : 1

<< Current Setting >>
-----------------------------------------------------------------
IP Address       : 0.0.0.0
Subnet Mask      : 0.0.0.0
Default Gateway  : 0.0.0.0
-----------------------------------------------------------------

Input IP address of CH-DATA.
Current : 0.0.0.0
Input   : 192.168.0.1


Input Subnet mask of CH-DATA.
Current : 0.0.0.0
Input   : 255.255.255.0


Input IP address of Default gateway.
Current : 0.0.0.0
Input   : 192.168.0.254



<< Result Setting >>
-----------------------------------------------------------------
IP Address       : 192.168.0.1
Subnet Mask      : 255.255.255.0
Default Gateway  : 192.168.0.254
-----------------------------------------------------------------
```

Current time and menu are displayed.

All current switch settings read from the editing memory are displayed.

Settings for card IP address (Corresponds to SW11to SW14)
Current: current value is displayed (editing memory).
Input: Leave it blank when a modification is not necessary.

Settings for card subnet mask (Corresponds to SW15)

Settings for card IP default gateway (Corresponds to SW16 to SW19)

Resulting switch settings read from the editing memory are displayed.

```
>set config

2014/09/01 23:33:33

0 = Layer 1 Interface
1 = IP Address
2 = VLAN
3 = WEB
4 = Make Busy Request
5 = Playback Mode
6 = Announcement
Q/q = Quit

Input : 2

<< Current Setting >>
-----------------------------------------------------------------
VLAN function    : Disable
-----------------------------------------------------------------

Select VLAN function.
0 = Disable (default)
1 = Enable

Current : 0
Input   : 1


Input VLAN ID. (1-4094, default=1)
Current : 1
Input   : 2


Input VLAN CoS. (0-7, default=0)
Current : 0
Input   : 4



<< Result Setting >>
-----------------------------------------------------------------
VLAN function   : Enable
VLAN ID         : 2
CoS             : 4
-----------------------------------------------------------------
```

Current time and menu are displayed.

VLAN related settings

All current switch settings read from the editing memory are displayed.

VLAN enable/disable (Corresponds to SW20-1).
Current: current value is displayed (editing memory).
Input: Leave it blank when a modification is not necessary.

VLAN ID settings.

Settings of VLAN CoS IP address (Corresponds to SW16 to SW19)

Resulting switch settings read from the editing memory are displayed.

```
>set config

2014/09/01 23:33:33

0 = Layer 1 Interface
1 = IP Address
2 = VLAN
3 = WEB
4 = Make Busy Request
5 = Playback Mode
6 = Announcement
Q/q = Quit

Input : 3

<< Current Setting >>
-----------------------------------------------------------------
HTTP port      : 9801
-----------------------------------------------------------------

Input HTTP port. (80 or 1024-65535, default=9801)
Current : 9801
Input   : 3000




<< Result Setting >>
-----------------------------------------------------------------
HTTP port      : 3000
-----------------------------------------------------------------
```

Current time and date are displayed.

WEB related settings.

All current switch settings read from the editing memory are displayed.

Settings of HTTP port number (Corresponds to SW23 to SW24)
Current: current value is displayed (editing memory).
Input: Leave it blank when a modification is not necessary.

Resulting switch settings read from the editing memory are displayed.

```
>set config

2014/09/01 23:33:33

0 = Layer 1 Interface
1 = IP Address
2 = VLAN
3 = WEB
4 = Make Busy Request
5 = Playback Mode
6 = Announcement
Q/q = Quit

Input : 4

<< Current Setting >>
-----------------------------------------------------------------
Make Busy Request
  0 channel           : OFF
  1 channel           : OFF
  2 channel           : OFF
  3 channel           : OFF
  4 channel           : OFF
  5 channel           : OFF
  6 channel           : OFF
  7 channel           : OFF
-----------------------------------------------------------------

Select Make Busy Request of Channel 0.
  0 = OFF (default)
  1 = ON

Current : 0
Input   : 1


Select Make Busy Request of Channel 1.
  0 = OFF (default)
  1 = ON

Current : 0
Input   : 1


Select Make Busy Request of Channel 2.
  0 = OFF (default)
  1 = ON

Current : 0
Input   : 1
```

Current time and menu are displayed.

Make Busy request settings.

All current switch settings read from the editing memory are displayed.

Settings of make busy circuit 0 (Corresponds to SW01-1).
Current: current value is displayed (editing memory).
Input: Leave it blank when a modification is not necessary.

Settings of make busy circuit 1 (Corresponds to SW01-2).

Settings of make busy circuit 2 (Corresponds to SW01-3).

```
Select Make Busy Request of Channel 3.
  0 = OFF (default)
  1 = ON

Current : 0
Input   : 1


Select Make Busy Request of Channel 4.
  0 = OFF (default)
  1 = ON

Current : 0
Input   : 1


Select Make Busy Request of Channel 5.
  0 = OFF (default)
  1 = ON

Current : 0
Input   : 1


Select Make Busy Request of Channel 6.
  0 = OFF (default)
  1 = ON

Current : 0
Input   : 1


Select Make Busy Request of Channel 7.
  0 = OFF (default)
  1 = ON

Current : 0
Input   : 1


<< Result Setting >>
-----------------------------------------------------------------
Make Busy Request
  0 channel           : ON
  1 channel           : ON
  2 channel           : ON
  3 channel           : ON
  4 channel           : ON
  5 channel           : ON
  6 channel           : ON
  7 channel           : ON
-----------------------------------------------------------------
```

Settings of make busy circuit 3 (Corresponds to SW01-4).

Settings of make busy circuit 4 (Corresponds to SW01-5).

Settings of make busy circuit 5 (Corresponds to SW01-6).

Settings of make busy circuit 6 (Corresponds to SW01-7).

Settings of make busy circuit 7 (Corresponds to SW01-8).

All current switch settings read from the editing memory are displayed.

```
>set config

2014/09/01 23:33:33

0 = Layer 1 Interface
1 = IP Address
2 = VLAN
3 = WEB
4 = Make Busy Request
5 = Playback Mode
6 = Announcement
Q/q = Quit

Input : 5

<< Current Setting >>
-----------------------------------------------------------------
Playback Mode
  0 channel           : Multiple playback
  1 channel           : Multiple playback
  2 channel           : Multiple playback
  3 channel           : Multiple playback
  4 channel           : Multiple playback
  5 channel           : Multiple playback
  6 channel           : Multiple playback
  7 channel           : Multiple playback
-----------------------------------------------------------------

Select Playback Mode of Channel 0.
  0 = Multiple playback (default)
  1 = Single Playback

Current : 0
Input   : 1


Select Playback Mode of Channel 1.
  0 = Multiple playback (default)
  1 = Single Playback

Current : 0
Input   : 1


Select Playback Mode of Channel 2.
  0 = Multiple playback (default)
  1 = Single Playback

Current : 0
Input   : 1
```

Current time and menu are displayed.

Playback related settings.

All current switch settings read from the editing memory are displayed.

Settings of play mode of circuit 0 (Corresponds to SW26-1).
Current: current value is displayed (editing memory).
Input: Leave it blank when a modification is not necessary.

Settings of play mode of circuit 1 (Corresponds to SW26-2).

Settings of play mode of circuit 2 (Corresponds to SW26-3).

```
Select Playback Mode of Channel 3.
  0 = Multiple playback (default)
  1 = Single Playback

Current : 0
Input   : 1

Select Playback Mode of Channel 4.
  0 = Multiple playback (default)
  1 = Single Playback

Current : 0
Input   : 1

Select Playback Mode of Channel 5.
  0 = Multiple playback (default)
  1 = Single Playback

Current : 0
Input   : 1

Select Playback Mode of Channel 6.
  0 = Multiple playback (default)
  1 = Single Playback

Current : 0
Input   : 1


Select Playback Mode of Channel 7.
  0 = Multiple playback (default)
  1 = Single Playback

Current : 0
Input   : 1



<< Result Setting >>
-----------------------------------------------------------------
Make Busy Request
  0 channel           : Single playback
  1 channel           : Single playback
  2 channel           : Single playback
  3 channel           : Single playback
  4 channel           : Single playback
  5 channel           : Single playback
  6 channel           : Single playback
  7 channel           : Single playback
-----------------------------------------------------------------
```

Settings of play mode of circuit 3 (Corresponds to SW26-4).

Settings of play mode of circuit 4 (Corresponds to SW26-5).

Settings of play mode of circuit 5 (Corresponds to SW26-6).

Settings of play mode of circuit 6 (Corresponds to SW26-7).

Settings of play mode of circuit 7 (Corresponds to SW26-8).

All resulting switch settings read from the editing memory are displayed.

```
>set config

2014/09/01 23:33:33

0 = Layer 1 Interface
1 = IP Address
2 = VLAN
3 = WEB
4 = Make Busy Request
5 = Playback Mode
6 = Announcement
Q/q = Quit

Input : 6

<< Current Setting >>
-----------------------------------------------------------------
Announcement Message    : Normal Playback
Recorded Data           : Keep
-----------------------------------------------------------------

Select Announcement Message Play back type.
  0 = Normal Playback (default)
  1 = Change Playback 1
  2 = Change Playback 2

Current : 0
Input   : 1

Select processing of Recorded Data.
  0 = keep (default)
  1 = Delete

Current : 0
Input   : 1


<< Result Setting >>
-----------------------------------------------------------------
Announcement Message    : Changed Playback 1
Recorded Data           : Delete
-----------------------------------------------------------------
```

Current time and menu are displayed.

Announcement related settings.

All current switch settings read from the editing memory are displayed.

Settings of combined sound sources play (Corresponds to SW27).
Current: current value is displayed (editing memory).
Input: Leave it blank when a modification is not necessary.

Settings of record memory (Corresponds to SW25-1).

All resulting switch settings read from the editing memory are displayed.

(g) CFT Card

```
>set config

0 = Operation Mode
1 = Function
2 = Timer
3 = PAD
4 = Conference DSP
5 = Echo Canceller

Input : 0

<< Current Setting >>
------------------------------------------------------------
Operation Mode
 CFT Operation Mode          : Meet-Me Conference
------------------------------------------------------------

Select CFT Operation Mode
(Type   : Imm    /Current : Meet-Me Conference)

   0 = Meet-Me Conference
   1 = Preset Conference
   2 = Progressive Conference
   3 = Add-On Conference
   4 = Fixed Connection Conference
   5 = Press Control

Input :

<< Result >>
------------------------------------------------------------
Operation Mode
 CFT Operation Mode          : Meet-Me Conference
------------------------------------------------------------
```

All current switch settings read from the editing memory are displayed.

Settings of operations mode (Corresponds to SW10-1 to SW10-3). **Note 3**
Type: Type of switch
8Dip: 8Dip switch
Soft: Soft switch
Imm: Immediate switch

Current: current value is displayed (editing memory).
Input: Leave it blank when a modification is not necessary.

Note 3: When the operation mode is changed with the [set config] command, template values applied to other software switches are changed. For details of template values, see Switch Data Template in CH-CFTA Card, CARDS IN 7U-PIR chapter of this manual.

```
>set config

0 = Operation Mode
1 = Function
2 = Timer
3 = PAD
4 = Conference DSP
5 = Echo Canceller

Input : 1

<< Current Setting >>
-----------------------------------------------------------------
-
Function
  PB Tone Control           : Enable
  CFT Hardware Control      : Disable
  CFT Input Mute Control    : Software
  CFT Output Mute Control   : Software
  Conference Mode           : Bothway
  CFT Input PAD Control     : Disable
  CFT Output PAD Control    : Disable
  Call Cycle Type           : One Channel
  Notice Tone               : Disable
  Notice Tone Type          : Disable
  Port Release              : Disable
  PB Signal Forced Release  : Enable
  PB Signal Privacy Control : Enable
  Cascade Connection        : Disable
-----------------------------------------------------------------
```

All current switch settings read from the editing memory are displayed.

```
Select PB Tone Control
(Type  : Imm    /Current : Enable)

   0 = Enable
   1 = Disable

Input :

. . .


<< Result >>
-----------------------------------------------------------------

Function
  PB Tone Control           : Enable
  CFT Hardware Control      : Disable
  CFT Input Mute Control    : Software
  CFT Output Mute Control   : Software
  Conference Mode           : Bothway
  CFT Input PAD Control     : Disable
  CFT Output PAD Control    : Disable
  Call Cycle Type           : One Channel
  Notice Tone               : Disable
  Notice Tone Type          : Disable
  Port Release              : Disable
  PB Signal Forced Release  : Enable
  PB Signal Privacy Control : Enable
  Cascade Connection        : Disable

-----------------------------------------------------------------


>
```

Settings of PB tone control (Corresponds to SW10-4).

Current: current value is displayed (editing memory).
Input: Leave it blank when a modification is not necessary.

(omitted)

All current switch settings read from the editing memory are displayed.

- When [q/Q] is entered the setting process is concluded.

```
Select
(Type  : Imm    /Current : Enable)

   0 = Bothway Talking
   1 = Oneway Talking

Input : q


>
```

[5] set trace

This command starts and stops collecting trace information.

Examples of the console screen are shown below.

- PRT card
- CCT card
- CFT Card

(a) PRT card

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Layer2 / Layer3 command trace
5 = Layer2 / Layer3 command trace output
6 = CPU Performance Measurement

Input : 0

LP-PM command trace
  Group 0 : stop
  Group 1 : stop
  Group 2 : stop
  Group 3 : stop


Input Group Number. ( 0-3 / all ) : 1
Input Trace setting. ( 0:stop / 1:start ) : 1

>
```

0 : Start/stop collecting LP-PM command trace
1: Output LP-PM command trace
2: Start/stop collecting LP-PM information command
3: Output LP-PM information command trace
4 : Start/stop collecting Layer 2/ Layer 3 command
5 : Output Layer 2/ Layer 3 command trace
6 : Start/stop CPU Performance Measurement

Input Group Number:
0-3: Group Number
all: All Groups

When one group is specified to start or stop tracing, other groups are halted to continue tracing meanwhile.

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Layer2 / Layer3 command trace
5 = Layer2 / Layer3 command trace output
6 = CPU Performance Measurement

Input : 1

Input Group0 trace setting. ( 0:stop / 1:start ) : 1
Input Group1 trace setting. ( 0:stop / 1:start ) : 1
Input Group2 trace setting. ( 0:stop / 1:start ) : 0
Input Group3 trace setting. ( 0:stop / 1:start ) : 0

2000/01/01 23:59:58.999 GRP0 LP -> PM: 7F 22 33 44 55 66 77 27 77 88 99 00 99 88 77
66 55 44 FE
2000/01/01 23:59:59.010 GRP1 PM -> LP: 7F 23 56 78 9A BC FE
2000/01/01 23:59:59.050 GRP0 LP -> PM: 7F 22 33 44 55 66 77 88 99 AA BB CC DD EE FF
00 11 22 33 44 55 66 77 88 99 FE
2000/01/01 23:59:59.230 GRP1 PM -> LP: 7F 23 56 78 9A BC FE
...

>
```

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Layer2 / Layer3 command trace
5 = Layer2 / Layer3 command trace output
6 = CPU Performance Measurement

Input : 2

LP-PM information command trace : stop

Input trace setting. ( 0:stop / 1:start ) : 1

>
```

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Layer2 / Layer3 command trace
5 = Layer2 / Layer3 command trace output
6 = CPU Performance Measurement

Input : 4

Layer2 / Layer3 command trace : start

Input Trace setting. ( 0:stop / 1:start ) : 0

>
```

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Layer2 / Layer3 command trace
5 = Layer2 / Layer3 command trace output
6 = CPU Performance Measurement

Input : 5

Input Trace setting. ( 0:stop / 1:start ) : 1

2000/01/01 23:59:59:999 L2/L3 SND : 11 22 33 44 55 66 77
2000/01/01 23:59:59:999 L2/L3 RCV : 12 23 56 78 9A BC DE
2000/01/01 23:59:59:999 L2/L3 SND : 11 22 33 44 55 66 77 88 99 AA BB CC DD EE FF
2000/01/01 23:59:59:999 L2/L3 RCV : 12 23 56 78 9A BC DE
2000/01/01 23:59:59:999 L2/L3 SND : 11 22 33 44 55 66 77
2000/01/01 23:59:59:999 L2/L3 RCV : 12 23 56 78 9A BC DE
...

>
```

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Layer2 / Layer3 command trace
5 = Layer2 / Layer3 command trace output
6 = CPU Performance Measurement

Input : 6

  CPU Performance Measurement : stop

Input ( 0:stop / 1:start / 2:display ) : 1

  CPU Performance Measurement : start

>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Layer2 / Layer3 command trace
5 = Layer2 / Layer3 command trace output
6 = CPU Performance Measurement

Input : 6

  CPU Performance Measurement : start

Input ( 0:stop / 1:start / 2:display ) : 2
```

0: Stop Measurement (Display a result)
1: Start Measurement
2: Display a result without stopping measurement.

```
<< Mesurement Time >>
  0min

<< Maximum CPU Performance (second)>>
  Total              : 0%
  Interrupt          : 0%
  B-Monitor Program  : 0%
  B-Monitor + B-Queue : 0%

<< Average CPU Performance (second)>>
  Total              : 0%
  Interrupt          : 0%
  B-Monitor Program  : 0%
  B-Monitor + B-Queue : 0%

<< Maximum CPU Performance (minute)>>
  Total              : 0%
  Interrupt          : 0%
  B-Monitor Program  : 0%
  B-Monitor + B-Queue : 0%

<< Average CPU Performance (minute)>>
  Total              : 0%
  Interrupt          : 0%
  B-Monitor Program  : 0%
  B-Monitor + B-Queue : 0%
```

Measurement Time

Maximum CPU Processing Ability per second

Average CPU Processing Ability per second

Maximum CPU Processing Ability per minute

Average CPU Processing Ability per minute

(b) CCT card

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Level2 / Level3 command trace
5 = Level2 / Level3 command trace output
6 = CPU Performance Measurement

Input : 0

LP-PM command trace
  Group 0 : stop
  Group 1 : stop
  Group 2 : stop
  Group 3 : stop


Input Group Number. ( 0-3 / all ) : 1
Input Trace setting. ( 0:stop / 1:start ) : 1

>
```

0 : Start/stop collecting LP-PM command trace
1: Output LP-PM command trace
2: Start/stop collecting LP-PM information command
3: Output LP-PM information command trace
4 : Start/stop collecting Level 2/Level 3 command
5 : Output Level 2/Level 3 command trace
6 : Start/stop CPU Performance Measurement

Input Group Numver:
0-3: Group Number
all: All Groups

When one group is specified to start or stop tracing, other groups are halted to continue tracing meanwhile.

