

UNIVERGE SV9500
UNIVERGE SV8500
UNIVERGE SV7000
NEAX 2400 IPX
Internet Protocol eXchange

7U-PIR Circuit Cards with PA Adapter

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Before Using This Manual

1. System Use

The 7U-PIR cards mentioned in this compendium can be used with a PA adapter (PZ-M736) in each system as stated in the chart below.

The cards include soft switches that need to be set. The setting can be done using a serial console connection.

Supported : x Non Supported : -

CARD NAME	PRODUCT NAME	SYSTEM				REMARKS
		SV9500	SV8500	SV7000	NEAX2400 IPX	
CH-12COTB (COT)	SCH-12COTB-A	X Note 1	X	X	X	Central Office Trunk
CH-8ODTA (ODT)	SCH-8ODTEL-A	X Note 3	X	-	-	Out Band Dialing Trunk
CH-CFTA (CFT)	SCH-CFTA-A	X Note 2	X	X	X	8-party, 16-party, 32-party Digital Conference Trunk
CH-DATA (DAT)	SCH-DATA-A	X Note 2	X	-	-	Digital Announcement Trunk
CH-IPDA (IP-PAD)	SCH-IPDA-A	X Note 1	X	X	X	IP Line Card

Note: For the purchase of any equipment related to NEAX2400 IPX and SV7000, contact your local sales agency or NEC maintenance personnel.

Note 1: The Software Switch settings can be also performed using the PCPro command CPSW.

Note 2: The software switch settings can be also performed with the PCPro command CPSW if PC-Pro is as follows:

- SA-2229 NX-CMD SEN-S08V01 (software version is 2.1.4 or later).

Note 3: The software switch settings can be also performed with the PCPro command CPSW if PC-Pro is as follows:

- SA-2269 NX-CMD SEN-V03 (software version is 5.1.0 or later).

2. Cards Accommodation Position

Refer to the appropriate manual for the accommodation of cards using a PA adapter.

SV9500: CIRCUIT CARD DESCRIPTION

- CH-12COTB
[CHAPTER 4 CARDS IN 8U-PIR] - [PA-16COTBE-B] / [PA-8COTBJ]
- CH-8ODTA
[CHAPTER 4 CARDS IN 8U-PIR] - [PA-8TLTR-A] / [PA-8TLTR-B]
- CH-CFTA
[CHAPTER 4 CARDS IN 8U-PIR] - [PA-CFTV] / [PA-CFTW]
- CH-DATA
[CHAPTER 4 CARDS IN 8U-PIR] - [PA-4DATB-A]
- CH-IPDA
[CHAPTER 4 CARDS IN 8U-PIR] - [PA-32IPDA (IPPAD)] / [PA-32IPDB (IPPAD)]

SV8500: CIRCUIT CARD DESCRIPTION

- CH-12COTB
[CHAPTER 3 LINE/TRUNK CIRCUIT CARD REFERENCE] - [PA-16COTBE-B] / [PA-8COTBJ]
- CH-8ODTA
[CHAPTER 3 LINE/TRUNK CIRCUIT CARD REFERENCE] - [PA-8TLTR-A] / [PA-8TLTR-B]
- CH-CFTA
[CHAPTER 3 LINE/TRUNK CIRCUIT CARD REFERENCE] - [PA-CFTV] / [PA-CFTW]
- CH-DATA
[CHAPTER 3 LINE/TRUNK CIRCUIT CARD REFERENCE] - [PA-4DATB-A]
- CH-IPDA
[CHAPTER 3 LINE/TRUNK CIRCUIT CARD REFERENCE] - [PA-32IPDA (IPPAD)] / [PA-32IPDB (IPPAD)]

SV7000: INSTALLATION GUIDE

- CH-12COTB
[CHAPTER 8 CIRCUIT CARD IN PIR] - [PA-16COTBE-B] / [PA-8COTBJ]
- CH-CFTA
[CHAPTER 8 CIRCUIT CARD IN PIR] - [PA-CFTV] / [PA-CFTW]
- CH-IPDA
[CHAPTER 8 CIRCUIT CARD IN PIR] - [PA-32IPDA (IPPAD)] / [PA-32IPDB (IPPAD)]

NEAX2400 IPX : CIRCUIT CARD MANUAL

- CH-12COTB
[CHAPTER 3 LINE/TRUNK CIRCUIT CARD REFERENCE] - [PA-16COTBE-B] /
[PA-8COTBJ]
- CH-CFTA
[CHAPTER 3 LINE/TRUNK CIRCUIT CARD REFERENCE] - [PA-CFTV] / [PA-CFTW]
- CH-IPDA
[CHAPTER 3 LINE/TRUNK CIRCUIT CARD REFERENCE] - [PA-32IPDA (IPPAD)] /
[PA-32IPDB (IPPAD)]

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 transferred 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.

Note: CH-12COTB cannot provide Ground Start service because CH-M03 card cannot be used with PA adapter (PZ-M736).

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.

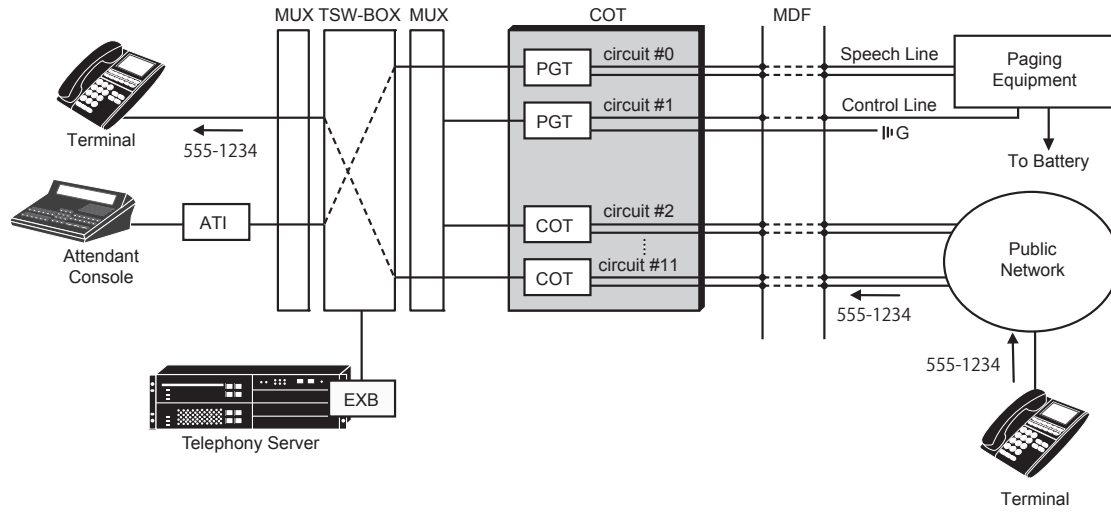
Note 2: Compliant with TIA-777-A May 2003 (Type1).

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.



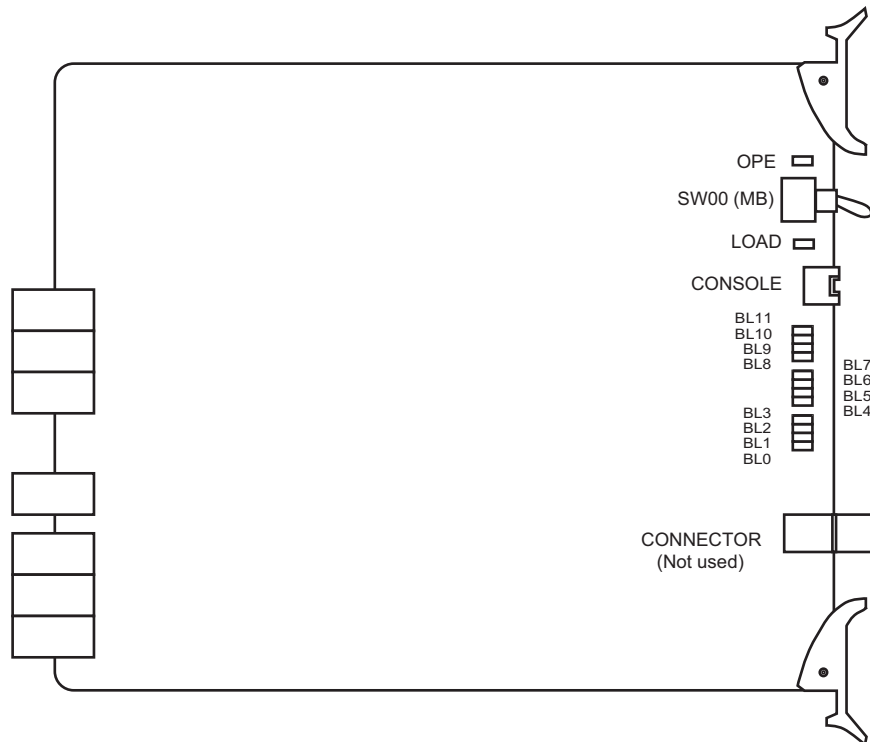
2. Mounting Conditions

The card has the following 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.
- 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.
- When the card is 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.

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
 ON (MB) OFF 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 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 μ F
				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 μ F
				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		Receive PAD selection (C.O. line→TSW) Note 5 See Table-11 .
	OFF	×	
7	ON		
	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)
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]	RECEIVE [dB]	REMARKS
ARTD (CDN 30)	APAD	(TSW → C.O. LINE)	(C.O. LINE → TSW)	
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	

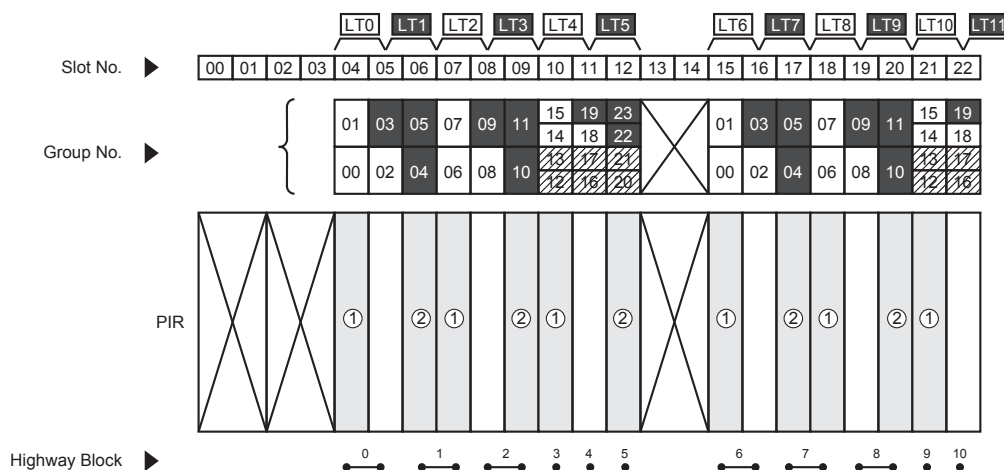
6. External Interface

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	

8U-PIR (SV9500/SV8500):

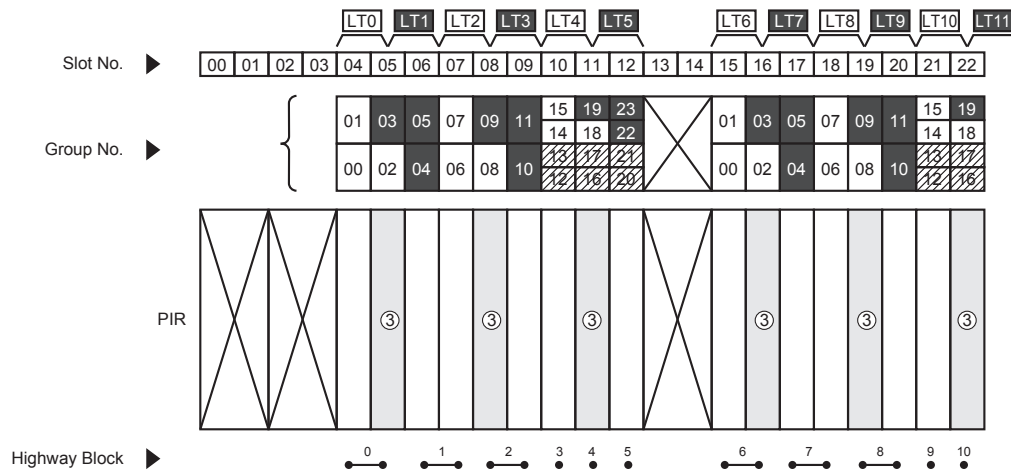


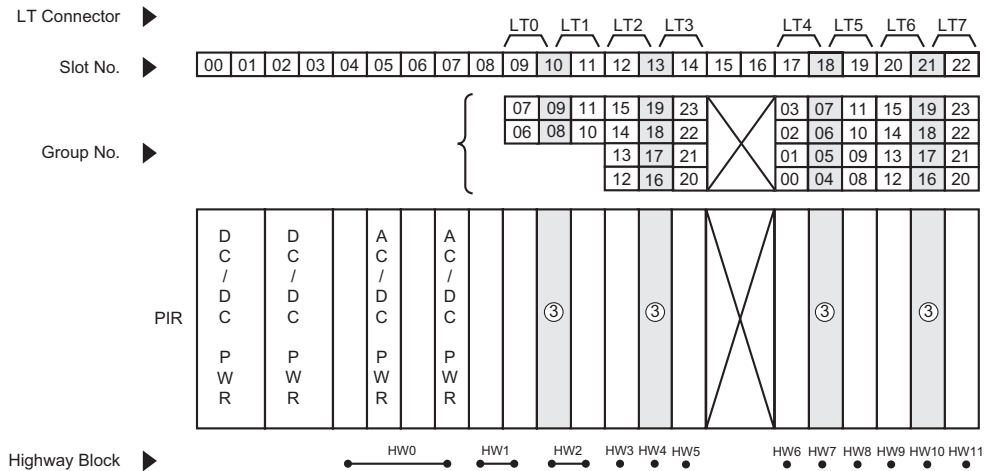
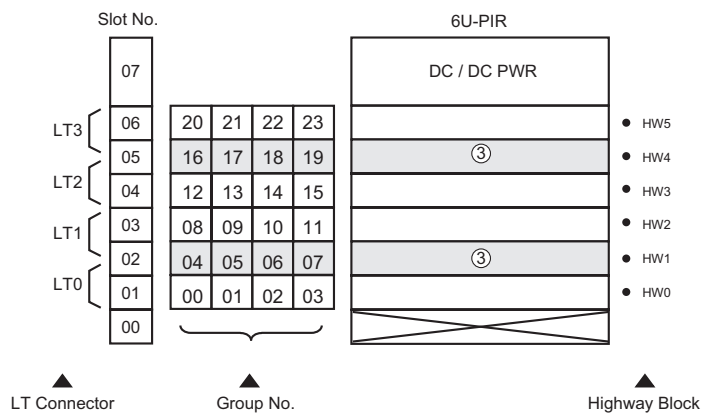
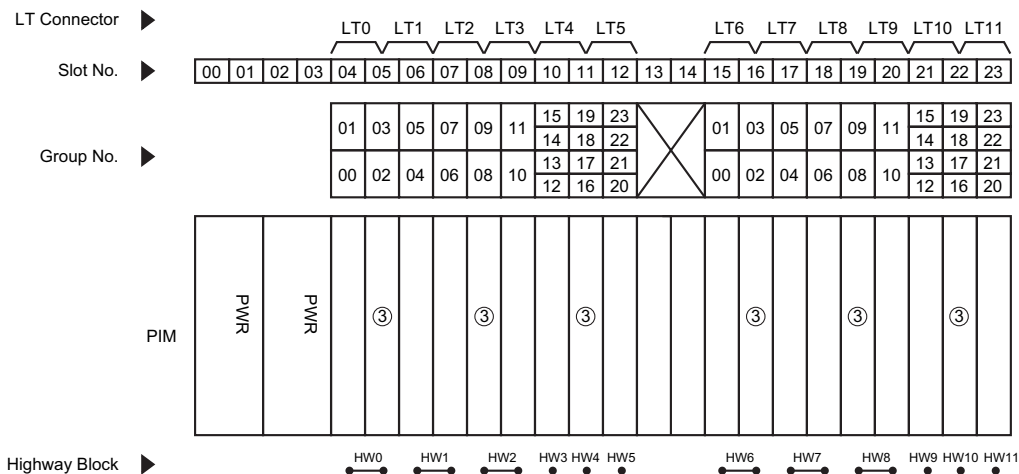
LT Connector Lead Accommodation (2/2)

Accommodated in * 3

LT0, 2, 4, 6, 8, 10 Connector				LT1, 3, 5, 7, 9, 11 Connector			
26		1		26	T8	1	R8
27		2		27	T9	2	R9
28		3		28	T10	3	R10
29		4		29	T11	4	R11
30		5		30		5	
31		6		31		6	
32		7		32		7	
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	T0	17	R0	42		17	
43	T1	18	R1	43		18	
44	T2	19	R2	44		19	
45	T3	20	R3	45		20	
46	T4	21	R4	46		21	
47	T5	22	R5	47		22	
48	T6	23	R6	48		23	
49	T7	24	R7	49		24	
50		25		50		25	

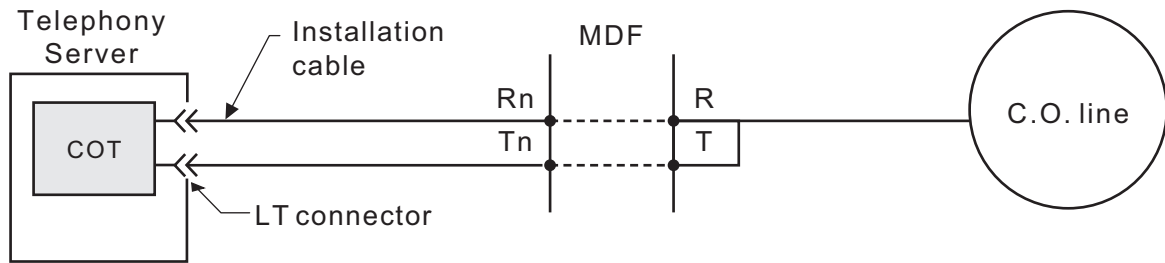
8U-PIR (SV9500/SV8500):



