UNIVERGE SV9500

FP95-115 V5

Appliance Model Installation Manual

NWD-171894-001
ISSUE 7.0

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UNIVERGE SV9500
Appliance Model Installation Manual

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INTRODUCTION

1. General

This manual describes how to initially install and setup the SV9500 Appliance Model.

2. How to Follow This Manual

The contents of this manual are:

CHAPTER		DESCRIPTION
1	GENERAL	This chapter provides a function overview of SV9500.
2	INSTALLATION DESIGN	This chapter explains the installation design for preparing the required installation environment and materials.
3	SV9500 SERVER INSTALLATION - ASSEMBLING SV9500 SERVER MODULE	This chapter explains the procedures for installing the Telephony Server.
4	MODULES MOUNTING AND CONNECTION (7UPIR CONFIGURATION)	This chapter explains how to install each module in the system built up with 7UPIR only.
5	MODULES MOUNTING AND CONNECTION (7U-PIR AND 8U-PIR MIXED CONFIGURATION)	This chapter explains how to install each module in a system built up combining 7U-PIR and 8U-PIR.
6	SYSTEM STARTUP	This chapter describes how to start up the system.
7	INSTALLATION TEST	This chapter explains the installation test procedure.
8	FAULT RECOVERY DURING TESTS	This chapter explains the fault recovery procedures.
9	WORK AFTER INSTALLATION TEST	This chapter explains the sundry tasks and site cleaning.
APPENDIX A	SYSTEM DATA INSTALLED IN INITIAL STARTUP	This appendix lists the system data installed in initial startup.
APPENDIX B	MOUNTING PA ADAPTER	This appendix explains the procedures for mounting a PA Adapter.

3. Reference Manuals

If necessary, when installing and setup the SV9500 Appliance Model, refer to the following manuals in addition to this manual.

- Circuit Card Description
- Data Programming Manual
- Peripheral Equipment Description
- Operations and Maintenance Manual

4. Installation Procedures

Follow the procedures below for the installation and startup of the system.

Installation of Racks

START

1	Check for the position space (ground, etc.)	Site Surveying
2	Install the power equipment	Installing Power Equipment
3	Install the racks	Installing 19-Inch Rack
4	Install the Telephony Server	Installing the Telephony Server
5	Connect the cables (for DC-powered models)	Source Power Cable and Ground Cable Connection on BASEU
6	Connect the cables to the Telephony Server	Cable Connection to the Telephony Server

END

Installation of Modules in Only 7U-PIR Configuration

START

1 Check for the position space, parts inventory, etc. — Preparation

2 Install the Main Distribution Frame — Mounting MDF

3 Install the modules — Installing Modules

4 Connect the cables — Cable Connections

END

Installation of Modules in 7U-PIR and 8U-PIR Mixed Configuration

START

1 Check for the position space, parts inventory, etc. — Preparation

2 Install the Main Distribution Frame — Mounting MDF

3 Install the modules — Installing Modules

4 Connect the cables — Cable Connections

END

System Startup

START

1	Perform the initial program installing to CF card, IP address setting, etc.	Initial Startup
2	Assign data with PCPro to enable terminal use	Additional information on System Startup
3	Perform the power-on test to check the system can receive power supply and work normally	Power-ON Test
4	Perform a power ON/OFF on each of the system components	Power ON/OFF Procedure

END

CHAPTER 1
GENERAL

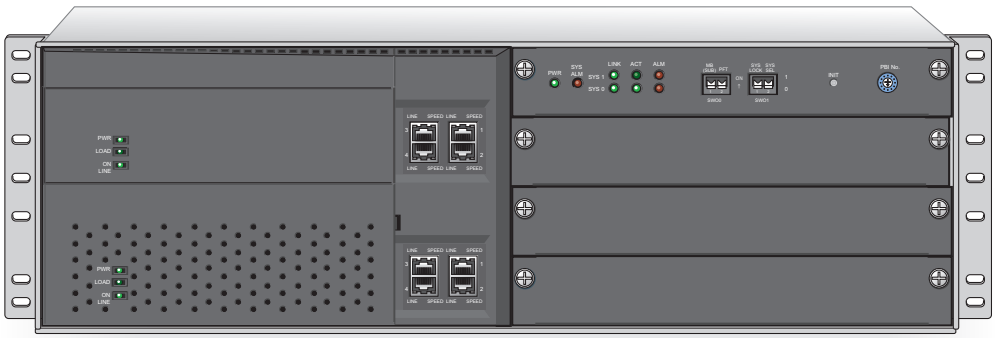
This chapter provides a function overview of SV9500.

1. WHAT IS SV9500?

1.1 General

SV9500 (hereinafter the Telephony Server) is a telephony server system compatible with next-generation networks to provide advanced services supporting both pure IP and full TDM-based connections.

Server Overview



Module Configuration of Each Model

	1-IMG Configuration		4-IMG Configuration Note 1 Note 5
	AC-Powered Model Note 2	DC-Powered model Note 2	DC-Powered Model
Telephony Server	SV9500 CPU (AC)	SV9500 CPU (DC)	
PIR	Max. 4 PIRs	Max. 4 PIRs (Power is supplied through BASEU. 1 BASEU is required per rack.)	Max. 16 PIRs (Power is supplied through BASEU. 1 BASEU is required per rack.)
TSW-BOX Note 3	Required when PIR is used. (Power is supplied through TSWPWR card mounted in Telephony Server.)		Required when 5 or more PIRs are mounted. Note 4 (Power is supplied through TSWPWR card mounted in Telephony Server.)
TSWR	-	-	Required when 5 or more PIRs are mounted/ (Power is supplied through BASEU.)
Power Supply Note 2	AC input	DC (-48V) input	

Note 1: AC-powered model is only available in 1-IMG configuration. This model does not support AC-powered model in 4-IMG configuration except in North America.

Note 2: AC power and DC power cannot coexist in a system.

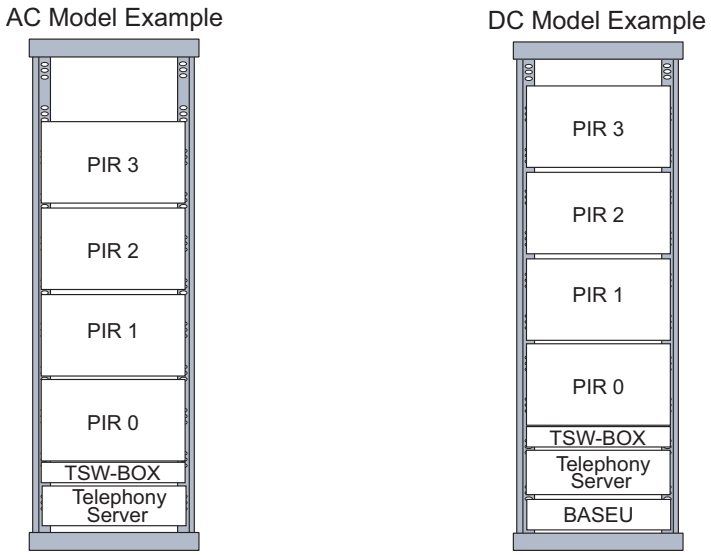
Note 3: There are two kinds of TSW cards: one for 1-IMG model (SPZ-SW25-A) and another for 4-IMG model (SPZ-SW26-A). Mount the appropriate TSW card to each model. For details, see Circuit Card Description.

Note 4: TSW card for 4-IMG mode (SPZ-SW26-A) is available since FP95-112 V2.

Note 5: TSW-BOX and TSWR cannot coexist in the same system.

For more details on the Telephony Server, see 2. Specifications. For more information about PIR, see 3. PIR Mounting. Combining peripheral equipment, the Telephony Server can handle various types of configuration. For details, see Peripheral Equipment Description.

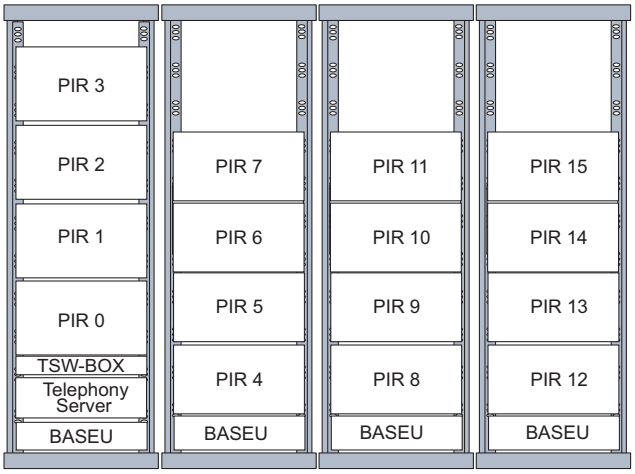
Example of Mounting Position on 19-inch Rack (1-IMG Configuration)



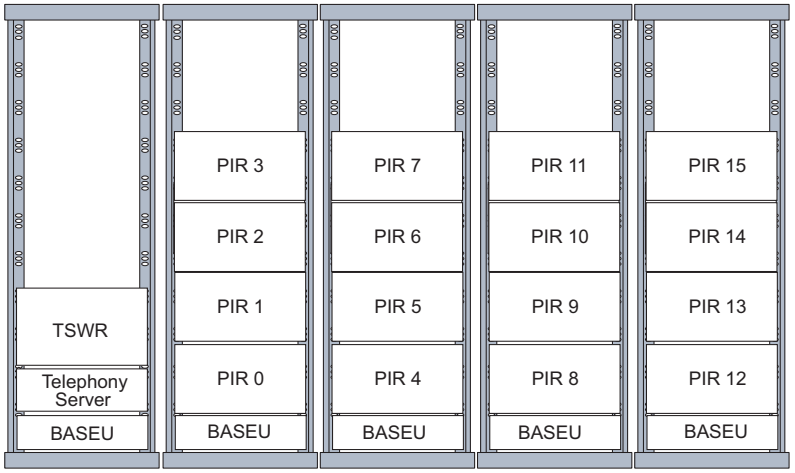
AC-Powered Model: TSW-BOX must be mounted right above the Telephony Server.
DC-Powered Model: TSW-BOX must be mounted right above the Telephony Server. BASEU must be mounted at the bottom of the rack.

Example of Mounting Position on 19-inch Rack (4-IMG Configuration)

Example of Mounting TSW-BOX



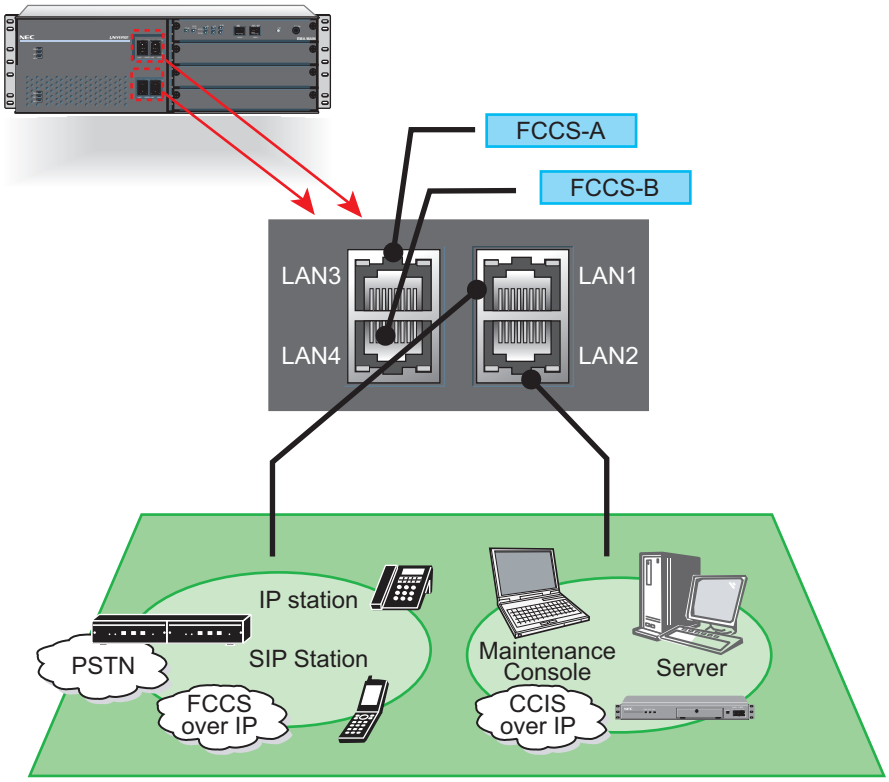
Example of Mounting TSWR



Install BASEU at the bottom of each rack.

1.2 Management by 4-LAN Port

This section explains the four LAN ports (LAN1-LAN4) located on the front panel of the Telephony Server. The Telephony Server employs these LAN ports to manage the whole system.
LAN1 mainly communicates with the devices/terminals for call controlling. They do not need to keep links with the Telephony Server when system changeover is performed in dual configuration system.
LAN2 mainly communicates with the devices for operation/administration and some for call controlling. They need to keep links with the Telephony Server when system changeover is performed in dual configuration system.
LAN3 and LAN4 provide FCCS network.



1.2.1 Usage of LAN Ports

The following shows the usage of each LAN port.

LAN Port	Maximum Transmission Speed	Features
LAN1	1Gbps	Communication with devices/terminals including IP station, VS32, MGs, Telephony Server Maintenance Menu/Establishment of FCCS over IP **Note 1**
LAN2	1Gbps	Communication with devices including PCPro (**Note 2**), OAI, SMDR, MIS, PMS, MCI, SNMP/Establishment of CCIS over IP **Note 1**
LAN3	100Mbps	Establishment of DTI-FCCS network (FCCS-A)
LAN4	100Mbps	Establishment of DTI-FCCS network (FCCS-B)

Note 1: Used LAN port for these features may be changed by ADTM command.