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Level2 / Level3 command trace
5 = Level2 / Level3 command trace output
6 = CPU Performance Measurement

Input : 1

Input Group0 trace setting. ( 0:stop / 1:start ) : 1
Input Group1 trace setting. ( 0:stop / 1:start ) : 1
Input Group2 trace setting. ( 0:stop / 1:start ) : 0
Input Group3 trace setting. ( 0:stop / 1:start ) : 0

2000/01/01 23:59:58.999 GRP0 LP -> PM: 7F 22 33 44 55 66 77 27 77 88 99 00 99 88 77
66 55 44 FE
2000/01/01 23:59:59.010 GRP1 PM -> LP: 7F 23 56 78 9A BC FE
2000/01/01 23:59:59.050 GRP0 LP -> PM: 7F 22 33 44 55 66 77 88 99 AA BB CC DD EE FF
00 11 22 33 44 55 66 77 88 99 FE
2000/01/01 23:59:59.230 GRP1 PM -> LP: 7F 23 56 78 9A BC FE
...

>
```

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Level2 / Level3 command trace
5 = Level2 / Level3 command trace output
6 = CPU Performance Measurement

Input : 2

LP-PM information command trace : stop

Input trace setting. ( 0:stop / 1:start ) : 1

>
```

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Level2 / Level3 command trace
5 = Level2 / Level3 command trace output
6 = CPU Performance Measurement

Input : 4

Level2 / Level3 command trace : start

Input Trace setting. ( 0:stop / 1:start ) : 0

>
```

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Level2 / Level3 command trace
5 = Level2 / Level3 command trace output
6 = CPU Performance Measurement

Input : 5

Input Trace setting. ( 0:stop / 1:start ) : 1

2000/01/01 23:59:59:999 L2/L3 SND : 11 22 33 44 55 66 77
2000/01/01 23:59:59:999 L2/L3 RCV : 12 23 56 78 9A BC DE
2000/01/01 23:59:59:999 L2/L3 SND : 11 22 33 44 55 66 77 88 99 AA BB CC DD EE FF
2000/01/01 23:59:59:999 L2/L3 RCV : 12 23 56 78 9A BC DE
2000/01/01 23:59:59:999 L2/L3 SND : 11 22 33 44 55 66 77
2000/01/01 23:59:59:999 L2/L3 RCV : 12 23 56 78 9A BC DE
...

>
```

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Level2 / Level3 command trace
5 = Level2 / Level3 command trace output
6 = CPU Performance Measurement

Input : 6

  CPU Performance Measurement : stop

Input ( 0:stop / 1:start / 2:display ) : 1

  CPU Performance Measurement : start

>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = LP-PM information command trace
3 = LP-PM information command trace output
4 = Level2 / Level3 command trace
5 = Level2 / Level3 command trace output
6 = CPU Performance Measurement

Input : 6

  CPU Performance Measurement : start

Input ( 0:stop / 1:start / 2:display ) : 2
```

0: Stop measurement (display result)
1: Start measurement
2: Display a result without stopping measurement.

```
<< Mesurement Time >>
  0min

<< Maximum CPU Performance (second)>>
  Total              : 0%
  Interrupt          : 0%
  B-Monitor Program  : 0%
  B-Monitor + B-Queue : 0%

<< Average CPU Performance (second)>>
  Total              : 0%
  Interrupt          : 0%
  B-Monitor Program  : 0%
  B-Monitor + B-Queue : 0%

<< Maximum CPU Performance (minute)>>
  Total              : 0%
  Interrupt          : 0%
  B-Monitor Program  : 0%
  B-Monitor + B-Queue : 0%

<< Average CPU Performance (minute)>>
  Total              : 0%
  Interrupt          : 0%
  B-Monitor Program  : 0%
  B-Monitor + B-Queue : 0%
```

Measurement Time

Maximum CPU Processing Ability per second

Average CPU Processing Ability per second

Maximum CPU Processing Ability per minute

Average CPU Processing Ability per minute

(c) CFT Card

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = CPU Performance Measurement

Input : 0

LP-PM command trace
  Group 0 : stop
  Group 1 : stop
  Group 2 : stop
  Group 3 : stop


Input Group Number. ( 0-3 / all ) : 1
Input Trace setting. ( 0:stop / 1:start ) : 1

>
```

0: Start/Stop the LP-PM command trace
1:Output the LP-PM command
2: Start/Stop the CPU performance measurement

Input Group Number:
0-3: Group number
all: All groups
When one group is started/stopped, all the other groups trace is stopped.

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = CPU Performance Measurement

Input : 1

Input Group0 trace setting. ( 0:stop / 1:start ) : 1
Input Group1 trace setting. ( 0:stop / 1:start ) : 1
Input Group2 trace setting. ( 0:stop / 1:start ) : 0
Input Group3 trace setting. ( 0:stop / 1:start ) : 0

2014/03/12 23:59:58.999 GRP0 LP -> PM : 7F 22 33 66 77 27 77 88 99 00 99 88 77 66 .. .. FE
2014/03/12 23:59:59.010 GRP1 PM -> LP : 7F 23 56 78 9A BC FE
2014/03/12 23:59:59.050 GRP0 LP -> PM : 7F 22 33 44 55 66 77 88 99 AA BB CC DD EE FF 00 11
22 33 44 55 66 .. .. 77 88 99 FE
2014/03/12 23:59:59.230 GRP1 PM -> LP : 7F 23 56 78 9A BC FE
...

>q
```

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = CPU Performance Measurement

Input : 0

LP-PM command trace output : stop

Input Trace setting. ( 0:stop / 1:start ) : 1

>
```

```
>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = CPU Performance Measurement

Input : 2

  CPU Performance Measurement : stop

Input ( 0:stop / 1:start / 2:display ) : 1

  CPU Performance Measurement : start

>set trace

0 = LP-PM command trace
1 = LP-PM command trace output
2 = CPU Performance Measurement

Input : 2

  CPU Performance Measurement : start

Input ( 0:stop / 1:start / 2:display ) : 2

<< Measurement Time >>
  1440min

<< Maximum CPU Performance >>
  Total              : 35%
  Interrupt          : 10%
  B-Level Program    : 15%
  B-Level + B-Queue  : 25%

<< Average CPU Performance >>
  Total              : 30%
  Interrupt          :  8%
  B-Level Program    : 12%
  B-Level + B-Queue  : 20%
```

0: Stop measurement (result is displayed).
1: Start measurement
2: Show result without stopping the measurement.

Measurement time (maximum 1440 min.)

Maximum CPU performance per second.

Average CPU performance.

[6] set time

Date and time are set. The following is an example of the console screen.

Note: This command is for retrofit use when 8U-PIR (which cannot take date information from the Telephony Server) is installed.

```
>set time

<< Current Setting >>
  2000/01/01 00:11:22

Input Year.   (2000-2105, default=2000)
Current : 2000
Input   : 2014


Input Month.  (1-12, default=1)
Current : 01
Input   : 9


Input Day.    (1-31, default=1)
Current : 01
Input   : 19


Input Hour.   (0-23, default=0)
Current : 00
Input   : 23


Input Minute. (0-59, default=0)
Current : 11
Input   : 8


Input Second. (0-59, default=0)
Current : 22
Input   : 0




<< Result >>
  2014/09/19 23:08:00

Data & Time Setting OK. Reboot is unnecessary.
```

Current time and date are displayed.

Year setting (2000 - 2105, default: 2000)
Current: current value is displayed (editing memory).
Input: Leave it blank when a modification is not necessary.
Month setting (1 - 12, default: 12)

Day setting (1 - 31, default: 1)

Hour setting (0 - 23, default: 0)

Minute setting (0 - 59, default: 0)

Second setting (0 - 59, default:0)

Note: When Enter is pressed for the second setting, all the data is inputted to the card.

Settings after the change are displayed.

Note: Time information can be set only once after the card is booted. If the entered information is incorrect, after the time has been set with the [set time] command or time adjustment through the Telephony Server, the following is displayed in the console:

```
>set time

<< Current Setting >>
  2014/09/01 23:22:33

Date & Time is already set.
```

Current Settings are displayed.

If the date and time have already been set with the data obtained from the Telephony Server, the settings cannot be changed.

Show

This section describes the show commands listed in the table below.

Note: The console screens shown below are examples of display image. They may differ from the actual displays.

Category	Command
show flashinfo	show flashinfo
show status	show status, show status xx (number), show status card, show status ch
show sw	show sw, show sw xx (number), show sw all
show version	show version
show arp	show arp
show config	show config, show config both, show config now
show performance	show performance
show terminal	show terminal
show trace	show trace
show rec_data	show rec_data

[1] show flashinfo

This command shows the number of times FLASH ROM is erased (used).

Application Limits of FLASH ROM

Type	Application Limits
FLASH ROM for data	30000 times
SERIAL FLASH ROM	100000 times
FLASH ROM for program	1000 times

Note: When the number of times a erasing was performed exceeds the using limit, a change of the card is needed.

Examples of the console screen are shown below.

- DAT/IPPAD card
- Cards other than DAT/IPPAD card

(a) DAT/IPPAD card

```
>show flashinfo
2013/09/01 12:34:56

----------SERIAL FLASH 1----------
  NO   ERASE COUNT
-----+----------------------------
   2 : 3
-----+----------------------------
   3 : 47
-----+----------------------------
   4 : 6
   5 : 6
   6 : 5
   7 : 7
   8 : 8
-----+----------------------------

...

  36 : 591
-----+----------------------------
  37 : 0
-----+----------------------------
  38 : 29

>
```

The number of times SERIAL FLASH ROM is erased (used) is displayed.

NO: SERIAL FLASH ROM area number.
ERASE COUNT: Number of times a erasing was performed per area.

(omitted)

(b) Cards other than DAT/IPPAD card

```
>show flashinfo
----DATA FLASH----
NO ERASE COUNT
--+-----------
00          25
01       17075

----SERIAL FLASH----
NO ERASE COUNT
--+-----------
00           0

----INTERNAL FLASH----
NO ERASE COUNT
--+-----------
00           0

>
```

The number of times FLASHROM for data is erased (used) is displayed.

The number of times SERIAL FLASH ROM is erased is displayed.

The number of times FLASH ROM for a program is erased is displayed.

[2] show status

Status of all channels is displayed.

```
>show status
2013/09/01 12:34:56.789

|---+-----+-----+-----+-----+-----+-----+-----+-----|
|   |    0|    1|    2|    3|    4|    5|    6|    7|
|---+-----+-----+-----+-----+-----+-----+-----+-----|
| 0 | --- | --- |  I  | --- |  B1 | --- |  B2 | --- |
| 1 |  B  | --- |  MB | --- | MB1 | MB2 | MB3 | --- |
|---+-----+-----+-----+-----+-----+-----+-----+-----|




Input(n:new / r:renew / c:cycle / q:quit) :
```

Current time and date set on the card are displayed.

The numbers shown in a row indicate Group No. and in a column indicate Circuit No.

Current state of all channels are displayed.
---: Not available
I : IDLE
B1 : Outgoing call
B2 : Incoming call
B : Busy
D : D channel already registered
MB: Make-Busy
MB1: Make-Busy
MB2: Outgoing Make-Busy
MB3: Blocking Make-Busy

new: Redisplays channel information
renew: Updates time information and channel status
cycle : Executes “renew” automatically with a period of 1 second.
quit: Exits the command
Blank: The current value is used. (For the first case, “renew” is automatically selected).

Note: The time shown on the card may differ from the one on the Telephony Server.

[3] show status xx (number)

The channel status of a specified group is displayed.

```
>show status 0
2013/09/01 12:34:56.789

|---+-----+-----+-----+-----+-----+-----+-----+-----|
|   |    0|    1|    2|    3|    4|    5|    6|    7|
|---+-----+-----+-----+-----+-----+-----+-----+-----|
| 0 | --- | --- |  I  | --- |  B1 | --- |  B2 | --- |
|---+-----+-----+-----+-----+-----+-----+-----+-----|

Input(n:new / r:renew / c:cycle / q:quit) :
```

Current time and date set on the card are displayed.

The numbers shown in a row indicate Group No. and in a column indicate Circuit No.

The channel status of a specified group is displayed.

For more details, see show status.

Note: The time shown on the card may differ from the one on the Telephony Server.

[4] show status card

This command shows various status. Examples of the console screen are shown below.

- PRT card (1.5M/2M)
- CCT card (1.5M/2M)
- IPPAD card
- DAT card
- CFT card

(a) PRT card (1.5M/2M)

Item	Displayed Status	Description
Mode	1.5M/2M AMI	1.5M/2M AMI is in operation
LP to PM Signal Channel	Assigned	Control channel is assigned successfully
	Not Assigned	Only one control channel is assigned
	Illegal DCH Time Slot	Time slot value of a registered control signal is different to that of Drop/Insert channel
LAPD Status	-	Initialization is not available
	Initializing	Initialization in process
	Initialized	Initializing is complete
	L2 Link Setting	LAPD Layer 2 Link setting in process
	L2 Link UP	LAPD Layer 2 Link is set up
Dch Control	Normal	Normal operation
	Make-Busy	DCH Make-Busy in process
	Loopback	DCH Loopback setting in process
Loopback	OFF	Loopback is not available
	Local	Local (Internal) loopback setting in process
	Line	Line (External) loopback setting in process
	Payload	Payload loopback setting in process
	Line (Inband)	Inband Line loopback Activate receiving (5s or larger)
	Line (BOM)	BOM Line loopback Activate received
	Payload (BOM)	BOM Payload loopback Activate received
	Remote Payload	MOS Loop back Message receiving
PCM Loss	Detected	PCM Loss detecting
	-	PCM Loss recovered/PCM Loss not detected
Frame Alignment Loss	Detected	Frame Alignment Loss detecting
	-	Frame Alignment Loss recovered/Frame Alignment Loss not detected
CRC Error	Detected	CRC Error detecting
	-	CRC Error recovered/CRC Error not detected
BIT Error	Detected	Bit Error detecting
	-	Bit Error recovered/Bit Error not detected
Remote Alarm	Detected	Remote Alarm detecting
	-	Remote Alarm recovered/Remote Alarm not detected
TS16 Remote Alarm **Note1**	Detected	Time Slot 16 Remote Alarm detecting
	-	Time Slot 16 Remote Alarm recovered/ Time Slot 16 Remote Alarm not detected

Item	Displayed Status	Description
TS16 AIS **Note1**	Detected	Time Slot 16 AIS (Alarm Indication Signal) detecting
	-	Time Slot 16 AIS (Alarm Indication Signal) recovered/ Time Slot 16 AIS (Alarm Indication Signal) not detected
TS16 LFA **Note1**	Detected	Time Slot 16 Multiframe Loss detecting
	-	Time Slot 16 Multiframe Loss not detected
Alarm Indication Signal	Detected	AIS (Alarm Indication Signal) receiving
	-	AIS (Alarm Indication Signal) recovered/ AIS (Alarm Indication Signal) not received
Signal All 1	Detected	Signal All 1 detecting
	-	Signal All 1 recovered/ Signal All1 not detected

Note 1: Displayed only for 2M.

[In the case of 1.5M]

```
>show status card

-------------------------------------------------------
Mode                     : 1.5M AMI
LP to PM Signal Channel  : Assigned
LAPD Status              : L2 Link UP
Dch Control              : Normal
Loopback                 : OFF
-------------------------------------------------------

Do you display more? (y/n) : y

-------------------------------------------------------
<< Alarm >>
PCM Loss                 : Detected
Frame Alignment Loss     : -
CRC Error                : -
BIT Error                : -
Remote Alarm             : -
Alarm Indication Signal  : -
Signal ALL 1             : -
-------------------------------------------------------

>
```

CRC Error: Displayed only for 24 Multi-frame

BIT Error: Displayed only for 12 Multi-frame

[In the case of 2M]

```
>show status card

-------------------------------------------------------
Mode                    : 2M AMI
LP to PM Signal Channel : Assigned
LAPD Status             : L2 Link UP
Dch Control             : Normal
Loopback                : OFF
-------------------------------------------------------

Do you display more? (y/n) : y

-------------------------------------------------------
<< Alarm >>
PCM Loss                : Detected
Frame Alignment Loss    : -
M-Frame Alignment Loss  : -
CRC Error               : -
BIT Error               : -
Remote Alarm            : -
TS16 Remote Alarm       : -
TS16 AIS                : -
TS16 LFA                : -
Alarm Indication Signal : -
Signal ALL 1            : -
-------------------------------------------------------

>
```

M-Frame Alignment Loss: Displayed only for 2M.
CRC Error: Displayed only for 24 Multi-frame.
BIT Error: Displayed only for 12 Multi-frame.
TS16 Remote Alarm: Displayed only for 2M.
TS16 AIS: Displayed only for 2M.
TS16 LFA: Displayed only for 2M.