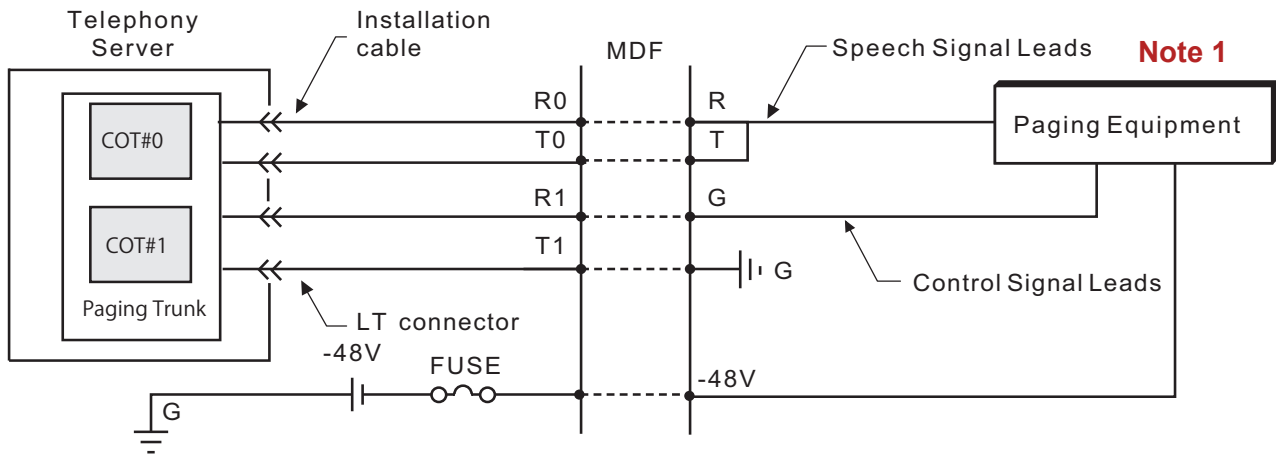
9U-PIR (SV7000):**6U-PIR (SV7000):****PIM (NEAX2400 IPX):**

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	X

1. General Function

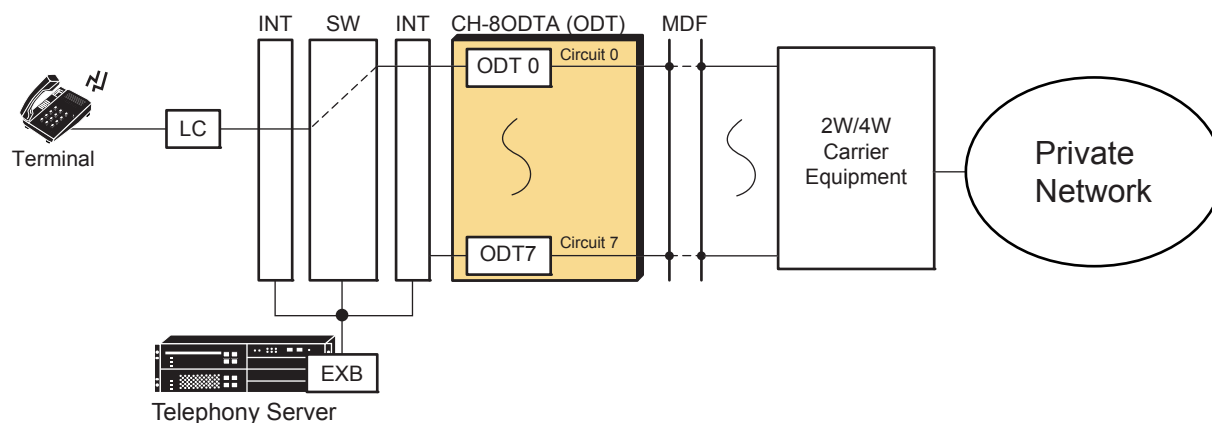
The CH-8ODTA (ODT) circuit card provides eight trunks whose interface can be selected among the following two types with the key setting on a four-channel basis.

- 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



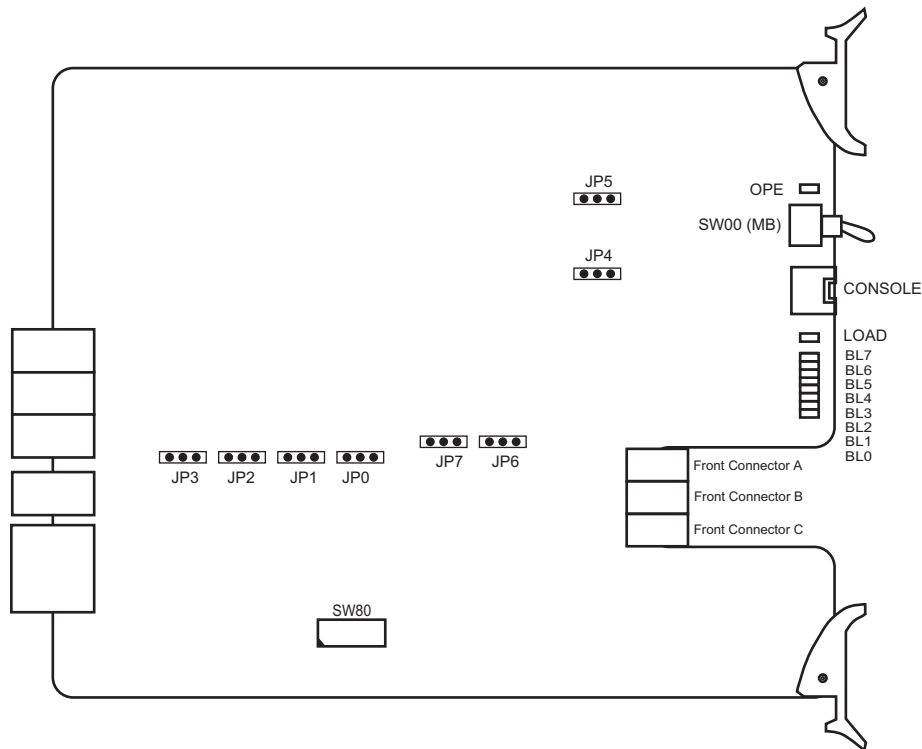
2. Mounting Location/Condition

The card has the following 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.
- 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.
- When the card is 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.
- 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
 Short Plug	1-2 Pin short	×	Fixed

Software Switch

- Software switches can be set 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
	OFF	×	See Table 1 . This setting is valid when 2-wire E&M is enabled.
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	0-2dB	600Ω: Only for short distance
0.5Φ	0-7dB	Complex Impedance: For Standard and medium-long distance
0.65Φ		

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
	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
	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	

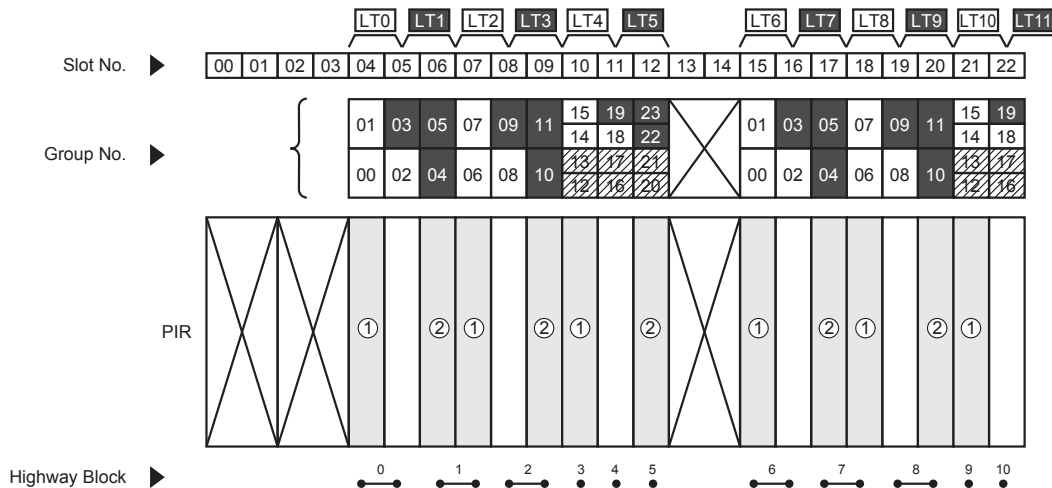
Accommodated in 2*

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	

8U-PIR (SV9500/SV8500):



LT Connector Lead Accommodation (2/2)

Accommodated in 3 *

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

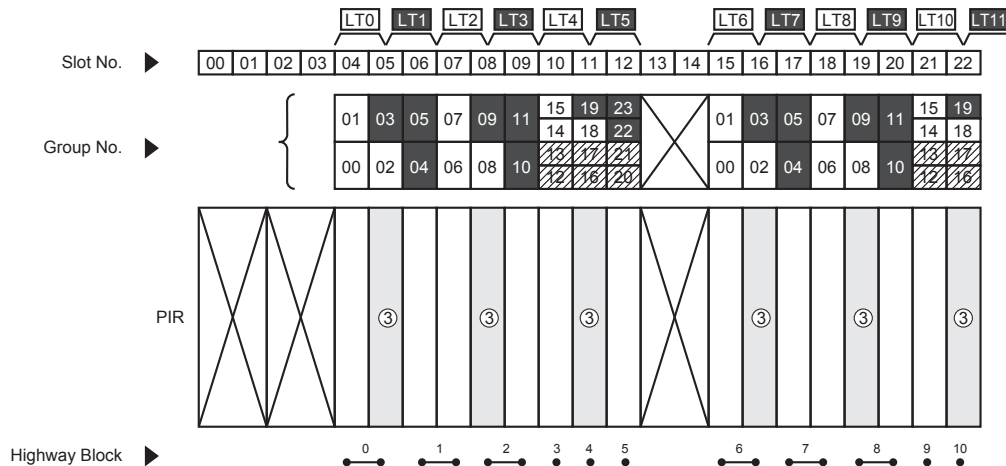
26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	
35		10	
36		11	
37		12	
38		13	
39		14	
40		15	
41		16	
42	B0	17	A0
43	B1	18	A1
44	B2	19	A2
45	B3	20	A3
46	B4	21	A4
47	B5	22	A5
48	B6	23	A6
49	B7	24	A7
50		25	

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

26	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	

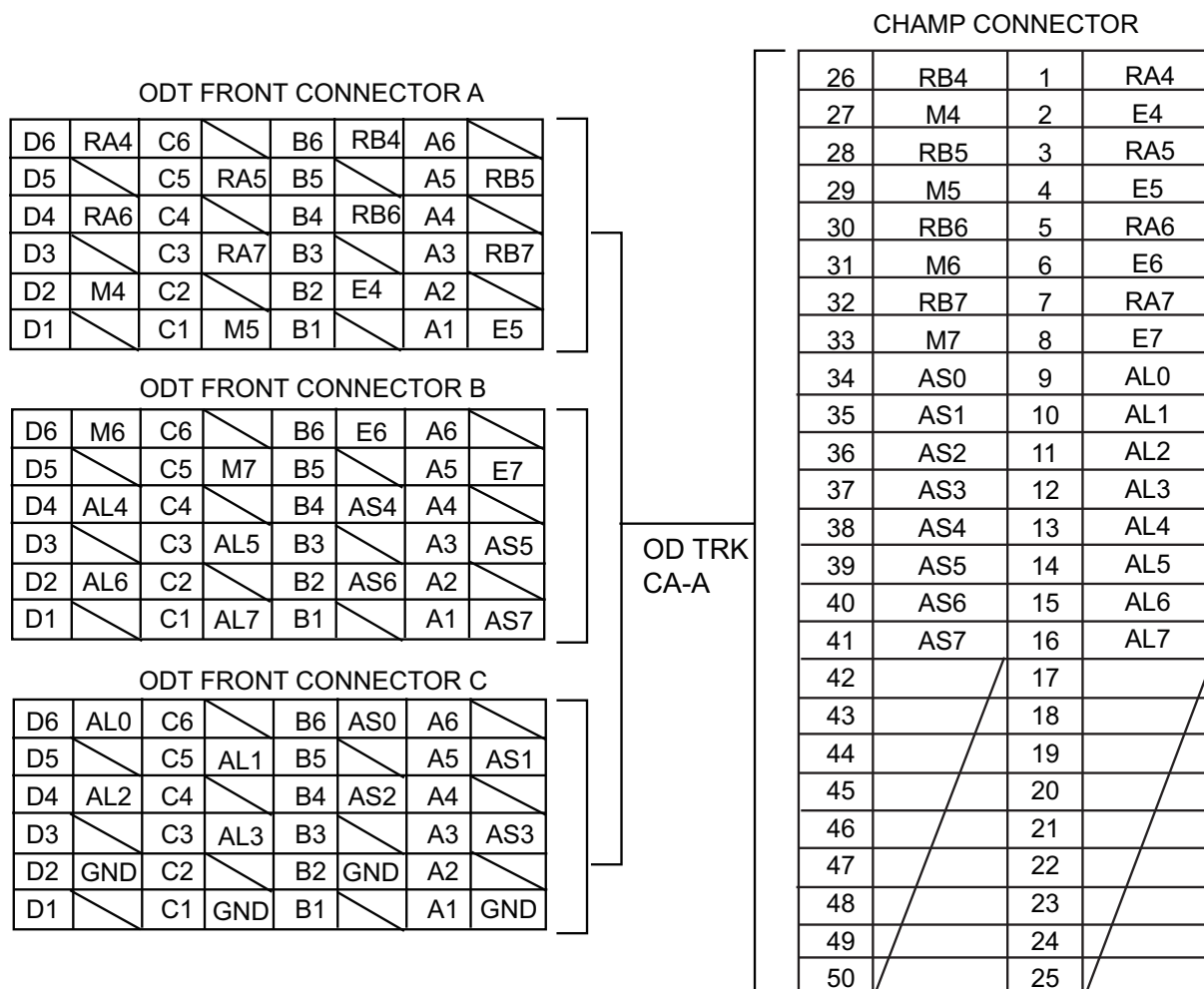
Note 1

8U-PIR (SV9500/SV8500):



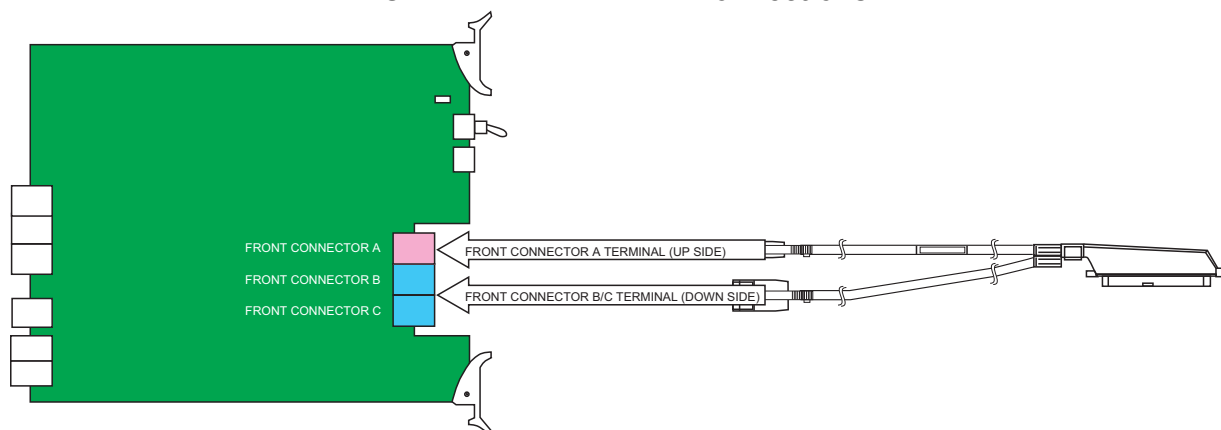
Note 1: "An" and "Bn" (n: number) are terminal names (call signal line names) when using a 2-wire interface. An and Bn correspond to TAn and TBn terminal names (call signal line names) of the sending side when using a 4-wire interface.

OD TRK CA-A CABLE Lead Accommodation



Note: AL0-7 and AS0-7 leads are not used.

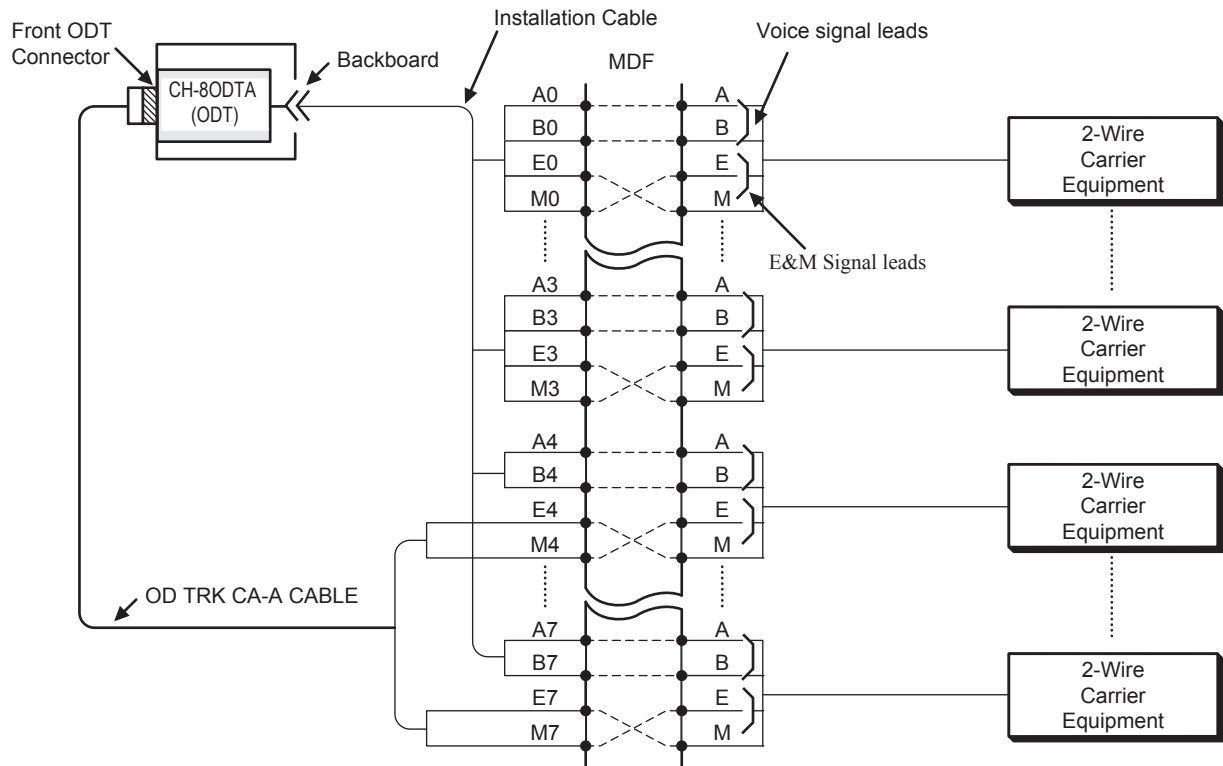
OD TRK CA-A CABLE Connections



Connecting Route Diagram (2-Wire E&M)