Note 2: Use LAN1 to make the connection with IPv6 addresses.

1.2.2 NIC Setting of LAN Ports

NIC of each LAN port can be set in the following options.

LAN Port	Transmission Speed	Duplex Mode
LAN1	Fixed 10Mbps/Fixed 100Mbps/Auto Negotiation (1Gbps Only)/Auto Negotiation (10Mbps/100Mbps/1Gbps)	Half-duplex/Full-duplex
LAN2	Fixed 10Mbps/Fixed 100Mbps/Auto Negotiation (1Gbps Only)/Auto Negotiation (10Mbps/100Mbps/1Gbps)	Half-duplex/Full-duplex
LAN3	Auto negotiation (fixed, cannot be changed)	-
LAN4	Auto negotiation (fixed, cannot be changed)	-

Note:

- NIC settings must correspond to each other between LAN port and connected device.
- Default setting of LAN1/LAN2 is Auto Negotiation (10Mbps-1Gbps).
- Selecting Auto Negotiation (1Gbps Only) makes full duplex fixed.

1.2.3 IP Address

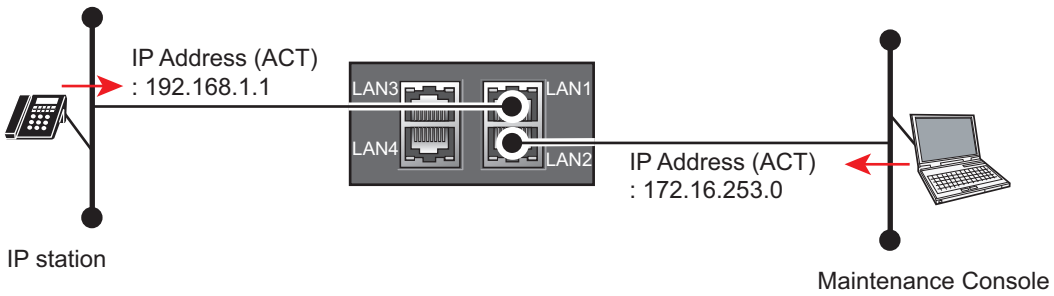
This section explains IP addresses of LAN ports. IP addresses required to be assigned depend on your configuration as follow.

- **When the Telephony Server is in Single Configuration**

  IP addresses (ACT) for LAN1, LAN2, and IP address2 (ACT) for LAN1 need to be assigned. **Note 1**

  Note 1: IP address2 (ACT) is used only when a SIP Handler Controlled SIP terminal is accommodated in the system. If the terminal is not used, this IP address is not required.

LAN Port	Kind of IP Address to be Assigned	Default IP Address
LAN1	IP address (ACT)	- (Not available)
	IP address2 (ACT) **Note 1**	- (Not available)
LAN2	IP address (ACT)	172.16.253.0/16



Note:

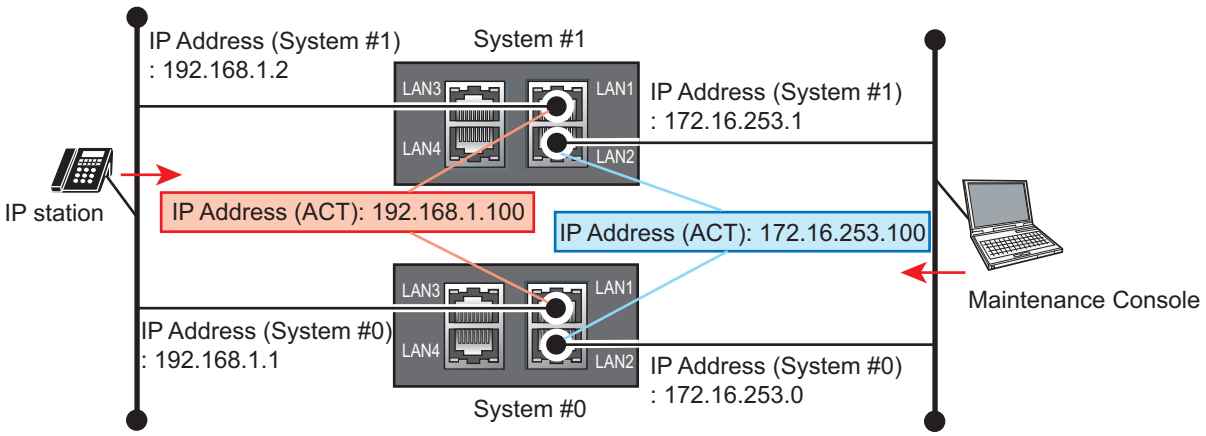
- TCP/IP Module is initialized after modifying IP address of LAN1. (LAN1 and LAN2 ports are restarted. Then applications connecting to the Telephony Server through TCP/IP including PCPro are disconnected.)
- Initialize the system by SINZ command (TYPE: System Initialize) after modifying IP address of LAN1. In the case of LAN2, it is not necessary.
- LAN1 and LAN2 can have either same or different subnet masks.
- IP addresses of LAN1 and LAN2 must be different.
- IP address 2 (ACT) cannot be set to LAN2.
- Assign Subnet Mask and routing data for LAN1 IP address 2 (ACT) equally to those for LAN1 IP address (ACT).

- **When the Telephony Server is in Dual Configuration**

The Telephony Server in dual configuration has seven IP addresses to be assigned. LAN1 has four IP addresses consisting of System #0, System #1, ACT and an IP address 2 of ACT. **Note 1**
LAN2 has three IP addresses consisting of System #0, System #1 and ACT. IP address to be used in communication is usually ACT though IP addresses (System #0/System #1) are partly used, including SNMP.

LAN Port	Kind of IP Address to be Assigned	Default IP Address	REMARKS
LAN1	IP address (ACT)	- (Not available)	IP address of active side
	IP address2 (ACT) **Note 1**	- (Not available)	IP address of active side
	IP address (System #0)	- (Not available)	Static IP address independent of ACT/STBY
	IP address (System #1)	- (Not available)	
LAN2	IP address (ACT side)	172.16.253.0/16	IP address of active side
	IP address (System #0)	172.16.253.2/16	Static IP address independent of ACT/STBY (This address is valid after ASYD SYS 1 Index 58 is configured for Dual CPUs.)
	IP address (System #1)	172.16.253.1/16	

Note 1: IP address2 (ACT) is used only when a SIP Handler Controlled SIP terminal is accommodated in the system. If the terminal is not used, this IP address is not required.



Note:

- TCP/IP Module is initialized after modifying IP address of LAN1.
  (LAN1 and LAN2 ports are restarted. Then applications connecting to the Telephony Server with TCP/IP including PCPro are disconnected.)
- Initialize the system with SINZ command (TYPE: System Initialize) after modifying IP address of LAN1. In the case of LAN2, it is not necessary.
- LAN1 and LAN2 can have either the same or different subnet masks.
- All IP addresses of each LAN (ACT/System #0/System #1) must have the same subnet masks.
- IP addresses of LAN1 and LAN2 must be different.
- When IP address (ACT) of LAN2 is assigned “0.0.0.0”, default values are allocated to IP addresses (System #0/System #1) at the active side.

- IP Address2 (ACT) cannot be set to LAN2.
- Assign Subnet Mask and routing data for LAN1 IP Address2 (ACT) equally to those for LAN1 IP Address (ACT).

1.2.4 Routing Setting

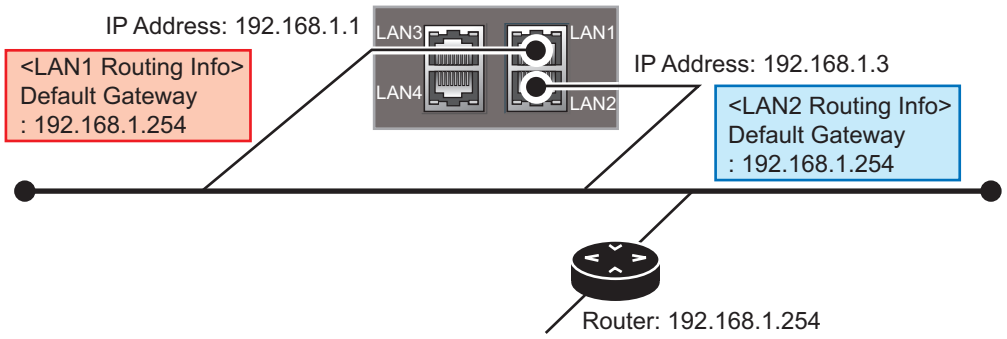
The routing tables of LAN1 and LAN2 are independent of each other. So each of them needs routing data respectively.

Note:

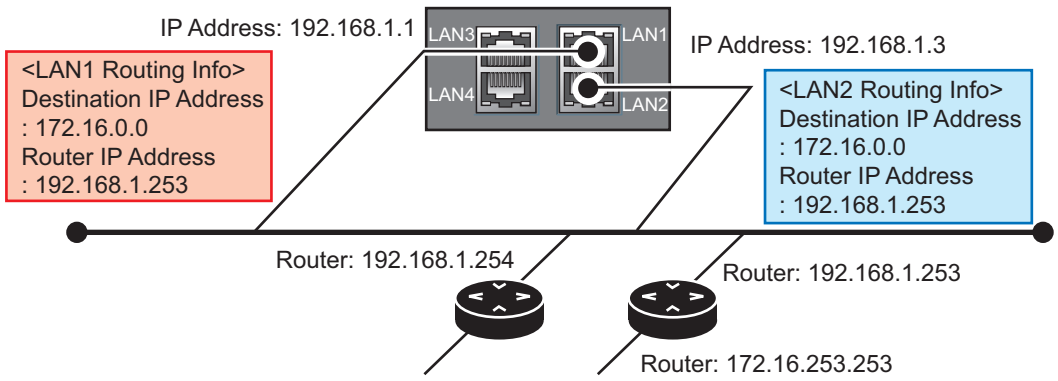
- Use ADTM command to assign routing data (Default Gateway, static route) to each of LAN1 and LAN2.
- A maximum of four destinations can be assigned as static routing information to each LAN1 and LAN2.

- **When LAN1 and LAN2 are in the same subnet:**

  Default Gateway information is assigned to each as an example below.

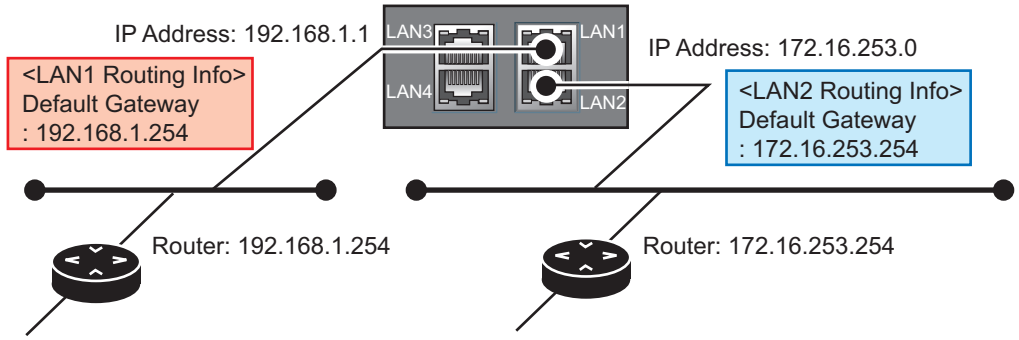


  Static Route information is assigned to each as an example below.

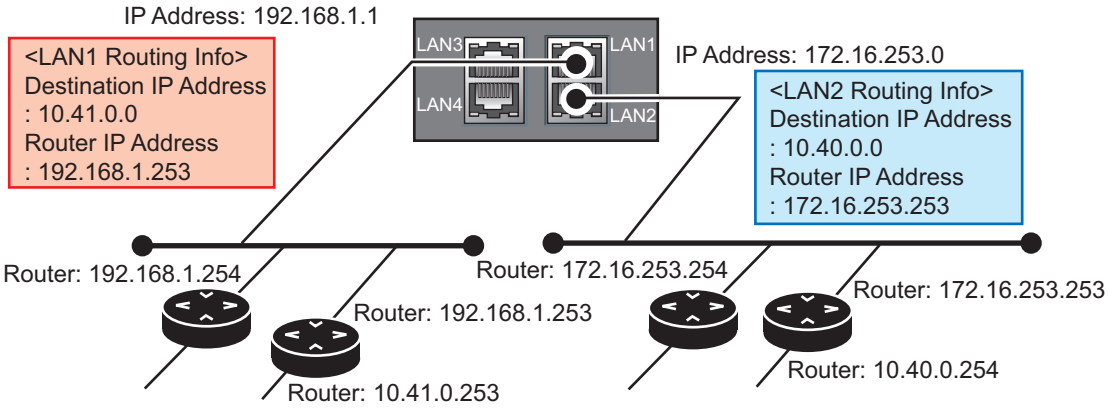


- **When LAN1 and LAN2 are in different subnet:**

  Default Gateway information is assigned to each as an example below.



  Static Route information is assigned to each as an example below.