(b) CCT card (1.5M/2M)

Item	Displayed Status	Description
Mode	1.5M/2M AMI	1.5M/2M AMI is in operation
LP to PM Signal Channel	Assigned	Control channel is assigned successfully
	Not Assigned	Only one control channel is assigned.
	Illegal CCH Time Slot	Time slot value of a registered control signal is different to that of Drop/Insert channel.
CCIS Status	-	Initialization is not available
	Initializing	Initializing
	Initialized	Initializing is complete
	L2 Link Setting	CCIS Level2 Link setting in process
	L2 Link UP	CCIS Level2 Link is set up
CCH Control	Normal	Normal operation
	Make-Busy	CCH Make-Busy in process
	Loopback	CCH Loopback setting in process
Loopback	OFF	Loopback is not available
	Local	Local (Internal) loopback setting in process
	Line	Line (External) loopback setting in process
	Payload	Payload loopback setting in process
	Line (Inband)	Inband Line loopback Activate receiving (5s or larger)
	Line (BOM)	BOM Line loopback Activate Received
	Payload (BOM)	BOM Payload loopback Activate received
	Remote Payload	MOS Loop back Message receiving
PCM Loss	Detected	PCM Loss detecting
	-	PCM Loss recovered/ PCM Loss not detected
Frame Alignment Loss	Detected	Frame Alignment Loss detecting
	-	Frame Alignment Loss recovered/ Frame Alignment Loss not detected
CRC Error	Detected	CRC Error detecting
	-	CRC Error recovered / CRC Error not detected
BIT Error	Detected	Bit Error detecting
	-	Bit Error recovered/ Bit Error not detected
Remote Alarm	Detected	Remote Alarm detecting
	-	Remote Alarm recovered/ Remote Alarm not detected
TS16 Remote Alarm **Note1**	Detected	Time Slot 16 Remote Alarm detecting
	-	Time Slot 16 Remote Alarm recovered/ Time Slot 16 Remote Alarm not detected
TS16 AIS **Note1**	Detected	Time Slot 16 AIS (Alarm Indication Signal) detecting
	-	Time Slot 16 AIS (Alarm Indication Signal) recovered Time Slot 16 AIS (Alarm Indication Signal) not detected

Item	Displayed Status	Description
TS16 LFA Note1	Detected	Time Slot 16 Multiframe Loss detecting
	-	Time Slot 16 Multiframe Loss not detected
Alarm Indication Signal	Detected	AIS (Alarm Indication Signal) receiving
	-	AIS (Alarm Indication Signal) recovered/ AIS (Alarm Indication Signal) not received
Signal All 1	Detected	Signal All 1 detecting
	-	Signal All 1 recovered/ Signal All1 not detected

Note 1: Displayed only for 2M.

[In the case of 1.5M]

```
>show status card

-------------------------------------------------------
Mode                     : 1.5M AMI
LP to PM Signal Channel  : Assigned
CCIS Status              : L2 Link UP
Cch Control              : Normal
Loopback                 : OFF
-------------------------------------------------------

Do you display more? (y/n) : y

-------------------------------------------------------
<< Alarm >>
PCM Loss                 : Detected
Frame Alignment Loss     : -
CRC Error                : -
BIT Error                : -
Remote Alarm             : -
Alarm Indication Signal  : -
Signal ALL 1             : -
-------------------------------------------------------

>
```

CRC Error: Displayed only for 24 Multi-frame

BIT Error: Displayed only for 12 Multi-frame

[In the case of 2M]

```
>show status card

-------------------------------------------------------
Mode                    : 2M AMI
LP to PM Signal Channel : Assigned
CCIS Status             : L2 Link UP
Cch Control             : Normal
Loopback                : OFF
-------------------------------------------------------

Do you display more? (y/n) : y

-------------------------------------------------------
<< Alarm >>
PCM Loss                : Detected
Frame Alignment Loss    : -
M-Frame Alignment Loss  : -
CRC Error               : -
BIT Error               : -
Remote Alarm            : -
TS16 Remote Alarm       : -
TS16 AIS                : -
TS16 LFA                : -
Alarm Indication Signal : -
Signal ALL 1            : -
-------------------------------------------------------

>
```

M-Frame Alignment Loss: Displayed only for 2M.
CRC Error: Displayed only for 24 Multi-frame.
BIT Error: Displayed only for 12 Multi-frame.
TS16 Remote Alarm: Displayed only for 2M.
TS16 AIS: Displayed only for 2M.
TS16 LFA: Displayed only for 2M.

(c) IPPAD card

Item	Displayed Status	Description
Link status	Link up	Ether Link setting up
	Link down	Ether Link disconnected
Interface [config]	Auto Negotiation ON	Ether speed/Duplex setting: Auto negotiation ON
	100Base-TX/Full-duplex	Ether speed/Duplex setting: 100Mbps/full-duplex fixed
	100Base-TX/Half-duplex	Ether speed/Duplex setting: 100Mbps/half-duplex fixed
	10Base-T/Full-duplex	Ether speed/Duplex setting: 10Mbps/full-duplex fixed
	10Base-T/Half-duplex	Ether speed/Duplex setting: 10Mbps/half-duplex fixed
Interface [status]	1000Base-T/Full-duplex	Readout result of Ethernet speed/Duplex status: 1000Mbps/full-duplex fixed
	1000Base-T/Half-duplex	Readout result of Ethernet speed/Duplex status: 1000Mbps/half-duplex fixed
	100Base-TX/Full-duplex	Readout result of Ethernet speed/Duplex status: 100Mbps/full-duplex fixed
	100Base-TX/Half-duplex	Readout result of Ethernet speed/Duplex status: 100Mbps/half-duplex fixed
	10Base-T/Full-duplex	Readout result of Ethernet speed/Duplex status: 10Mbps/full-duplex fixed
	10Base-T/Half-duplex	Readout result of Ethernet speed/Duplex status: 10Mbps/half-duplex fixed
	--/--	Readout result of Ethernet speed/Duplex status: Ether Link not established
MAC Address	xx-xx-xx-xx-xx-xx (xx=number)	IPPAD MAC Address
IP Address	xxx.xxx.xxx.xxx (xxx=number)	IPPAD IP Address
Subnet	xxx.xxx.xxx.xxx (xxx=number)	IPPAD Subnet Mask
Max CH mode	32ch	Maximum number of channels available for use; 32 channels.
Card status	Online	Card status: Online
	Offline	Card status: Offline

```
>show status card
2013/09/01 12:34:56

-------------------------------------------------------
  Link status : Link up
  Interface
    [config] : Speed/Duplex = Automatic Negotiation ON
    [status] : Speed/Duplex = 100Base-TX/Full-duplex
  MAC Address : 00-60-b9-44-01-83
  IP Address  : 192.168.10.4
  Subnet      : 255.255.255.0
  Max CH mode : 32ch
  Card status : Online
-------------------------------------------------------

>
```

Ether Link status (Link up/Disconnected)
Ether Speed/Duplex Setting
Ether Speed/Result of duplex status read-out
MAC Address
IP Address
Subnet Mask
Available number of channels
Card status (Online/Offline)

(d) DAT card

Item	Displayed Status	Description
Card Status	Online	The card is on line
	Offline	The card is off line
Link status	Link up	Ether Link setting up
	Link down	Ether Link disconnected
	Disable	The interface is disabled **Note:** If the SW11 to SW19 settings are not correct, the interface is disabled and an IP connection is not possible.
Interface [config]	Auto Negotiation ON	Ether speed/Duplex setting: Auto negotiation ON
	100Base-TX/Full-duplex	Ether speed/Duplex setting: 100Mbps/full-duplex fixed
	100Base-TX/Half-duplex	Ether speed/Duplex setting: 100Mbps/half-duplex fixed
	10Base-T/Full-duplex	Ether speed/Duplex setting: 10Mbps/full-duplex fixed
	10Base-T/Half-duplex	Ether speed/Duplex setting: 10Mbps/half-duplex fixed
Interface [status]	1000Base-T/Full-duplex	Readout result of Ethernet speed/Duplex status: 1000Mbps/full-duplex fixed
	1000Base-T/Half-duplex	Readout result of Ethernet speed/Duplex status: 1000Mbps/half-duplex fixed
	100Base-TX/Full-duplex	Readout result of Ethernet speed/Duplex status: 100Mbps/full-duplex fixed
	100Base-TX/Half-duplex	Readout result of Ethernet speed/Duplex status: 100Mbps/half-duplex fixed
	10Base-T/Full-duplex	Readout result of Ethernet speed/Duplex status: 10Mbps/full-duplex fixed
	10Base-T/Half-duplex	Readout result of Ethernet speed/Duplex status: 10Mbps/half-duplex fixed
	--/--	Readout result of Ethernet speed/Duplex status: Ether Link not established
MAC Address	xx-xx-xx-xx-xx-xx (xx=number)	CH-DATA MAC Address
IP Address	xxx.xxx.xxx.xxx (xxx=number)	CH-DATA IP Address
Subnet	xxx.xxx.xxx.xxx (xxx=number)	CH-DATA Subnet Mask
Default Gateway	xxx.xxx.xxx.xxx (xxx=number)	CH-DATA Default Gateway
HTTP Port	xxxx (xxxx=number)	HTTP Port Number

```
>show status card

2014/09/01 23:22:33

------------------------------------------------
Card status     : Online
------------------------------------------------
Link status     : Link up
Interface
 [config]       : Speed/Duplex = Automatic Negotiation ON
 [status]       : Speed/Duplex = 100Base-TX/Full-duplex
MAC Address     : xx-xx-xx-xx-xx-xx
------------------------------------------------
IP Address      : 192.168.0.1
Subnet          : 255.255.255.0
Default Gateway : 192.168.0.254
------------------------------------------------
HTTP port       : 9801
------------------------------------------------

>
```

(e) CFT card

Item	Displayed Status	Description
CFT Channel Select	8 Party Conference * 1 Group	Operating with a configuration of 8- Party ×1 Group
	8 Party Conference * 2 Group	Operating with a configuration of 8- Party ×2 Groups
	8 Party Conference * 4 Group	Operating with a configuration of 8- Party ×4 Groups
	16 Party Conference * 1 Group	Operating with a configuration of 16- Party ×1 Group
	16 Party Conference * 2 Group	Operating with a configuration of 16- Party ×2 Groups
	32 Party Conference * 1 Group	Operating with a configuration of 32- Party ×1 Group
Interface	Line Interface	Uses the LP-PM Interface of line
	Trunk Interface	Uses the LP-PM Interface of trunk

```
>show status card


-----------------------------------------------------
CFT Channel Select    : 8 Party Conference * 1 Group
Interface             : Line
-----------------------------------------------------

>
```

[5] show status ch

Status of all lines are displayed on a channel basis.

Examples of the console screen are shown below.

- PRT card (1.5M/2M PRT)
- DTI card
- DAT card
- CFT card

(a) PRT card (1.5M/2M PRT)

```
>show status ch

|----+----+-----+--------+--------|
| TS | CH | STS | PAD(R) | PAD(T) |
|----+----+-----+--------+--------|
|  0 | -- |  D  | ------ | ------ |
|  1 | -- | --- | ------ | ------ |
|  2 | -- | --- | ------ | ------ |
|  3 | -- | --- | ------ | ------ |
|  4 | -- | --- | ------ | ------ |
|  5 | -- | --- | ------ | ------ |
|  6 | -- | --- | ------ | ------ |
|  7 | -- | --- | ------ | ------ |
|----+----+-----+--------+--------|
|  8 |  0 |  I  |  0 dB  |  0 dB  |
|  9 |  1 |  I  |  0 dB  |  0 dB  |
| 10 |  2 |  I  |  0 dB  |  0 dB  |
| 11 |  3 |  I  |  0 dB  |  0 dB  |
| 12 |  4 |  I  |  0 dB  |  0 dB  |
| 13 |  5 |  I  |  0 dB  |  0 dB  |
| 14 |  6 |  I  |  0 dB  |  0 dB  |
| 15 |  7 |  I  |  0 dB  |  0 dB  |
|----+----+-----+--------+--------|

Do you display more? (y/n) :

|----+----+-----+--------+--------|
| TS | CH | STS | PAD(R) | PAD(T) |
|----+----+-----+--------+--------|
| 16 |  8 |  I  |  0 dB  |  0 dB  |
| 17 |  9 |  I  |  0 dB  |  0 dB  |
| 18 | 10 |  I  |  0 dB  |  0 dB  |
| 19 | 11 |  I  |  0 dB  |  0 dB  |
| 20 | 12 |  I  |  0 dB  |  0 dB  |
| 21 | 13 |  I  |  0 dB  |  0 dB  |
| 22 | 14 |  I  |  0 dB  |  0 dB  |
| 23 | 15 |  I  |  0 dB  |  0 dB  |
|----+----+-----+--------+--------|
| 24 | 16 |  I  |  0 dB  |  0 dB  |
| 25 | 17 |  I  |  0 dB  |  0 dB  |
| 26 | 18 |  I  |  0 dB  |  0 dB  |
| 27 | 19 |  I  |  0 dB  |  0 dB  |
| 28 | 20 |  I  |  0 dB  |  0 dB  |
| 29 | 21 |  I  |  0 dB  |  0 dB  |
| 30 | 22 |  I  |  0 dB  |  0 dB  |
| 31 | 23 |  D  |Through |Through |
|----+----+-----+--------+--------|
```

TS:Time Slot Number
CH: Channel Number ("-" indicates the channel is not used)
STS: Channel status
---: Not available
I: IDLE
B1: Outgoing call
B2: Incoming call
B3: Other channels in use
B: Busy
D: D channel is registered
MB1: Make-Busy
MB2: Outgoing Make-Busy
MB3: Blocking Make-Busy

PAD(R): Reception PAD Value from line to TSW
xx dB: Loss
-x dB: Gain
Through: PAD Through
64k INV: 64k Inversion
54k: 54k
48k: 48k
PAD (T): Transmission PAD Value from TSW to line

(b) DTI card

```
>show status ch

|----+----+-----+--------+--------|
| TS | CH | STS | PAD(R) | PAD(T) |
|----+----+-----+--------+--------|
|  0 | -- | --- | ------ | ------ |
|  1 | -- | --- | ------ | ------ |
|  2 | -- | --- | ------ | ------ |
|  3 | -- | --- | ------ | ------ |
|  4 | -- | --- | ------ | ------ |
|  5 | -- | --- | ------ | ------ |
|  6 | -- | --- | ------ | ------ |
|  7 | -- | --- | ------ | ------ |
|----+----+-----+--------+--------|
|  8 |  0 |  I  |  0 dB  |  0 dB  |
|  9 |  1 |  I  |  0 dB  |  0 dB  |
| 10 |  2 |  I  |  0 dB  |  0 dB  |
| 11 |  3 |  I  |  0 dB  |  0 dB  |
| 12 |  4 |  I  |  0 dB  |  0 dB  |
| 13 |  5 |  I  |  0 dB  |  0 dB  |
| 14 |  6 |  I  |  0 dB  |  0 dB  |
| 15 |  7 |  I  |  0 dB  |  0 dB  |
|----+----+-----+--------+--------|

Do you display more? (y/n) :

|----+----+-----+--------+--------|
| TS | CH | STS | PAD(R) | PAD(T) |
|----+----+-----+--------+--------|
| 16 |  8 |  I  |  0 dB  |  0 dB  |
| 17 |  9 |  I  |  0 dB  |  0 dB  |
| 18 | 10 |  I  |  0 dB  |  0 dB  |
| 19 | 11 |  I  |  0 dB  |  0 dB  |
| 20 | 12 |  I  |  0 dB  |  0 dB  |
| 21 | 13 |  I  |  0 dB  |  0 dB  |
| 22 | 14 |  I  |  0 dB  |  0 dB  |
| 23 | 15 |  I  |  0 dB  |  0 dB  |
|----+----+-----+--------+--------|
| 24 | 16 |  I  |  0 dB  |  0 dB  |
| 25 | 17 |  I  |  0 dB  |  0 dB  |
| 26 | 18 |  I  |  0 dB  |  0 dB  |
| 27 | 19 |  I  |  0 dB  |  0 dB  |
| 28 | 20 |  I  |  0 dB  |  0 dB  |
| 29 | 21 |  I  |  0 dB  |  0 dB  |
| 30 | 22 |  I  |  0 dB  |  0 dB  |
| 31 | 23 |  I  |  0 dB  |  0 dB  |
|----+----+-----+--------+--------|
```

TS:Time Slot Number
CH: Channel Number (“-” indicates the channel is not used)
STS: Channel status
---: Not available
I: IDLE
B1: Outgoing call
B2: Incoming call
B3: Other channels in use
B: Busy
D: D channel is registered
MB1: Make-Busy
MB2: Outgoing Make-Busy
MB3: Blocking Make-Busy

PAD(R) : Reception PAD Value from line to TSW
xx dB: Loss
-x dB: Gain
Through: PAD Through
64k INV: 64k Inversion
54k: 54k
48k: 48k
PAD (T) : Transmission PAD Value from TSW to line

(c) DAT card

```
>show status ch

2014/10/09 19:07:28

|----+-----+--------------|
| CH | STS |     PAD(T)   |
|----+-----+--------------|
|  0 |  I  |     0 dB     |
|----+-----+--------------|
|  1 |  I  |  12 dB(Loss) |
|----+-----+--------------|
|  2 |  I  |   6 dB(Loss) |
|----+-----+--------------|
|  3 |  I  |  -6 dB(Gain) |
|----+-----+--------------|
|  4 |  I  | -12 dB(Gain) |
|----+-----+--------------|
|  5 |  I  | -12 dB(Gain) |
|----+-----+--------------|
|  6 |  I  |     0 dB     |
|----+-----+--------------|
|  7 |  -- |     ----     |
|----+-----+--------------|

>
```

CH: Channel number (“-” not used)
STS: Channel status
---: Cannot be used
I: IDLE
B: Busy
MB: Make Busy
PAD (T): Sending PAD value
xx dB: Loss
-x dB: Gain
---: Cannot be used

(d) CFT card

- 8- Party ×1 Group

```
>show status ch

|----+-----+--------+--------|
| CH | STS | PAD(R) | PAD(T) |
|----+-----+--------+--------|
|  0 |  I  |  3 dB  |  -3 dB |
|  1 |  I  |  3 dB  |  -3 dB |
|  2 |  I  |  3 dB  |  -3 dB |
|  3 |  I  |  3 dB  |  -3 dB |
|  4 |  I  |  3 dB  |  -3 dB |
|  5 |  I  |  3 dB  |  -3 dB |
|  6 |  I  |  3 dB  |  -3 dB |
|  7 |  I  |  3 dB  |  -3 dB |
|----+-----+--------+--------|

>
```