• 2W E&M

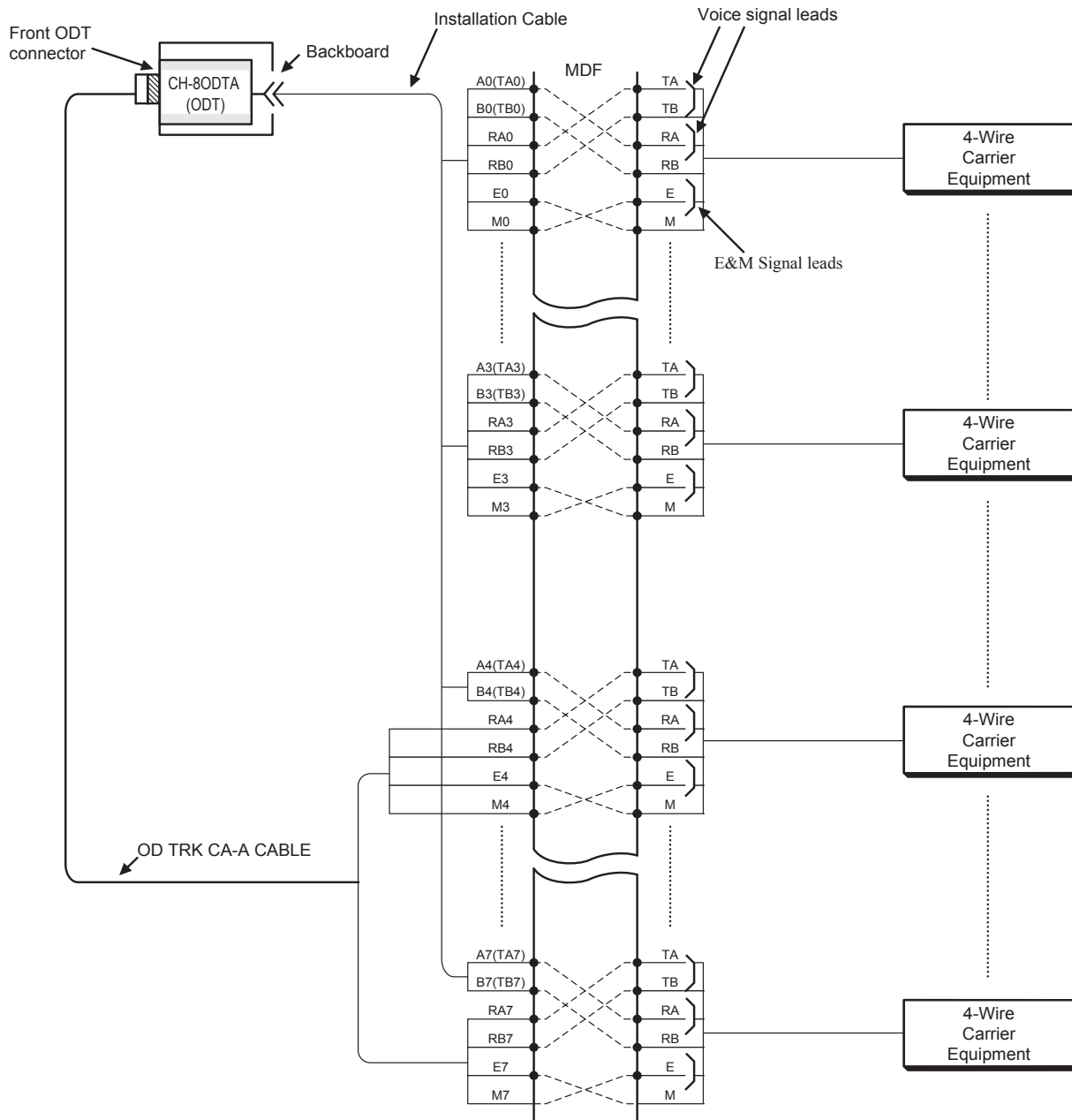
This diagram shows connecting route diagram when the card is used as a 2-wire E&M trunk. In this instance, E&M leads for Channels 4 - 7 appear from the ODT connector equipped on the front edge of this card.



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-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.

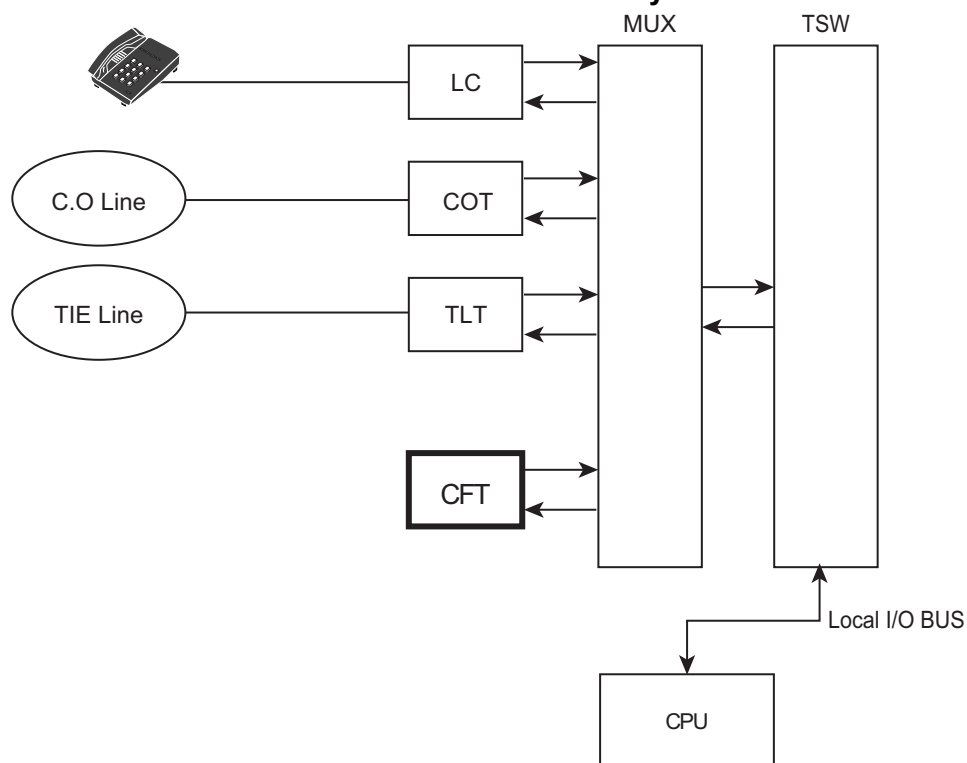
Note: This circuit card is used in the following service features:

- 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 Conditions

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

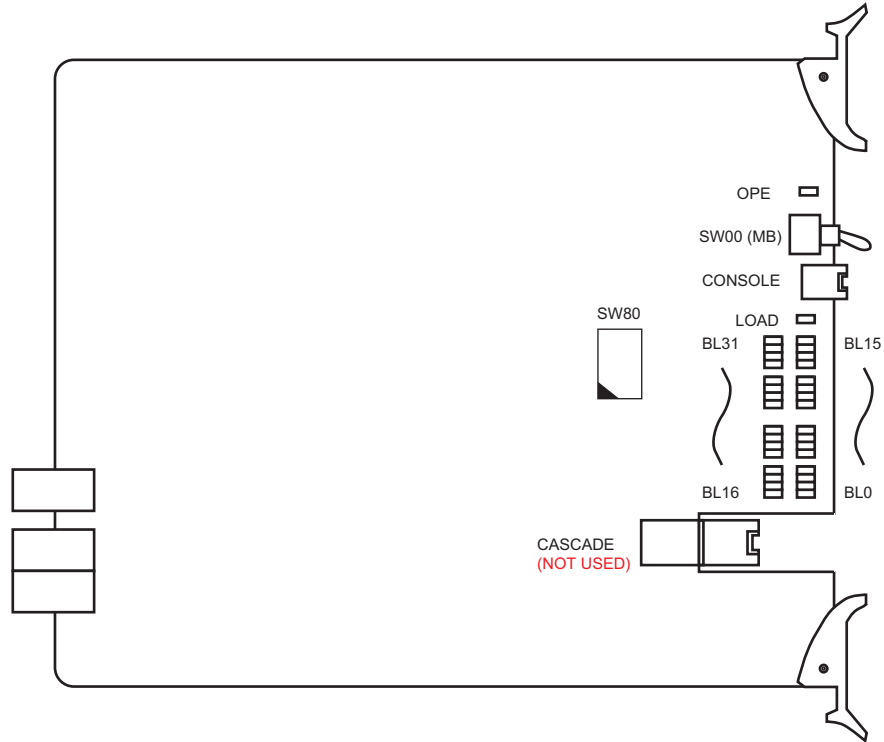
Conference Configuration	Switch Settings			Mounting Conditions
	SW80-1	SW80-2	SW80-3	
8 Parties x 1 group	OFF	OFF	OFF	The card can be mounted in any slot (Slot 4 to 12 and 15 to the last on the right)
8 Parties x 2 groups	ON	OFF	OFF	Do not mount the card in Slot 4 in PIR of Unit 0 (U=0) of Module Group 0 (MG=00) Note1: If mounted in Slot 10 to 12 and 21 to the last on the right, 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 the last on the right, it occupies 32 ports of its slot.

Conference Configuration	Switch Settings			Mounting Conditions
	SW80-1	SW80-2	SW80-3	
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 the last on the right, it occupies the second half of 16 ports.
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 the last on the right, 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 the last on the right, it occupies 32 ports of its slot.

Note: 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.

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 download 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
 ON (MB) OFF 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
 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 method. For details, refer to the [Software Switch Setting](#) section.

- 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: Gain Note 10
	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 9 dB, it will be set to 9 dB.

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	Transmission clipper: 0 dBm/Enabled
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	PBR time: PT Short (28 ms)
	7	OFF	
	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	Speak Simultaneous: 5 Persons
	6	OFF	
	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	Transmission clipper: 0 dBm/Enabled
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	PBR time: PT Short (28 ms)
	7	OFF	
	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	Speak Simultaneous: 5 Persons
	6	OFF	
	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-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.

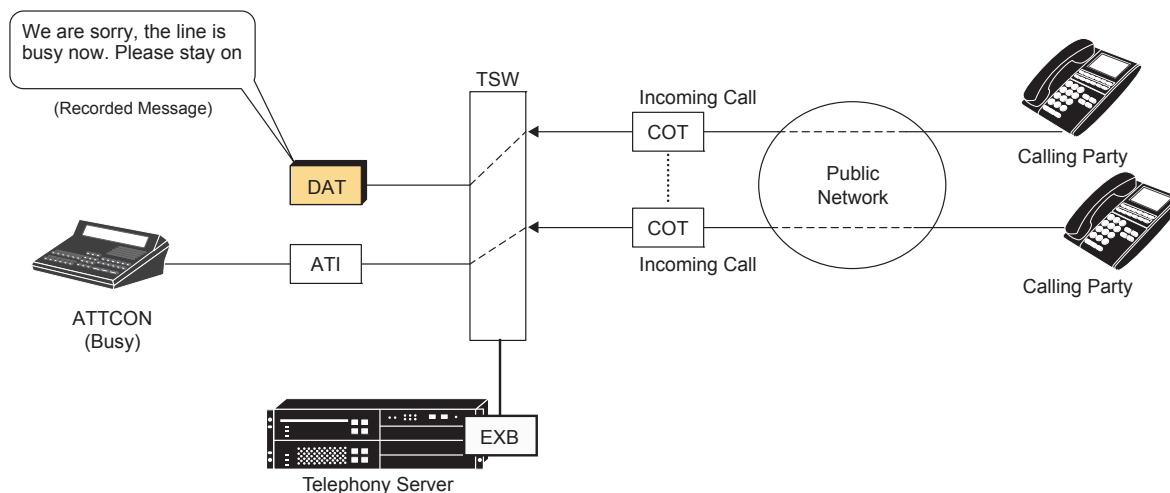
The card has the following service conditions:

- 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
 - 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 Conditions

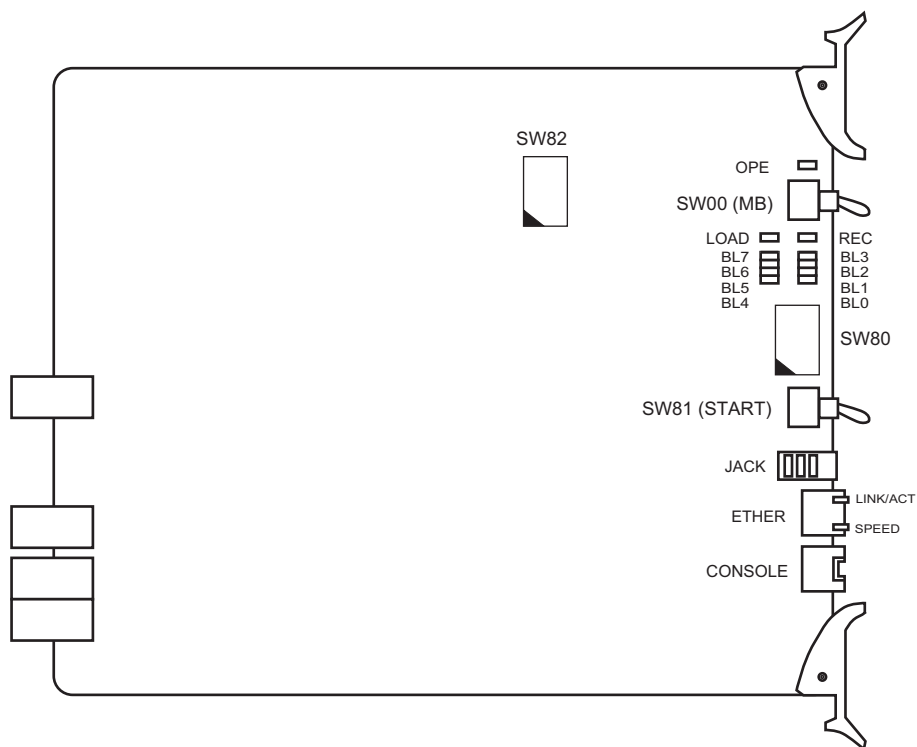
The card has the following mounting conditions:

- 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.
- 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.

- When the card is 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.

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

LAMP NAME	COLOR	STATE	DESCRIPTION
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
 Dip Switch	1			Record/Play channels set
	2			Set the proper channels for each record mode (128-second mode, 256-second mode and 512-second mode).
	3			Note 1 See Record/Play Channels Setting
	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
 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 designed 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](#).

- Switch Setting via a serial 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
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	Autonegotiation ON Note 7
ON	OFF	OFF	100 Mbps full duplex fixed Note 8
OFF	ON	OFF	100 Mbps half duplex fixed Note 8
ON	ON	OFF	10 Mbps full duplex fixed Note 8
OFF	OFF	ON	10 Mbps half duplex fixed Note 8
ON	OFF	ON	Settings prohibited (Auto negotiation ON)
OFF	ON	ON	
ON	ON	ON	

Note 7: When possible, autonegotiation allows to automatically set the best speed and duplex mode.

Note 8: Peripheral devices such as switching hubs must support the fixed setting.

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)
	OFF	×	
2	ON		Default Setting: 0.0.0.0 Note 10
	OFF	×	
3	ON		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	×	
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 setting 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)
	OFF	×	
2	ON		Default Setting: 0.0.0.0 Note 12
	OFF	×	
3	ON		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) SW13 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 0 0 (0x00) SW12 1 2 3 4 5 6 7 8 1 0 1 0 1 0 0 0 168 (0xA8) SW14 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 1 1 (0x01)
	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 setting 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)
	OFF	×	
2	ON		Default Setting: 0.0.0.0 Note 14
	OFF	×	
3	ON		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) SW13 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 0 0 (0x00) SW12 1 2 3 4 5 6 7 8 1 0 1 0 1 0 0 0 168 (0xA8) SW14 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 1 1 (0x01)
	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 setting 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)
	OFF	×	
2	ON		Default Setting: 0.0.0.0 Note 16
	OFF	×	
3	ON		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) SW13 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 0 0 (0x00) SW12 1 2 3 4 5 6 7 8 1 0 1 0 1 0 0 0 168 (0xA8) SW14 1 2 3 4 5 6 7 8 0 0 0 0 0 0 0 1 1 (0x01)
	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 setting 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 setting 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	
	OFF	×		
2	ON			
	OFF	×		
3	ON			Note: Card default gateway IP address is set with SW16-SW19. Example for setting 192.168.0.254: 0/1 = OFF/ON SW16SW17 1 2 3 4 5 6 7 81 2 3 4 5 6 7 8 1 1 0 0 0 0 0 01 0 1 0 1 0 0 0 192 (0xC0)168 (0xA8) SW18SW19 1 2 3 4 5 6 7 81 2 3 4 5 6 7 8 0 0 0 0 0 0 0 01 1 1 1 1 1 1 0 0 (0x00)254 (0xFE)
	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 setting 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 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 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 setting 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)																
	OFF	×																	
2	ON		Default Setting: 0.0.0.0 Note 25																
	OFF	×																	
3	ON		Note: Card default gateway IP address is set with SW16-SW19. Example for setting 192.168.0.254: 0/1 = OFF/ON <table><tr><td>SW16</td><td>SW17</td></tr><tr><td>1 2 3 4 5 6 7 8</td><td>1 2 3 4 5 6 7 8</td></tr><tr><td>1 1 0 0 0 0 0 0</td><td>1 0 1 0 1 0 0 0</td></tr><tr><td>192 (0xC0)</td><td>168 (0xA8)</td></tr><tr><td>SW18</td><td>SW19</td></tr><tr><td>1 2 3 4 5 6 7 8</td><td>1 2 3 4 5 6 7 8</td></tr><tr><td>0 0 0 0 0 0 0 0</td><td>1 1 1 1 1 1 1 0</td></tr><tr><td>0 (0x00)</td><td>254 (0xFE)</td></tr></table>	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)
	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	×																		
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 setting a default gateway IP address.

SW20

SWITCH TYPE: SOFT SWITCH			
SWITCH NUMBER	SETTING	DEFAULT SETTING	MEANING
1	ON		Enable VLAN Note 26
	OFF	×	Disable VLAN
2	ON		VLAN COS setting
	OFF	×	Set 0-7 in binary. (MSB= SW Num. 2, LSB= SW Num. 4)
3	ON		Default Setting: VLAN COS=1 (0/1 = OFF/ON)
	OFF	×	
4	ON		Note: Example: SW20 1 2 3 4 5 6 7 8 - 0 0 1 - - - -
	OFF	×	
5	ON		VLAN ID upper order 4 bit setting
	OFF	×	Set 1-4094 in binary. (MSB= SW Num. 5, LSB= SW Num. 8)
6	ON		Default Setting: VLAN ID=1 (0/1 = OFF/ON)
	OFF	×	
7	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 0 0 0 1
	OFF	×	
8	ON		
	OFF	×	

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	SW21
1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
1 0 0 1 0 0 0 0	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 set 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... 1 Ch. : 1-1-1-1-1-1-1-1-1-1-1... : 7 Ch. : 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... 2-3 Ch. : 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... 6-7 Ch. : 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... 4-7 Ch. : 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...
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... 4-7 Ch. : After playing 4-5, 6-7 is continuously repeated Note 32 4-5-6-7-6-7-6-7-6-7...
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...
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...
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...