1.2.5 Data Programming

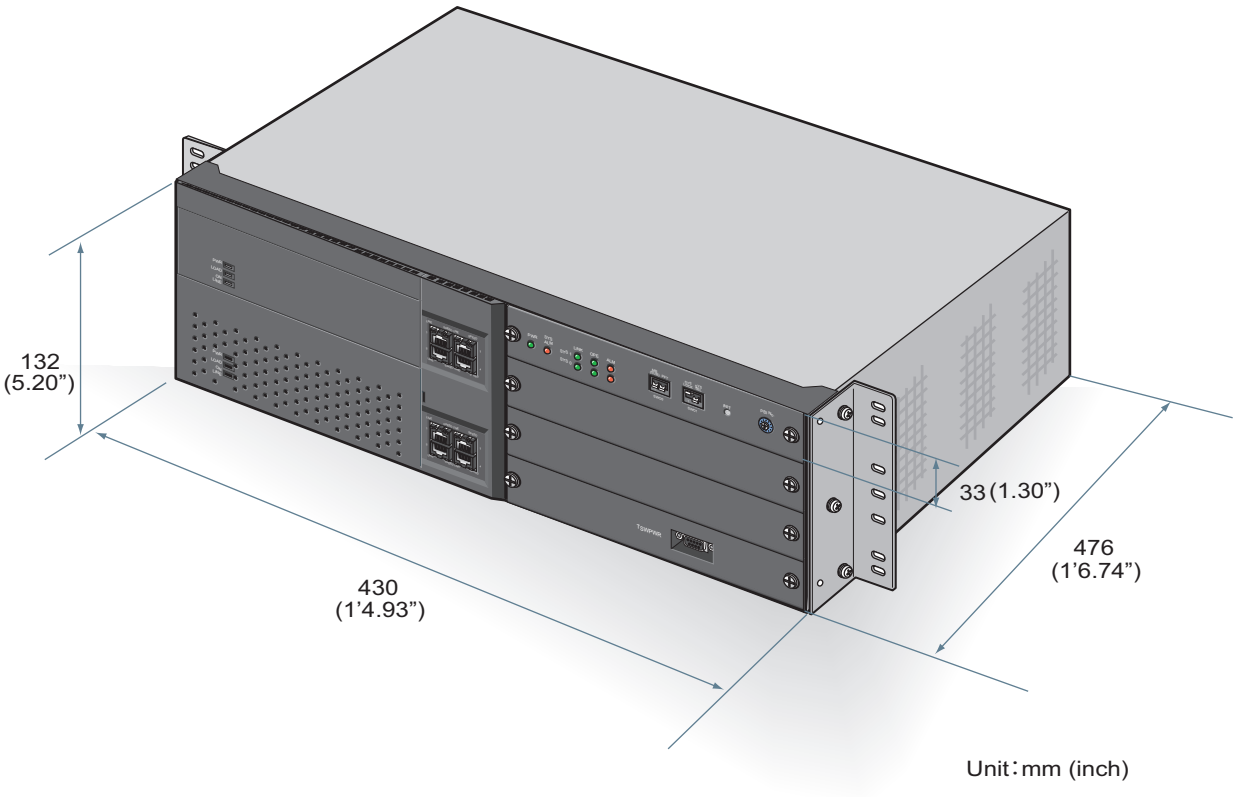
Refer to ADTM command in Command Manual for the data assignment of LAN1 and LAN2. The setting of LAN3 and LAN4 cannot be changed.

2. Specifications

2.1 Dimensions and Weight

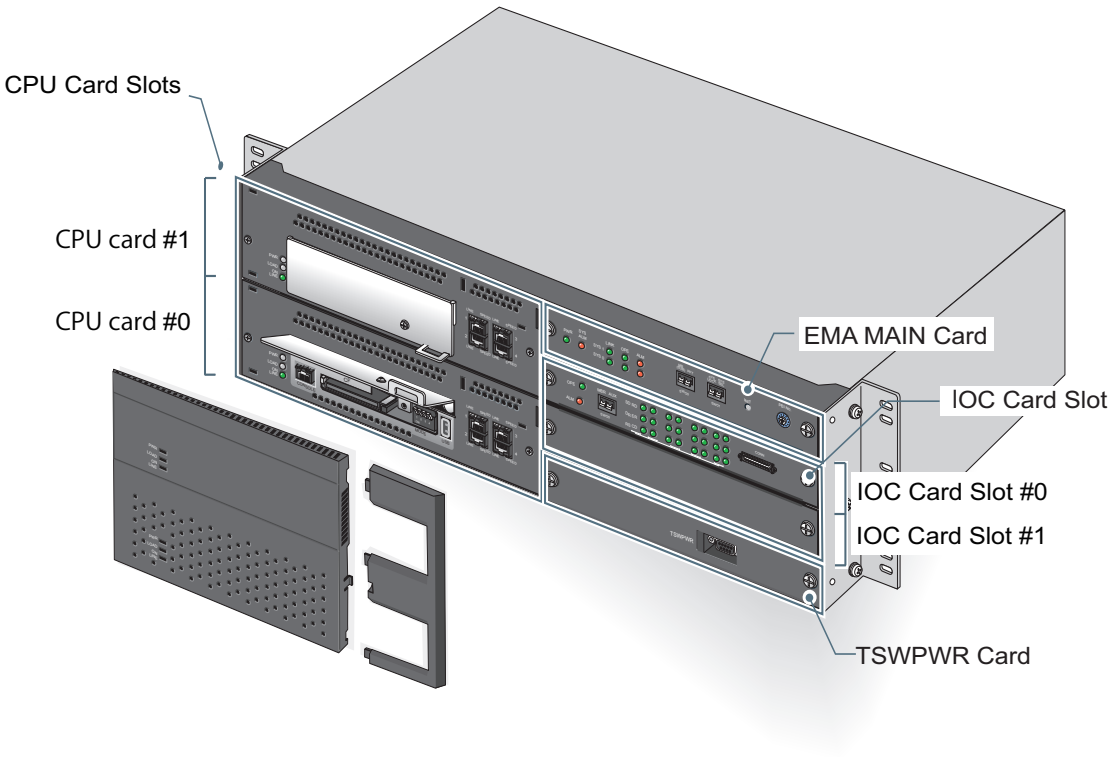
Total weight	Approx. 16 kg (564.4 oz)
Input power source	AC 100V (50/60 Hz) ± 10% AC 120V (50/60 Hz) ± 10% AC 230V (50/60 Hz) ± 10% AC 240V (50/60 Hz) ± 10%
	DC -48V ± 10%
Maximum power consumption	AC 100V: 2.4A
	DC -48V: 4.1A
Outside dimension	19-inch rack mount, 3U-box (*see the figure Dimensions)

Dimensions



2.2 Switches, Lamps and Connectors on Front Panel

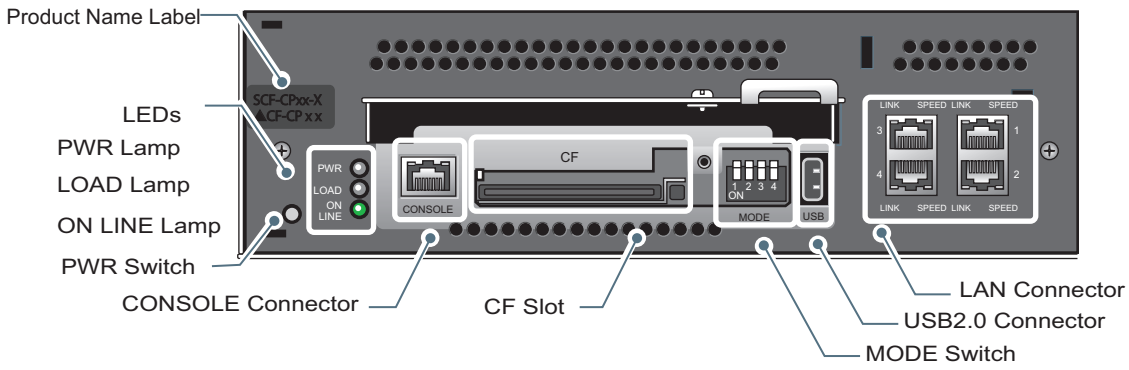
Switches, lamps, and connectors on the front panel of each card are explained in this section. For the details on the switches, see CHAPTER 3 SV9500 SERVER INSTALLATION - ASSEMBLING SV9500 SERVER MODULE and CHAPTER 6 SYSTEM STARTUP.



Note: A maximum of two IOC cards can be inserted per system; one IOC card to IOC #0 slot and IOC #1 slot respectively.

2.2.1 CPU Card

CPU Card



NAME		COLOR/ SW Number	DESCRIPTION	REMARKS
PWR switch		-	Press to turn on the Telephony Server when powered off. (POWER ON)	Works when the PWR switch on the rear panel is turned ON.
			Press to execute auto-shutdown of the Telephony Server when powered on. (AUTOMATIC SHUTDOWN) **Note 2**	
			Press and hold for four seconds to turn off the Telephony Server forcibly when powered on. (FORCIBLE POWER OFF)	
PWR lamp		Green	Lights when CPU card is powered ON.	
		OFF	CPU card is powered OFF.	
LOAD lamp		Red	Lights when accessing CF card.	
		OFF	No access to CF card.	
ON LINE lamp		Green	Lights when CPU card is operating normally.	
			Flashes fast when CPU card has no data.	
			Flashes slowly when SP has not started up.	
		OFF	Telephony Server has not started up yet.	
MODE switch	1	ON	Offline Mode **Note 3**	
		OFF	Online Mode (Standard)	
	2	OFF	Fixed to OFF.	
	3	OFF	Fixed to OFF.	
	4	ON	CPU Make Busy ON.	
		OFF	CPU Make Busy OFF. (Standard)	
CONSOLE connector		-	Not used.	

NAME		COLOR/ SW Number	DESCRIPTION		REMARKS
CF slot		-	For accommodating a CF card. Operating program and office data is written on the CF card.		
LAN Connector	LAN1 LINK	Green	Lights when port link is established.	External LAN interface for TCP/IP (max 1 Gbps).	Used for the communication with call controlling devices, such as IP terminals and MGs.
			Flashes when accessing IP network.		
		OFF	Port link is not established.		
	LAN1 SPEED	Green	100 Mbps		
		Orange	1 Gbps		
		OFF	10 Mbps		
	LAN2 LINK	Green	Lights when port link is established.		Used for the communication with operation/ administration devices, such as PCPro (**Note 1**) and SNMP, and some of call controlling devices.
			Flashes when accessing IP network.		
		OFF	Port link is not established.		
	LAN2 SPEED	Green	100 Mbps		
		Orange	1 Gbps		
		OFF	10 Mbps		
	LAN3 LINK	Green	Lights when port link is established.	Internal LAN interface for FCCS (max 1 Gbps).	Used for FCCS (side A) controlling.
			Flashes when accessing IP network.		
		OFF	Port link is not established.		
	LAN3 SPEED	Green	100 Mbps		
		Orange	1 Gbps		
		OFF	10 Mbps		
	LAN4 LINK	Green	Lights when port link is established.		Used for FCCS (side B) controlling.
			Flashes when accessing IP network.		
		OFF	Port link is not established.		
	LAN4 SPEED	Green	100 Mbps		
		Orange	1 Gbps		
		OFF	10 Mbps		
USB2.0 connector		-	Not used.		

Note 1: In case of an IPv6 connection with PCPro, use LAN1 to make the connection with IPv6 addresses.

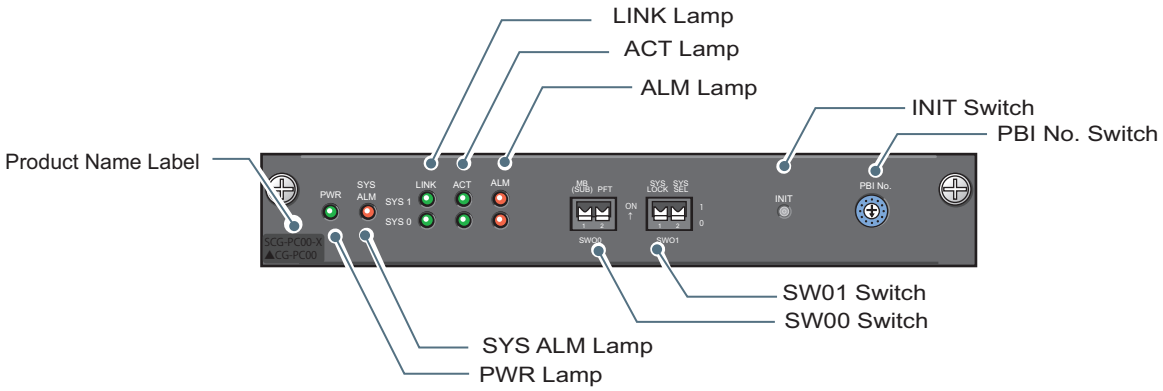
Note 2: To confirm that shutdown is complete, check the PWR lamp. When auto-shutdown does not work, press and hold the PWR switch for four seconds to force the Telephony Server to turn off.

Note 3: If SW1 is ON and the system is restarted, it will load into offline mode. In offline mode, the system will behave in the following way:

- The Telephony Server will not load the TP/SP programs.
- The IP address of LAN1 will be automatically set to 192.168.0.2/24. Maintenance can be carried out by connecting to LAN1 with Telephony Server Maintenance Menu.