CH: Channel number
STS: Channel status
I: IDLE
B1: Sending
B2: Receiving
B3: Other using channel
B: Busy
MB1: Sending and receiving make busy
MB2: Receiving make busy
PAD (R): Receiving PAD value (TDSW→CFT)
xx dB: Loss
-x dB: Gain
PAD (T): Sending PAD value (CFT→TDSW)

- 8- Party ×2 Groups/16- Party ×1 Group

```
>show status ch

|----+-----+--------+--------|
| CH | STS | PAD(R) | PAD(T) |
|----+-----+--------+--------|
|  0 |  I  |  3 dB  |  -3 dB |
|  1 |  I  |  3 dB  |  -3 dB |
|  2 |  I  |  3 dB  |  -3 dB |
|  3 |  I  |  3 dB  |  -3 dB |
|  4 |  I  |  3 dB  |  -3 dB |
|  5 |  I  |  3 dB  |  -3 dB |
|  6 |  I  |  3 dB  |  -3 dB |
|  7 |  I  |  3 dB  |  -3 dB |
|----+-----+--------+--------|
|  8 |  I  |  3 dB  |  -3 dB |
|  9 |  I  |  3 dB  |  -3 dB |
| 10 |  I  |  3 dB  |  -3 dB |
| 11 |  I  |  3 dB  |  -3 dB |
| 12 |  I  |  3 dB  |  -3 dB |
| 13 |  I  |  3 dB  |  -3 dB |
| 14 |  I  |  3 dB  |  -3 dB |
| 15 |  I  |  3 dB  |  -3 dB |
|----+-----+--------+--------|

>
```

CH: Channel number
STS: Channel status
I: IDLE
B1: Sending
B2: Receiving
B3: Other using channel
B: Busy
MB1: Sending and receiving make busy
MB2: Receiving make busy
PAD (R): Receiving PAD value (TDSW→CFT)
xx dB: Loss
-x dB: Gain
PAD (T): Sending PAD value (CFT→TDSW)

- 8- Party ×4 Groups/16- Party ×2 Groups/32- Party ×1 Group

```
>show status ch

|----+-----+--------+--------|
| CH | STS | PAD(R) | PAD(T) |
|----+-----+--------+--------|
|  0 |  I  |  3 dB  |  -3 dB |
|  1 |  I  |  3 dB  |  -3 dB |
|  2 |  I  |  3 dB  |  -3 dB |
|  3 |  I  |  3 dB  |  -3 dB |
|  4 |  I  |  3 dB  |  -3 dB |
|  5 |  I  |  3 dB  |  -3 dB |
|  6 |  I  |  3 dB  |  -3 dB |
|  7 |  I  |  3 dB  |  -3 dB |
|----+-----+--------+--------|
|  8 |  I  |  3 dB  |  -3 dB |
|  9 |  I  |  3 dB  |  -3 dB |
| 10 |  I  |  3 dB  |  -3 dB |
| 11 |  I  |  3 dB  |  -3 dB |
| 12 |  I  |  3 dB  |  -3 dB |
| 13 |  I  |  3 dB  |  -3 dB |
| 14 |  I  |  3 dB  |  -3 dB |
| 15 |  I  |  3 dB  |  -3 dB |
|----+-----+--------+--------|

Do you display more? (y/n) :  y

|----+-----+--------+--------|
| CH | STS | PAD(R) | PAD(T) |
|----+-----+--------+--------|
| 16 |  I  |  3 dB  |  -3 dB |
| 17 |  I  |  3 dB  |  -3 dB |
| 18 |  I  |  3 dB  |  -3 dB |
| 19 |  I  |  3 dB  |  -3 dB |
| 20 |  I  |  3 dB  |  -3 dB |
| 21 |  I  |  3 dB  |  -3 dB |
| 22 |  I  |  3 dB  |  -3 dB |
| 23 |  I  |  3 dB  |  -3 dB |
|----+-----+--------+--------|
| 24 |  I  |  3 dB  |  -3 dB |
| 25 |  I  |  3 dB  |  -3 dB |
| 26 |  I  |  3 dB  |  -3 dB |
| 27 |  I  |  3 dB  |  -3 dB |
| 28 |  I  |  3 dB  |  -3 dB |
| 29 |  I  |  3 dB  |  -3 dB |
| 30 |  I  |  3 dB  |  -3 dB |
| 31 |  I  |  3 dB  |  -3 dB |
|----+-----+--------+--------|

>
```

CH: Channel number
STS: Channel status
I: IDLE
B1: Sending
B2: Receiving
B3: Other using channel
B: Busy
MB1: Sending and receiving make busy
MB2: Receiving make busy
PAD (R): Receiving PAD value (TDSW→CFT)
xx dB: Loss
-x dB: Gain
PAD (T): Sending PAD value (CFT→TDSW)

[6] show sw

This command shows settings of all switches.

```
>show sw

                12345678 (0:OFF/1:ON)
-------------------------------------
SW 10 <Soft > : 10000000 [changed]
SW 11 <Soft > : 10101100
SW 12 <Soft > : 10001000
SW 13 <Soft > : 10000000
SW 14 <Soft > : 00000000
SW 15 <Soft > : 11110000
SW 16 <Soft > : 10110110
SW 17 <Imm  > : 00000000 [changed] [*]
-------------------------------------

>
```

For software switches, settings of editing memory are displayed. If there is any difference in settings between operational memory and editing memory, "[changed]" is displayed.
If any difference is found in settings between saving memory and operational memory, "[*]" is displayed.

For hardware switches, settings of operational memory for hardware are displayed.

Switch types are shown in "< >".

- Software Switch

  Soft: Soft switch
  Imm: Immediate switch

- Hardware Switch

  Sense: Sense switch (rotary switch)
  Slide: Slide switch
  2Dip: 2-Dip switch
  4Dip: 4-Dip switch
  8Dip: 8-Dip switch
  SP: Short plug (Jumper switch)
  2Piano: 2-Piano-Key switch
  4Piano: 4-Piano-Key switch
  8Piano: 8-Piano-Key switch
  Toggle: Toggle switch

[7] show sw xx (number)

This command shows the settings of a specified switch. Below is an example of console display screen.

```
>show sw 10

                12345678 (0:OFF/1:ON)
------------------------------------
SW 10 <Soft > : 10000000 [changed]
------------------------------------

>
```

Settings of editing memory for software switches are displayed. If there is any difference in settings between operational memory and editing memory, "[changed]" is displayed.
If any difference is found in settings between saving memory and operational memory, "[*]" is displayed.

Settings of operational memory for hardware switches are displayed.

Switch types are shown in "< >".
For more details, see "show sw".

[8] show sw all

This command shows detailed settings of all switches. Below is an example of console display screen.

```
>show sw all

                          12345678 (0:OFF/1:ON)
-----------------------------------------------
SW 01 <Imm  > (ROM)     : 10000000
              (Current) : 00000000 [changed]
              (New)     : 10000000 [changed]

SW 80 <8Dip > (Current) : 00000000

SW 81 <8Dip > (Current) : 00000000

SW 82 <SP   > (Current) : 1-------

SW 83 <SP   > (Current) : 1-------

-----------------------------------------------
```

Software switch details are displayed as follow:

ROM : Saving memory settings
Current : Operational memory settings
New : Editing memory settings

(Current) [Changed] : Difference exists in the settings between ROM and Current.

(New) [Changed] : Difference exists in the settings between Current and New.

```
Do you display more? (y/n) : y

                          12345678 (0 : OFF/ 1: ON)
-------------------------------------------------

SW 84 <SP  >  (Current) : 1-------

SW 10 <Imm  > (ROM)     : 00000000
              (Current) : 00000000
              (New)     : 00000000

SW 11 <Soft > (ROM)     : 00000000
              (Current) : 00000000
              (New)     : 00000000

SW 12 <Soft > (ROM)     : 00111000
              (Current) : 00111000
              (New)     : 00111000

SW 13 <Imm  > (ROM)     : 00000000
              (Current) : 00000000
              (New)     : 00000000

-------------------------------------------------

Do you display more? (y/n) : n

>
```

Only " (Current)" is displayed for hardware switches.

Switch type is shown in "< >".
For more details, see "show sw".

[9] show version

This command shows firmware program, boot program name, and version number.

Examples of the console screen are shown below.

- IPPAD card
- Cards other than IPPAD card

(a) IPPAD card

```
>show version

2013/09/01 12:34:56

----------------------------+---------------
Information                 | Issue
----------------------------+---------------
SP-4045 IPDA PROG-A         | 01.00.00.00
SP-4046 IPDBOOT PROG-A      | 01.00.00.00
----------------------------+---------------
DSP Information             | Issue
----------------------------+---------------
AC491 MainProgram           | 06.80
      Revision              | 16
      Patch                 |
      PatchNumber           |
      Reserved              |
      Month                 | 08
      Day                   | 05
      year                  | 2013
      Name                  | AC491096ae3_hn
----------------------------+---------------
AC491 Driver Ver            | 680
      SubVersion            | 08
      Date                  | 30.10.2012
      Comment               |
----------------------------+---------------
```

Main program version is displayed.
Boot program version is displayed.

DSP program version is displayed.

DSP driver version is displayed.

(b) Cards other than IPPAD card

```
>show version
Information                 | Issue
----------------------------+--------
SP-4041 PRTA PRI PROG-A     | 01.00
SP-4047 RX CBOOT PROG-A     | 01.00
CH-PRTA Circuit Card        | 1
PZ-M736 Circuit Card        | -----

>
```

Main program version is displayed.
Boot program version is displayed.
Hardware version is displayed.
This is displayed when PA-Adapter is used.
(PRT/CCT cards only)

[10] show arp

This command shows the arp information. Below is an example of the console screen display.

```
>show arp

2013/09/01 12:34:56

ARP TABLE
IP Address    Hardware Address  Interface
-----------------------------------------------
192.168. 10.255 at ff:ff:ff:ff:ff:ff on eth0
192.168. 10.200 at 00:0a:79:31:01:5e on eth0
192.168. 10.  4 at 80:40:c0:20:a0:60 permanent published on eth0
192.168. 10.254 at 00:00:00:00:00:00 on eth0
```

[11] show config

This command shows the editing memory of all switches.

Examples of the console screen are shown below. For detailed switch information, see the set config command.

- IPPAD card
- DAT card
- CFT card
- Cards other than IPPAD/DAT/CFT card

(a) IPPAD card

```
>show config

2013/09/27 12:30:26

---------------------------------
[Layer 1 Interface parameter]
---------------------------------
-----------------------------------------------------------------
Speed/Duplex     : Automatic Negotiation ON
-----------------------------------------------------------------

Do you display more? (y/n) : y

---------------------------------
[PAD(Echo Canceller) parameters]
---------------------------------
-----------------------------------------------------------------
PAD Selection    : PAD pattern 1

[MU-Law pattern 1]             [A-Law pattern 1]
+---------+---------+---------++---------+---------+---------+
| PAD No. | TSW->IP  | IP->TSW | | PAD No. | TSW->IP  | IP->TSW |
+---------+---------+---------++---------+---------+---------+
|    7    |  0 [dB]  |  0 [dB] | |    7    |  0 [dB]  |  0 [dB] |
|    1    |  0 [dB]  |  2 [dB] | |    1    |  0 [dB]  |  2 [dB] |
|    2    |  0 [dB]  |  4 [dB] | |    2    |  0 [dB]  |  4 [dB] |
|    3    |  0 [dB]  | 12 [dB] | |    3    |  0 [dB]  |  6 [dB] |
|    4    |  0 [dB]  |  8 [dB] | |    3    |  0 [dB]  |  8 [dB] |
+---------+---------+---------++---------+---------+---------+
-----------------------------------------------------------------

Do you display more? (y/n) : y

---------------------------------
[Smooth PAD parameters]
---------------------------------
-----------------------------------------------------------------
2-wire trunk     : +2dB limit
extension        : +2dB limit
-----------------------------------------------------------------

Do you display more? (y/n) : y

...
```

Settings of all switches are displayed.

Question asks whether or not to display the next item.
Enter “y” to display.
Enter “n” to not display.

Question asks whether or not to display the next item.
Enter “y” to display.
Enter “n” to not display.

(omitted)

(b) DAT card

```
>show config

2014/09/01 23:22:33

-----------------------------------------------
Hardware Switch
  START Key              : Starting
  JACK                   : Enable
  JACK Mode              : Playback
  Channel                : 0
-----------------------------------------------
Hardware Switch (Fixed)
  Compression Law        : MU-Law
  External Hold Tone     : Used
  Recording Mode         : 64s mode
-----------------------------------------------

Do you display more? (y/n) : y
```

[START Key] (corresponds to SW81)
Starting: Play/Record starts
Stopped: Play/Record stops

[JACK]
Record from the front jack (corresponds to SW80-8)
Enable
Disable

[JACK Mode]
Play/Record mode from the front jack (corresponds to SW80-7)
Recording
Playback

[Channel]
Play/Record channel settings (corresponds to SW80-1 to SW80-3)

[Compression Law] (corresponds to SW82-5)
MU-Law: G.711 μ-law
A-Law: G.711 A-law

[External Hold Tone] (corresponds to SW82-4)
Used
Unused

[Recording Mode] (corresponds to SW82-1 to SW82-2)
64/128/256/512 second

Question asks whether or not to display the next item.
Enter “y” to display.
Enter “n” to not display.

```
-----------------------------------------------
Layer 1 Interface
  Speed/Duplex           : Automatic Negotiation ON
-----------------------------------------------
IP Address
  IP Address             : 192.168.0.1
  Subnet Mask            : 255.255.255.0
  Default Gateway        : 192.168.0.254
-----------------------------------------------
VLAN
  VLAN function          : Enable
  VLAN ID                : 1
  CoS                    : 0
-----------------------------------------------
WEB
  HTTP port              : 9801
-----------------------------------------------


Do you display more? (y/n) :
```

[Layer 1 Interface]
Layer 1 Interface settings

[IP Address]
IP Address settings

[VLAN]
VALN settings
If VLAN is disabled VLAN ID and CoS are not displayed.

[WEB]
WEB settings

If it is left blank, the next item is displayed.

```
------------------------------------------------
Make Busy Request
  0 channel               : ON
  1 channel               : ON
  2 channel               : ON
  3 channel               : ON
  4 channel               : OFF
  5 channel               : OFF
  6 channel               : OFF
  7 channel               : OFF
------------------------------------------------
Playback Mode
  0 channel               : Single playback
  1 channel               : Single playback
  2 channel               : Single playback
  3 channel               : Single playback
  4 channel               : Multiple playback
  5 channel               : Multiple playback
  6 channel               : Multiple playback
  7 channel               : Multiple playback
------------------------------------------------
Announcement
  Announcement Message    : Changed Playback 1
  Recoded Data            : Keep
------------------------------------------------


>
```

[Make Busy Request]
MB for each channel.

[Playback Mode]
Single Playback: 1 time played
Multiple Playback: repeated continuously

[Announcement]
Announcement settings.

(c) CFT card

- Conference Mode: Meet-Me Conference

```
>show config

------------------------------------------------------------
Hardware Switch
  Conference Configuration   : 8 Party Conference * 1 Group
  Interface                  : Line
------------------------------------------------------------

Do you display more? (y/n) : y

------------------------------------------------------------
Operation Mode
  CFT Operation Mode         : Meet-Me Conference
------------------------------------------------------------

Do you display more? (y/n) : y

------------------------------------------------------------
Function
  PB Tone Control            : Enable
  CFT Hardware Control       : Disable
  CFT Input Mute Control     : Software
  CFT Output Mute Control    : Software
  Conference Mode            : Bothway
  CFT Input PAD Control      : Disable
  CFT Output PAD Control     : Disable
  Call Cycle Type            : One Channel
  Notice Tone                : Disable
  Notice Tone Type           : Disable
  Port Release               : Disable
  PB Signal Forced Release   : Enable
  PB Signal Privacy Control  : Enable
  Cascade Connection         : Disable
------------------------------------------------------------

Do you display more? (y/n) :

------------------------------------------------------------
Timer
  Answer Wait Time              : 6 sec
  Path On Wait Time             : 1 sec
------------------------------------------------------------

Do you display more? (y/n) : y

------------------------------------------------------------
PAD
  Reception PAD                : 0 dB(Loss)
  Transmission PAD             : 0 dB(Loss)
------------------------------------------------------------

 Do you display more? (y/n) : y
```

Settings of all switches are displayed.

Question asks whether or not to display the next item.
Enter “y” to display.
Enter “n” to not display.

If it is left blank, the next item is displayed.

```
------------------------------------------------------------
DSP
  Reception Clipper            : 0 dBm
  Transmission Clipper / LPF   : 0 dBm / Enable
  PBR Time                     : PT Short(28ms)
  AGC                          : Disable
  AGC Threshold                : -15 dBm
  Threshold Level of Speaking  : -38 dBm
  Speak Simultaneous           : 5 Persons
------------------------------------------------------------

 Do you display more? (y/n) : y

------------------------------------------------------------
Echo
  Echo Canceller               : Enable
  Echo Canceller Tail Length   : 128ms
  NLP Mode                     : Low Sensitivity
  NLP Level                    : Automatic
------------------------------------------------------------

 >
```

- Conference Mode: Preset Conference

```
>show config

------------------------------------------------------------
Hardware Switch
  Conference Configuration   : 8 Party Conference * 1 Group
  Interface                  : Line
------------------------------------------------------------

Do you display more? (y/n) : y

------------------------------------------------------------
Operation Mode
  CFT Operation Mode         : Preset Conference
------------------------------------------------------------

Do you display more? (y/n) : y

------------------------------------------------------------
Function
  PB Tone Control            : Enable
  CFT Hardware Control       : Disable
  CFT Input Mute Control     : Software
  CFT Output Mute Control    : Software
  Conference Mode            : Bothway
  CFT Input PAD Control      : Disable
  CFT Output PAD Control     : Disable
  Call Cycle Type            : One Channel
  Notice Tone                : Disable
  Notice Tone Type           : Disable
  Port Release               : Disable
  PB Signal Forced Release   : Enable
  PB Signal Privacy Control  : Enable
------------------------------------------------------------

Do you display more? (y/n) :

------------------------------------------------------------
Timer
  Call cycle Interval              : 2 sec
  Release time                     : Long
------------------------------------------------------------

Do you display more? (y/n) : y

------------------------------------------------------------
PAD
  Reception PAD                : 0 dB(Loss)
  Transmission PAD             : 0 dB(Loss)
------------------------------------------------------------

 Do you display more? (y/n) : y
```

Settings of all switches are displayed.