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)

	8 Parts Split (64-Second mode)	4 Parts Split (128-Second mode)	2 Parts Split (256-Second mode)	No Split (512-Second mode)
Record Area	Sound Source Number 0: Max. 64 seconds	Sound Source Number 0: Max. 128 seconds	Sound Source Number 0: Max. 256 seconds	Sound Source Number 0: Max. 512 seconds
	Sound Source Number 1: Max. 64 seconds			
	Sound Source Number 2: Max. 64 seconds	Sound Source Number 1: Max. 128 seconds		
	Sound Source Number 3: Max. 64 seconds			
	Sound Source Number 4: Max. 64 seconds	Sound Source Number 2: Max. 128 seconds	Sound Source Number 1: Max. 256 seconds	
	Sound Source Number 5: Max. 64 seconds			
	Sound Source Number 6: Max. 64 seconds	Sound Source Number 3: Max. 128 seconds		
	Sound Source Number 7: Max. 64 seconds			

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

Channel	8 Parts Split (64-Second mode)	4 Parts Split (128-Second mode)	2 Parts Split (256-Second mode)	No Split (512-Second mode)
0	Sound Source Number 0	Sound Source Number 0	Sound Source Number 0	Sound Source Number 0
1	Sound Source Number 1			
2	Sound Source Number 2	Sound Source Number 1		
3	Sound Source Number 3			
4	Sound Source Number 4	Sound Source Number 2	Sound Source Number 1	
5	Sound Source Number 5			
6	Sound Source Number 6	Sound Source Number 3		
7	Sound Source Number 7			

[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](#).

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>

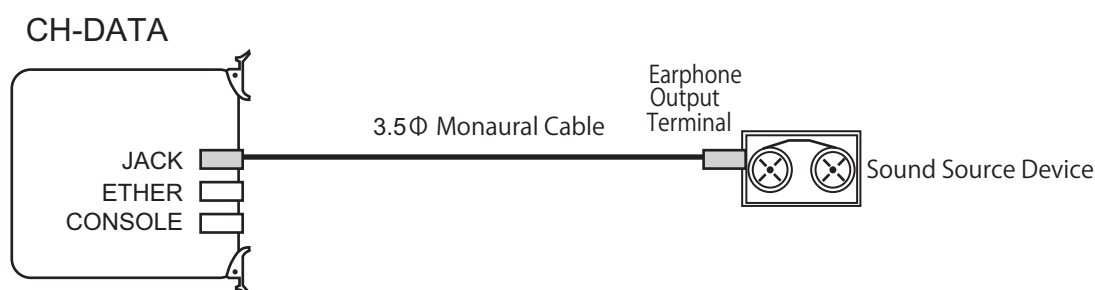
Step1: Key Settings

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 3.5 ϕ 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

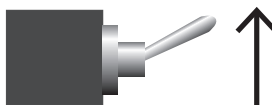
To avoid excessive input to the card, set the sound source device at a lower output level.

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.

START Key
Put up



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.

START Key
Put Down



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.

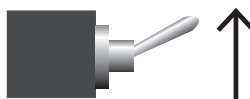
Step4: Set the SW80-8 (Record from the jack enabled) to ON.

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.

START Key
Put up

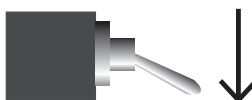


Note: As long as you do not put the SW81 (START key) down, the record will play continuously. When playing from the front jack, since the PAD does not enter, the sound will be played just as when recorded.

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.

START Key
Put Down



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

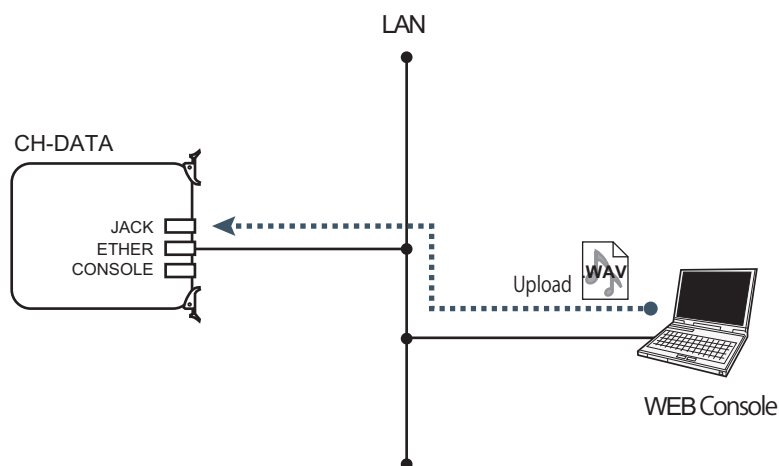
The following explains how to upload a WAVE file to the card by using the WEB console in a web browser.

Note: 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;=@ABCDEFGHIJKLMN O PQRSTUVWXYZ[]
^_`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 name 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.
- The response from the web browser may be lost if you try to upload a file with an invalid format. When the response from the web browser is lost, click the [Abort] button.



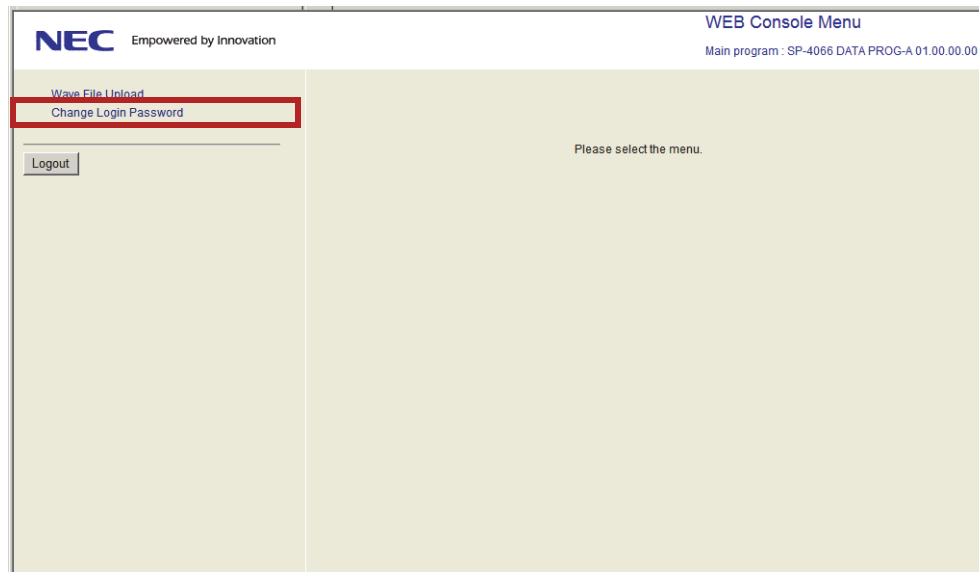
[Start]

<Record Settings and Operation Procedure>

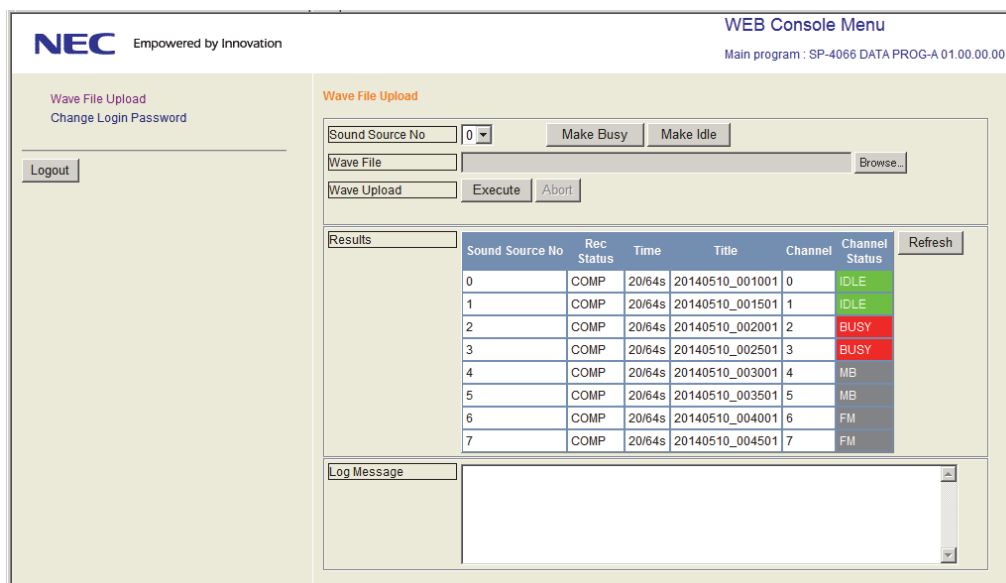
Step1: Put the WAVE file in a folder of your choice of the WEB console PC.

Step2: Log in to the WEB console. See [WEB Console](#) 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 with 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.

[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 a serial console.

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	

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		
Group Number →		01	03	05	07	09	11	15	19	23				01	03	05	07	09	11	15	19	
								14	18	22											14	18
		00	02	04	06	08	10	13	17	21				00	02	04	06	08	10	13	17	
								12	16	20										12	16	
8U-PIR		*	*	*	*	*	*	*	*	*				*	*	*	*	*	*	*		
		1	2	3	1	2	3	1	2	3				1	2	3	1	2	3	1	2	

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
- 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.

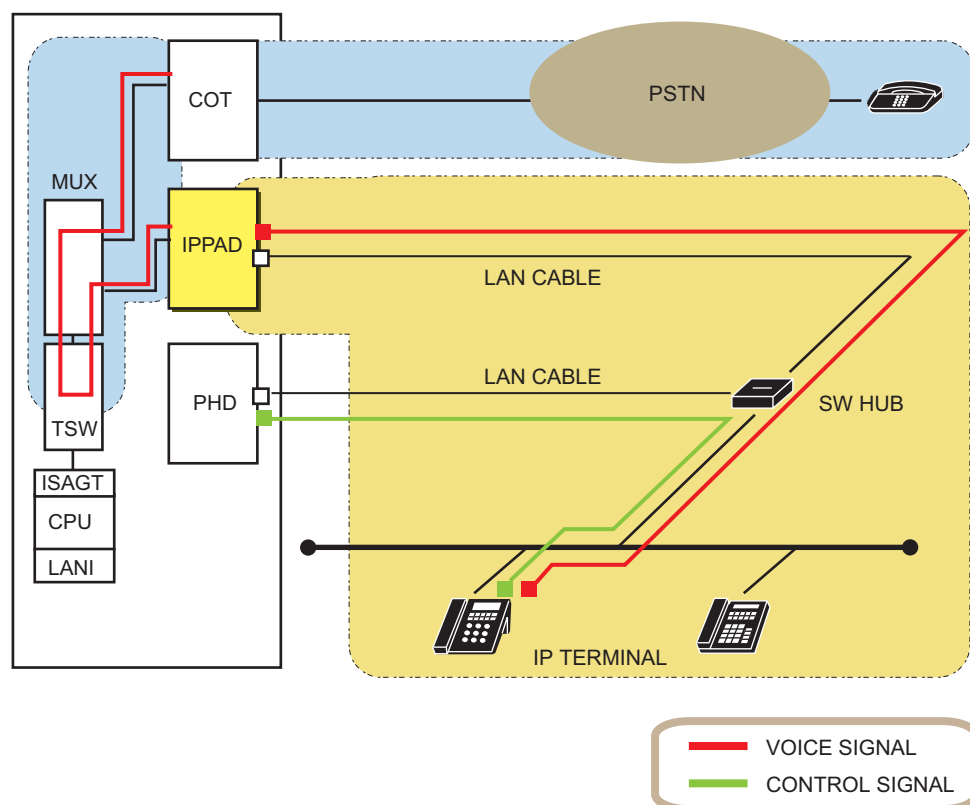
Note 2: While Fax Relay is operating, Echo Canceler becomes invalid.

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.

Location of CH-IPDA (IPPAD)



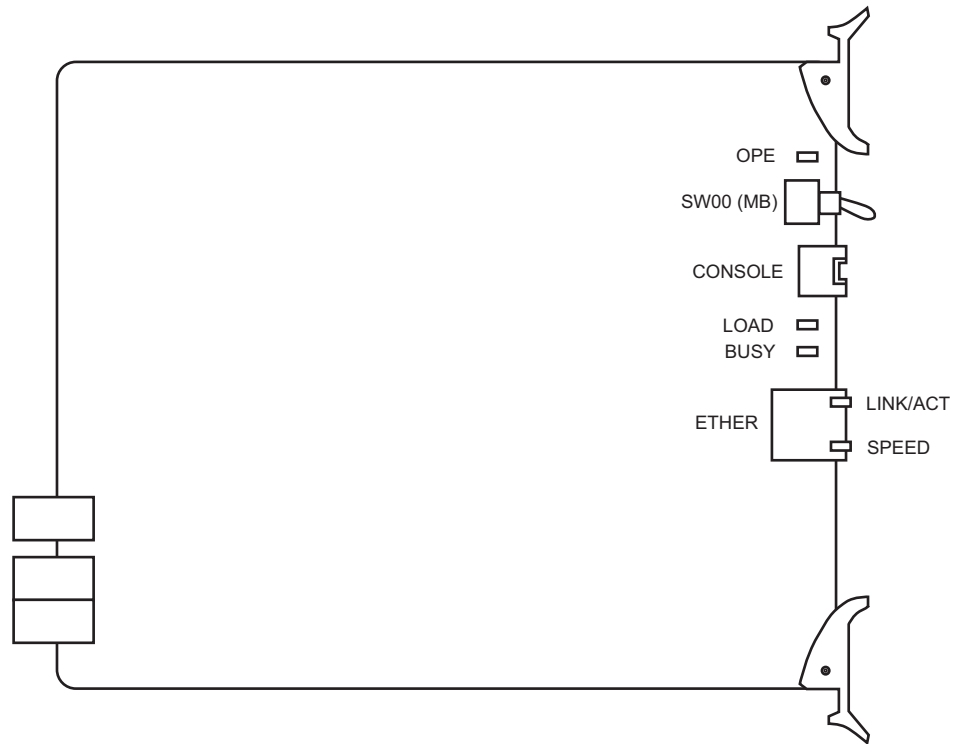
2. Mounting Conditions

The card has the following 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.
- 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.
- When the card is 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.

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 method. For details, refer to [Software Switch Setting](#).

- 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]
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
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 are 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 .
	OFF		
5	ON		Note: This setting is controlled on a call basis.
	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 .
	OFF		
7	ON		Note: This setting is controlled on a call basis.
	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	100 Mbps half-duplex Note 3
ON	ON	OFF	10 Mbps full-duplex Note 3
OFF	OFF	ON	10 Mbps half-duplex Note 3
ON	OFF	ON	This setting is prohibited.
OFF	ON	ON	
ON	ON	ON	

Note 2: Automatic Negotiation function automatically configures the LAN interface speed and communication mode (a combination of 10 Mbps/100 Mbps/1000 Mbps and full-duplex/half-duplex) to operate at the maximum speed.

Note 3: The connected point must be set with the same settings as this card.

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 are 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.

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 CH-12COTB/CH-8ODTA/CH-CFTA/CH-DATA/CH-IPDA (from here 7U-PIR cards) in 8U-PIR.

For card installation see [Mounting PA Adapter](#).

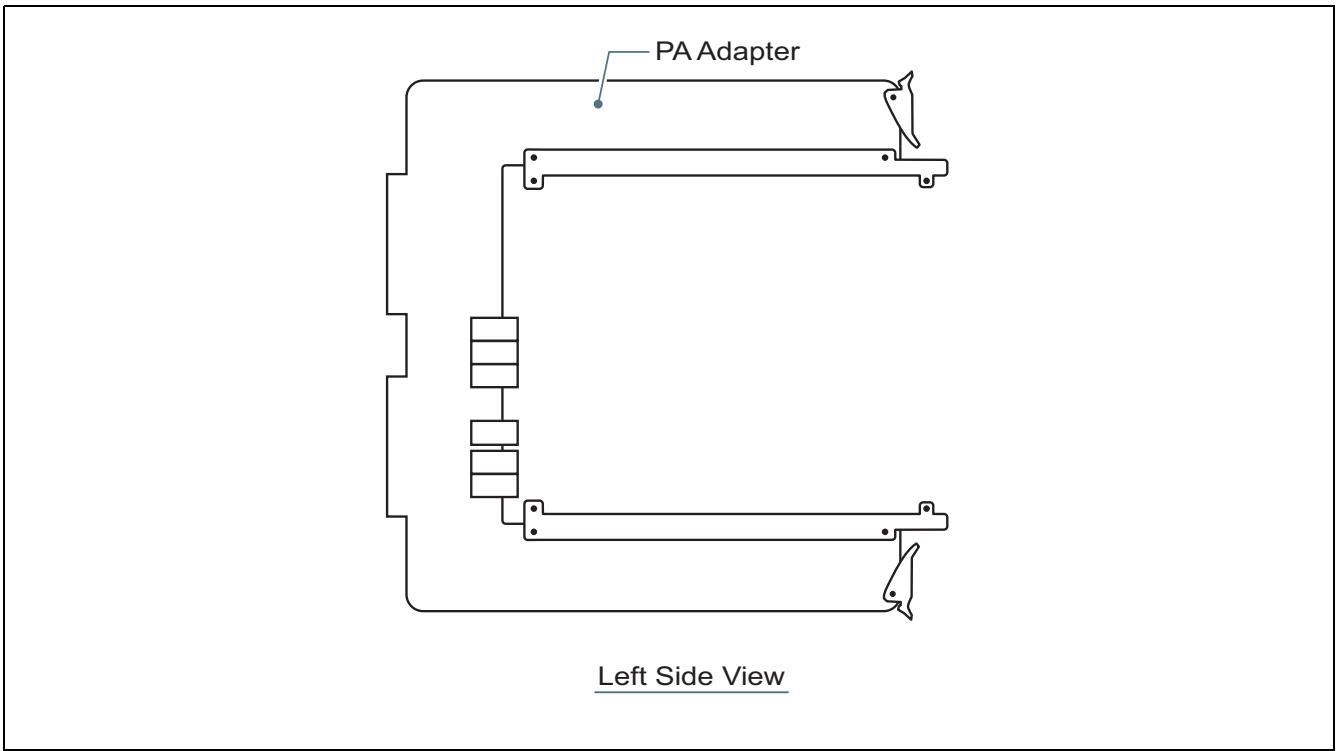
2. Mounting Location/Condition

- For mounting conditions of each card, see [Cards Accommodation Position](#) in the “Before Using This Manual” section of this manual
- 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.