2.2.2 EMA MAIN Card

EMA MAIN Card

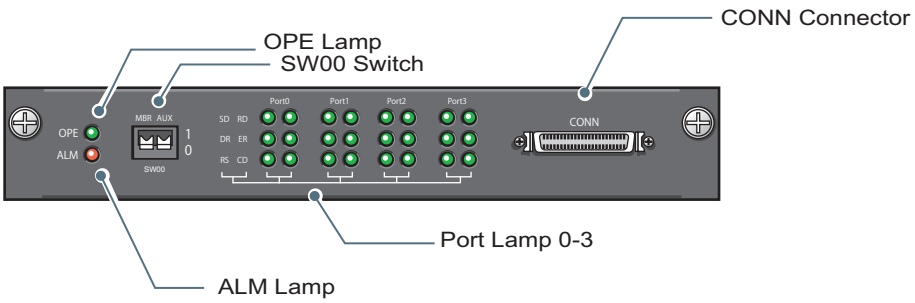


NAME		COLOR/ SW Number	DESCRIPTION		REMARKS
PWR lamp		Green	Lights when EMA MAIN card is powered ON.		
		OFF	EMA MAIN card is powered OFF.		
SYS ALM lamp		Red	Flashes in 1-second cycle.	MN (minor) alarm: One of the system cooling fans is faulty, etc.	
			Lights.	MJ (major) alarm: Two or more system cooling fans are faulty, etc.	
		OFF	No failure is detected.		
LINK lamp	SYS0	Green	Link is established between CPU #0 and EMA MAIN card.		
		OFF	Link is not established between CPU #0 and EMA MAIN card.		
	SYS1	Green	Link is established between CPU #1 and EMA MAIN card.		
		OFF	Link is not established between CPU #1 and EMA MAIN card.		
ACT lamp	SYS0	Green	CPU #0 is in ACT state.		
		OFF	CPU #0 is not in ACT state.		
	SYS1	Green	CPU #1 is in ACT state.		
		OFF	CPU #1 is not in ACT state.		
ALM lamp	SYS0	Red	Lights when failure occurs on software operation in CPU #0 (software operation failure during the system is operating).		
			Flashes when failure occurs on software operation in CPU #0 (software operation failure on starting up the system).		
		OFF	No failure is detected.		
	SYS1	Red	Lights when failure occurs on software operation in CPU #1 (software operation failure during the system is operating).		
			Flashes when failure occurs on software operation in CPU #1 (software operation failure on starting up the system).		
		OFF	No alarm is detected.		

NAME	COLOR/ SW Number	DESCRIPTION	REMARKS
SW00 switch	MB (SUB)	Set to OFF (Make-Busy cancel) to supply power to EMA SUB cards.	
	PFT	Set to ON to start NCU manually.	
SW01 switch	SYS LOCK	Fixed to OFF (down).	Set upward when replacing CPU.
	SYS SEL		
PBI No. switch	0	To identify among multiple Telephony Servers.	
INIT switch	-	To execute system initialization on Telephony Servers (non-load initialization).	

2.2.3 IOC Card

IOC Card



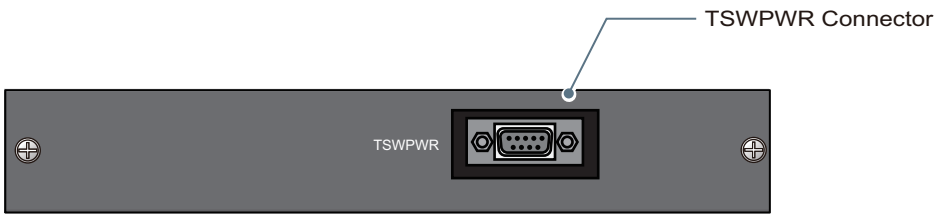
NAME		COLOR/ SW Number	DESCRIPTION	REMARKS
OPE lamp		Green	Lights when IOC card is operating normally.	
		OFF	IOC card is in make-busy state or any operation error occurs.	
ALM lamp		Red	Lights when any operation error occurs.	
		OFF	No failure is detected.	
SW00 switch	MBR	ON (1)	To set make-busy request on IOC card.	
		OFF (0)	To cancel make-busy request on IOC card.	
	AUX	ON (1)	To display PCI-E link status on Port3's RS lamp for #0 and CD lamp for #1. OFF: PCI-E link is not established. Flashes: PCI-E link is established and in STBY state. Lights: PCI-E link is established and in ACT state.	
		OFF (0)	PCI-E link state is not to be displayed.	
Port0-3 SD lamp		Green	Lights when sending RS-232C signal.	
		OFF	Not sending RS-232C signal.	

NAME	COLOR/ SW Number	DESCRIPTION	REMARKS
Port0-3 RD lamp	Green	Lights when receiving RS-232C signal.	
	OFF	Not receiving RS-232C signal.	
Port0-3 DR lamp	Green	Lights when receiving RS-232C DSR signal.	
	OFF	Not receiving RS-232C DSR signal.	
Port0-3 ER lamp	Green	Lights when sending RS-232C DTR signal.	
	OFF	Not sending RS-232C DTR signal.	
Port0-3 RS lamp	Green	Lights when sending RS-232C RTS signal.	
	OFF	Not sending RS-232C RTS signal.	
Port0-3 CD lamp	Green	Lights when receiving RS-232C CD signal.	
	OFF	Not receiving RS-232C CD signal.	
CONN connector	-	Accommodates four RS-232C ports.	SV 4PORT CA-A cable is connected. **Note 1**
S2 switch	Identifies card inserted slot (IOC #0 or #1) and SMDR settings. For more details, see 4.2.3 Inserting Various Cards on Chapter 3.		This switch is placed inside the card.

Note 1: One SV 4PORT CA-A cable is attached to the IOC card.

2.2.4 TSWPWR Card

TSWPWR Card

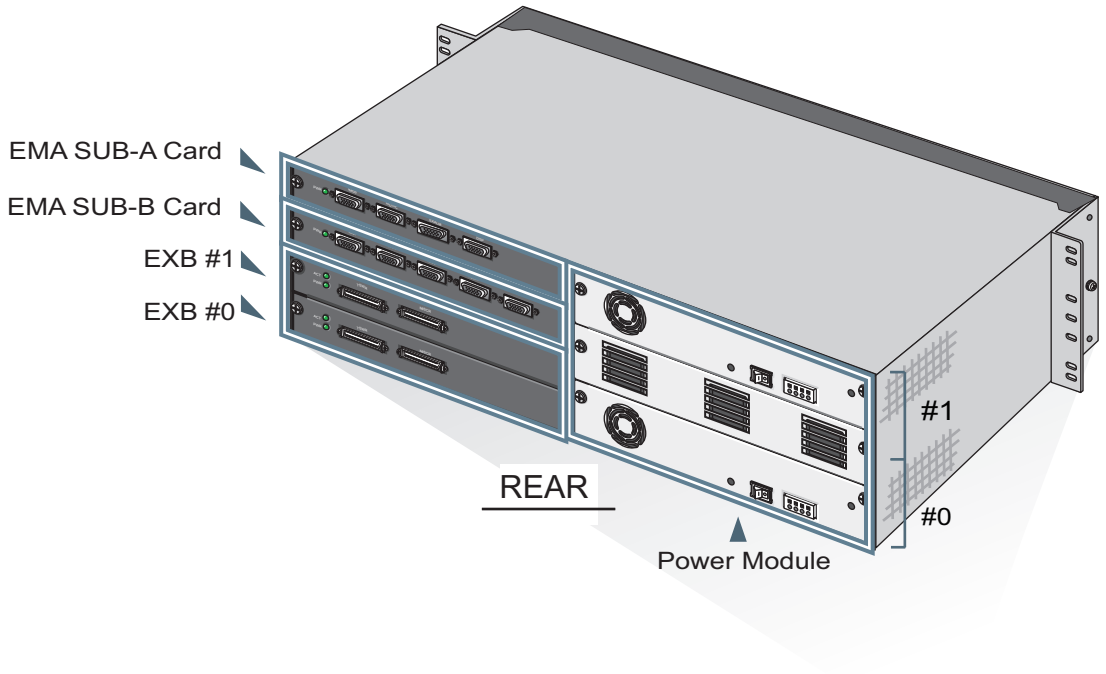


NAME	DESCRIPTION	REMARKS
TSWPWR connector	Power feeding to TSW-BOX.	

2.3 Switches, Lamps and Connectors on Rear Panel

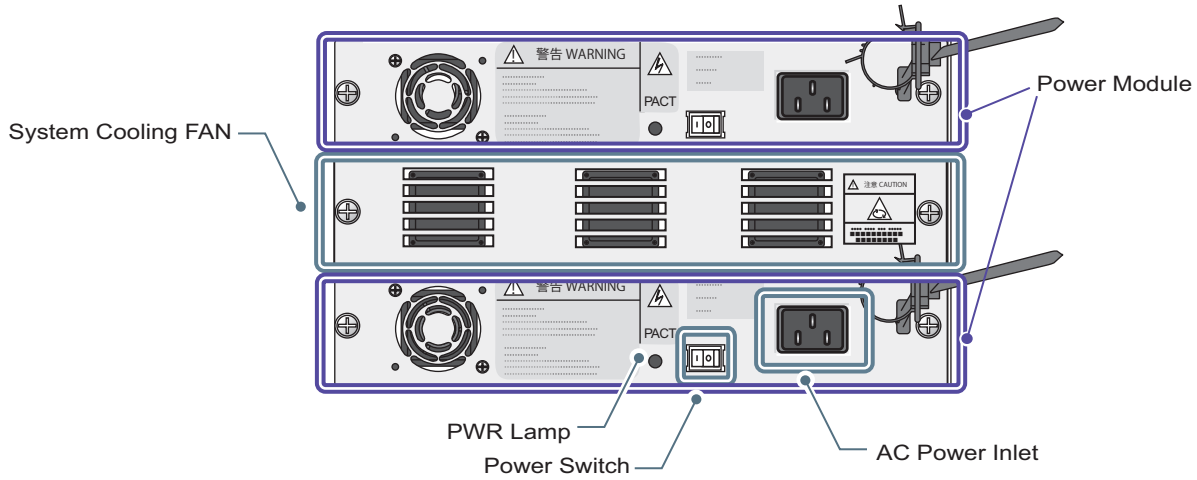
Switches, lamps, and connectors on the rear panel of each card in the Telephony Server are explained here. The figure below shows a DC-powered model as an example.

Telephony Server (Rear)

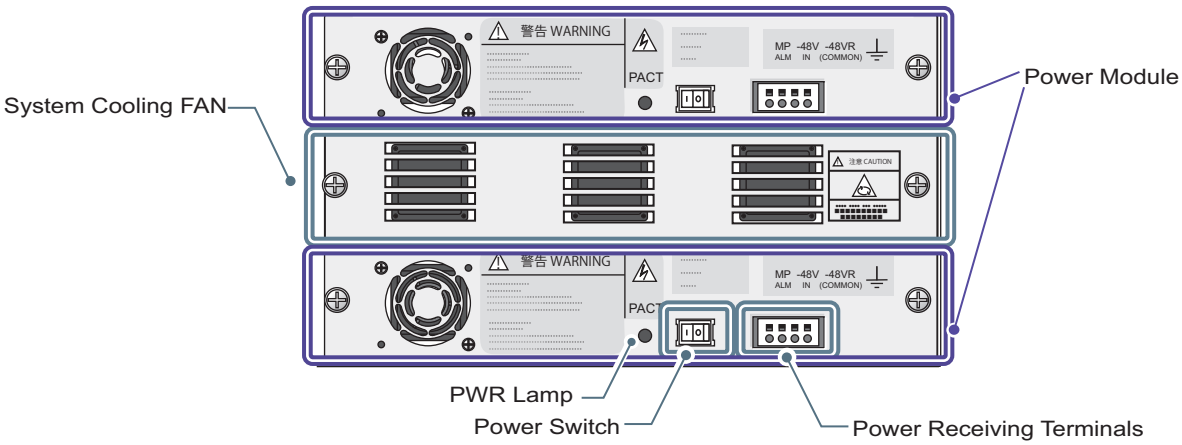


2.3.1 Power Module and System Cooling Fan

AC-Powered Model



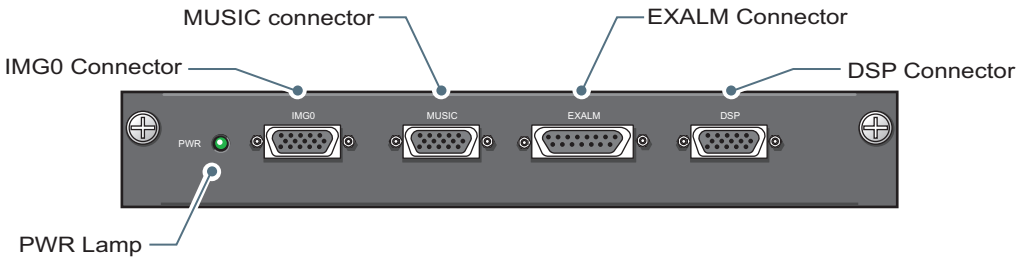
DC-Powered Model



NAME		DESCRIPTION	REMARKS
AC power inlet		AC-Powered Model (SN1751 PWRMAB): Connector for receiving source power.	AC 100V (50/60 Hz) ± 10% AC 120V (50/60 Hz) ± 10% AC 230V (50/60 Hz) ± 10% AC 240V (50/60 Hz) ± 10%
DC power receiving terminals		DC-Powered Model (SN1753 PWRMAC): Connector for receiving source power from BASEU.	DC -48V ± 10%
Power switch		Switch to left/right to turn the power ON/OFF.	
PWR lamp	Green	Lights when power is ON.	
	OFF	Power is OFF.	
System cooling FAN		For cooling the Telephony Server.	FANs can be changed even if the system is operating.