Question asks whether or not to display the next item.
Enter “y” to display.
Enter “n” to not display.

If it is left blank, the next item is displayed.

```
------------------------------------------------------------
DSP
  Reception Clipper            : 0 dBm
  Transmission Clipper / LPF   : 0 dBm / Enable
  PBR Time                     : PT Short(28ms)
  AGC                          : Disable
  AGC Threshold                : -15 dBm
  Threshold Level of Speaking  : -38 dBm
  Speak Simultaneous           : 5 Persons
------------------------------------------------------------

 Do you display more? (y/n) : y

------------------------------------------------------------
Echo
  Echo Canceller               : Enable
  Echo Canceller Tail Length   : 128ms
  NLP Mode                     : Low Sensitivity
  NLP Level                    : Automatic
------------------------------------------------------------

 >
```

- Conference Mode: Progressive Conference

```
>show config

------------------------------------------------------------
Hardware Switch
  Conference Configuration   : 8 Party Conference * 1 Group
  Interface                  : Line
------------------------------------------------------------

Do you display more? (y/n) : y

------------------------------------------------------------
Operation Mode
  CFT Operation Mode         : Progressive Conference
------------------------------------------------------------

Do you display more? (y/n) : y

------------------------------------------------------------
Function
  PB Tone Control            : Enable
  CFT Hardware Control       : Disable
  CFT Input Mute Control     : Software
  CFT Output Mute Control    : Software
  Conference Mode            : Bothway
  CFT Input PAD Control      : Disable
  CFT Output PAD Control     : Disable
  Call Cycle Type            : One Channel
  Notice Tone                : Disable
  Notice Tone Type           : Disable
  Port Release               : Disable
  PB Signal Forced Release   : Enable
  PB Signal Privacy Control  : Enable
------------------------------------------------------------

Do you display more? (y/n) :

------------------------------------------------------------
PAD
  Reception PAD                : 0(Loss)
  Transmission PAD             : 0(Loss)
------------------------------------------------------------

 Do you display more? (y/n) : y
```

Settings of all switches are displayed.

Question asks whether or not to display the next item.
Enter “y” to display.
Enter “n” to not display.

If it is left blank, the next item is displayed.

```
------------------------------------------------------------
DSP
  Reception Clipper            : 0 dBm
  Transmission Clipper / LPF   : 0 dBm / Enable
  PBR Time                     : PT Short(28ms)
  AGC                          : Disable
  AGC Threshold                : -15 dBm
  Threshold Level of Speaking  : -38 dBm
  Speak Simultaneous           : 5 Persons
------------------------------------------------------------

 Do you display more? (y/n) : y

------------------------------------------------------------
Echo
  Echo Canceller               : Enable
  Echo Canceller Tail Length   : 128ms
  NLP Mode                     : Low Sensitivity
  NLP Level                    : Automatic
------------------------------------------------------------

 >
```

(d) Cards other than IPPAD/DAT/CFT card

```
>show config

-----------------------------------------------
Hardware Switch
  Interface                   : 1.5M
  Middle point                : Open
-----------------------------------------------

Do you display more? (y/n) : y

-----------------------------------------------
Maintenance
  Local Loopback              : OFF
  Line Loopback               : OFF
  Payload Loopback            : OFF
  All Bch Make-Busy           : OFF
  DCH Make-Busy               : OFF
  DCH Loopback                : OFF
  DCH Bit Error Test          : OFF
-----------------------------------------------

Do you display more? (y/n) :

-----------------------------------------------
Layer 1 Interface
  Remote Alarm Sending        : Allowed
  Remote Alarm                : Data Link
  Alarm Operation Mode        : JP
  Alarm Release Time          : Short
  Alarm Detect Type           : Normal
  Main SIG. All 1 PLO Control : Disabled
  PLO Clock Supply            : Supply
  DCH Layer 1 Alarm Release   : Disabled
  Equalizer                   : 0- 40m
  ITU-T G.704/JT-G704         : ITU-T G.704
  Line Signal                 : B8ZS
  Frame Format                : 24MF
  4k Data Link                : MOS
  MOS/BOM Operation Mode      : MODE 3
  Signaling In Channel        : OFF
  M-Bit Activation Mode       : User
-----------------------------------------------

Do you display more? (y/n) :

...
```

Settings of all switches are displayed.

Question asks whether or not to display the next item.
Enter “y” to display.
Enter “n” to not display.

If it is left blank, the next item is displayed.

(omitted)

[12] show config both

This command shows the editing memory and operational memory of all switches.

Examples of the console screen are shown below. For detailed switch information, see the set config command.

- IPPAD/DAT card
- Cards other than IPPAD/DAT card

(a) IPPAD/DAT card

```
>show config both

2013/09/27 12:31:40

---------------------------------
[Layer 1 Interface parameter]
---------------------------------
------------------------------------------------------------------
Speed/Duplex
    Current setting  : Automatic Negotiation ON
    New setting      : Automatic Negotiation ON
------------------------------------------------------------------

Do you display more? (y/n) : y

---------------------------------
[PAD(Echo Canceller) parameters]
---------------------------------
------------------------------------------------------------------
PAD Selection
    Current setting  : PAD pattern 1
    New setting      : PAD pattern 1

<< Current Setting >>
[MU-Law pattern 1]             [A-Law pattern 1]
+---------+---------+---------++---------+---------+---------+
| PAD No. | TSW->IP  | IP->TSW | | PAD No. | TSW->IP  | IP->TSW |
+---------+---------+---------++---------+---------+---------+
|    7    |  0 [dB]  |  0 [dB] | |    7    |  0 [dB]  |  0 [dB] |
|    1    |  0 [dB]  |  2 [dB] | |    1    |  0 [dB]  |  2 [dB] |
|    2    |  0 [dB]  |  4 [dB] | |    2    |  0 [dB]  |  4 [dB] |
|    3    |  0 [dB]  | 12 [dB] | |    3    |  0 [dB]  |  6 [dB] |
|    4    |  0 [dB]  |  8 [dB] | |    3    |  0 [dB]  |  8 [dB] |
+---------+---------+---------++---------+---------+---------+

<< New Setting >>
[MU-Law pattern 1]             [A-Law pattern 1]
+---------+---------+---------++---------+---------+---------+
| PAD No. | TSW->IP  | IP->TSW | | PAD No. | TSW->IP  | IP->TSW |
+---------+---------+---------++---------+---------+---------+
|    7    |  0 [dB]  |  0 [dB] | |    7    |  0 [dB]  |  0 [dB] |
|    1    |  0 [dB]  |  2 [dB] | |    1    |  0 [dB]  |  2 [dB] |
|    2    |  0 [dB]  |  4 [dB] | |    2    |  0 [dB]  |  4 [dB] |
|    3    |  0 [dB]  | 12 [dB] | |    3    |  0 [dB]  |  6 [dB] |
|    4    |  0 [dB]  |  8 [dB] | |    3    |  0 [dB]  |  8 [dB] |
+---------+---------+---------++---------+---------+---------+
------------------------------------------------------------------

Do you display more? (y/n) : y

...
```

Current Setting: Operational memory
New Setting: Editing memory

Question asks whether or not to display the next item.
Enter “y” to display.
Enter “n” to not display.

(omitted)

(b) Cards other than IPPAD/DAT card

```
>show config both

------------------------------------------------
Layer 1 Interface
  Remote Alarm Sending          ( Imm  )
    Current setting : Allowed
    New setting     : Restricted
  Alarm Release Time            ( Imm  )
    Current setting : Short
    New setting     : Long
  PLO Control                   ( Imm  )
    Current setting : Disabled
    New setting     : Enabled

...
```

Switch type is shown in "( )".
Current Setting : Operational memory
New Setting: Editing memory

(omitted)

[13] show config now

This command displays the operational memory of all switches.

Examples of the console screen are shown below. For detailed switch information, see the set config command.

- IPPAD/DAT card
- Cards other than IPPAD/DAT card

(a) IPPAD/DAT card

```
>show config now

2013/09/27 12:31:14

---------------------------------
[Layer 1 Interface parameter]
---------------------------------
------------------------------------------------------------------
Speed/Duplex     : Automatic Negotiation ON
------------------------------------------------------------------

Do you display more? (y/n) : y

---------------------------------
[PAD(Echo Canceller) parameters]
---------------------------------
------------------------------------------------------------------
PAD Selection    : PAD pattern 1

[MU-Law pattern 1]             [A-Law pattern 1]
+---------+---------+---------++---------+---------+---------+
| PAD No. | TSW->IP  | IP->TSW | | PAD No. | TSW->IP  | IP->TSW |
+---------+---------+---------++---------+---------+---------+
|    7    |  0 [dB]  |  0 [dB] | |    7    |  0 [dB]  |  0 [dB] |
|    1    |  0 [dB]  |  2 [dB] | |    1    |  0 [dB]  |  2 [dB] |
|    2    |  0 [dB]  |  4 [dB] | |    2    |  0 [dB]  |  4 [dB] |
|    3    |  0 [dB]  | 12 [dB] | |    3    |  0 [dB]  |  6 [dB] |
|    4    |  0 [dB]  |  8 [dB] | |    3    |  0 [dB]  |  8 [dB] |
+---------+---------+---------++---------+---------+---------+
------------------------------------------------------------------

Do you display more? (y/n) : y

---------------------------------
[Smooth PAD parameters]
---------------------------------
------------------------------------------------------------------
2-wire trunk     : +2dB limit
extension        : +2dB limit
------------------------------------------------------------------

Do you display more? (y/n) : y

...
```

Settings of all switches are displayed.

Question asks whether or not to display the next item.
Enter “y” to display.
Enter “n” to not display.

(omitted)

(b) Cards other than IPPAD/DAT card

```
>show config now

------------------------------------------------
Hardware Switch
  Interface                  : 1.5M
  Middle point               : Open
------------------------------------------------

Do you display more? (y/n) : y

------------------------------------------------
Maintenance
  Local Loopback             : OFF
  Line Loopback              : OFF
  Payload Loopback           : OFF
  All Bch Make-Busy          : OFF
  DCH Make-Busy              : OFF
  DCH Loopback               : OFF
  DCH Bit Error Test         : OFF
------------------------------------------------

Do you display more? (y/n) :

------------------------------------------------
Layer 1 Interface
  Remote Alarm Sending       : Allowed
  Remote Alarm               : Data Link
  Alarm Operation Mode       : JP
  Alarm Release Time         : Short
  Alarm Detect Type          : Normal
  Main SIG. All 1 PLO Control : Disabled
  PLO Clock Supply           : Supply
  DCH Layer 1 Alarm Release  : Disabled
  Equalizer                  : 0- 40m
  ITU-T G.704/JT-G704        : ITU-T G.704
  Line Signal                : B8ZS
  Frame Format               : 24MF
  4k Data Link               : MOS
  MOS/BOM Operation Mode     : MODE 3
  Signaling In Channel       : OFF
  M-Bit Activation Mode      : User
------------------------------------------------

Do you display more? (y/n) :

...
```

Settings of all switches are displayed.

Question asks whether or not to display the next item.
Enter “y” to display.
Enter “n” to not display.

If it is left blank, the next item is displayed.

(omitted)

[14] show performance

This command shows a result of performance measurement.

Below is an example of console screen.

```
>show performance

<< Mesurement Time >>
  0min

<< Maximum CPU Performance (second) >>
  Total               : 0%
  Interrupt           : 0%
  B-Monitor Program   : 0%
  B-Monitor + B-Queue : 0%

<< Average CPU Performance (second) >>
  Total               : 0%
  Interrupt           : 0%
  B-Monitor Program   : 0%
  B-Monitor + B-Queue : 0%

<< Maximum CPU Performance (minute) >>
  Total               : 0%
  Interrupt           : 0%
  B-Monitor Program   : 0%
  B-Monitor + B-Queue : 0%

<< Average CPU Performance (minute) >>
  Total               : 0%
  Interrupt           : 0%
  B-Monitor Program   : 0%
  B-Monitor + B-Queue : 0%

>
```

Measurement time

Maximum CPU performance per second

Average CPU performance per second

Maximum CPU performance per minute

Average CPU performance per minute

[15] show terminal

This command shows the state of a connected terminal. Below is an example of the console screen display.

```
>show terminal

LINE : 0
Terminal Connect Mode     : KS
Terminal Series           : DT300
Terminal Type             : Standard
Terminal LCD Type         : 28 Digits
Terminal Line Key Type    : 16 Line Key
Terminal Model            : Model-A
ARP Adapter               : Not Connected
CTI Adapter               : Not Connected
Data Adapter              : Not connected
Card Reader               : Not Connected
Terminal Button Type      : 24 Button
Tell Book                 : Active
Bluetooth Option          : Not Connected
Terminal Firmware Version : 1.8

LINE : 1
Terminal Not Connected

...                                                    (omitted)

LINE : 15
Terminal Not Connected

>
```

[16] show trace

This command displays the trace status.

Examples of the console screen are shown below.

- PRT card
- CCT card
- CFT card

(a) PRT card

```
>show trace

-------------------------------------------------
LP-PM command trace
   Group 0 : stop
   Group 1 : stop
   Group 2 : stop
   Group 3 : stop
LP-PM command trace output
   Group 0 : stop
   Group 1 : stop
   Group 2 : stop
   Group 3 : stop
-------------------------------------------------

Do you display more? (y/n) : y

-------------------------------------------------
LP-PM information command trace        : stop
LP-PM information command trace output : stop
Layer2 / Layer3 command trace          : stop
Layer2 / Layer3 command trace output   : stop
CPU Performance Measurement            : stop
-------------------------------------------------

>
```

Status of LP-PM command trace is displayed

Status of LP-PM command trace output in real time is displayed.

Status of LP-PM command information trace is displayed.

Status of LP-PM command output flag in real time is displayed.

Status of Layer 2/Layer 3 command trace is displayed.

Status of Layer 2/Layer 3 command output flag in real time is displayed.

Status of CPU performance measurement is displayed.

(b) CCT card

```
>show trace

------------------------------------------------
LP-PM command trace
   Group 0 : stop
   Group 1 : stop
   Group 2 : stop
   Group 3 : stop
LP-PM command trace output
   Group 0 : stop
   Group 1 : stop
   Group 2 : stop
   Group 3 : stop
------------------------------------------------

Do you display more? (y/n) : y

------------------------------------------------
LP-PM information command trace        : stop
LP-PM information command trace output : stop
Level2 / Level3 command trace          : stop
Level2 / Level3 command trace output   : stop
CPU Performance Measurement            : stop
------------------------------------------------

>
```

Status of LP-PM command trace is displayed

Status of LP-PM command trace output in real time is displayed.

Status of LP-PM command information trace is displayed.
Status of LP-PM command output flag in real time is displayed.
Status of Level 2/Level 3 command trace is displayed.
Status of Level 2/Level 3 command output flag in real time is displayed.
Status of CPU performance measurement is displayed.

(c) CFT card

```
>show trace

-----------------------------------------------
LP-PM command trace
   Group 0 : stop
   Group 1 : stop
   Group 2 : stop
   Group 3 : stop
LP-PM command trace output
   Group 0 : stop
   Group 1 : stop
   Group 2 : stop
   Group 3 : stop
-----------------------------------------------

Do you display more? (y/n) : y

-----------------------------------------------
CPU Performance Measurement            : stop
-----------------------------------------------

>
```

The settings state of the LP-PM command trace is displayed

The settings state of the LP-PM command trace realtime output is displayed.

The settings state of the CPU performance is displayed.

[17] show rec_data

The following chart shows the CH-DATA record memory (SRAM) state displays.

Item	Displayed Status	Description
No	0-7	Sound source number
REC	Record state	
	----	Sound source not used/no record data
	WAIT	Preparing recording **Note:** It refers to the moment before a request to recording is made till the moment the recording actually starts. WAIT may be displayed if the operation for the start of the recording and the input of a command are done at the same time.
	REC	Recording
	COMPW	Preparing the completion of the recording **Note:** It refers to the time interval from the moment the recording is completed till the moment the control parameter information is updated. COMPW may be displayed if the operation for the stop of the recording and the input of a command are done at the same time.
	COMP	Recording completed
	T.O	Recording completed with time over. It is only possible to record for the set amount of time. The records only will play for such set amount of time.
PCM Law	A/μ-law settings during recording	
	MU-law	μ-law
	A-law	A-law
TIME	xxx.xxx s	Recorded time (sound source duration)
TITLE (Max.32)		Title (max. ASCII code 32 characters) when the record is uploaded from a WEB console is saved as a wave file title. If it is recorded by other means the time of the record completion is displayed as a title. The file name of an uploaded WAVE file can be a maximum of 63 characters in length. Up to 32 characters including spaces are saved as the title of the record. Multi-byte characters (such as Japanese or Chinese) may be displayed incorrectly in a certain environment. You can upload a WAVE file named with multi-byte characters, but the file name may be illegible or garbled. The following ASCII characters can be used for the title: !#$%&’()+,-.0123456789;=@ABCDEFGHIJKLMNOPQRSTUVWXYZ[ ] ^_`abcdefghijklmnopqrstuvwxyz{ }~

Item	Displayed Status	Description
Date & Time of Recording		Time of the record completion.
Recording Mode	Recording mode (corresponding to SW82-1 to SW82-2)	
	64s	64-second mode
	128s	128-second mode
	256s	256-second mode
	512s	512-second mode

The following are examples of console displays.