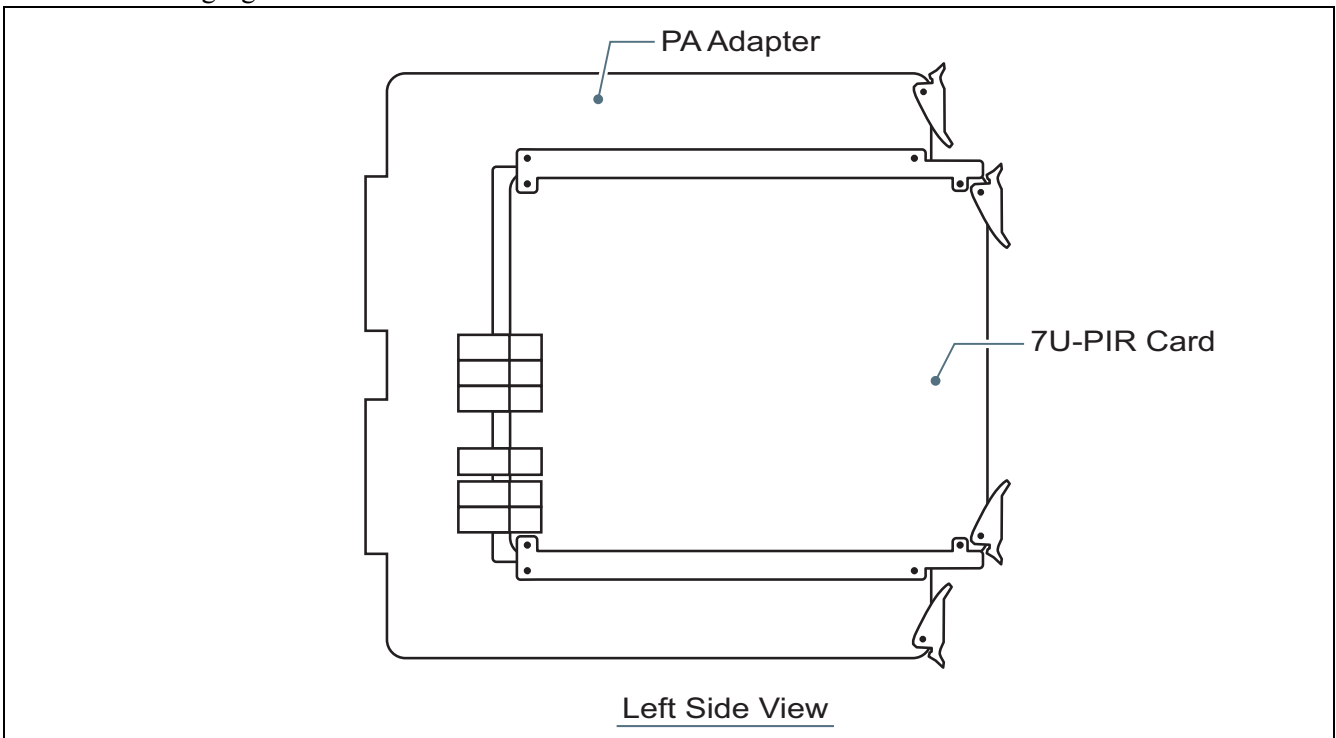
3. Face Layout of Lamps, Switches, and Connectors

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.



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 [Mounting PA Adapter](#). Note also that 8U-PIR does not have Slot 23 physically.

Mounting PA Adapter

This section describes how to mount a 7U-PIR card into 8U-PIR by using a PA Adapter (PZ-M736).

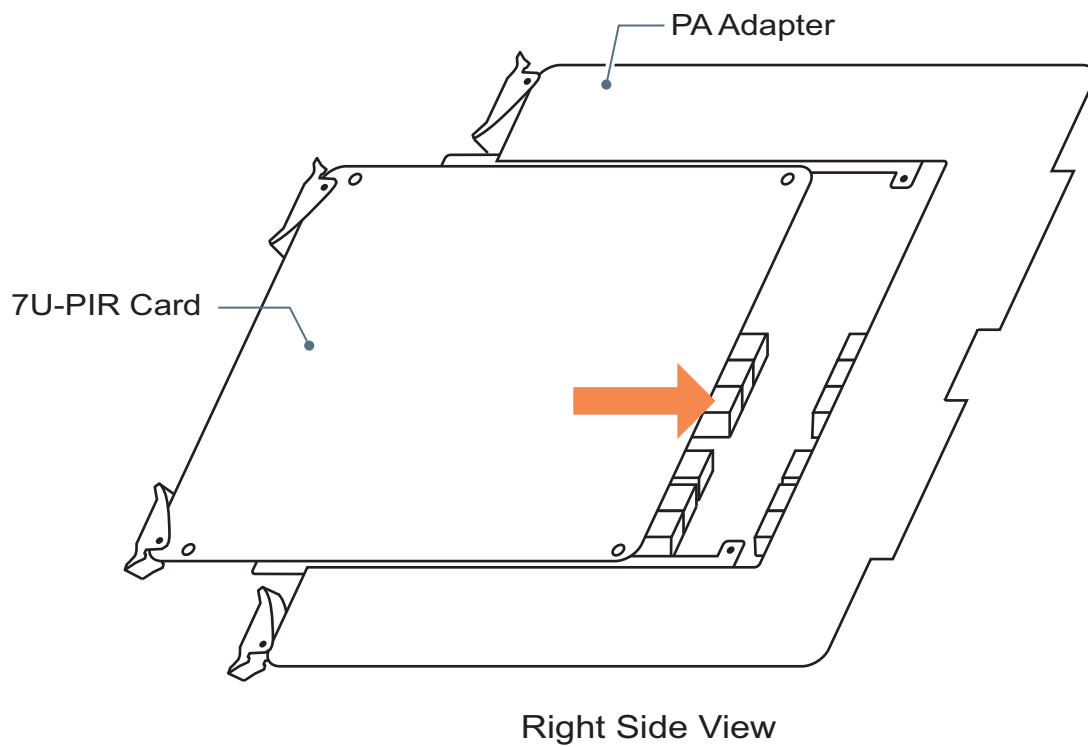
When inserting a PA Adapter, take the following precautions:

- Do not touch with your bare hands the board area or the metal coated terminals.
- During any operation take electrostatic countermeasures. Refer to How to use Service Grounding Kit in Chapter 2 of the System Description, Appliance Model Installation Manual.

Step1: Put a little of isopropyl alcohol on a piece of gauze and wipe both side connectors. Make sure there is no dust or fluff.

Step2: Turn the MB key to ON.

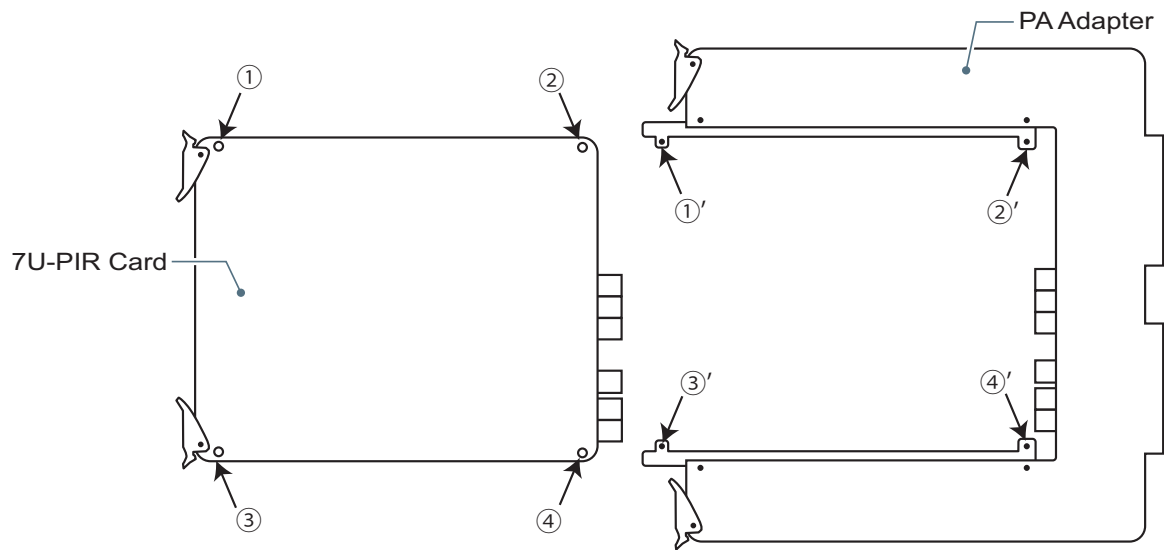
Step3: Place a PA Adapter right side up onto a conductive sheet and then place a 7U-PIR card right side up onto the PA Adapter. Press the connectors of the 7U-PIR card into those of the PA Adapter.



Step4: Use a Phillips screwdriver to fix the 7U-PIR card to the PA Adapter by inserting screws (PA Adapter accessory) in the designed four spots.

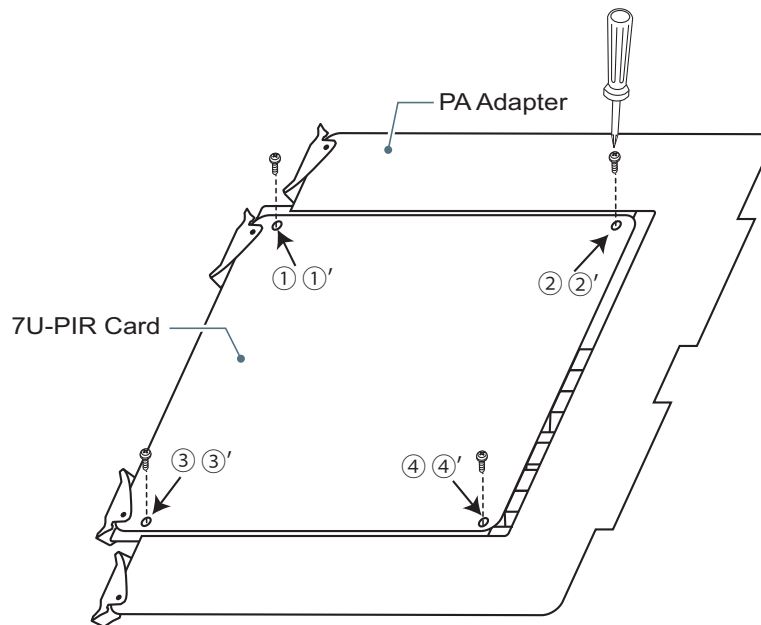
Note: Do not use an electric screwdriver. The fastening torque could be excessive and damage the screws.

Positions of Screws



Right Side View

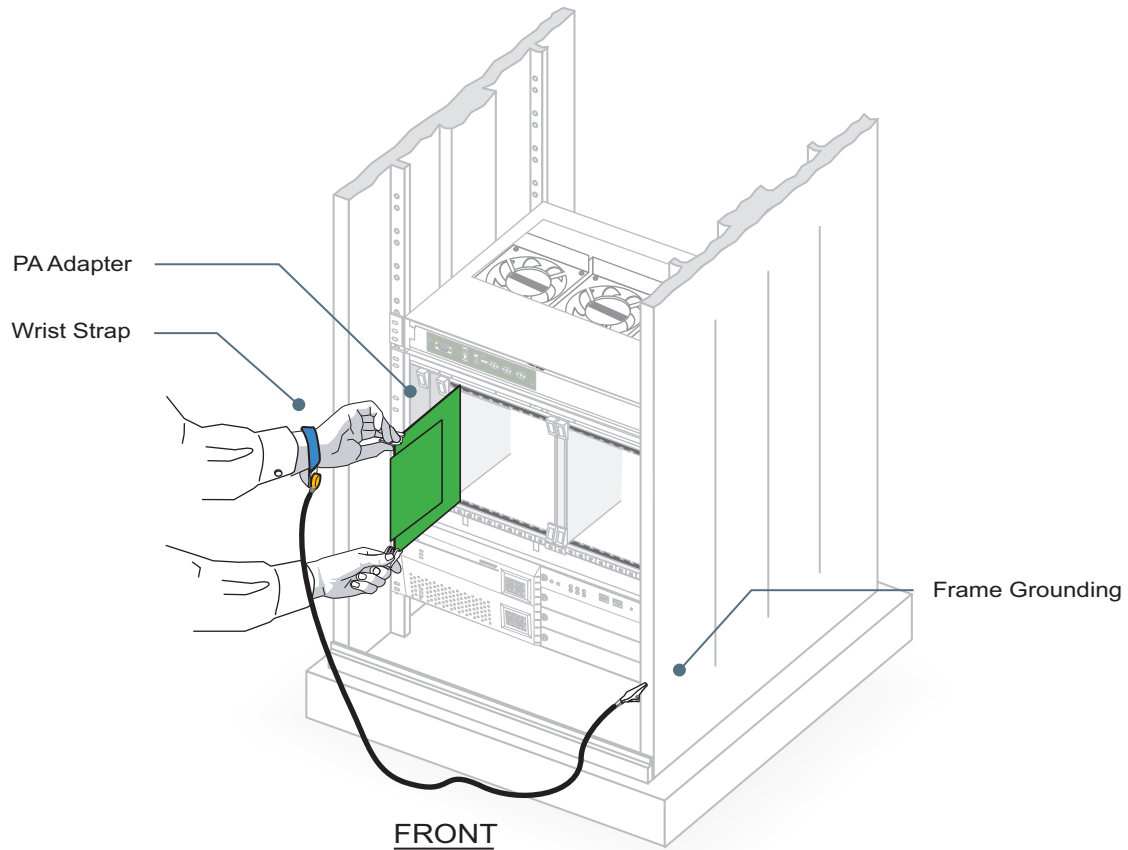
Tightening Screws



Right Side View

Step5: Insert the PA Adapter into 8U-PIR.

Note 1: After powering the card, use a serial console to set the 7U-PIR cards software switches.



Note: Without a proper frame grounding to the 19-inch rack, even when a wrist strap is connected, static electricity cannot be released and it may cause equipment failure. In that case, connect the wrist strap to another part that is properly grounded. Also, even if the frame grounding is proper, if the wrist strap is connected to a painted part of the 19-inch rack, static electricity cannot be eliminated.

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.

Software switches can be set with the following method.

- Switch Setting via a serial connection

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.

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](#).”

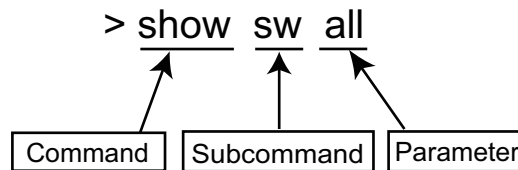
Software Switch Setting with Serial Console Commands

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 cancelled 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] 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.
- [3] If "card make-busy" is cancelled 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 IPPAD/DAT/CFT cards. To set the card to the operation mode, quit the serial console command by typing "exit."
- [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.	
	trace	-	Traces information settings Note 1	
	time		Date and time information settings	Available only for DAT
show	flashinfo	-	Displays the number of use of FLASHROM.	
	log	all	Displays all internal log Note 1	
		all del	Deletes all internal log Note 1	See Note 2
		data	Displays an internal log Note 1	Available only for CFT
	resetlog	-	Displays a reset log Note 1	
	status	-	Displays statuses of all lines	
		xx (Number)	Displays statuses of a specified group	
		card	Displays various statuses of a card	
		ch	Displays detailed statuses of all lines per channel	Available only for DAT/CFT
		media	Displays statuses of Voice channel Note 1	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)	
		both	Displays the editing and operation status of all switches (configuration display)	
		now	Displays the operation status of all switches	
	flog	-	Displays an internal log Note 1	Available only for IPPAD/DAT
	performance	-	Displays the result of a performance measurement	Available only for CFT
	trace	-	Displays the setting status of trace information Note 1	
	circuit	memory	Displays the memory of a card Note 1	Available only for 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 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	Available only for IPPAD/DAT
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 CFT card, 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 IPPAD/DAT/CFT.

Type	Card Name
IPPAD	CH-IPDA
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
```

Available commands are displayed.

```
>show ?
show flashinfo
show log all
show resetlog
show status
show sw all
show sw
show version

>
```

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.

<pre> >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 > </pre>	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
```

Software switch settings are reset to the default.

```
2013/09/01 12:34:56.789
```

```
<< Result Seeting >>
```

Software switch settings after initialization are displayed.

```

                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
-----
```

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
```

Initialize the settings.

```
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
-----
```

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.

- [IPPAD card](#)
- [DAT Card](#)
- [CFT Card](#)

(a) 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 Cancellor Bypassed
: Echo Cancellor 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)

```

Setting of Echo Canceler
Operation (Corresponds to
[SW12-5](#))

```

Current : 1
Input :

Select IPPAD EC Setting.
  0 = forcibly EC ON (DEFAULT SETTING)
  1 = forcibly EC OFF

```

Setting of Echo Canceler
Operation (Corresponds to
[SW12-6](#))

```

Current : 0
Input :

Select EC Training.
  0 = Enable (DEFAULT SETTING)
  1 = Disable

```

Setting of EC Training (Cor-
responds to [SW14-8](#))

```

Current : 0
Input :

Select Echo Cancellor Bypassed
  0 = Echo Cancellor is not bypassed
    when FAX answer tone is detected. (2100 Hz)
    (DEFAULT SETTING)
  1 = Echo Cancellor is bypassed
    when FAX answer tone is detected. (2100 Hz)

```

Setting of Echo Canceler
when FAX answer tone (2100
Hz) is detected. (Corresponds
to [SW13-5](#))

```

Current : 0
Input :

<< Result Setting >>
-----

```

All current switch settings
read from the editing memory
are displayed.

```

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 Cancellor Bypassed
: Echo Cancellor is not bypassed
  when FAX answer tone is detected.(2100 Hz)
-----

```

```

>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 Prior-
ity (Corresponds to [SW16-3](#))

Setting of FAX Control (Cor-
responds 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
```

```
>
```

(b) 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 [SW11](#) to [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
```

Settings of make busy circuit
3 (Corresponds to [SW01-4](#)).

```
Current : 0  
Input   : 1
```

```
Select Make Busy Request of Channel 4.  
 0 = OFF (default)  
 1 = ON
```

Settings of make busy circuit
4 (Corresponds to [SW01-5](#)).

```
Current : 0  
Input   : 1
```

```
Select Make Busy Request of Channel 5.  
 0 = OFF (default)  
 1 = ON
```

Settings of make busy circuit
5 (Corresponds to [SW01-6](#)).

```
Current : 0  
Input   : 1
```

```
Select Make Busy Request of Channel 6.  
 0 = OFF (default)  
 1 = ON
```

Settings of make busy circuit
6 (Corresponds to [SW01-7](#)).

```
Current : 0  
Input   : 1
```

```
Select Make Busy Request of Channel 7.  
 0 = OFF (default)  
 1 = ON
```

Settings of make busy circuit
7 (Corresponds to [SW01-8](#)).