2.3.2 EMA SUB-A Card

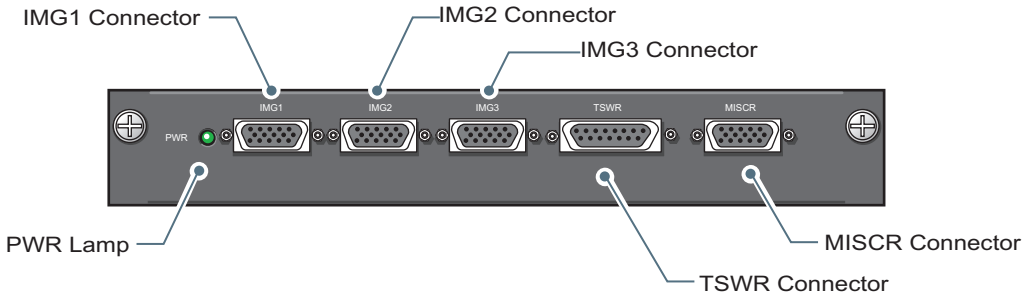
EMA SUB-A Card



NAME		DESCRIPTION	REMARKS
PWR lamp	Green	Lights when EMA SUB-A card is powered ON.	
	Red	Lights when EMA SUB-A card is powered ON.	Lights when cable connection is wrong, or the card is in a wrong slot.
	OFF	EMA SUB-A card is powered OFF.	
IMG0 connector		For collecting the alarm on IMG0.	
MUSIC connector		Not in use.	
EXALM connector		Necessary when Alarm Indication Panel is used.	
DSP connector		For connecting an alarm display	Used for alarm display only

2.3.3 EMA SUB-B Card

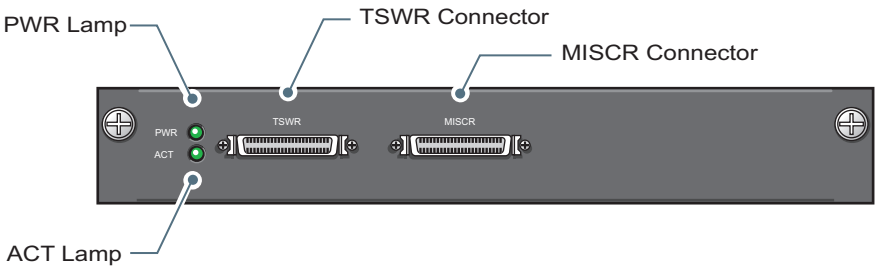
EMA SUB-B Card



NAME		DESCRIPTION	REMARKS
PWR lamp	Green	Lights when EMA SUB-B card is powered ON.	
	Red	Error in the PIR and MISCR connections.	MISCR is for using only in Japan.
	OFF	EMA SUB-B card is powered OFF.	
IMG1 connector		For detecting the alarm on IMG1.	
IMG2 connector		For detecting the alarm on IMG2.	
IMG3 connector		For detecting the alarm on IMG3.	
TSWR connector		For detecting the alarm on TSW.	
MISCR connector		Not in use.	

2.3.4 EXB-TSWR Card

EXB-TSWR Card



NAME		DESCRIPTION	REMARKS
PWR lamp	Green	Lights after completing the EXB card's initialization.	
		Flashes when link error occurs.	
	OFF	Remains OFF when the EXB card is on initializing.	
ACT lamp	Green	Lights when CPU is in ACT state.	
		Flashes when CPU is in STBY state.	
	OFF	Remains off when EXB card is in make-busy state.	
TSWR connector		For communicating with TSW-BOX or TSWR.	
MISCR connector		Not in use.	

3. PIR Mounting

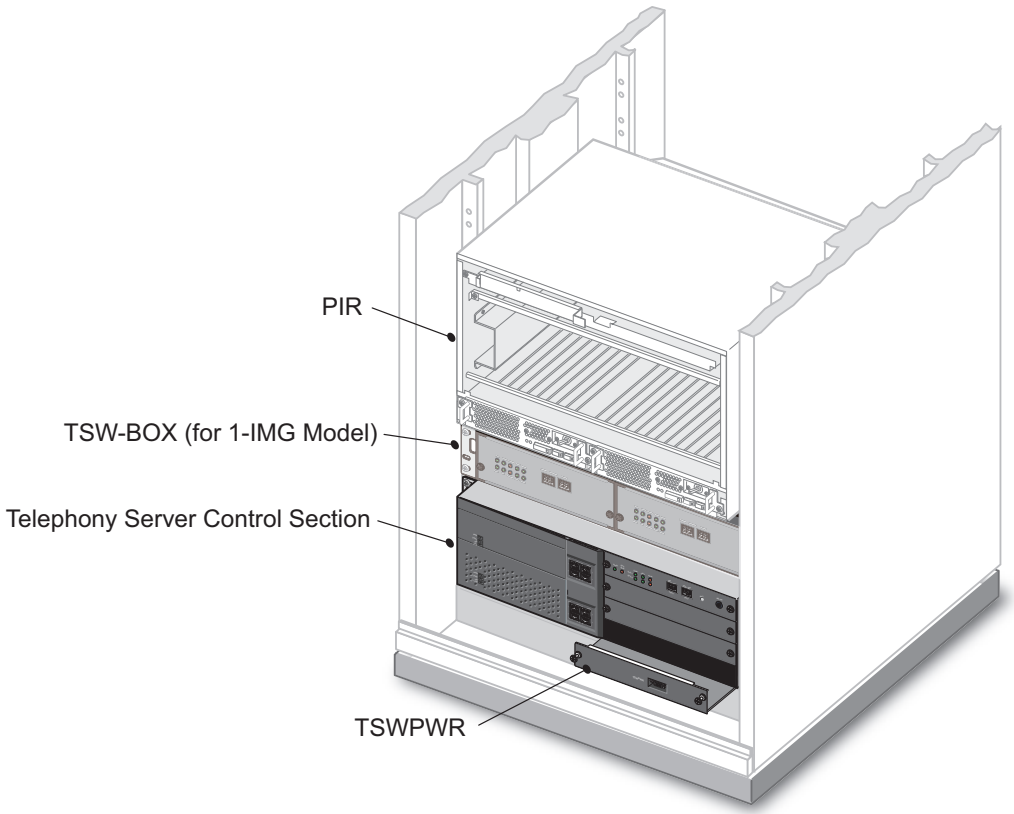
Connecting Port Interface Rack (PIR) modules to the Telephony Server enables the system to accommodate circuit cards for trunk/line interface. PIR provides the Telephony Server with the connection of analog telephone and Digital terminal stations, existing analog PSTN lines and Tie lines, supporting the service features equivalent to conventional PBX systems.

There are two types of PIRs: 7U-PIR and 8U-PIR. In the basic configuration, 7U-PIRs are connected to the Telephony Server; however, depending on the system configuration, you can combine 8U-PIR with 7U-PIR. For details, see CHAPTER 5 MODULES MOUNTING AND CONNECTION (7U-PIR AND 8U-PIR MIXED CONFIGURATION).

Note: In the case of using an 8U-PIR mixed configuration be aware of the following:

- Mount always 8U-PIRs above 7U-PIRs. 8U-PIR cannot be mounted between two 7U-PIRs or below.
- For other information on this matter see CHAPTER 5 MODULES MOUNTING AND CONNECTION (7U-PIR AND 8U-PIR MIXED CONFIGURATION).

7U-PIR Mounting Example (1-IMG Model)



3.1 AC-Powered Model

This section shows the specifications for an AC-powered model of PIR.

Note: AC-powered model is only available in 1-IMG Configuration; this model does not support 4-IMG Configuration except in North America.

3.1.1 Hardware Specifications

3.1.1.1 7U-PIR

Total weight	Approx. 30.2 kg (1,065.2 oz)
Input power source for 7U-PIR AC-DC Power Unit	Two AC inlets for dual AC power input (#0 and #1) AC 100V (50/60 Hz) ± 10% AC 120V (50/60 Hz) ± 10% AC 230V (50/60 Hz) ± 10% AC 240V (50/60 Hz) ± 10% Parallel two-pole with grounding
Maximum power consumption	768 W (-48V: 16A)
Dimensions	437 × 496 × 310 mm (1’5.20" × 1’7.50" × 1’0.20" inches), excluding the brackets. 19-inch rack mount, 7U-Box **Note 1** (*see the figure Front View (7U-PIR))
Maximum module configuration	Four PIRs of 1-IMG configuration
Number of slots	18 slots (maximum 384 ports)
Quake-proof strength	Horizontal accelerated-resistance to 1.1G
Other conditions	TSW-BOX is required.

Note 1: Prepare a proper 19-inch rack to mount the above size of module. See Installing 19-Inch Rack in CHAPTER 3 SV9500 SERVER INSTALLATION - ASSEMBLING SV9500 SERVER MODULE for other conditions.

3.1.1.2 8U-PIR

Total weight	Approx. 30 kg (1,058.2 oz) (maximum accommodation of 1U AC-DC Power Unit + PIR + FANU(H))
Input power source for 1U AC-DC Power Unit	Two AC inlets for dual AC power input (#0 and #1) AC 100V (50/60 Hz) ± 10% AC 120V (50/60 Hz) ± 10% AC 230V (50/60 Hz) ± 10% AC 240V (50/60 Hz) ± 10% Parallel two-pole with grounding
Input power for PIR	DC Terminal Unit accommodates Power Receiving Terminal (-48VR, -48V, +80V and FG connection)
Maximum power consumption	768 W (-48V: 16A)
Dimensions	437 × 531 × 354 mm (1’ 5.21 × 1’ 8.88 × 1’ 1.94 inch), excluding the brackets 19-inch rack mount, 10U-box (1U-power + 8U-PIR + 1U-FANU) **Note 1** (*see the figure Front View (7U-PIR))
Maximum module configuration	Four PIRs of 1-IMG configuration (*4-IMG configuration is not supported)
Number of universal slot	17 slots (maximum 352 ports)
Quake-proof strength	Horizontal accelerated-resistance to 1.1G
Other conditions	A FANU and a 1U AC-DC Power Unit are required for each PIR. TSW-BOX is required.

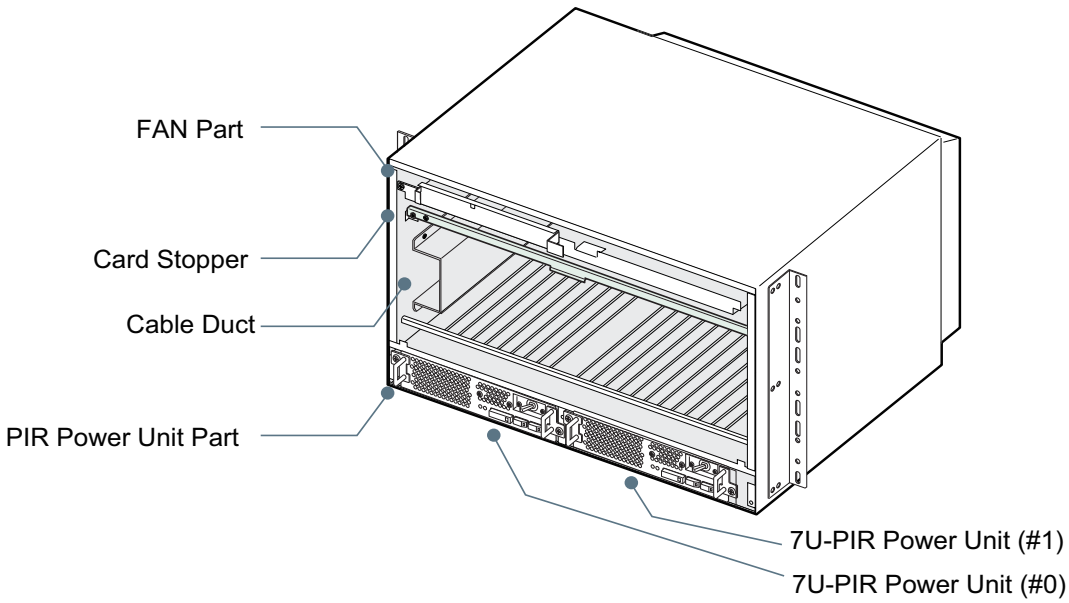
Note 1: Prepare a proper 19-inch rack to mount the above size of module. See Installing 19-Inch Rack in Chapter 3 for other conditions.

3.1.2 Front and Rear Sections of PIR

The following figures show front and rear sections of PIR.

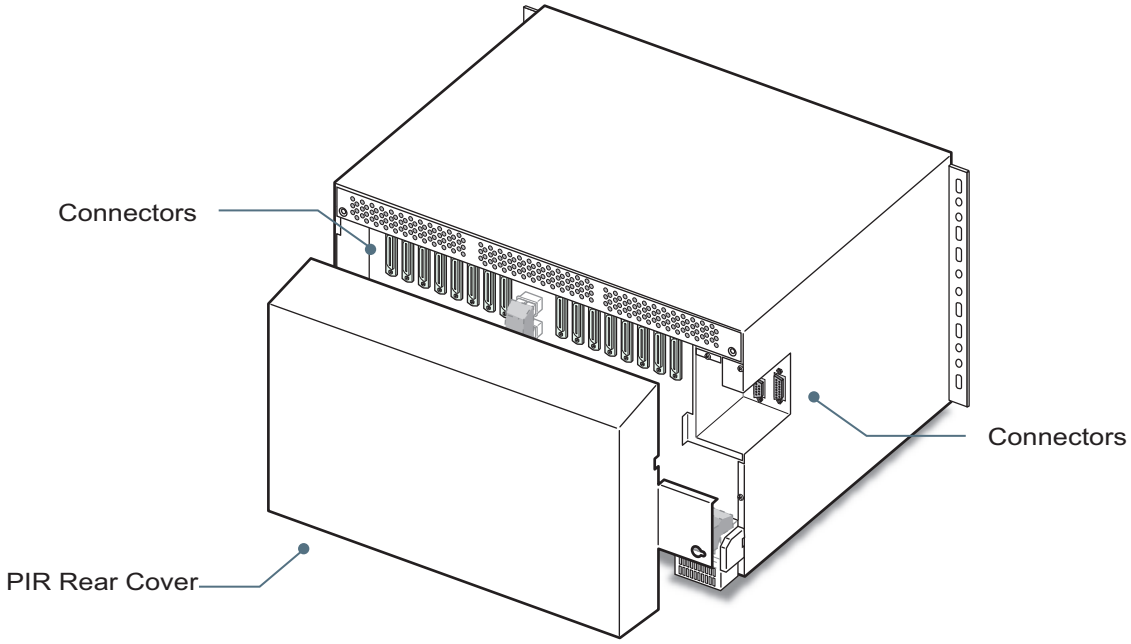
3.1.2.1 7U-PIR

Front View (7U-PIR)