- When the record mode is 64 seconds.

```
>show rec_data

2014/09/01 23:22:33

|----+------+-----------+----------------------------------+
|    |      |  PCM Law  | TITLE (Max32)                    |
| No | REC  +-----------+----------------------------------+
|    |      |  TIME     | Recorded Date & Time             |
+====+======+===========+==================================+
|  0 | COMP |  MU-Law   | When the Saints Go Marching.wav  |
|    |      +-----------+----------------------------------+
|    |      |  59.999s  | 2014/05/10 00:10:00              |
|----+------+-----------+----------------------------------+
|  1 | COMP |  MU-Law   | 20140510_001501                  |
|    |      +-----------+----------------------------------+
|    |      |  59.999s  | 2014/05/10 00:15:01              |
|----+------+-----------+----------------------------------+
|  2 | COMP |  MU-Law   | 20140510_002002                  |
|    |      +-----------+----------------------------------+
|    |      |  59.999s  | 2014/05/10 00:20:02              |
|----+------+-----------+----------------------------------+
|  3 | COMP |  MU-Law   | 20140510_002503                  |
|    |      +-----------+----------------------------------+
|    |      |  59.999s  | 2014/05/10 00:25:03              |
|----+------+-----------+----------------------------------+
|  4 | COMP |  MU-Law   | 20140510_003004                  |
|    |      +-----------+----------------------------------+
|    |      |  59.999s  | 2014/05/10 00:30:04              |
|----+------+-----------+----------------------------------+
|  5 | COMP |  MU-Law   | 20140510_003505                  |
|    |      +-----------+----------------------------------+
|    |      |  59.999s  | 2014/05/10 00:35:05              |
|----+------+-----------+----------------------------------+
|  6 | COMP |  MU-Law   | 20140510_004006                  |
|    |      +-----------+----------------------------------+
|    |      |  59.999s  | 2014/05/10 00:40:06              |
|----+------+-----------+----------------------------------+
|  7 | T.O  |  MU-Law   | 20140510_004507                  |
|    |      +-----------+----------------------------------+
|    |      |  64.000s  | 2014/05/10 00:45:07              |
|----+------+-----------+----------------------------------+
| Recording Mode        | 64s                              |
|----+------+-----------+----------------------------------+


>
```

The record result and the record state are displayed.

- When the record mode is 128 seconds.

```
>show rec_data

2014/09/01 23:22:33

|----+------+-----------+----------------------------------+
|    |      |  PCM Law  | TITLE (Max32)                    |
| No | REC  +-----------+----------------------------------+
|    |      |  TIME     | Recorded Date & Time             |
+====+======+===========+==================================+
|  0 | COMP |  MU-Law   | When the Saints Go Marching.wav  |
|    |      +-----------+----------------------------------+
|    |      |  64.000s  | 2014/05/10 00:10:00              |
|----+------+-----------+----------------------------------+
|  1 | COMP |  MU-Law   | 20140510_001501                  |
|    |      +-----------+----------------------------------+
|    |      | 123.456s  | 2014/05/10 00:15:01              |
|----+------+-----------+----------------------------------+
|  2 | COMP |  MU-Law   | 20140510_002002                  |
|    |      +-----------+----------------------------------+
|    |      | 127.999s  | 2014/05/10 00:20:02              |
|----+------+-----------+----------------------------------+
|  3 | T.O  |  MU-Law   | 20140510_002503                  |
|    |      +-----------+----------------------------------+
|    |      | 128.000s  | 2014/05/10 00:25:03              |
|----+------+-----------+----------------------------------+
| Recording Mode        | 128s                             |
|----+------+-----------+----------------------------------+


>
```

The record result and the record state are displayed.

- When the record mode is 256 seconds.

```
>show rec_data

2014/09/01 23:22:33

|----+------+-----------+---------------------------------+
|    |      |  PCM Law  | TITLE (Max32)                   |
| No | REC  +-----------+---------------------------------+
|    |      |  TIME     | Recorded Date & Time            |
+====+======+===========+=================================+
|  0 | COMP |  MU-Law   | When the Saints Go Marching.wav |
|    |      +-----------+---------------------------------+
|    |      | 255.999s  | 2014/05/10 00:10:00             |
|----+------+-----------+---------------------------------+
|  1 | T.O  |  MU-Law   | 20140510_002503                 |
|    |      +-----------+---------------------------------+
|    |      | 256.000s  | 2014/05/10 00:25:03             |
|----+------+-----------+---------------------------------+
| Recording Mode        | 256s                            |
|----+------+-----------+---------------------------------+


>
```

The record result and the record state are displayed.

- When the record mode is 512 seconds.

```
>show rec_data

2014/09/01 23:22:33

|----+------+-----------+---------------------------------+
|    |      |  PCM Law  | TITLE (Max32)                   |
| No | REC  +-----------+---------------------------------+
|    |      |  TIME     | Recorded Date & Time            |
+====+======+===========+=================================+
|  0 | COMP |  MU-Law   | When the Saints Go Marching.wav |
|    |      +-----------+---------------------------------+
|    |      | 511.999s  | 2014/05/10 00:10:00             |
|----+------+-----------+---------------------------------+
| Recording Mode        | 512s                            |
|----+------+-----------+---------------------------------+


>
```

The record result and the record state are displayed.

- In case of record memory all cleared (record mode 64 seconds)

```
>show rec_data

2014/09/01 23:22:33

|----+------+-----------+----------------------------------+
|    |      |  PCM Law  | TITLE (Max32)                    |
| No | REC  +-----------+----------------------------------+
|    |      |  TIME     | Recorded Date & Time             |
+====+======+===========+==================================+
|  0 | ---- |  MU-Law   |                                  |
|    |      +-----------+----------------------------------+
|    |      |   0.000s  | ----/--/-- --:--:--              |
|----+------+-----------+----------------------------------+
|  1 | ---- |  MU-Law   |                                  |
|    |      +-----------+----------------------------------+
|    |      |   0.000s  | ----/--/-- --:--:--              |
|----+------+-----------+----------------------------------+
|  2 | ---- |  MU-Law   |                                  |
|    |      +-----------+----------------------------------+
|    |      |   0.000s  | ----/--/-- --:--:--              |
|----+------+-----------+----------------------------------+
|  3 | ---- |  MU-Law   |                                  |
|    |      +-----------+----------------------------------+
|    |      |   0.000s  | ----/--/-- --:--:--              |
|----+------+-----------+----------------------------------+
|  4 | ---- |  MU-Law   |                                  |
|    |      +-----------+----------------------------------+
|    |      |   0.000s  | ----/--/-- --:--:--              |
|----+------+-----------+----------------------------------+
|  5 | ---- |  MU-Law   |                                  |
|    |      +-----------+----------------------------------+
|    |      |   0.000s  | ----/--/-- --:--:--              |
|----+------+-----------+----------------------------------+
|  6 | ---- |  MU-Law   |                                  |
|    |      +-----------+----------------------------------+
|    |      |   0.000s  | ----/--/-- --:--:--              |
|----+------+-----------+----------------------------------+
|  7 | ---- |  MU-Law   |                                  |
|    |      +-----------+----------------------------------+
|    |      |   0.000s  | ----/--/-- --:--:--              |
|----+------+-----------+----------------------------------+
| Recording Mode        | 64s                              |
|----+------+-----------+----------------------------------+


>
```

The record result and the record state are displayed.

Other Commands

This section describes the commands listed below.

Note: The console screen is a display image. It may differ from the actual display.

Category	Command
save	save, save all, save flash
dump	dump
dumpa	dumpa
exit	exit
download	download
logout	logout
ping	ping
q	q
reboot	reboot

[1] save

This command applies the changes made with the “set” command in editing memory of software switch to the operational memory. Depending on a card, software switch settings are saved to FLASH ROM (saving memory) and a card gets restarted.

Note: In the case of modifying only immediate switch settings, changes will be reflected on the operation memory immediately without saving the settings to FLASH ROM or re-starting the card. To save the settings to FLASH ROM, execute one of the following commands; “save all” or “save flash”. Changes not saved to FLASH ROM will be lost when the card is rebooted.

Examples of the console screen are shown below.

- IPPAD card
- DAT card
- CFT card
- Cards other than IPPAD/DAT/CFT card

(a) IPPAD card

```
>save
2013/09/01 12:34:56

Switch data setting is not changed!!

>save
2013/09/01 12:35:67

Do you want to save switch data really? (y/n) : n

>save
2013/09/01 12:36:78

Do you want to save switch data really? (y/n) : y

Switch data saving start

Switch data area of Flash ROM Erase Start
Switch data area of Flash ROM Erase End

Switch data area of Flash ROM Blankcheck Start
Switch data area of Flash ROM Blankcheck End

Switch data area of Flash ROM Write Start
Switch data area of Flash ROM Write End

Switch data area of Flash Verify Start
Switch data area of Flash Verify End

Switch cata saving was completed!!

CH-IPDA reboot start...

...

----------------------------------------
LOG SAVE : START
----------------------------------------
----------------------------------------
LOG SAVE : END
----------------------------------------
----------------------------------------
SW LOG SAVE : START
----------------------------------------
----------------------------------------
SW LOG SAVE : END
----------------------------------------
----------------------------------------
LPPM TRACE : START
----------------------------------------
----------------------------------------
LPPM TRACE : END
----------------------------------------

...
```

If no modification has been made on software switch settings, operational memory does not get updated.

When “n” is selected, software switch settings will not be reflected on operational memory.

Software switch settings are saved to FLASH ROM.

Saving result is displayed.

Before restarting the card, “Internal log”, “SW control log” and “LPPM trace log” are saved to SERIAL FLASHROM. Execution state of each saving is displayed.

After saving is completed, the card gets restarted.

From here on, a message is displayed when OS restarts.

(omitted)

Note: In the case of restarting the card with the “save” command, system messages “MB key ON” and “MB key OFF” are output. For information on system messages, see “Chapter 3 System Message” in Operations and Maintenance Manual.

(b) DAT card

- When there is a change only in soft switches or soft and immediate switches.

```
>save

2014/09/01 23:22:33

Do you want to save switch data really? (y/n) : y




**********************************************
FlashROM access start. Don't turn off the power!
**********************************************

Switch data saving start

Switch data area of Flash ROM Erase Start
Switch data area of Flash ROM Erase End

Switch data area of Flash ROM Blank check Start
Switch data area of Flash ROM Blank check End

Switch data area of Flash ROM Write Start
Switch data area of Flash ROM Write End

Switch data area of Flash Verify Start
Switch data area of Flash Verify End

Switch data saving was completed!!

**********************************************
FlashROM access end.
**********************************************


 CH-DATA reboot start...

...
```

Saving confirmation for soft and immediate switches.
When "n" is selected, software switch settings will not be reflected on operational memory.

Saving to the SERIAL FLASH ROM starts displaying the current state on every step.
If the card is reset or unplugged during the saving to SERIAL FLASH ROM, the saving will be failed.

The process flows as follows.

- Erase processing
- Blank check processing
- Writing processing
- Verify processing

Saving result is displayed.

The reboot starts.

```
.....
Invalid Ether Port
Instantiating /ram as rawFs, device = 0x1
Formatting /ram for DOSFS
Instantiating /ram as rawFs, device = 0x1
Formatting...Retrieved old volume params with %38 confidence:
Volume Parameters: FAT type: FAT32, sectors per cluster 0
0 FAT copies, 0 clusters, 0 sectors per FAT
Sectors reserved 0, hidden 0, FAT sectors 0
Root dir entries 0, sysId (null) , serial number 0
Label:"           " ...
Disk with 64 sectors of 512 bytes will be formatted with:
Volume Parameters: FAT type: FAT12, sectors per cluster 1
2 FAT copies, 54 clusters, 1 sectors per FAT
Sectors reserved 1, hidden 0, FAT sectors 2
Root dir entries 112, sysId VXDOS12 , serial number 0
Label:"           " ...
OK.
```

From here on, a message is displayed when OS restarts.

(omitted)

- When there is a change only in immediate switches.

```
>save

2014/09/01 23:22:33

Do you want to save switch data really? (y/n) : y


Switch data setting was completed!!

>
```

Because initialization is not required, prompt is displayed.

- When there is not any change either in software switches or immediate switches.

```
>save

2014/09/01 23:22:33

Do you want to save switch data really? (y/n) : y


Switch data setting is not changed!!

>
```

A message reports that there has not been any change. Prompt is displayed.

(c) CFT card

- When there is a change only in soft switches or soft and immediate switches.

```
>save
Do you want to save switch data really? (y/n) : y
Immediate Switch data setting was completed!!
Switch data setting was completed!!

>
Data Flash Erase Start!!

Data Flash Erase OK!!

Data Flash Blankcheck Start!!

Data Flash Blankcheck OK!!

Data Flash Write Start!!

Data Flash Write OK!!

Data Flash Verify Start!!

Data Flash Verify OK!!

Data Flash Setting All OK!!

>
Circuit Card Reset Ready Check...

Circuit Card Reset Pulse Send
```

Saving confirmation for soft and immediate switches.
When "n" is selected, software switch settings will not be reflected on operational memory.

Software switch settings are saved to FLASH ROM.

The card gets restarted.

- When there is a change only in immediate switches.

```
>save

Do you want to save switch data really? (y/n) : y

Switch data setting was completed!!
```

Because initialization is not required, prompt is displayed.

- When there is not any change either in software switches or immediate switches.

```
>save

Switch data setting is not changed!!
```

A message reports that there has not been any change. Prompt is displayed.

(d) Cards other than IPPAD/DAT/CFT card

```
>save
Switch data setting is not changed!!



>save
Do you want to save switch data really? (y/n) : n

>save
Do you want to save switch data really? (y/n) : y

Receiving the circuit card reset request.

Ready for the circuit card reset is OK!!
Data Flash Erase Start
Data Flash Erase End

Data Flash Blankcheck Start
Data Flash Blankcheck End

Data Flash Write Start
Data Flash Write End

Data Flash Verify Start
Data Flash Verify End

Data Flash Setting All OK

Waiting for the circuit card reset.

Now, the circuit card is reset!!
```

If no modification has been made on software switch settings, operational memory does not get updated.

When “n” is selected, software switch settings will not be reflected on operational memory.

Software switch settings are saved to FLASH ROM.

Saving result is displayed.

The card gets restarted.

[2] save all

This command saves the software switch settings (editing memory) modified with the “set” command in FLASH ROM (saving memory), and restarts the card.

Note: Regardless of changes made to software switch settings, saving to FLASH ROM and restarting of the card will be executed.

Examples of the console screen are shown below.

- IPPAD card
- DAT card
- Cards other than IPPAD/DAT card

(a) IPPAD card

```
>save all
2013/09/01 12:35:67

Do you want to save switch data really? (y/n) : n

>save all
2013/09/01 12:36:78

Do you want to save switch data really? (y/n) : y

Switch data saving start

Switch data area of Flash ROM Erase Start
Switch data area of Flash ROM Erase End

Switch data area of Flash ROM Blankcheck Start
Switch data area of Flash ROM Blankcheck End

Switch data area of Flash ROM Write Start
Switch data area of Flash ROM Write End

Switch data area of Flash Verify Start
Switch data area of Flash Verify End

Switch cata saving was completed!!

CH-IPDA reboot start...

...

----------------------------------------
LOG SAVE : START
----------------------------------------
----------------------------------------
LOG SAVE : END
----------------------------------------

----------------------------------------
SW LOG SAVE : START
----------------------------------------
----------------------------------------
SW LOG SAVE : END
----------------------------------------

----------------------------------------
LPPM TRACE : START
----------------------------------------
----------------------------------------
LPPM TRACE : END
----------------------------------------

...
```

When “n” is selected, software switch settings will not be reflected on operational memory.

Software switch settings are saved to FLASH ROM.

Saving result is displayed.

Before restarting the card, “Internal log”, “SW control log” and “LPPM trace log” are saved to SERIAL FLASHROM. Execution state of each saving is displayed.

After saving is completed, the card gets restarted.

From here on, a message is displayed when OS restarts.

(omitted)

Note: In the case of restarting the card with the “save all” command, system messages “MB key ON” and “MB key OFF” are output. For information on system messages, see “Chapter 3 System Message” of Operations and Maintenance Manual.

(b) DAT card

```
>save 1

2014/09/01 23:22:33

Do you want to save switch data really? (y/n) : y




**********************************************
FlashROM access start. Don't turn off the power!
**********************************************

Switch data saving start

Switch data area of Flash ROM Erase Start
Switch data area of Flash ROM Erase End

Switch data area of Flash ROM Blank check Start
Switch data area of Flash ROM Blank check End

Switch data area of Flash ROM Write Start
Switch data area of Flash ROM Write End

Switch data area of Flash Verify Start
Switch data area of Flash Verify End

Switch data saving was completed!!

**********************************************
FlashROM access end.
**********************************************


 CH-DATA reboot start...

...
```

Saving confirmation for soft and immediate switches.
When "n" is selected, software switch settings will not be reflected on operational memory.

Saving to the SERIAL FLASH ROM starts displaying the current state on every step.
If the card is reset or unplugged during the saving to SERIAL FLASH ROM, the saving will be failed.

The process flows as follows:.

- Erase processing
- Blank check processing
- Writing processing
- Verify processing

Saving result is displayed.

The reboot starts.

```
.....
Instantiating /ram as rawFs, device = 0x1
Formatting /ram for DOSFS
Instantiating /ram as rawFs, device = 0x1
Formatting...Retrieved old volume params with %38 confidence:
Volume Parameters: FAT type: FAT32, sectors per cluster 0
0 FAT copies, 0 clusters, 0 sectors per FAT
Sectors reserved 0, hidden 0, FAT sectors 0
Root dir entries 0, sysId (null) , serial number 0
Label:"           " ...
Disk with 64 sectors of 512 bytes will be formatted with:
Volume Parameters: FAT type: FAT12, sectors per cluster 1
2 FAT copies, 54 clusters, 1 sectors per FAT
Sectors reserved 1, hidden 0, FAT sectors 2
Root dir entries 112, sysId VXDOS12 , serial number 0
Label:"           " ...
OK.
```

From here on, a message is displayed when OS restarts.