```
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  
-----
```

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.

(c) CFT Card

```

>set config

0 = Operation Mode
1 = Function
2 = Timer
3 = PAD
4 = Conference DSP
5 = Echo Cancellor

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 the CH-CFTA card section of this manual.

```
>set config

0 = Operation Mode
1 = Function
2 = Timer
3 = PAD
4 = Conference DSP
5 = Echo Cancellor

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.

- [CFT Card](#)

(a) 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
```

Current time and date are displayed.

```
Input Year.   (2000-2105, default=2000)
Current : 2000
Input   : 2014
```

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)

```
Input Month.  (1-12, default=1)
Current : 01
Input   : 9
```

```
Input Day.    (1-31, default=1)
Current : 01
Input   : 19
```

Day setting (1 - 31, default: 1)

```
Input Hour.   (0-23, default=0)
Current : 00
Input   : 23
```

Hour setting (0 - 23, default: 0)

```
Input Minute. (0-59, default=0)
Current : 11
Input   : 8
```

Minute setting (0 - 59, default: 0)

```
Input Second. (0-59, default=0)
Current : 22
Input   : 0
```

Second setting (0 - 59, default: 0)

Note: When Enter is pressed for the second setting, all the data is inputted to the card.

```
<< Result >>
  2014/09/19 23:08:00
```

```
Data & Time Setting OK. Reboot is unnecessary.
```

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 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.

- [IPPAD card](#)
- [DAT card](#)
- [CFT card](#)

(a) 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)

(b) 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
-----

>
```

(c) 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.

- [DAT card](#)
- [CFT card](#)

(a) 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

(b) 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-4064 CFTA PROG-A  | 03.00
SP-4047 RX CBOOT PROG-A | 02.00
CH-CFTA Circuit Card  | 01
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.

[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](#)

(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 \(START\)](#))

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.

```

-----
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]
VLAN 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  
 Recorded 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 Cancellor             : Enable  
  Echo Cancellor 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 Cancellor        : Enable
Echo Cancellor Tail Length : 128ms
NLP Mode               : Low Sensitivity
NLP Level              : Automatic
-----

>
```

[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
```

```
Conference Configuration      : 8 Party Conference * 1 Group
Interface                    : Line
-----
```

Settings of all switches are displayed.

```
Do you display more? (y/n) : y
```

Question asks whether or not to display the next item.

```
-----
Operation Mode
```

```
CFT Operation Mode          : Progressive Conference
-----
```

Enter “y” to display.

Enter “n” to not display.

```
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) :
```

If it is left blank, the next item is displayed.

```
-----
PAD
```

```
Reception PAD              : 0 dB(Loss)
Transmission PAD           : 0 dB(Loss)
-----
```

```
Do you display more? (y/n) : y
```

```
-----
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
-----
```

```
-----  
Echo  
  Echo Cancellor           : Enable  
  Echo Cancellor Tail Length : 128ms  
  NLP Mode                  : Low Sensitivity  
  NLP Level                  : Automatic  
-----
```

[14] show performance

This command shows a result of performance measurement.

Below is an example of console screen.

<pre>>show performance << Measurement 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% ></pre>	Measurement time Maximum CPU performance per second Average CPU performance per second Maximum CPU performance per minute Average CPU performance per minute
--	---

[15] show trace

This command displays the trace status.

Examples of the console screen are shown below.

- [CFT card](#)

(a) 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.

[16] 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;=@ABCDEFGHIJKLMNQRSTUUVWXYZ[] ^_`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](#)

(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 data 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.

(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.

[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.

(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.

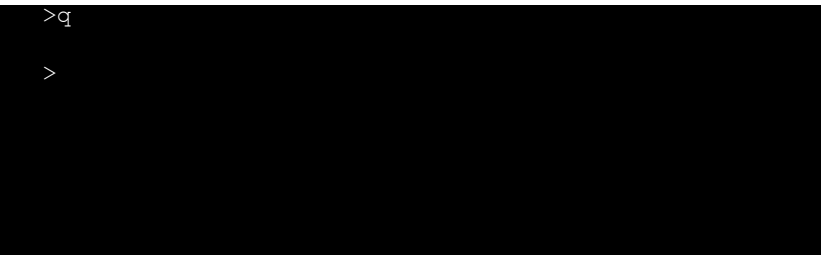
Set the number of transmissions from 1 to 259200 times. Select -1 for endless.

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.



```
>q  
  
>
```

[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.

(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

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.

1. Operating Conditions
2. Previous Preparation
3. Screen Configuration
4. Login Method
5. Password Initialization Login
6. Logout Method
7. Login Password Change Method
8. Web Console Messages

1. 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 Note 1
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

2. 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.

3. 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]

The screenshot shows the WEB Console Main Screen. At the top, the NEC logo and 'Empowered by Innovation' are on the left, and the 'WEB Console Menu' and 'Main program : SP-4066 DATA PROG-A 01.00.00.00' are on the right. The screen is divided into several sections:

- (1)** Top header area containing the NEC logo, 'Empowered by Innovation', 'WEB Console Menu', and 'Main program : SP-4066 DATA PROG-A 01.00.00.00'.
- (2)** Left sidebar menu with 'Wave File Upload' and 'Change Login Password' links, and a 'Logout' button.
- (3)** A box in the left sidebar containing the 'Logout' button.
- (4)** Main content area titled 'Wave File Upload' containing:
 - A 'Sound Source No' dropdown menu set to '0', with 'Make Busy' and 'Make Idle' buttons.
 - A 'Wave File' input field with a 'Browse...' button.
 - A 'Wave Upload' button with 'Execute' and 'Abort' sub-buttons.
 - A 'Results' table with columns: Sound Source No, Rec Status, Time, Title, Channel, and Channel Status. A 'Refresh' button is to the right of the table.
 - A 'Log Message' text area at the bottom.

Sound Source No	Rec Status	Time	Title	Channel	Channel Status
0	COMP	20/64s	20140510_001001	0	IDLE
1	COMP	20/64s	20140510_001501	1	IDLE
2	COMP	20/64s	20140510_002001	2	BUSY
3	COMP	20/64s	20140510_002501	3	BUSY
4	COMP	20/64s	20140510_003001	4	MB
5	COMP	20/64s	20140510_003501	5	MB
6	COMP	20/64s	20140510_004001	6	FM
7	COMP	20/64s	20140510_004501	7	FM

(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

4. 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 it the 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), when 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

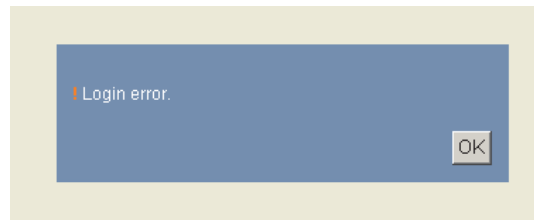
User Name (Fixed)	Password (Default)
USER	P@ssw0rd Note 2 ↑ 0 (zero)

Note 2: The entered password is displayed as ●

After log in, 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, you are successfully logged in and the [Main] screen of the WEB console will be displayed.

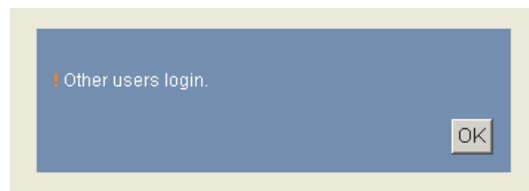
- If there is an error in the entered login data the screen below will be displayed. By clicking the [OK] button, the [Login] screen will be displayed again.



- 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.



5. 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 4.Login Method, the [Login] screen will be displayed.

Step2: Enter the login data below and click the [OK] button.

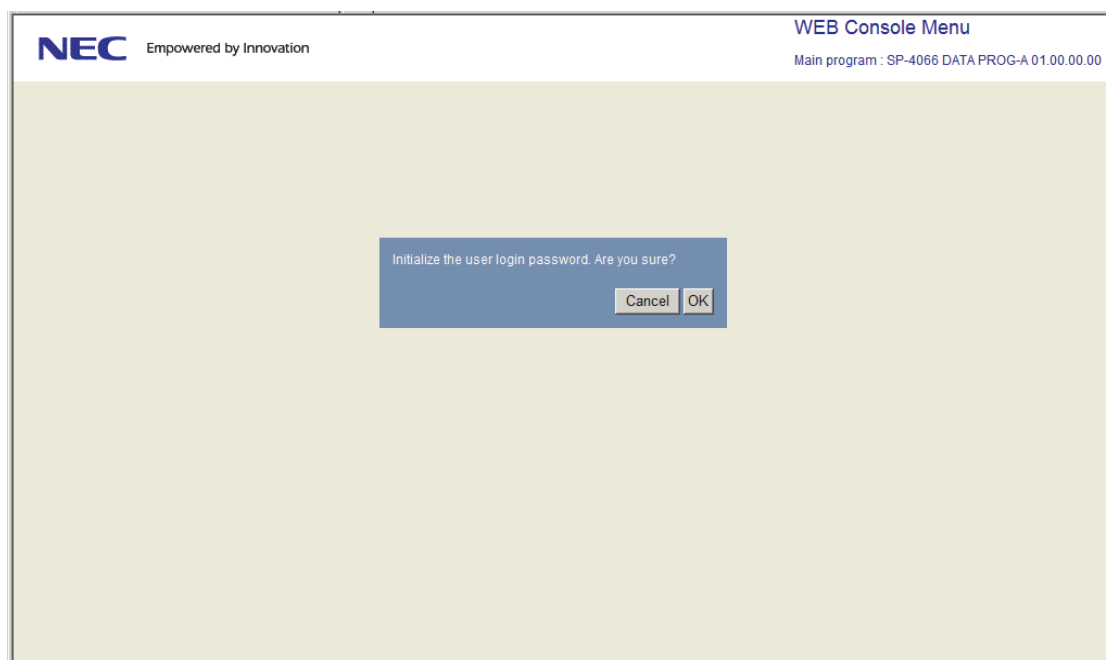
Username and Password (Password Initialization Login)

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.

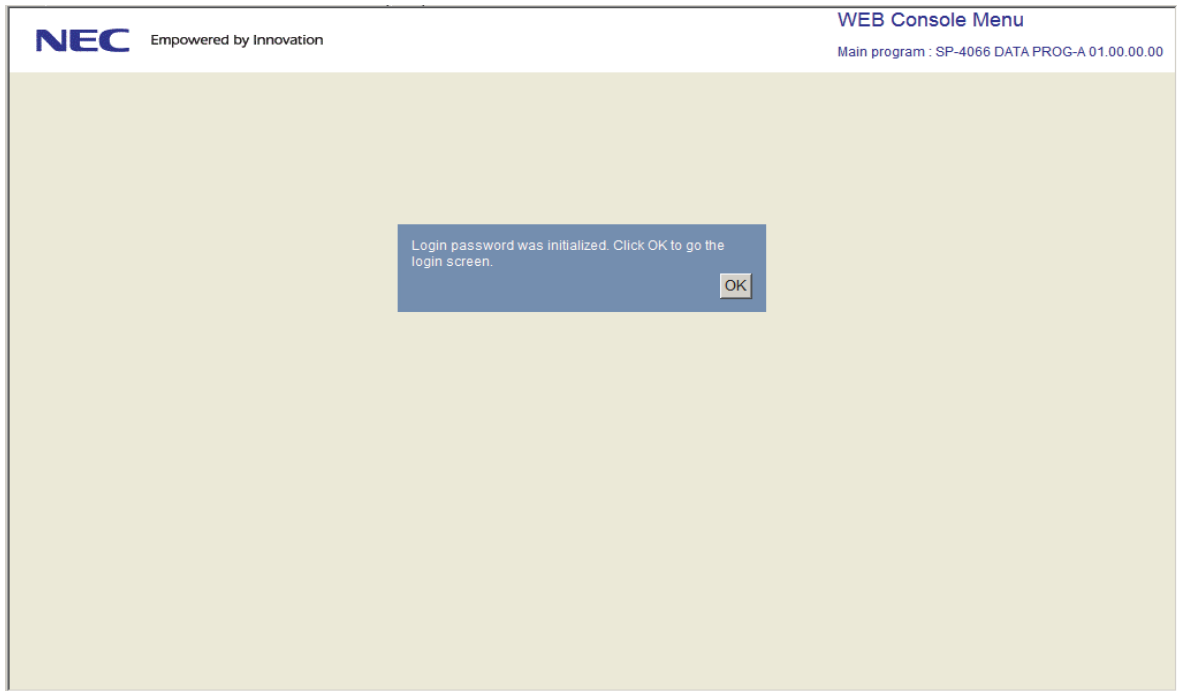
Note: If you click the [Cancel] button, the [Login] screen is shown again.



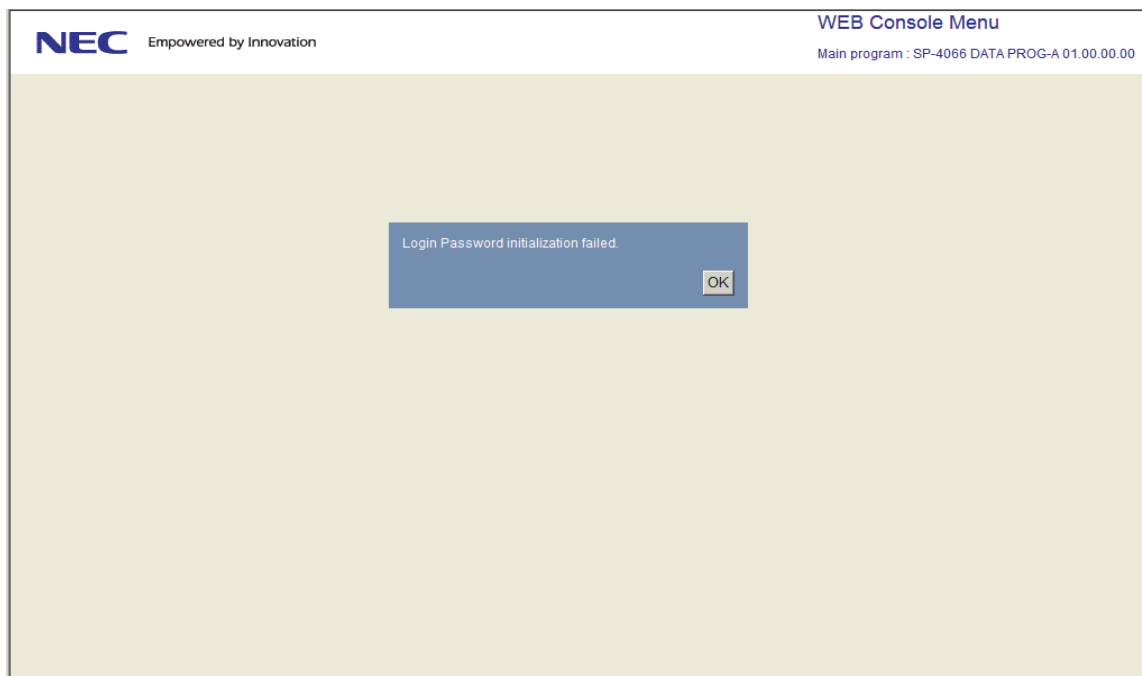
Step4: If the initialization is successfully completed, the screen below with the message [Login password was initialized. Click OK to go the login screen] will be displayed. If there is an error during the process, the screen with the message [Login Password initialization failed]

will be displayed. By clicking the [OK] button, the [Login] screen is displayed.

[Initialization Successfully Completed Screen]



[Initialization Failed Screen]



6. 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.

7. 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.

The screenshot shows the NEC WEB Console interface. On the left, there is a menu with 'Wave File Upload' and 'Change Login Password' (highlighted with a red box). Below the menu is a 'Logout' button. The main area is titled 'Change Login Password' and contains a form with three input fields: 'Old Password', 'New Password', and 'Confirm New Password'. An 'OK' button is located below the form. The top right corner displays 'WEB Console Menu' and 'Main program : SP-4066 DATA PROG-A 01.00.00.00'.

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 login password the message [Login Password was changed] is displayed.

- Note:** In case of unsuccessful password change, the message [Login Password change failed] is displayed. Start again from Step 1.

8. 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 3
Sound Source No XX was put to Make Busy.	Upload Note 3
Make Idle this Sound Source No. Are you sure?	Upload
Sound Source No XX is being put to Idle	Upload Note 3
Sound Source No XX was put to Idle.	Upload Note 3
Sound Source No XX is being put to Idle Failed! (Rec Status)	Upload Note 3
Illegal Parameter. (Wave File)	Upload
Upload this file. Are you sure?	Upload
Sound Source No XX Wave File Uploading ...	Upload Note 3
Sound Source No XX Wave File Upload OK.	Upload Note 3
Sound Source No XX Wave File Upload Failed!	Upload Note 3
Sound Source No XX Wave File Checking ...	Upload Note 3
Sound Source No XX Wave File Check OK.	Upload Note 3

Message	Function
Sound Source No XX Wave File Check Failed!	Upload Note 3
Sound Source No XX Wave File Check Failed! (RIFF Format)	Upload Note 3
Sound Source No XX Wave File Check Failed! (Format ID)	Upload Note 3
Sound Source No XX Wave File Check Failed! (Format Size)	Upload Note 3
Sound Source No XX Wave File Check Failed! (Codec)	Upload Note 3
Sound Source No XX Wave File Check Failed! (Channel)	Upload Note 3
Sound Source No XX Wave File Check Failed! (Rate)	Upload Note 3
Sound Source No XX Wave File Check Failed! (Byte Per Sec)	Upload Note 3
Sound Source No XX Wave File Check Failed! (Byte Per Block)	Upload Note 3
Sound Source No XX Wave File Check Failed! (Byte Per Sample)	Upload Note 3
Sound Source No XX Wave File Check Failed! (Extra Information)	Upload Note 3
Sound Source No XX Channel Status Checking ...	Upload Note 3
Sound Source No XX Channel Status Check OK.	Upload Note 3
Sound Source No XX Channel Status Check Failed! (Rec Status)	Upload Note 3
Sound Source No XX Channel Status Check Failed! (Used)	Upload Note 3
Sound Source No XX Channel Status Check Failed! (Make Busy Off)	Upload Note 3
Sound Source No XX Recording Memory Writing ...	Upload Note 3
Sound Source No XX Recording Memory Writing OK.	Upload Note 3
Sound Source No XX Recording Memory Writing Failed!	Upload Note 3
Sound Source No XX Recording Memory Writing Failed! (Rec Status)	Upload Note 3
Sound Source No XX Wave File Upload Complete.	Upload Note 3
Sound Source No XX Aborting ...	Upload Note 3
Sound Source No XX Aborted.	Upload Note 3
Exception!!	Upload

Note 3: XX represents the selected sound source number.

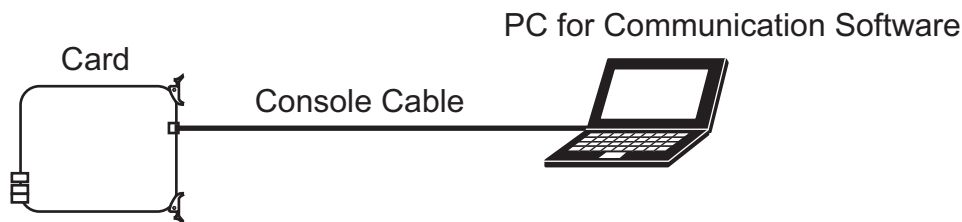
Firmware Download

- 1. Overview
- 2. Operating Procedure
- 3. Service Conditions
- 4. Data Assignment

1. Overview

Firmware to control cards accommodated in 7U-PIR is available after downloading and installing the files on the target card. Download requires Console Cable (RJ-45 to RS-232C serial cable (optional accessory)) connecting your PC to the serial connector located on the front of the card and the used communication software must be VT-100 compliant.