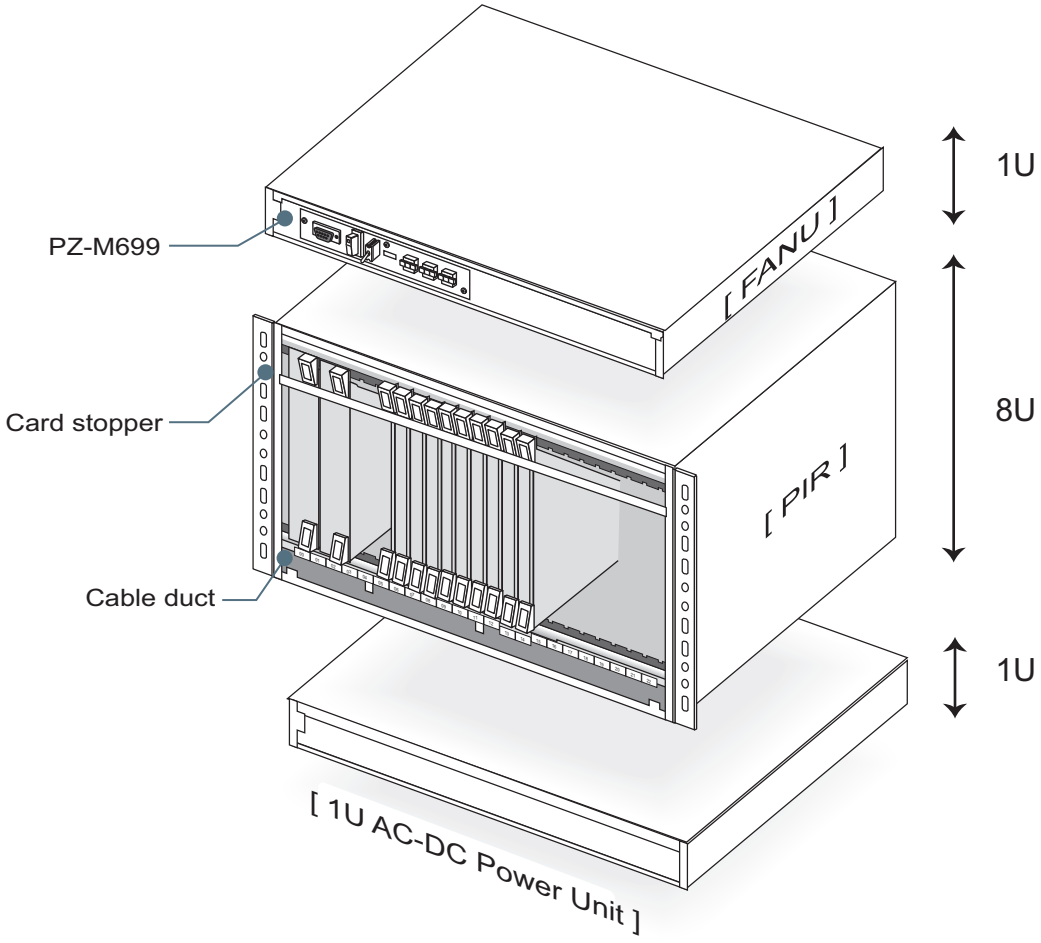
Note: If a single power unit system is used, #1 power unit slot will have a blank panel attached.

Rear View (7U-PIR)



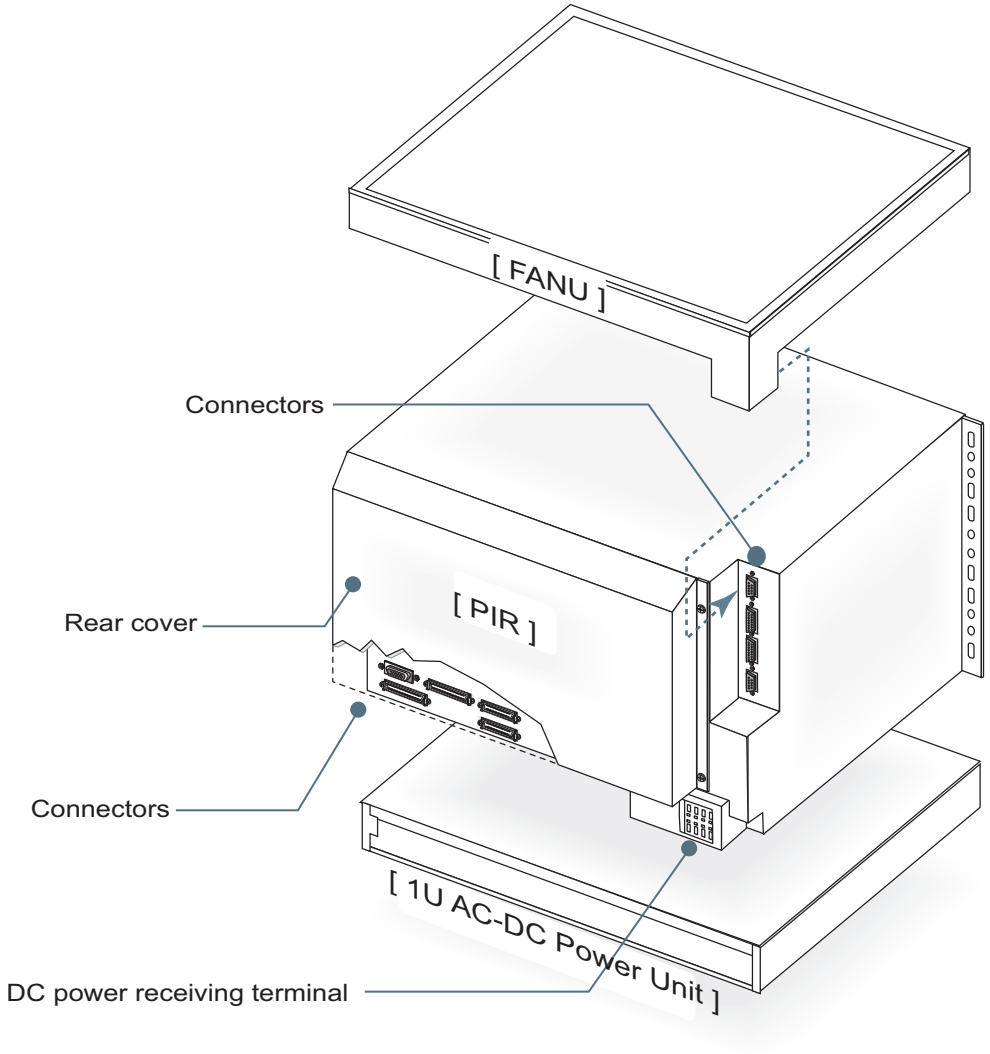
3.1.2.2 8U-PIR

Front View (8U-PIR)



Note: Refer to 6. Mounting Second Power Unit on 1U AC-DC Power Unit (8U-PIR) for Dual Power Configuration in CHAPTER 5 MODULES MOUNTING AND CONNECTION (7U-PIR AND 8U-PIR MIXED CONFIGURATION) for the way to install dual power unit.

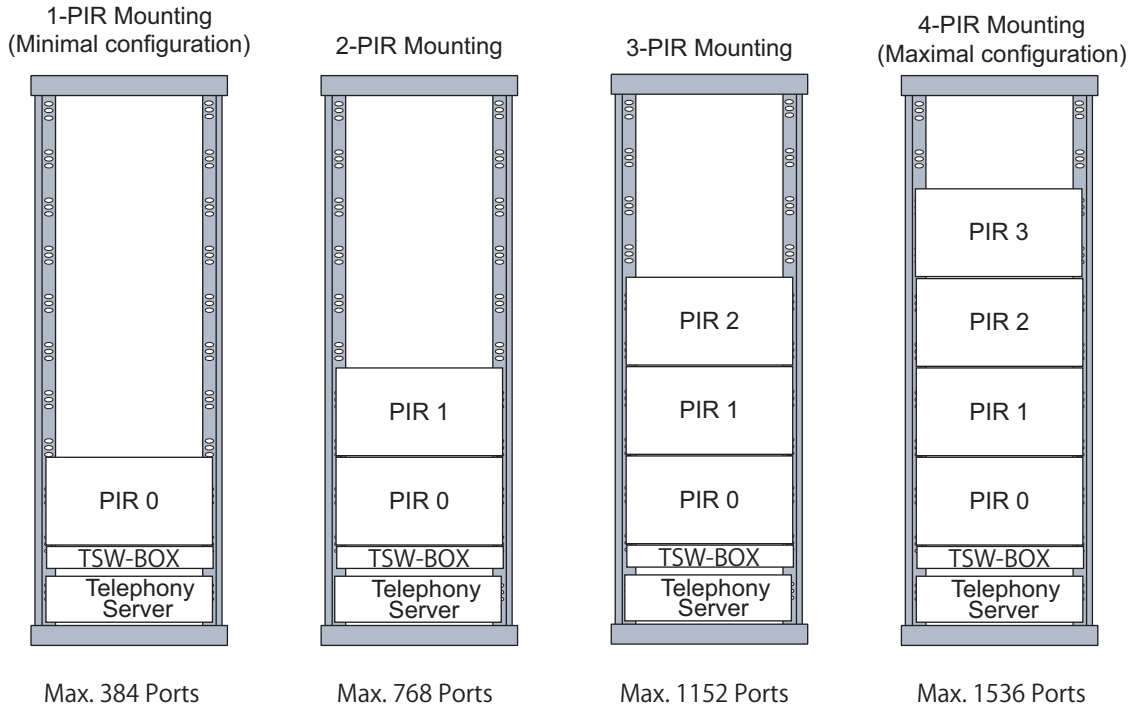
Rear View (8U-PIR)



3.1.3 Module Configuration

The figure below shows several module configuration examples where all PIRs are 7U-PIR. For information about an 8U-PIR mixed configuration see CHAPTER 5 MODULES MOUNTING AND CONNECTION (7U-PIR AND 8U-PIR MIXED CONFIGURATION).

Module Configuration Examples with 7U-PIR (AC-Powered Model)



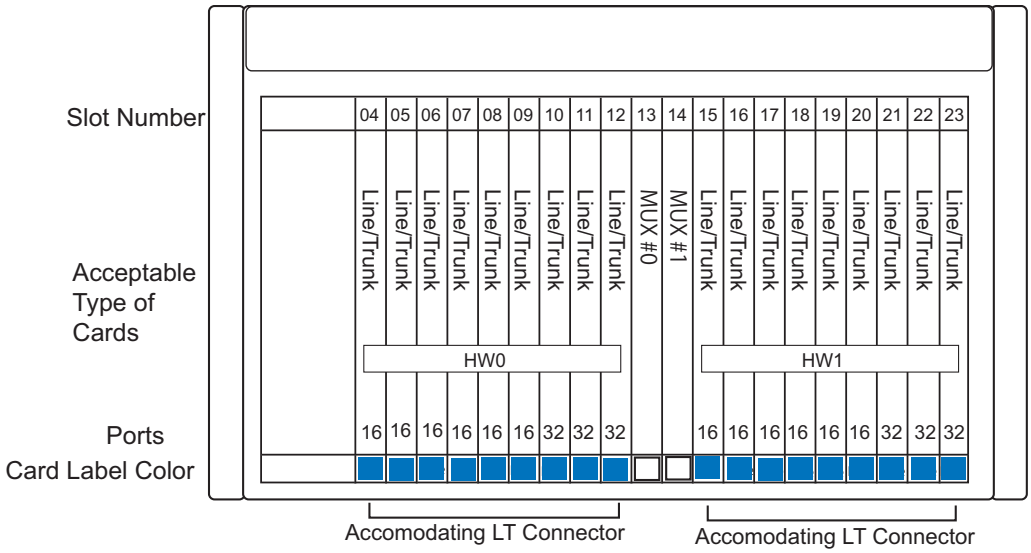
Note: Be sure to mount TSW-BOX and PIR0 right above the server module. You can mount PIRs in other racks as long as is within the range of the BUS cable between PIR1-PIR3 (about 3 meters).

3.1.4 PIR Slot Configuration

The figure below shows the slot configuration in PIR.

3.1.4.1 7U-PIR

7U-PIR Slot Configuration (AC-Powered Model)

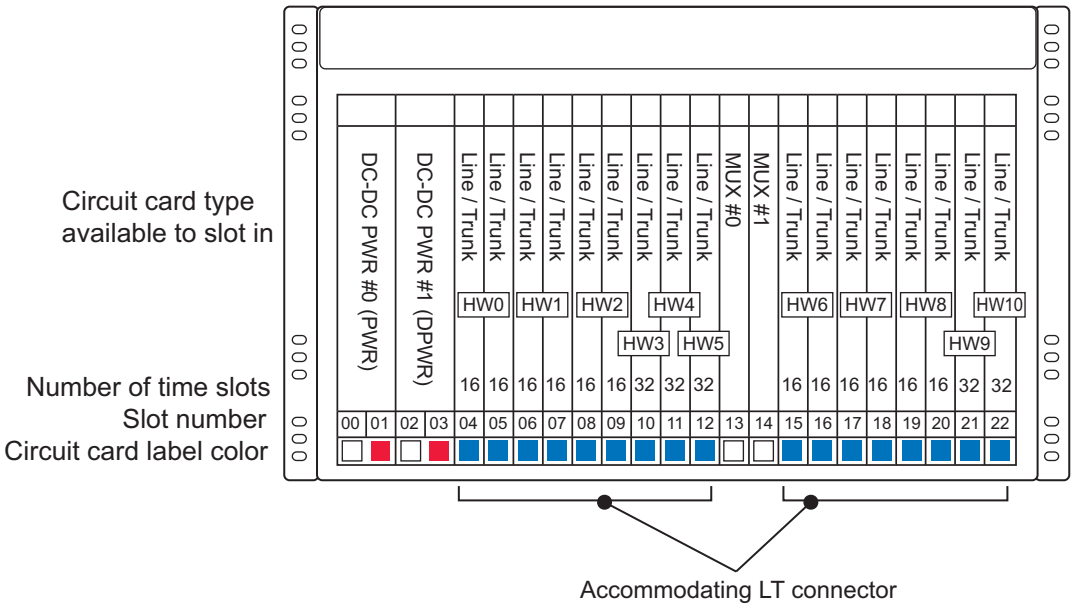


7U-PIR Card Accommodation

SLOT NUMBER	FUNCTION OF CIRCUIT CARD	DESCRIPTION
13, 14	**MUX**	MUX is an interface for multiplexing the control information between the port micro processor of the line/trunk card, the server and the PCM voice between the TSW and the line/trunk.
04-12 **15-23**	**Line/Trunk**	Each universal slot has a communication path called highway (HW) for multiplexing PCM signal on the line/trunk circuit. HW consists of 2 lines (HW0/HW1) and is connected to the card slots from the MUX card. For example, HW0 delivers PCM signals of slots 04-12. PCM signal is sent each 256ch to MUX, and after being multiplexed, is sent to the time division switcher (TSW). After the interchange processing on TSW, a multiplexed PCM signal is sent to MUX, where is divided in units of 256ch and delivered to each card. The number of time slots in the figure above shows the unit for multiplexing/demultiplexing PCM signal on the applied slot. Make sure to mount the channels of one card consisting of 32 time slots (such as DTI) on the same HW. If there is a mistake, call processing cannot be operated normally.