(omitted)

(c) Cards other than IPPAD/DAT card

```
>save all
Do you want to save switch data really? (y/n) : n

>save all
Do you want to save switch data really? (y/n) : y

Receiving the circuit card reset request.

Ready for the circuit card reset is OK!!
Data Flash Erase Start
Data Flash Erase End

Data Flash Blankcheck Start
Data Flash Blankcheck End

Data Flash Write Start
Data Flash Write End

Data Flash Verify Start
Data Flash Verify End

Data Flash Setting All OK

Waiting for the circuit card reset.

Now, the circuit card is reset!!
```

When “n” is selected, software switch settings will not be reflected on operational memory.

Software switch settings are saved to FLASH ROM.

The saving result is displayed.

The card is reset.

[3] save flash

This command applies the changes made with the "set" command in editing memory of software switch to the operational memory. If software switch settings have been modified, the settings are saved to FLASH ROM (saving memory) and the card gets restarted.

Below is an example of the console screen display.

Note: If modifications are only made on software switch settings, the settings are saved to FLASH ROM but the card will not be restarted.

```
>save flash
Switch data setting is not changed!!



>save flash
Do you want to save switch data really? (y/n) : n

>save flash
Do you want to save switch data really? (y/n) : y

Receiving the circuit card reset request.

Ready for the circuit card reset is OK!!
Data Flash Erase Start
Data Flash Erase End

Data Flash Blankcheck Start
Data Flash Blankcheck End

Data Flash Write Start
Data Flash Write End

Data Flash Verify Start
Data Flash Verify End

Data Flash Setting All OK

Waiting for the circuit card reset.

Now, the circuit card is reset!!
```

If no modification has been made on software switch settings, operational memory does not get updated.

When "n" is selected, software switch settings will not be reflected on operational memory.

Software switch settings are saved to FLASH ROM.

Saving result is displayed.

The card gets restarted.

[4] dump

This command specifies a starting address and a display range for data to be displayed.

Below is an example of the console screen display.

```
>dump 0x2000 0x20
Address   |  0  1  2  3  4  5  6  7  8  9  A  B  C  D  E  F
----------+-------------------------------------------------
00002000 | 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00002010 | 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

>
```

Data within the display range from the starting address is displayed.

Note: Input in decimal or hex (0x granted).

[5] dumpa

This command specifies a starting address and an ending address to display data.

Below is an example of the console screen display.

```
>dump 0x1000 0x1010
Address   |  0  1  2  3  4  5  6  7  8  9  A  B  C  D  E  F
----------+-------------------------------------------------
00001000 | 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00001010 | 00

>
```

Data from the starting address to the ending address is displayed.

Note: Input in decimal or hex (0x granted).

[6] exit

This command quits a serial console command.

Examples of the console screen are shown below.

- IPPAD/DAT card
- Cards other than IPPAD/DAT card

(a) IPPAD/DAT card

```
>exit

Exit ConfigMode. Bye!

->
```

Note: Do not enter “exit” after “->” on the configuration command main menu. If entered, it disables a serial communication. In such case, restart the card for recovery.

(b) Cards other than IPPAD/DAT card

```
>exit
```

[7] download

This command executes downloading.

For more details, see “Firmware Download” or “Firmware Download (IPPAD)” in Operations and Maintenance Manual.

[8] logout

This command quits a serial console command.Below is an example of the console screen display.

```
>logout

Exit ConfigMode. Bye!

->
```

[9] ping

This command executes the ping command.

Note: Ping command can be only executed if there is a LAN connection to the Ether connector.

```
>ping

2013/09/01 12:34:56

--- PING IP address set ---

Current PING Destination IP address: 192.168.10.200
Change PING Destination IP address ? [Y(Change)/N(current)/Q(quit)]
: n

Change IP address complete.
Own IP address      : 192.168.10.4
Subnet              : 255.255.255.0
Destination IP address : 192.168.10.200

Are these IP address correct ? [Y(Change)/N(current)/Q(quit)] : y

--- Setting the number of packet transmission ECHO_REQUEST. ---

Number of echo request send.(1-259200, -1)

Input : 5

--- Transmission ECHO_REQUEST. No.1 ---> No.5(Max 5) ---

Pinging 192.168.10.200 (192.168.10.200) with 64 bytes of data:
Reply from 192.168.10.200 bytes=64 ttl=128 seq=0 time=0ms
Reply from 192.168.10.200 bytes=64 ttl=128 seq=1 time=0ms
Reply from 192.168.10.200 bytes=64 ttl=128 seq=2 time=0ms
Reply from 192.168.10.200 bytes=64 ttl=128 seq=3 time=0ms
Reply from 192.168.10.200 bytes=64 ttl=128 seq=4 time=0ms

--- 192.168.10.200 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 99000 ms
rtt min/avg/max = 0/0/0 ms

----------------------------
 ping process was completed.
----------------------------

>
```

IP address of Ping destination is displayed.
Enter “y” to change the IP address.
Enter “n” to use current values.
Enter “q” to quit the process.

IP addresses of Ping destination, subnetmask and Ping destination.
Enter “y” to change the IP address.
Enter “n” to use current values.
Enter “q” to quit the process.

Set the number of transmissions from 1 to 259200 times. Select -1 for endless.

Ping is transmitted with a period of 1 second, and a response from the destination is displayed.

Enter “q” to cancel the process during Ping transmission. It may take up to 100 seconds for cancellation to complete.

[10] q

This command cancels the output processing of trace information. Below is an example of console screen.



[11] reboot

This command reboots a card. Examples of the console screen are shown below.

- IPPAD card
- DAT card

(a) IPPAD card

```
>reboot

2013/09/01 12:34:56

Do you want to reboot IPPAD? [y(yes) / n(no)] : y

...

------------------------------------------------
LOG SAVE : START
------------------------------------------------
------------------------------------------------
LOG SAVE : END
------------------------------------------------

------------------------------------------------
SW LOG SAVE : START
------------------------------------------------
------------------------------------------------
SW LOG SAVE : END
------------------------------------------------

------------------------------------------------
LPPM TRACE : START
------------------------------------------------
------------------------------------------------
LPPM TRACE : END
------------------------------------------------

...
```

Confirmation message for restarting the card is displayed.
Enter “y” to restart.
Enter “n” to not restart.

Before restarting the card, “Internal log”, “SW control log” and “LPPM trace” are saved to SERIAL FLASHROM. Execution status of each saving is displayed.

After saving is completed, the card gets restarted.

From here on, a message is displayed when OS restarts.

(omitted)

Note: In the case of restarting the card with the “reboot” command, system messages “MB key ON” and “MB key OFF” are output. For information on system messages, see “Chapter 3 System Message” of Operations and Maintenance Manual.

(b) DAT card

```
>reboot

2014/09/01 23:22:33



<< Current Status >>
|---+-----+-----+-----+-----+-----+-----+-----+-----|
|   |    0|    1|    2|    3|    4|    5|    6|    7|
|---+-----+-----+-----+-----+-----+-----+-----+-----|
| 0 |  B  |  I  |  I  |  I  |  I  |  I  |  I  |  I  |
|---+-----+-----+-----+-----+-----+-----+-----+-----|

Idle/Busy status exist
Do you want to continue processing ? [y(yes) / n(no)] : y


Do you want to reboot DAT card ? [y(yes) / n(no)] : y

...



...
```

If there are one or more channels in [Idle] or [Busy] state the message on the left is displayed. To continue processing press “y”. To stop the processing press “n”.

To reboot press “y”. To abort the reboot press “n”.

From here on, a message is displayed when OS restarts.

(omitted)

Error Message

An error message is displayed if an error occurs while a serial console command is used. Re-enter a correct command if any of these messages appear on the screen.

Displayed Message	Cause of Error
Illegal Command!!	Incorrect command
Illegal Subcommand!!	Incorrect subcommand
Illegal Parameter!!	Incorrect parameter

3. WEB Console

It is possible to remotely perform card maintenance operations for the CH-DATA card using a WEB console screen displayed on a maintenance PC with the computer web browser.

Operating Conditions

The operating conditions for a computer that can be used as WEB console are the following:

Item	Operating Condition
OS	Microsoft Windows® 7 Microsoft Windows® Vista
WEB Browser	Internet Explorer® 7 or later **Note1**
Transmission Protocol	HTTP (HTTPS is not supported)
HTTP Protocol Version	HTTP1.1 or later
HTTP Port Number	9801 (changeable)
HTML Version	HTML 4.01 Frameset
HTML Text Version	UTF-8
Language	English

Note 1: We recommend using Internet Explorer 8 or later. Internet Explorer 7 can be used but the processing speed could be low.

Web Browser should be one of the following:

-Internet Explorer 11
-Internet Explorer 10
-Internet Explorer 9
-Internet Explorer 8
-Internet Explorer 7

Previous Preparation

Make the following preparations to use the WEB console:

(1) Settings of LAN transfer rate, IP address, subnet mask and default gateway

Set with the software switches of the card the LAN transfer rate, IP address, subnet mask and default gateway. After performing the settings, enable them by rebooting the card. A card with the default settings has its interface disabled, and therefore it cannot perform a LAN connection.

(2) LAN Connection

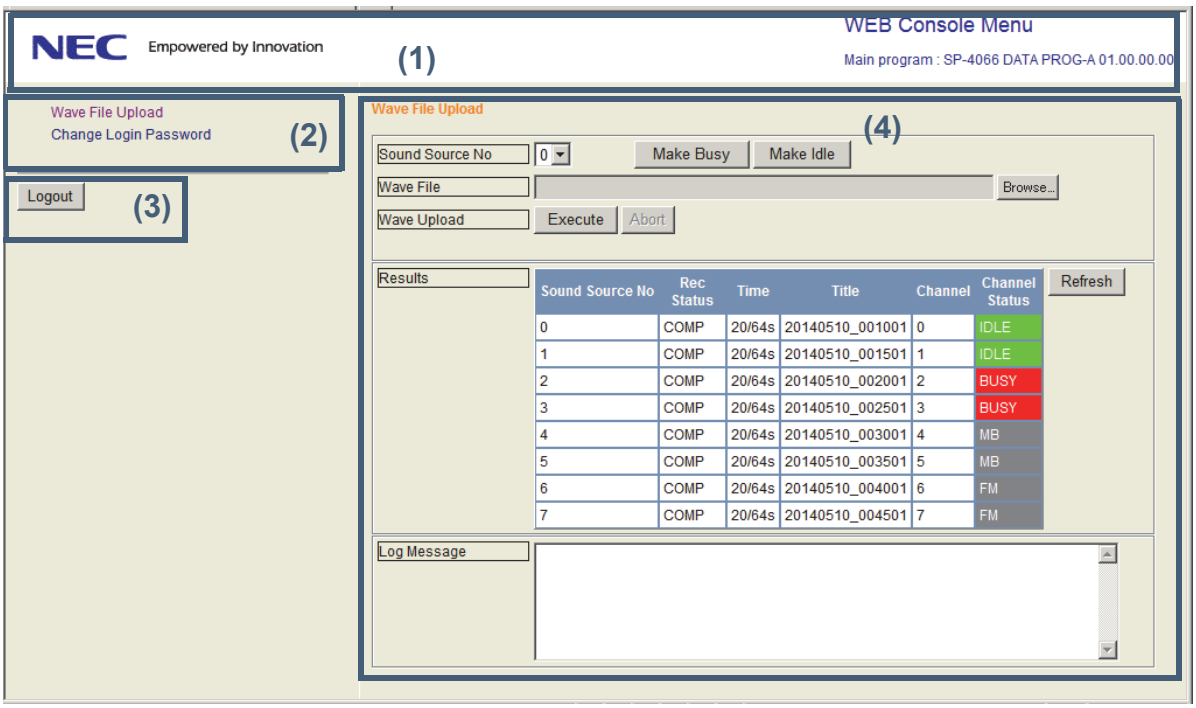
Connect a LAN cable to the Ethernet connector of the card. Check that the LINK/ACT lamp lights green (it is turned on when a link has been established).

Note: The card has a LAN interface but it can be used only for an intranet connection or a LAN connection (it cannot be connected with the Internet). Also it can be used for a direct connection with a PC using a crossover LAN cable. Connect a LAN cable to the card only when necessary, and disconnect it from the Ethernet connector after use.

Screen Configuration

The following is an explanation of the basic configuration of the WEB console screen. The image below shows the [Main] screen.

[Main] Screen



(1) Header

Displays the logo, title, card name and firmware version.

(2) Tree Menu

After clicking to select the menu title, the function screen of the selected item is displayed.

(3) [Logout] Button

When this button is clicked a dialog box asking for logout confirmation appears. If the [OK] button is

clicked, a logoff is performed. If the [Cancel] button is clicked, the dialogue box is closed and the main screen is displayed.

(4) [Function] Screen

In this screen you can set and check data of the function selected with the tree menu.

[Tree Menu Overview]

On the left side of the WEB console [Main] screen, you will see a tree menu with the following two options:

Menu	Meaning
Wave File Upload	For uploading WAVE files
Change Login Password	For changing the user login password

Login Method

The following explains the method to log in to the WEB console.

Precautions	• More than one user cannot be connected to the WEB console at the same time. • Do not press the back or forward buttons of the WEB browser. If you do, an error message [Server Error] will be displayed and a reliable operation cannot be guaranteed. • If you press the close button X on the upper right part of the screen while being logged in, you will be logged off and the [Log in] screen will be displayed. • If your session has been inactive for 60 minutes, you will be automatically logged off. The current screen will remain unchanged until the next action is taken (such as selecting menu or clicking a button), and then the message [Server Timeout] will be displayed.

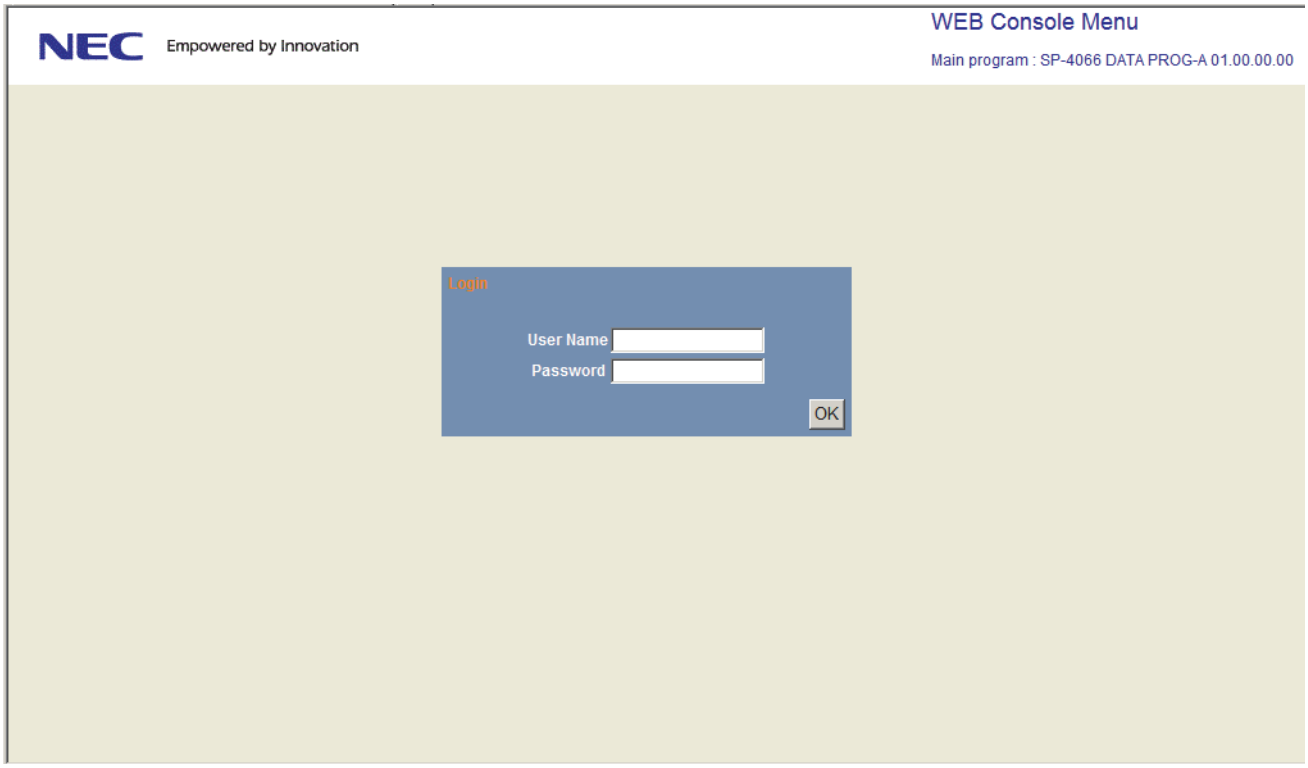
Step1: Launch the internet browser.

Step2: Enter the address [http://CH-DATA IP address: HTTP port number/start.cgi] and press Enter or click the [Go] button.

Note: The default HTTP port number is [9801]. When necessary, use the switch settings to change it.

Note: If you abbreviate the file name (start.cgi) when entering the address, the message [Address Error.] will be displayed.

[Login] screen is displayed below.



Step3: Enter the data below in the [Login] screen and click the [OK] button.

User Name and Default Password

User Name (Fixed)	Password (Default)
USER	P@ssw0rd **Note1** ↑ 0 (zero)

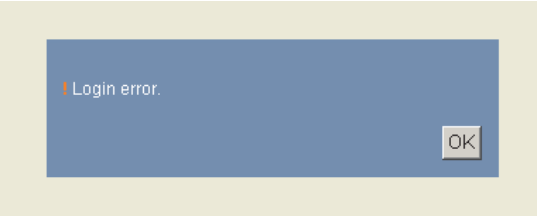
Note 1: The entered password is displayed as ●.