Note: For Windows computers, HyperTerminal was bundled with Windows 95 to Windows XP. This section explains the procedure for setting data by using HyperTerminal as an example. For Windows Vista or later operating systems, prepare VT-100 compliant terminal software.



For the DAT card, see [Firmware Download \(DAT\)](#).

For the IPPAD card, see [Firmware Download \(IPPAD\)](#).

2. Operating Procedure

None

3. Service Conditions

<Important Notices>

- (1) Switching of the MB switch is required.
- (2) Note the following when a firmware download is executed with a serial console:

If the extension of a download file shows “.bin” on the display requesting a download file transfer, ensure that the transfer settings of communication software are set to “Binary” before executing the transfer. Otherwise an error will occur.

- (3) If a firmware download fails in the middle of the process, make sure to download again. A card will not start unless downloading is completed.

<Interactions with Other Features>

None

<Hardware/Software>

- (1) Conditions for VT-100 compliant communication software are listed below:

Speed	38400 bps
Data length	8 bit
Parity bit	None
Stop bit	2 bit
Flow control	None

<Interactions with Networks>

None

<Conditions Specific to This Feature>

- (1) Transfer a download-list file first, then transfer a download file according to this list file.
- (2) Download status can be checked with the lamp status of the card in real time.

X: Steady ON S: Flashing (SLOW) F: Flashing (FAST) -: Off C: Line Controlled

Download Status	Lamp Status	
	OPE	LOAD
BOOT program starting	-	X
Displaying BOOT menu	-	-
Executing download/Download data transfer waiting	-	S
Transferring download file data/Writing firmware program	-	X
Received data check error/writing failure	-	F
Main program initialization starting	-	X
Operation Status	X	C

<Other Conditions>

None

4. Data Assignment

STEP 1 Connect Console Cable to the serial connector located on the front of the card.

STEP 2 Start up a maintenance program using VT-100 compliant communication software such as Hyper Terminal.

STEP 3 Set the MB switch to off to start the card.

BOOT Program Start.

STEP 4 Press the ESC key within 3 seconds after setting the MB switch to OFF. Select **1: Download start.**

```

BOOT Program Start..

Please select boot menu.
  1 : Download start
  q : Quit boot menu
>1

Selected boot menu is 1. OK? (y/n):y

Please transfer a download list file.
READY

Serial transfer start.
*****

Serial transfer end.

Receive data checking...
Receive data OK.

Please transfer a "SP****.hex" file.
READY

Serial transfer start.
*****

Serial transfer end.

Receive data checking...
Receive data OK.
```

‘.’ is added to the end of the message every second.

Enter ‘1’ to start downloading when the BOOT menu appears.

Enter ‘y’ when a confirmation message appears.

Transfer a download-list file using the communication software while ‘READY’ is displayed.

Job execution status is displayed.

A download-file transfer will be requested according to the download-list file. Transfer the requested download file using the communication software while ‘READY’ is displayed.

Job execution status is displayed.

```
Flash ROM write start.
Flash ROM write end.

Please wait...

Please transfer a "PB_TONE_DATA.bin" file.

READY

Serial transfer start.
*****
Serial transfer end.

Download end.

Please select boot menu.
  1 : Download start
  q : Quit boot menu
>q

Firmware Program Start.
```

The next download file is requested.
Transfer a download-list file using the communication software while 'READY' is displayed.

Note: If the extension of the requested file is ".bin", make sure to change the transfer settings of the communication software to "Binary".

Job execution status is displayed.

A message appears when all files listed in the download-list file have been downloaded, or when the ESC key is pressed to cancel the download.

Enter 'q' to quit the BOOT menu.

The main program starts.

STEP 5 Unplug the Console Cable and set the MB switch to ON.

Firmware Download (DAT)

- 1. Overview
- 2. Operating Procedure
- 3. Service Conditions
- 4. Data Assignment
- 5. Error Code

1. Overview

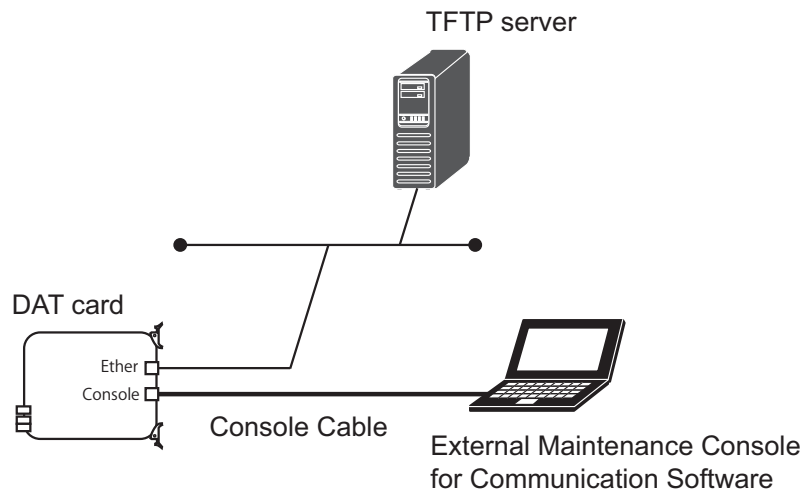
Firmware to control a DAT card accommodated in 7U-PIR is available after downloading and installing the files on the card.

Download requires a Console Cable (RJ-45 to RS-232C serial cable (optional accessory)) connecting an external maintenance terminal (PC) to DAT card. The download files are obtained from the TFTP server through VT-100 compliant communication software such as Hyper Terminal running on a serial console.

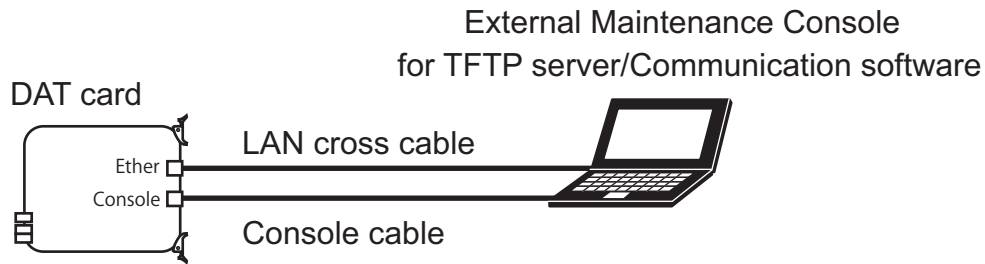
Note: For Windows computers, HyperTerminal was bundled with Windows 95 to Windows XP. This section explains the procedure for setting data by using HyperTerminal as an example. For Windows Vista or later operating systems, prepare VT-100 compliant terminal software.

To connect a DAT card and an external maintenance terminal, you can use either of the following methods:

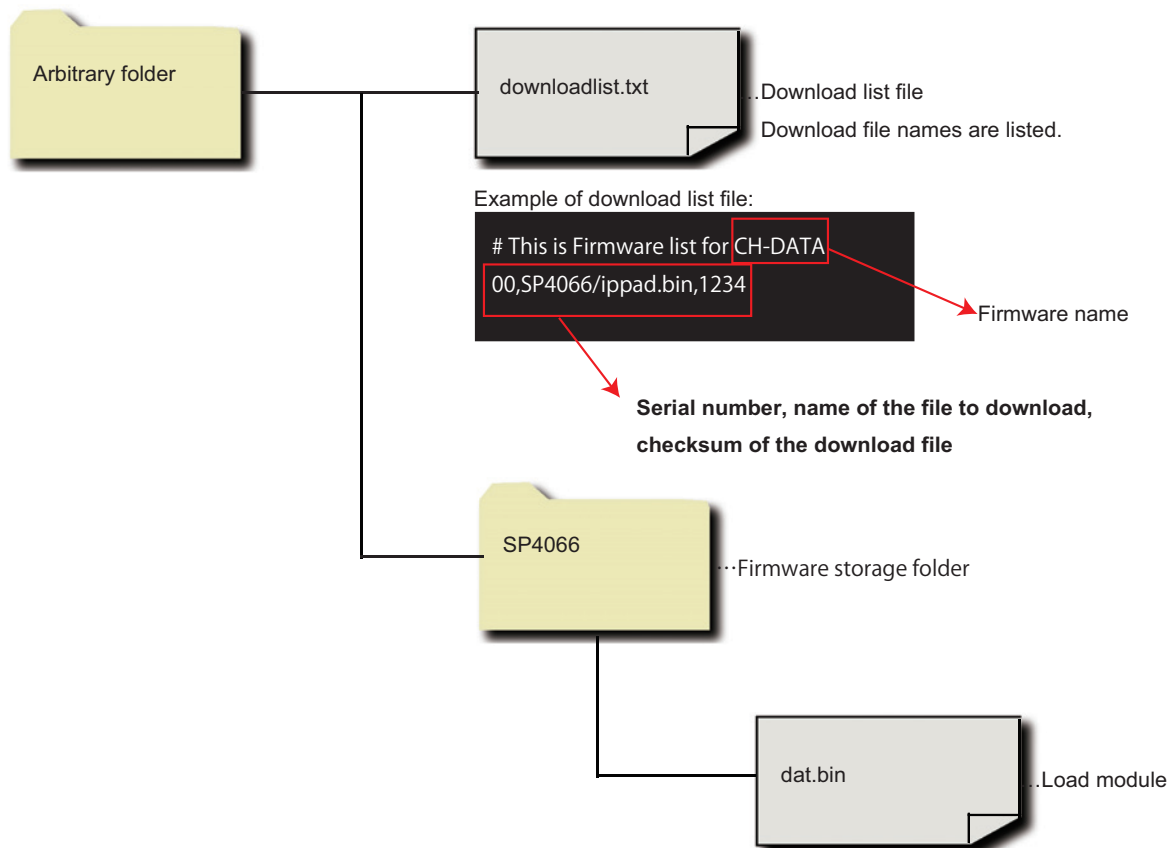
- (a) Connect the ETHERNET connector located on the front of the DAT card and a TFTP server in the same network.



- (b) Use one device (PC) as both an external maintenance terminal and a TFTP server.



Below is a configuration diagram of the download list file and the load module file to be stored on the TFTP server. SP-4066 is used as an example.



2. Operating Procedure

None

3. Service Conditions

<Important Notices>

- (1) If a serial console is available for use, downloading is possible while either the OPE lamp is steady ON or OFF.

Note: If downloading is executed while a channel status is busy with the OPE lamp steady ON, it may affect a call processing or the state of an active call.

- (2) Downloading while playing or recording can affect the system operations. Set all the circuits to make busy before starting the download.

Note: A channel used as External Music-On-Hold cannot be set to make busy. To avoid any effect to the system operations when downloading, set in advance the card to not use External Music-On-Hold.

- (3) When using the download command, the IP address can be momentarily changed. In that case, even if it is not possible to use Ether with the software switches, downloading is possible. Also, if the switch settings for IP address, subnet mask or default gateway are momentarily changed, it is not possible to access to the IP address set with the software switches, but since the session is not disconnected, after the downloading is finished, the connection will be possible again.
- (4) Downloading firmware for a DAT card is only supported in a physical LAN. This download is not possible over a VLAN. If your system uses a VLAN configured with software switches, temporarily use an IP address of a physical LAN in the download command.

<Interactions with Other Features>

None

<Hardware/Software>

- (1) Conditions for VT-100 compliant communication software are listed below:

Speed	38400 bps
Data length	8 bit
Parity bit	None
Stop bit	2 bit
Flow control	None

<Interactions with Networks>

Assign the same network address to the TFTP server and the DAT card.

<Conditions Specific to This Feature>

- (1) Transfer a download-list file first, then transfer a download file according to this list file.
- (2) Download status can be checked with the lamp status of the card in real time

LOAD Lamp State	DESCRIPTION
Light	Program downloading • Downloaded program is being transferred • Checksum is being performed • SPI-Flash ROM is being written
Flash (60 IPM)	Waiting for the program download
Flash (120 IPM)	The program download is failed • There is no TFTP file • There is no downloading file • There is a checksum error • A reason other than above (writing failed, etc) The program was interrupted because of an order of the user
OFF	The program download is completed

<Other Conditions>

None

4. Data Assignment

STEP 1 If the OPE lamp is steady ON, use parameters “RT” and “TK” of the MBTK or MBTC commands to specify Line Equipment Numbers (LENS) to set the MB=1 (Make-busy setting).

Note: Confirm that the Busy lamp is flashing (FAST) before executing the download command after Make-busy settings have been configured.

Note: A channel used as External Music-On-Hold cannot be set to make busy. To avoid any effect to the system operations when downloading, set in advance the card to not use External Music-On-Hold.

STEP 2 Store the download list file and load module file in a folder of your choice on the TFTP server.

STEP 3 Start up the software of the TFTP server. Specify the destination path of the folder of your choice which stores the download list file and load module file.

STEP 4 Connect a Console Cable to the serial connector located on the front of the card, and start up VT-100 compliant communication software such as Hyper Terminal.

STEP 5 Execute the download command with a serial console.

```
>download
```

Enter “download” on configuration mode.

```
2014/09/01 23:22:33
```

Current time is displayed.

```
--- Main Program Download mode ---
```

```
<< Current Version >>
```

Firmware version prior to downloading is displayed.

```
-----+-----
Firmware Information      | Issue
-----+-----
SP-4066 DATA PROG-A     | 01.00.00.00
SP-4046 IPDBOOT PROG-A   | 03.00.00.00
-----+-----
```

```
<< Current Status >>
```

A message with the contents of the [show status] command is displayed only when the channel status is idle or busy.

```
|---+---+---+---+---+---+---+---+---+
|  |  0|  1|  2|  3|  4|  5|  6|  7|
|---+---+---+---+---+---+---+---+---+
| 0 | MB | MB | MB | MB | MB | MB | MB | I |
|---+---+---+---+---+---+---+---+---+
```

Note: If downloading is executed while a channel status is busy with the OPE lamp steady ON, it may affect the recording or playing.

```
Idle/Busy status exit
```

Enter “y” to continue downloading, “n” to cancel.

```
Do you want to continue procession ? [y(yes) / n(no) ]
: y
```

```
--- << Current Setting >> ---
```

```
Current own IP address      : 192.168.10.1
Current own Subnet mask    : 255.255.0.0
Current Default gateway address: 192.168.10.254
Current TFTP server IP address : 192.168.10.250
```

Current IP address, subnet mask, default gateway and TFTP server IP address are displayed.

```
--- Own IP address ---
```

```
Current own IP address: 192.168.10.1
Change own IP address ? [Y/y] (Change) / [N/n] (Current)
/ [Q/q] (Quit) ] : n
```

IP address of DAT is displayed. Enter “y” to change the IP address or “n” to not change. To quit downloading, enter “q”.

```
--- Own Subnet mask ---
```

```
Current own Subnet mask: 255.255.255.0
Change own Subnet mask ? [Y/y] (Change) / [N/
n] (Current) / [Q/q] (Quit) ] : n
```

Subnet mask is displayed. Enter “y” to change the mask or “n” to not change. To quit downloading, enter “q”.

```
--- Default gateway IP address set ---
```

```
Current Default gateway IP address: 192.168.10.254
Change Default gateway IP address ? [Y/y] (Change) /
[N/n] (Current) / [Q/q] (Quit) ] : n
```

IP address of default gateway is displayed. Enter “y” to change the IP address or “n” to not change. To quit downloading, enter “q”.

```
--- TFTP server IP address set ---
```

```
Current TFTP server IP address: 192.168.10.250
Change TFTP server IP address ? [Y/y] (Change) / [N/
n] (Current) / [Q/q] (Quit) ] : y
```

IP address of TFTP server is displayed. Enter “y” to change the IP address or “n” to not change. To quit downloading, enter “q”.

```
If you want to return to the previous step, Please
input “Q”.
```

```
Input new IP address: 192.168.10.100
```

Change IP address complete.

--- << Result Setting >> ---

New own IP address : 192.168.10.1
New own Subnet mask : 255.255.255.0
New Default gateway IP address : 192.168.10.254
New TFTP server IP address : 192.168.10.100

Are these IP address correct ? [Y/y] (Correct) / [N/n] (Modify) / [Q/q] (Quit)] : y

--- Program download ---

List file is 'downloadlist.txt'.
>>> List file download.
Download start...

Download was completed.

Main program file is 'SP4066/dat.bin'.
>>> Main program file download.
Download start...

Download was completed.

>>> Checksum create.
Checksum check...

Checksum OK!

New IP address, subnet mask, default gateway and TFTP server IP address are displayed.

Note: Even if there is not any change the data is displayed.

If the displayed data is correct, enter "y".

If not correct, enter "n" to change. To quit downloading, enter "q".

Transfer the list file.

If the transfer is successful, "Download was completed" is displayed.

Transfer the file.

If the transfer is successful, "Download was completed" is displayed.

If the load module checksum is the same as the one listed on the download list file, "Checksum OK!" is displayed.

```
<< Current Version >>
```

```
-----+-----  
Firmware Information | Issue  
-----+-----  
SP-4066 DATA PROG-A | 01.00.00.00  
SP-4046 IPDBOOT PROG-A | 03.00.00.00  
-----+-----
```

Firmware version numbers before downloading are displayed.

```
<< Next Version >>
```

```
-----+-----  
Firmware Information | Issue  
-----+-----  
SP-4066 DATA PROG-A | 02.00.00.00  
SP-4046 IPDBOOT PROG-A | 03.00.00.00  
-----+-----
```

Downloaded firmware version numbers are displayed.

```
Do you want to save Download data ? [Y/y] (Continues) /  
[Q/q] (Quit) ] : y
```

Enter “y” to save the downloaded load module file to SERIAL FLASH ROM.
Enter “q” to quit.

```
*****  
FlashROM access start. Don't turn off the power!  
*****
```

Saving to SERIAL FLASH ROM starts.

```

--- Flash ROM save start ---

Erase start
  0      20      40      60      80      100[%]
+-----+-----+-----+-----+-----+-----+
.....
Erase OK!

Blank check start
  0      20      40      60      80      100[%]
+-----+-----+-----+-----+-----+-----+
.....
Blank check OK!

Write start
  0      20      40      60      80      100[%]
+-----+-----+-----+-----+-----+-----+
.....
Write OK!

Verify check
  0      20      40      60      80      100[%]
+-----+-----+-----+-----+-----+-----+
.....
Verify OK!
Checksum OK!
Program write OK!

>>> Program download completed.

*****
FlashROM access end.
*****

+-----+
| DAT card must be reinitialized          |
| (MB key UP-DOWN or by using "reboot" command). |
+-----+

>

```

Execution status is displayed.