3.1.4.2 8U-PIR

8U-PIR Slot Configuration (AC-Powered Model)



8U-PIR Card Accommodation

SLOT NUMBER	FUNCTION OF CIRCUIT CARD	DESCRIPTION
01	**PWR**	DC-DC power converter to supply operating power to each circuit card on PIR. Converting DC-48V input, this card outputs DC+5V, -5V, and +12V. Also it is equipped with ringing and howler tone generating circuit.
03	**DPWR**	
13, 14	**MUX**	Provides an interface for multiplexing/de-multiplexing voice Pulse Code Modulation (PCM) information and digital data information, in between CPR and Port Microprocessor (PM) of line/trunk circuit.
04-12 **15-22**	**Line/Trunk**	Slots 04~12 and 15~22 are the universal slots to mount any line/trunk cards. Each universal slot has communication path called highway (HW) for multiplexing PCM signal on line/trunk circuit. Every 32ch of PCM signal is sent out to MUX and then transferred to TSW after being multiplexed. The multiplexed PCM signal is transferred to MUX from TSW through switching process. The PCM signal is parted by 32ch of HW on MUX and distributed to each line/trunk. The number of time slots in the figure above shows the unit for multiplexing/de-multiplexing PCM signal on the applied slot. Make sure to mount the channels of one card consisting of 32 time slots (such as DTI) on the same HW. If these channels across HWs, call processing cannot be operated normally.

3.2 DC-Powered Model (1-IMG and 4-IMG Configuration)

This section shows the specifications for DC-powered model of PIR.

3.2.1 Hardware Specifications

3.2.1.1 7U-PIR

Hardware Specifications of 7U-PIR

Total weight	Approx. 29 kg (1,022.9 oz) (maximum accommodation)
Input source power on BASEU	DC -48V ± 10%
Maximum power consumption	768W (DC -48V: 16A)
Outside dimension	437 × 496 × 310 mm (1’5.20" × 1’7.52" × 1’0.20" inches), excluding the brackets 19-inch rack mount, 7U-Box **Note 1** (*see the figure Front View of 7U-PIR)
Maximum module configuration	1-IMG configuration: 4 PIRs 4-IMG configuration: 16 PIRs
Number of slots	18 slots (maximum 384 ports)
Quake-proof strength	Horizontal accelerated-resistance to 1.1G
Other conditions	For 1-IMG model, TSW-BOX is required. For 4-IMG model, TSW-BOX or TSWR is required.

Note 1: If you are going to install PIRs in a structure different than the 19-inch rack mention in this manual, use one that has space enough for the dimensions above described. See 3. Installing 19-Inch Rack on CHAPTER 3 SV9500 SERVER INSTALLATION - ASSEMBLING SV9500 SERVER MODULE.

3.2.1.2 8U-PIR

Hardware Specifications of 8U-PIR

Total weight	Approx. 30 kg (1,058.2 oz) (maximum accommodation)
Input source power on BASEU	DC -48V ± 10%
Input power on PIR from BASEU	DC Terminal Unit accommodates DC power receiving terminals (-48VR, -48V, +80V and FG connection)
Maximum power consumption	768W (DC -48V: 16A)
Outside dimension	437 × 531 × 354 mm (1’ 5.21 × 1’ 8.88 × 1’ 1.94 inch), excluding the brackets 19-inch rack mount, 8U-box (9U-box when FANU is mounted) **Note 1** (*see the figure Front View of 7U-PIR)
Maximum module configuration	1-IMG configuration: 4 PIRs 4-IMG configuration: 16 PIRs

Number of universal slot	17 slots (maximum 352 ports)
Other conditions	For 1-IMG model, TSW-BOX is required. For 4-IMG model, TSW-BOX or TSWR is required.

Note 1: If you are going to install PIRs in a structure different than the 19-inch rack mention in this manual, use one that has space enough for the dimensions above described. See Installing 19-Inch Rack on Chapter 3.

3.2.1.3 TSWR

Hardware Specifications of TSWR (for 4-IMG Configuration)

Total weight	Approx. 35 kg (1,234.6 oz) (maximum accommodation)
Input source power on BASEU	DC -48V ± 10%
Maximum power consumption	480W (-48V: 10A)
Outside dimension	437 × 421 × 399 mm (1’5.20" × 1’4.57" × 1’3.70"), excluding the brackets and including FANU 19-inch rack mount, 9U-Box **Note 1**
Maximum module configuration	One TSWR per system
Number of circuit card slots	14 slots
Quake-proof strength	Horizontal accelerated-resistance to 1.1G
Other conditions	Required for 4-IMG model.

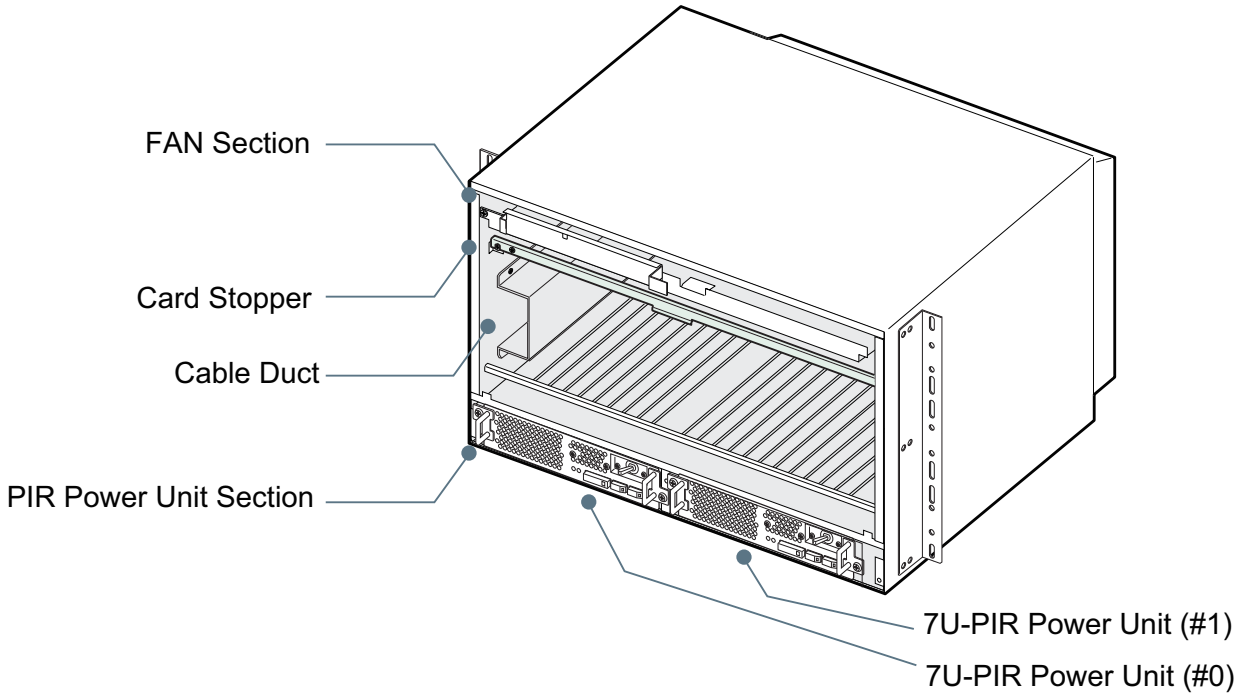
Note 1: Prepare a proper 19-inch rack to mount the above size of module. See Installing 19-Inch Rack on Chapter 3 for other conditions.

3.2.2 Front and Rear Sections of PIR

The following figures show front and rear sections of PIR.

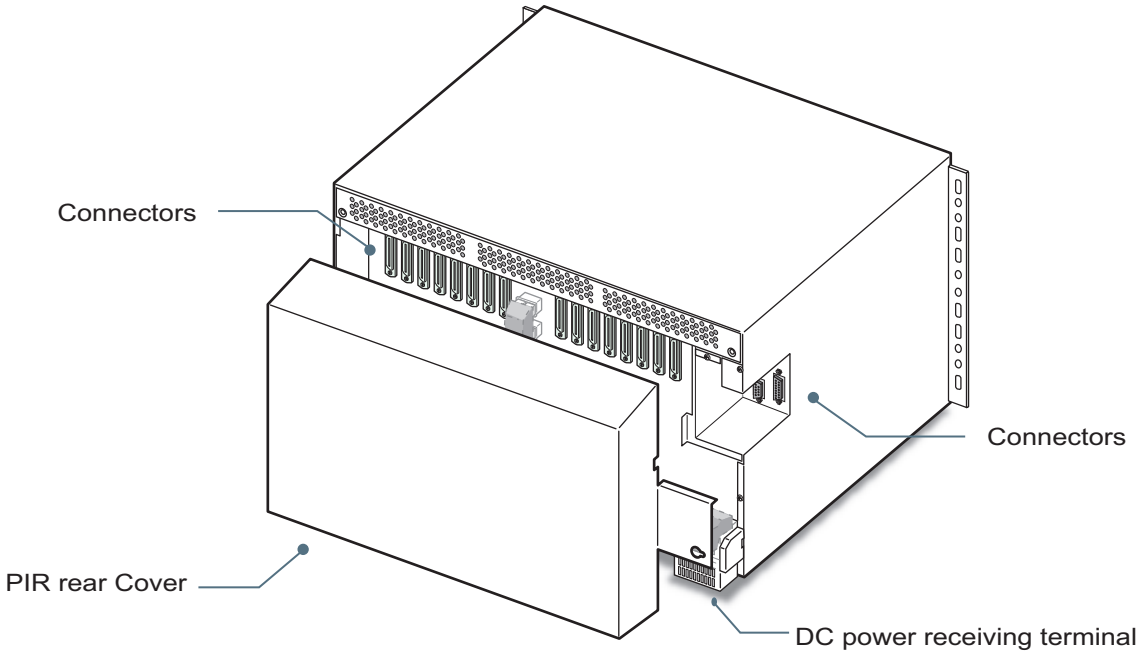
3.2.2.1 7U-PIR

Front View of 7U-PIR



Note: If a single power unit system is used, #1 power unit slot will have a blank panel attached.

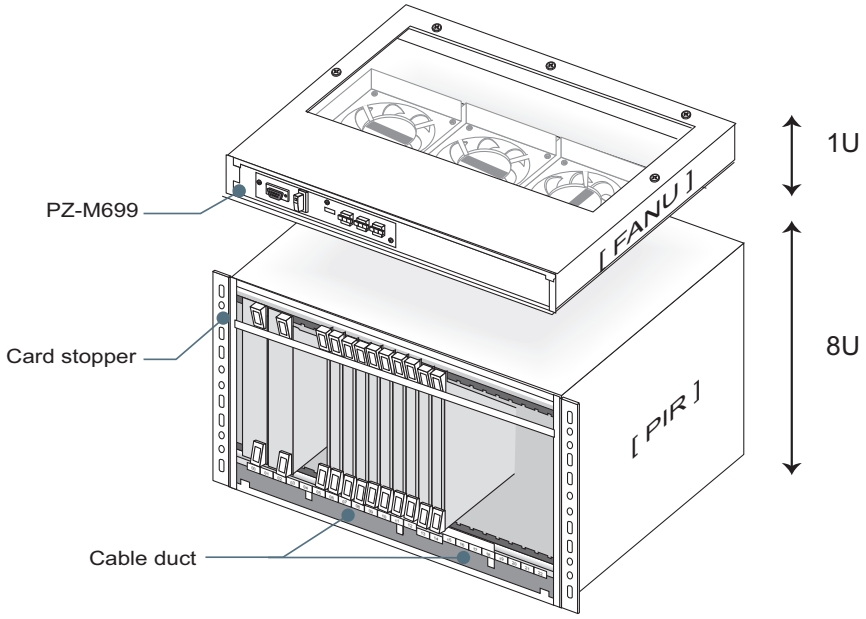
Rear View of 7U-PIR



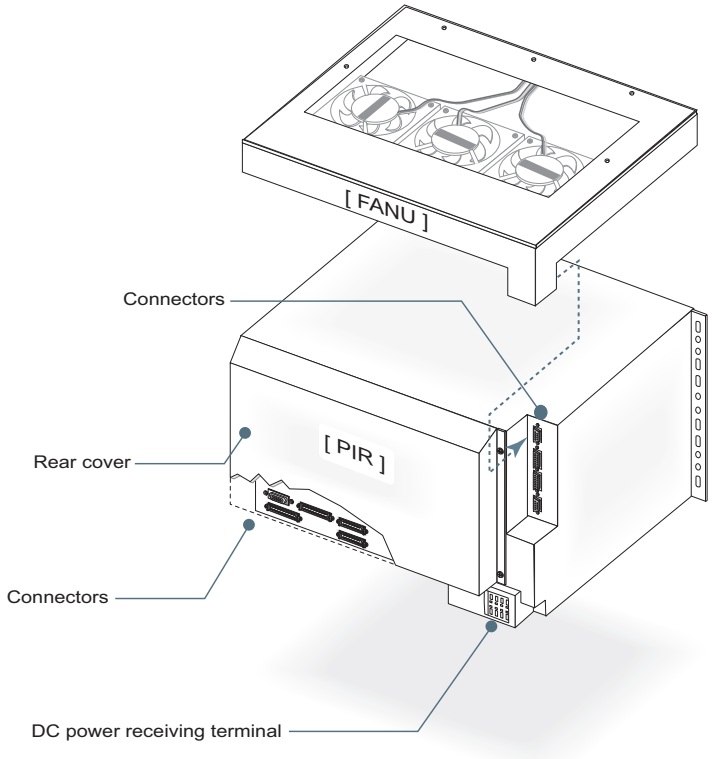
3.2.2.2 8U-PIR

(1) Bottom-Mounted 8U-PIR for two or more 8U-PIRs Configuration of IMG

8U-PIR Front View (Pattern 1)