After login, password can be changed by selecting the Change Login Password in the tree menu of the [Main] screen. See Login Password Change Method.

Step4: If the password and username entered in Step 1 are correct, your are successfully logged in and the [Main] screen of the WEB console is displayed.

- If there is an error in the entered login data the screen below will be displayed. By clicking the [OK]

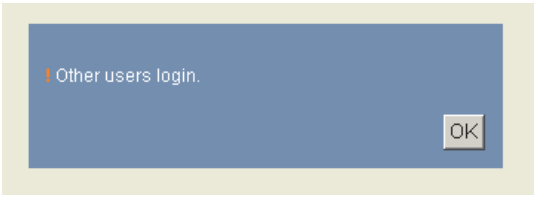
button, the [Login] screen will be displayed again.



- If username or password are left unentered or less than 4 characters for the user (8 for the password) or more than 64 characters are entered, the message below will be displayed. By clicking the [OK] button, the [Login] screen will be displayed again.



- If other user is already logged in, the message below will be displayed. By clicking the [OK] button, the [Login] screen will be displayed again.



Password Initialization Login

By logging in with the username and password of password initialization login, it is possible to reset the current password to the default. Also, you can log in to the WEB console even if other user is already logged in (the user will be forcibly logged off).

Step1: Repeat the steps 1 and 2 of Login Method, the [Login] screen will be displayed.

Step2: Enter the login data below and click the [OK] button.

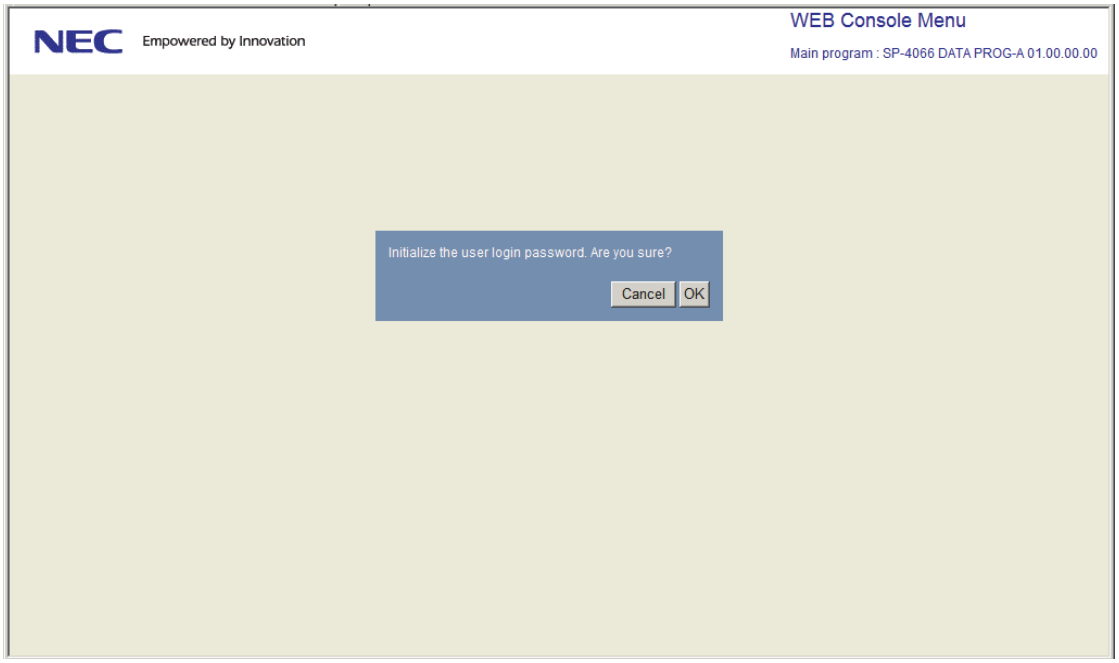
Username and Password (Password Initialization Login)

Username (Fixed)	Password (Fixed)
USERRESET	PW13nMcPRe

Note: If other user is already logged in, the message [Other user already logged in. Do you log in forcibly?] will be displayed. If you click [OK] the user will be forcibly logged off.

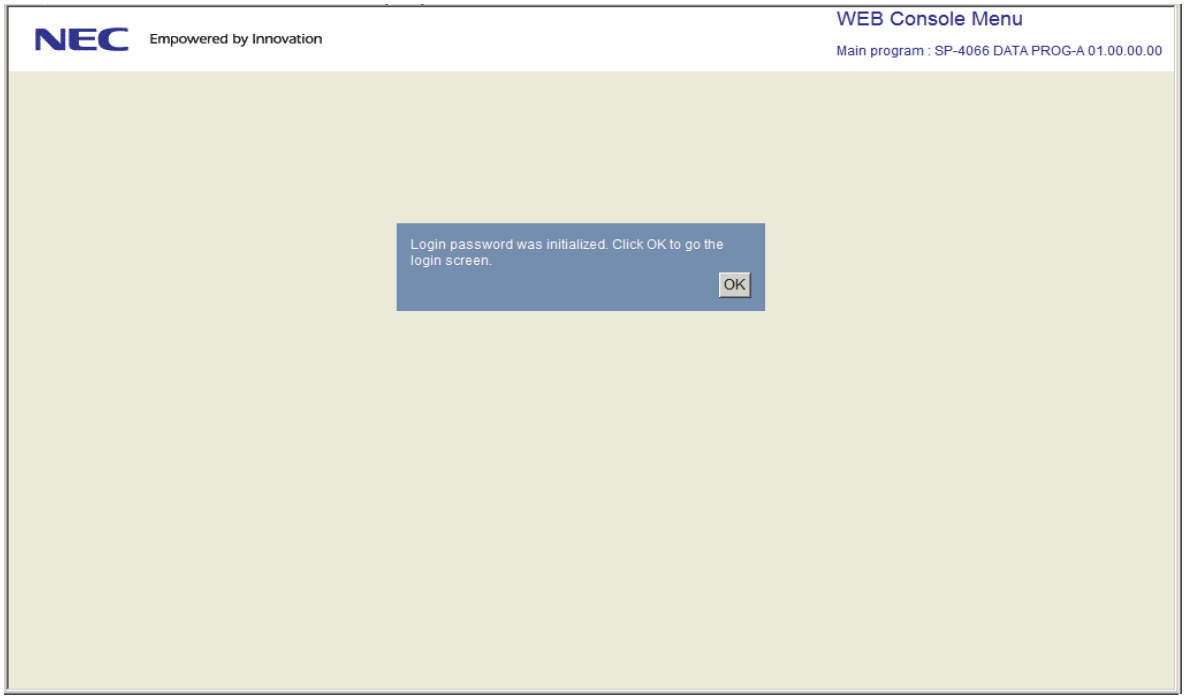
Step3: If you entered the correct information in Step 2, you will log in and the screen below will be displayed. Click the [OK] button to initialize the password.

Note: If you click the [Cancel] button, the [Login] screen is shown again.

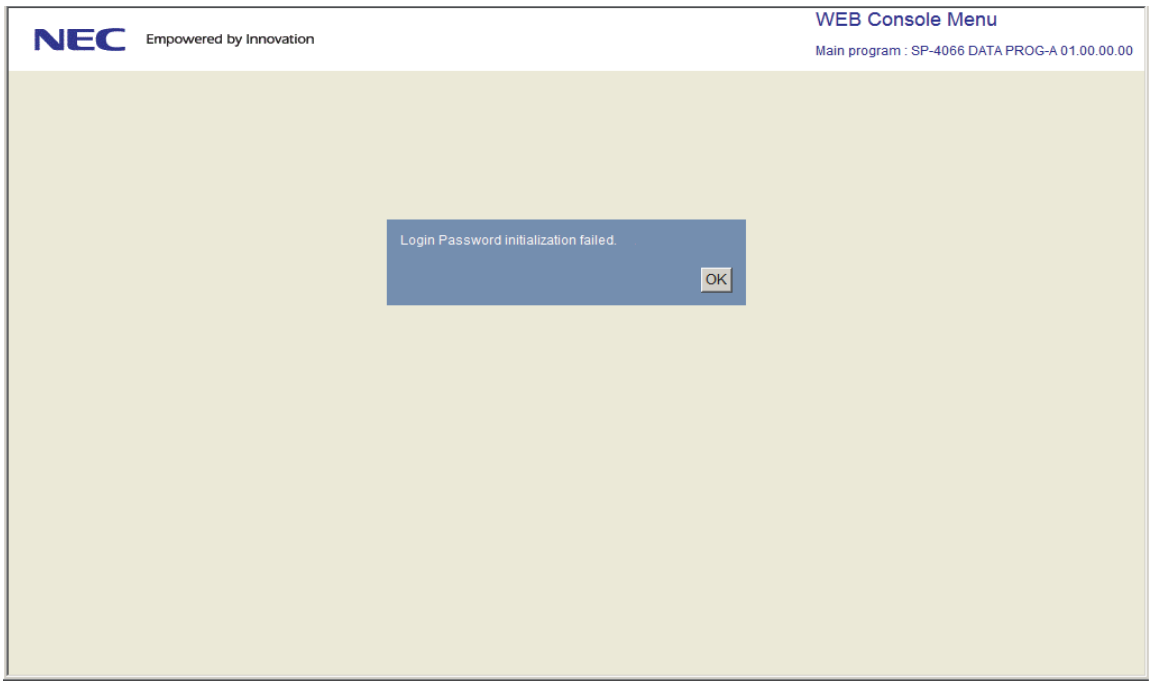


Step4: If the initialization is successfully completed, the screen with the message [Login password was initializated. Click OK to go the login screen] will be displayed. If there is an error during the process, the screen with the message [Login Password initialization failed] will be displayed. By clicking the [OK] button, the [Login] screen is displayed.

[Initialization Successfully Completed Screen]



[Initialization Failed Screen]



Logout Method

The following explains the method for logout from the WEB console.

Step1: Click the [Logout] button on the [Main] screen.



Step2: A dialogue box with the confirmation message “Are you sure to want to logout?” will be displayed.

Step3: Click the [OK] button. You will be logged out.

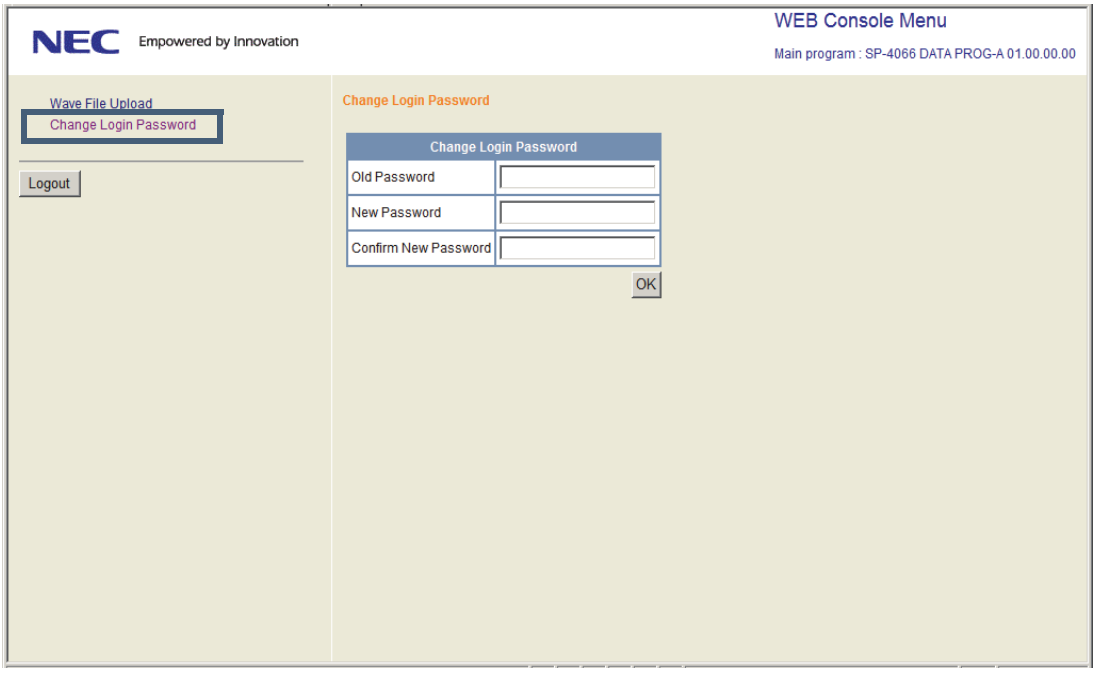
If you click the [Cancel] button, the dialogue box is closed and the screen in Step1 is displayed again.

Step4: Close the Internet browser.

Login Password Change Method

The following explains how to change the login password.

Step1: Select [Change Login Password] from the tree menu on the [Main] menu.



Step2: Enter the data as below and click the [OK] button.

Old Password	Enter the old password
New Password	Enter the new password
Confirm New Password	Enter again the new password

Note: The password must comply with the following conditions:
- Use between 8 and 64 characters.
- Uppercase and lowercase letters are distinguished.
- Use only the characters in the table below.

Acceptable Characters for the Password

Space	!	“	#	$	%	&	‘	(
)	*	+	,	-	.	/	0	1

Acceptable Characters for the Password

2	3	4	5	6	7	8	9	:
;	<	=	>	?	@	A	B	C
D	E	F	G	H	I	J	K	L
M	N	O	P	Q	R	S	T	U
V	W	X	Y	Z	[	\	]	^
_	`	a	b	c	d	e	f	g
h	i	j	k	l	m	n	o	p
q	r	s	t	u	v	w	x	y
z	{	|	}	~				

Step3: If all the data entered in Step 2 is correct, a dialogue box with the confirmation message as below will appear, click the [OK] button.

Note: If one field is left blank or entered with an invalid character, an error dialogue box will be displayed. Enter all the fields with correct characters.

- If the [Old Password] field is left blank or entered with an invalid character, the message [Illegal Parameter. (Old Password)] will be displayed.
- If the [New Password] field is left blank or entered with an invalid character, the message [Illegal Parameter. (New Password)] will be displayed.
- If there is any difference between [New Password] and [Confirm New Password], the message [Illegal Parameter. (Confirm New Password)] will be displayed.

Step4: In the screen for setting a logging password the message [Login Password was changed] is displayed.

Note: In case of an unsuccessful password change, the message [Login Password change failed] is displayed. Start again from Step 1.

Web Console Messages

The messages of the WEB console are as follows:

Message	Function
Server Error.	Common
Address Error.	Common
Server Timeout.	Common
Please enter a username or password.	Log in
Login error.	Log in
Other user already logged in.	Log in
Please select menu.	Log in
Other user already logged in. Do you log in forcibly?	Password Initialization
Initialize the user login password. Are you sure?	Password Initialization
Login password was initialized. Click OK to go the login screen.	Password Initialization
Login Password initialization failed.	Password Initialization
Are you sure you want to log out?	Log out
Illegal Parameter. (Old Password)	Password Change
Illegal Parameter. (New Password)	Password Change
Illegal Parameter. (Confirm New Password)	Password Change
Change the login password. Are you sure?	Password Change
Login Password was Changed.	Password Change
Login Password change failed.	Password Change
Make Busy this Sound Source No. Are you sure?	Upload
Sound Source No XX is being put to Make Busy ...	Upload **Note 1**
Sound Source No XX was put to Make Busy.	Upload **Note 1**
Make Idle this Sound Source No. Are you sure?	Upload
Sound Source No XX is being put to Idle	Upload **Note 1**
Sound Source No XX was put to Idle.	Upload **Note 1**
Sound Source No XX is being put to Idle Failed! (Rec Status)	Upload **Note 1**
Illegal Parameter. (Wave File)	Upload
Upload this file. Are you sure?	Upload
Sound Source No XX Wave File Uploading ...	Upload **Note 1**
Sound Source No XX Wave File Upload OK.	Upload **Note 1**
Sound Source No XX Wave File Upload Failed!	Upload **Note 1**
Sound Source No XX Wave File Checking ...	Upload **Note 1**
Sound Source No XX Wave File Check OK.	Upload **Note 1**

Message	Function
Sound Source No XX Wave File Check Failed!	Upload **Note 1**
Sound Source No XX Wave File Check Failed! (RIFF Format)	Upload **Note 1**
Sound Source No XX Wave File Check Failed! (Format ID)	Upload **Note 1**
Sound Source No XX Wave File Check Failed! (Format Size)	Upload **Note 1**
Sound Source No XX Wave File Check Failed! (Codec)	Upload **Note 1**
Sound Source No XX Wave File Check Failed! (Channel)	Upload **Note 1**
Sound Source No XX Wave File Check Failed! (Rate)	Upload **Note 1**
Sound Source No XX Wave File Check Failed! (Byte Per Sec)	Upload **Note 1**
Sound Source No XX Wave File Check Failed! (Byte Per Block)	Upload **Note 1**
Sound Source No XX Wave File Check Failed! (Byte Per Sample)	Upload **Note 1**
Sound Source No XX Wave File Check Failed! (Extra Information)	Upload **Note 1**
Sound Source No XX Channel Status Checking ...	Upload **Note 1**
Sound Source No XX Channel Status Check OK.	Upload **Note 1**
Sound Source No XX Channel Status Check Failed! (Rec Status)	Upload **Note 1**
Sound Source No XX Channel Status Check Failed! (Used)	Upload **Note 1**
Sound Source No XX Channel Status Check Failed! (Make Busy Off)	Upload **Note 1**
Sound Source No XX Recording Memory Writing ...	Upload **Note 1**
Sound Source No XX Recording Memory Writing OK.	Upload **Note 1**
Sound Source No XX Recording Memory Writing Failed!	Upload **Note 1**
Sound Source No XX Recording Memory Writing Failed! (Rec Status)	Upload **Note 1**
Sound Source No XX Wave File Upload Complete.	Upload **Note 1**
Sound Source No XX Aborting ...	Upload **Note 1**
Sound Source No XX Aborted.	Upload **Note 1**
Exception!!	Upload

Note 1: XX represents the selected sound source number.

UNIVERGE SV9500
Circuit Card Description

NWD-165795-001

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