A dot “.” is added to the end of a message as the execution proceeds.

If the download is successfully completed, the message “Program download completed” is displayed.

If all load module files listed on the download list file are saved, the following message is displayed; “DAT card must be reinitialized (MB switch UP-DOWN or by using “reboot” command)”.

To restart the card, use the MB switch (SW00) or enter the “reboot” command on configuration mode.

- STEP 6 If the downloading is successful, switch the MB switch to OFF-ON-OFF or execute the reboot command with a serial console to restart the card.
- STEP 7 If MB=1(Make-busy setting) has been set in Step1, after rebooting the card, while the OPE lamp is lit, release MB=1 by setting MB=0 to the specified LENS with the “RT” and “TK” parameters of the MBTK or MBTC command.

5. Error Code

The table below shows error codes, error descriptions and procedures to follow in such cases.

Error Code	Error Description	Procedure
0x4b0007	The DAT card and the TFTP server are not connected.	Connect the DAT card and the TFTP server correctly.
	The DAT card and the TFTP server IP address segments are different.	Assign the same segment to the DAT card and the TFTP server.
	The IP address of the TFTP server does not exist.	Set the IP address of the TFTP server correctly.
	The TFTP server is not in operation status.	Set the TFTP server to operation status.
0x4b0008	Requested file to download is not on the TFTP server.	Check the name of the download file and the TFTP server settings.
	Directory setting of requested download file has not been configured correctly	

Follow the procedures below if error codes not listed above are displayed in the event of a download failure.

Error Code	Error Description	Procedure
Checksum unmatched! Check sum of Filename is 12345. Not 66666.	Checksum error	Confirm the checksum of the download list file on the TFTP server.
Erase NG!	SPI-FlashROM erase error	Redownload.
Blankcheck NG! (malloc ng)	Securing buffer for SPI-FlashROM blankcheck fails	If the same error persists after redownloading, restart the card and download again.
Blankcheck NG!	SPI-FlashROM blankcheck error	
Write NG! (Busy)	SPI-FlashROM write time-out	Redownload approx. 1 minute later when SPI-FlashROM is not busy. If the same error persists, restart the card and download again.
Write NG!	SPI-FlashROM write error	Redownload.
Verify NG! (malloc ng)	Securing buffer for SPI-FlashROM verifying	If the same error persists after redownloading, restart the card and download again.
Verify NG!	SPI-FlashROM verify error	

Firmware Download (IPPAD)

- 1. Overview
- 2. Operating Procedure
- 3. Service Conditions
- 4. Data Assignment
- 5. Error Code

1. Overview

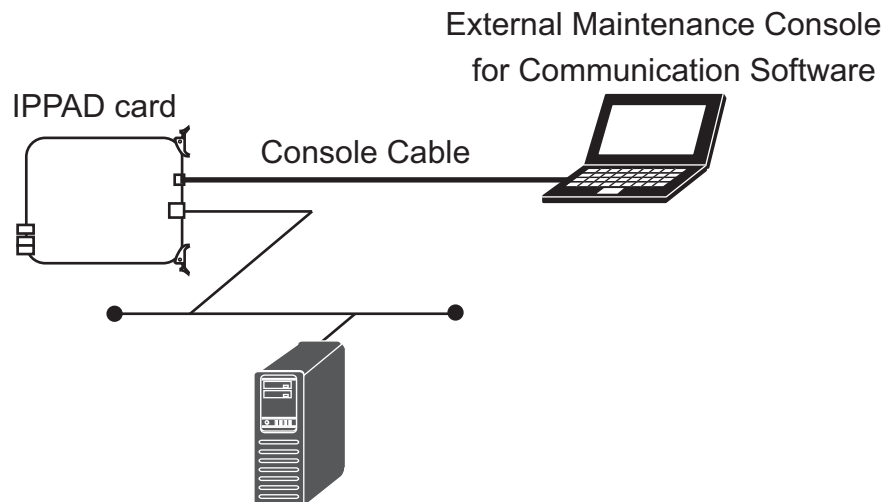
Firmware to control IPPAD card accommodated in 7U-PIR is available after downloading and installing the files on the target card.

Download requires Console Cable (RJ-45 to RS-232C serial cable (optional accessory)) connecting an external maintenance terminal (PC) to IPPAD card. The download files are obtained from the TFTP server through VT-100 compliant communication software such as Hyper Terminal running on a serial console.

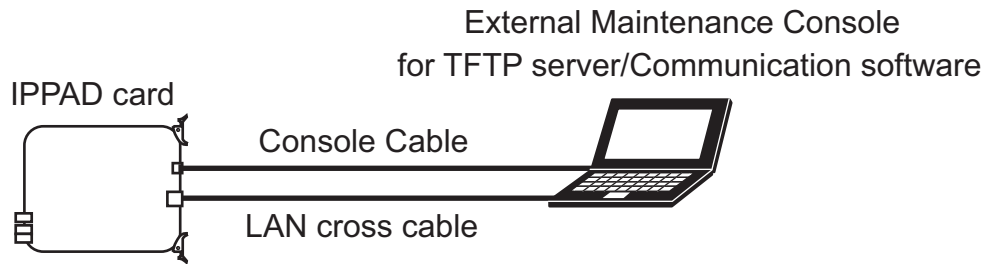
Note: For Windows computers, HyperTerminal was bundled with Windows 95 to Windows XP. This section explains the procedure for setting data by using HyperTerminal as an example. For Windows Vista or later operating systems, prepare VT-100 compliant terminal software.

To connect IPPAD card and an external maintenance terminal, you can use either of the following methods:

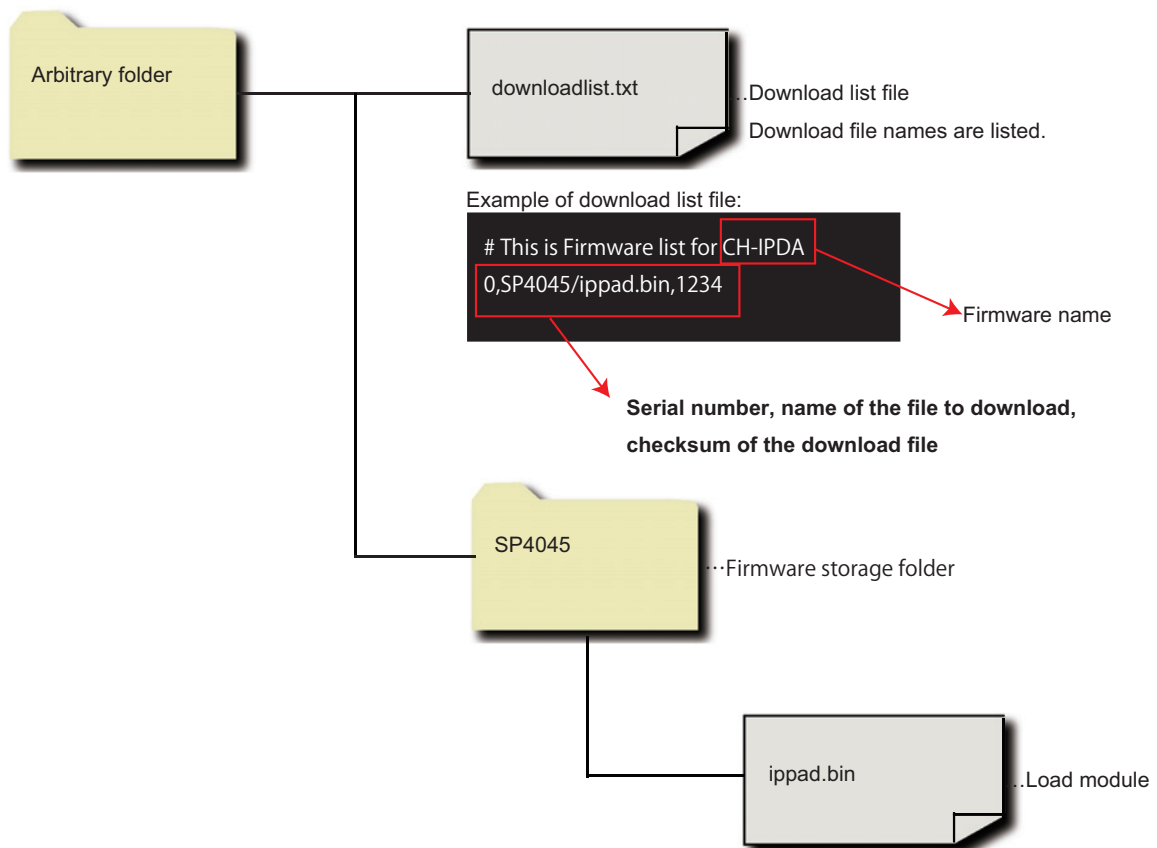
- (a) Connect the ETHERNET connector located on the front of the IPPAD card and the TFTP server in the same network.



- (b) Use both an external maintenance terminal (PC) and the TFTP server.



Below is a configuration diagram of download list file and load module file to be stored on the TFTP server. SP-4045 is used as an example.



2. Operating Procedure

None

3. Service Conditions

<Important Notices>

- (1) If a serial console is available for use, downloading is possible while either the OPE lamp is steady ON or OFF.

Note: If downloading is executed while a channel status is busy with the OPE lamp steady ON, it may affect a call processing or a state of active call.

<Interactions with Other Features>

None

<Hardware/Software>

- (1) Conditions for VT-100 compliant communication software are listed below:

Speed	38400 bps
Data length	8 bit
Parity bit	None
Stop bit	2 bit
Flow control	None

<Interactions with Networks>

Assign the same network address to TFTP server as the IPPAD card.

<Conditions Specific to This Feature>

- (1) Transfer a download-list file first, then transfer a download file according to this list file.
- (2) Download status can be checked with the lamp status of a card in real time
 - Office data of the IPPAD card is not registered

X: Steady ON S: Flashing (SLOW) F: Flashing (FAST) -: Off C: Line Controlled

Download Status	Lamp Status	
	OPE	LOAD
Download command is executed. Maintenance personnel is entering necessary information for TFTP.	-	S
Download command is halted by the direction of a maintenance personnel	-	-
Transferring download data/ Verification of reception data checksum in process	-	X
Transferring download data failed/Reception data checksum error	-	F
Waiting for a permission to write a firmware program after a download data transfer is completed.	-	S

X: Steady ON S: Flashing (SLOW) F: Flashing (FAST) -: Off C: Line Controlled

Download Status	Lamp Status	
	OPE	LOAD
Download command is halted by the direction of a maintenance personnel after a download transfer is completed.	-	-
Firmware program write is in process (write to SPI-Flash ROM in process)	-	X
Firmware program write failed (write to SPI-FlashROM fails)	-	F
Firmware program write is completed successfully (write to SPI-FlashROM succeeds)	-	-

- Office data of the IPPAD card is registered

X: Steady ON S: Flashing (SLOW) F: Flashing (FAST) -: Off C: Line Controlled

Download Status	Lamp Status	
	OPE	LOAD
Download command is executed.	X	C
A maintenance personnel is entering necessary information for TFTP.	X	S
Download command is halted by the direction of a maintenance personnel.	X	-
Transferring download data/Verification of reception data checksum in process	X	X
Transferring download data failed/Reception data checksum error	X	F
Waiting for a permission to write a firmware program after a download data transfer is completed.	X	S
Download command is halted by the direction of a maintenance personnel after a download transfer is completed.	X	-
Firmware program write is in process (SPI-Flash ROM write in process)	X	X
Firmware program write failed (SPI-FlashROM)	X	F
Firmware program write is completed successfully (write to SPI-FlashROM succeeds).	X	-
Initialization starts (with the MB switch or execute the reboot command)	-	-/X
Operation status	X	C

<Other Conditions>

None

4. Data Assignment

STEP 1 If the OPE lamp is steady ON, use parameters “C_RT” and “C_TK” of the MBCT/MBCTC commands to specify Line Equipment Numbers (LENS) to set the MB=1 (Make-busy setting).

Note: Confirm that the Busy lamp is flashing (FAST) before executing the download command after Make-busy settings have been configured.

STEP 2 Store the download list file and load module file in an arbitrary folder on TFTP server.

- STEP 3 Start up the software of TFTP server. Specify the destination path of the arbitrary folder which stores the download list file and load module file.
- STEP 4 Connect Console Cable to the serial connector located on the front of the card, and start up VT-100 compliant communication software such as Hyper Terminal.
- STEP 5 Execute the download command with a serial console.

```
>download
```

Enter “download” on configuration mode.

```
--- Main Program Download mode ---
```

```
<< Current Version >>
```

Firmware version prior to downloading is displayed.

```
-----+-----
Firmware Information | Issue
-----+-----
SP-4045 IPDA PROG-A | 01.00.00.00
SP-4046 IPDBOOT PROG-A | 01.00.00.00
-----+-----
```

```
<< Current Status >>
```

A message is displayed only when the channel status is idle or busy.

```
|---+---+---+---+---+---+---+---+---+
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---+---+---+---+---+---+---+---+---+
| 0 | I | MB | MB | MB | MB | MB | MB | MB |
| 1 | MB | MB | MB | MB | MB | MB | MB | MB |
| 2 | MB | MB | MB | MB | MB | MB | MB | MB |
| 3 | MB | MB | MB | MB | MB | MB | MB | MB |
|---+---+---+---+---+---+---+---+---+
```

Note: If downloading is executed while a channel status is busy with the OPE lamp steady ON, it may affect a call processing and a status of active call.

```
Idle/Busy status exit
```

Enter “y” to continue downloading, “n” to cancel.

```
Do you want to continue proccession ? [y(yes) / n(no) ]
: y
```

```
--- Own IP address ---
```

```
Current own IP address: 10.41.1.11
```

IP address of IPPAD is displayed. Enter “y” to change the IP address, “n” to not change. To quit downloading, enter “q”.

```
Change own IP address ? [Y/y] (Change) / [N/n] (Current)
/ [Q/q] (Quit) ] : n
```

```
--- TFTP server IP address set ---
```

```
Current TFTP server IP address: 10.41.1.250
```

```
Change own IP address ? [Y/y] (Change) / [N/n] (Current)  
/ [Q/q] (Quit) ] : n
```

```
Change IP address complete.
```

```
New own IP address      : 10.41.1.11
```

```
New TFTP server IP address : 10.41.1.250
```

```
Are these IP address correct ? [Y/y] (Correct) / [N/  
n] (Modify) / [Q/q] (Quit) ] : y
```

```
--- Program download ---
```

```
List file is 'downloadlist.txt'.
```

```
>>> List file download.
```

```
Download start...
```

```
Download was completed.
```

```
Main program file is 'SP4045/ippad.bin'.
```

```
>>> Main program file download.
```

```
Download start...
```

```
Download was completed.
```

```
Checksum check...
```

```
>>> Checksum OK!
```

IP address of TFTP server is displayed. Enter “y” to change the IP address, “n” to not change. To quit downloading, enter “q”.

IP addresses of IPPAD and TFTP server are displayed.

If displayed IP addresses are correct, enter “y”.
If not correct, enter “n” to change. To quit downloading, enter “q”.

Downloading starts.

Transfer the download list file.
If the transfer is successful, “Download was completed” is displayed.

Transfer the load module file.
If the transfer is successful, “Download was completed” is displayed.

If the load module checksum is same as the one listed on the download list file, “Checksum OK!” is displayed.

```
<< Current Version >>
```

```
-----+-----
Firmware Information | Issue
-----+-----

SP-4045 IPDA PROG-A   | 01.00.00.00
SP-4046 IPDBOOT PROG-A | 01.00.00.00
-----+-----
```

```
<< Next Version >>
```

```
-----+-----
Firmware Information | Issue
-----+-----

SP-4045 IPDA PROG-A   | 02.00.00.00
SP-4046 IPDBOOT PROG-A | 01.00.00.00
-----+-----
```

```
Do you want to save Download data ? [Y/y] (Continues) /
[Q/q] (Quit) ] : y
```

```
--- Flash ROM save start ---
```

```
Erase start.....
Erase OK!
Blankcheck start.....
Blankcheck OK!
Write start.....
Write OK!
Verify check.....
Verify OK!
Program write OK!
```

```
>>> Program download completed.
```

Firmware version numbers before downloading are displayed.

Downloaded firmware version numbers are displayed.

Enter “y” to save the downloaded load module file to SERIAL FLASH ROM.
Enter “q” to not save.

Saving to SERIAL FLASH ROM starts.
Execution status is displayed.

A dot “.” is added to the end of a message at a time as processing proceeds.

If all load module files listed on the download list file are saved, a following message is displayed; “IPPAD card must be reinitialized (MB switch UP-DOWN or by using “reboot” command)”.

```
+-----  
-----|  
| IPPAD card must be reinitialized (MB key UP-DOWN or  
by using "reboot"command).  |  
+-----  
-----|  
  
>
```

To restart the card, use the MB switch (SW00) or enter the "reboot" command on configuration mode.

- STEP 6 If downloading is successful, switch the MB switch to OFF-ON-OFF or execute the reboot command with a serial console to restart the card.
- STEP 7 If MB=1(Make-busy setting) has been set in Step1, release MB=1 by setting MB=0 to the specified LENS with the MBCT or MBCT command.

5. Error Code

The table below shows error codes, error descriptions and procedures to follow in such cases.

Error Code	Error Description	Procedure
0x4b0007	IPPAD card and the TFTP server are not connected.	Connect the IPPAD card and the TFTP server correctly.
	IPPAD card and the TFTP server have different segments of IP address.	Assign the same segment to the IPPAD card and the TFTP server.
	IP address of the TFTP server does not exist.	Set the IP address of the TFTP server correctly.
	TFTP server is not in operation status.	Set the TFTP server to operation status.
0x4b0008	Requested file to download is not on the TFTP server.	Check the name of the download file and the TFTP server settings.
	Directory setting of requested download file has not been configured correctly	

Follow the procedures below if error codes not listed above are displayed in the event of a download failure.

Error Code	Error Description	Procedure
Checksum unmatched! Check sum of Filename is 12345. Not 66666.	Checksum error	Confirm the checksum of the download list file on the TFTP server.
Erase NG!	SPI-FlashROM erase error	Redownload.
Blankcheck NG! (malloc ng)	Securing buffer for SPI-FlashROM blankcheck fails	If the same error persists after redownloading, restart the card and download again.
Blankcheck NG!	SPI-FlashROM blankcheck error	
Write NG! (Busy)	SPI-FlashROM write time-out	Redownload approx. 1 minute later when SPI-FlashROM is not busy. If the same error persists, restart the card and download again.
Write NG!	SPI-FlashROM write error	Redownload.
Verify NG! (malloc ng)	Securing buffer for SPI-FlashROM verifying	If the same error persists after redownloading, restart the card and download again.
Verify NG!	SPI-FlashROM verify error	

7U-PIR Circuit Cards with PA Adapter

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