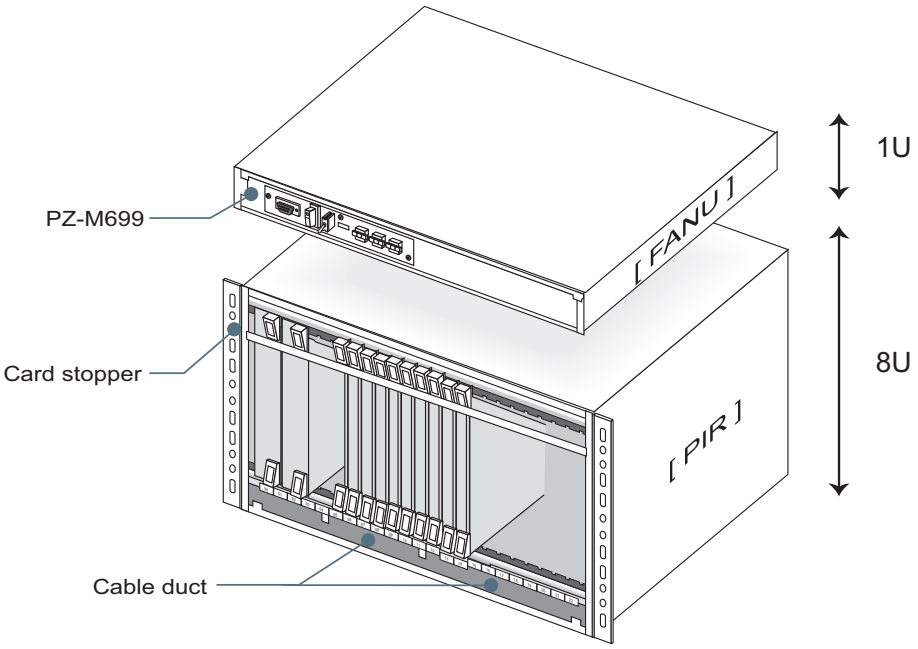


8U-PIR Rear View (Pattern 1)

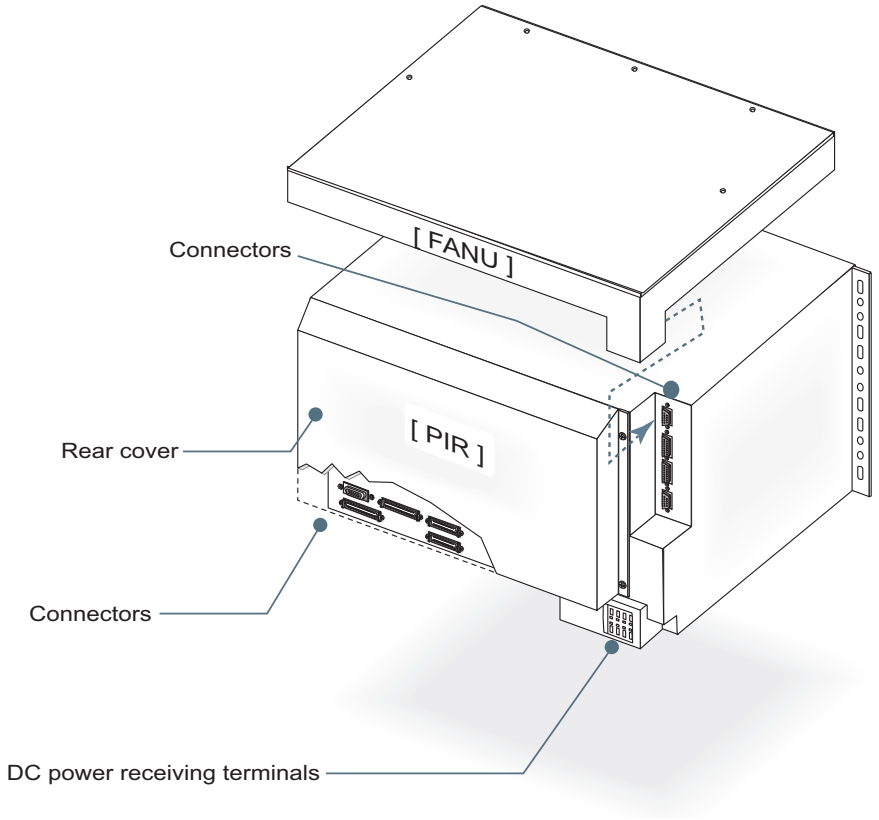


(2) Single 8U-PIR Configuration of IMG

8U-PIR Front View (Pattern 2)

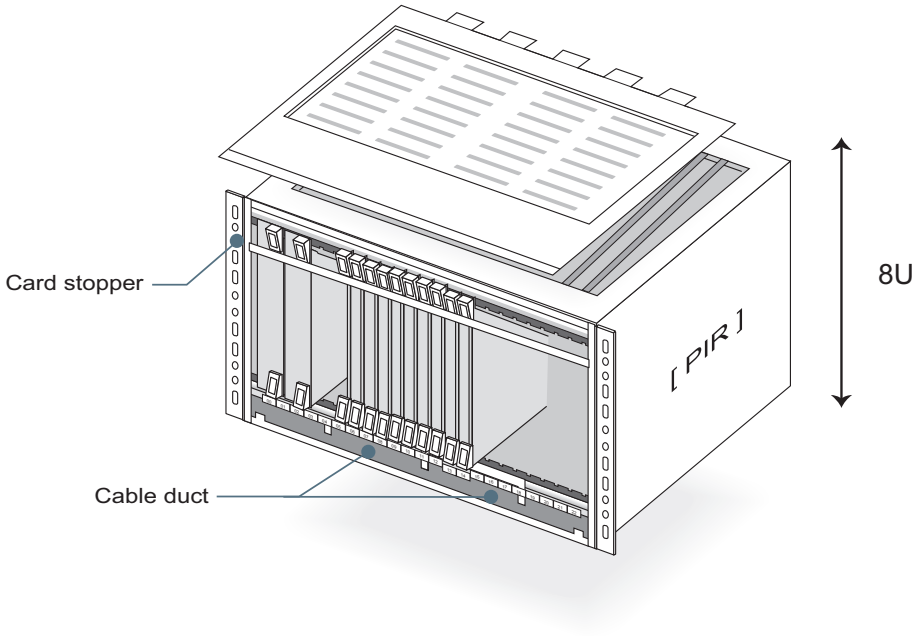


8U-PIR Rear View (Pattern 2)

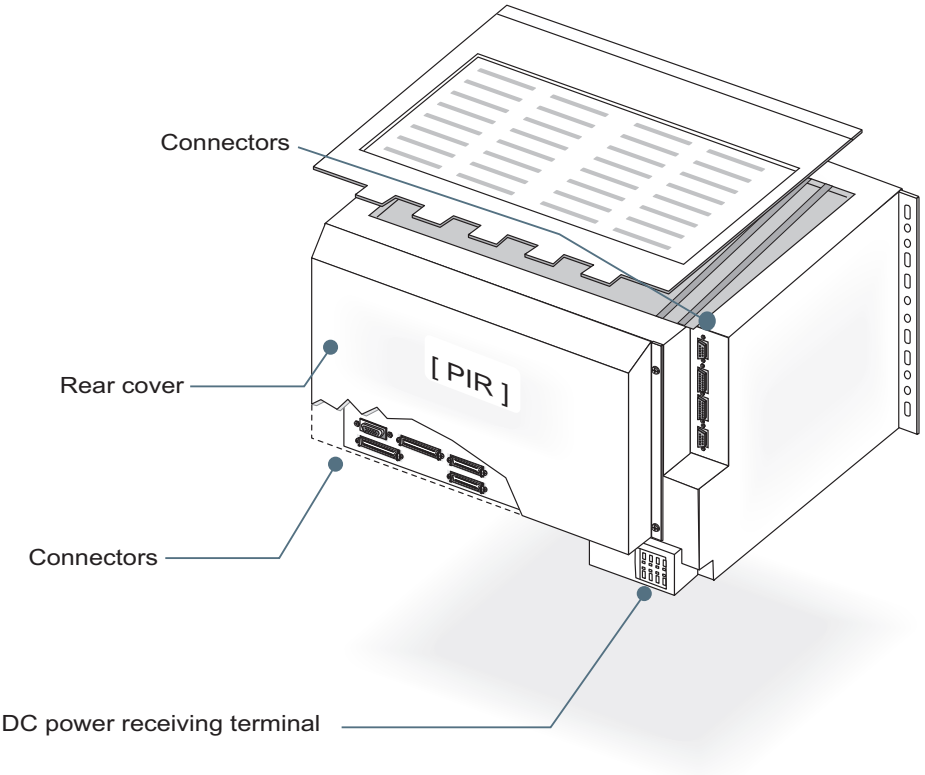


(3) Top-Mounted 8U-PIR for two or more 8U-PIRs Configuration of IMG

8U-PIR Front View (Pattern 3)



8U-PIR Rear View (Pattern 3)



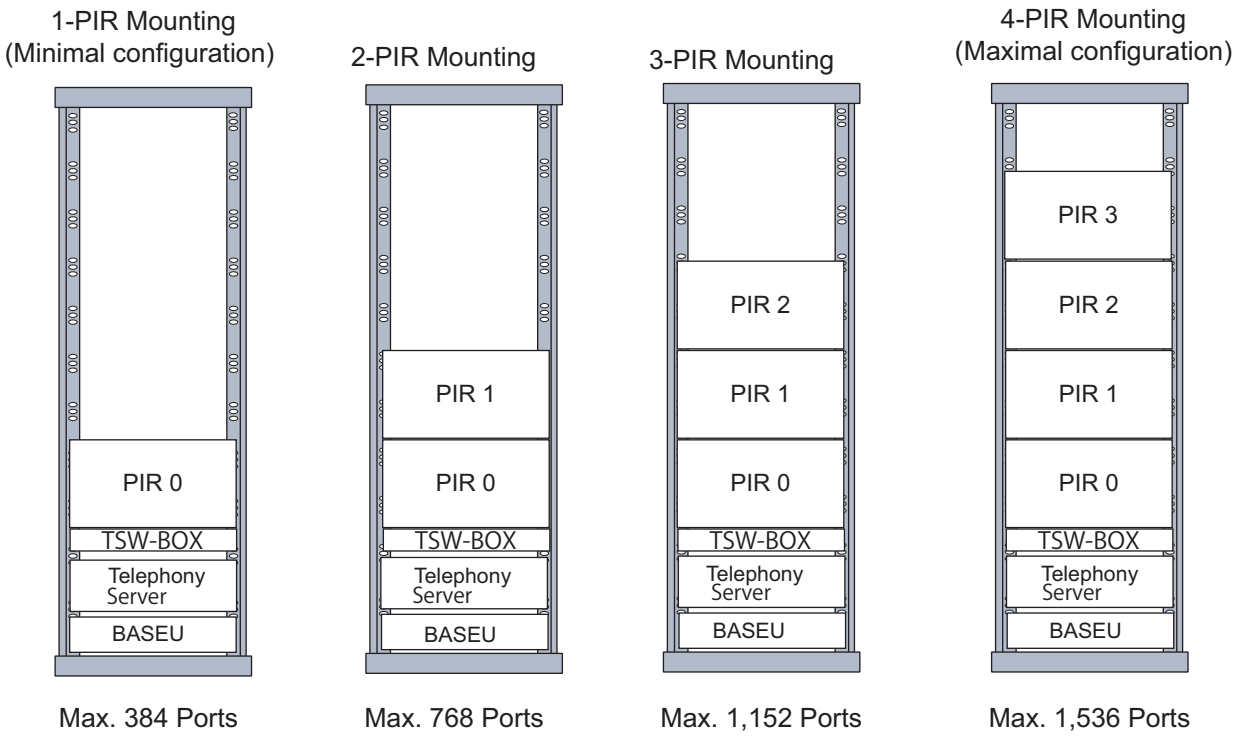
3.2.3 Module Configuration

The figures below show the module configuration of the DC-powered model of 7U-PIR.

[1-IMG configuration]

Up to four PIRs can be accommodated per system.

Module Configuration Example (DC-Powered Model: 1-IMG)



Note: PIRs need to be mounted closely, without spaces in between.

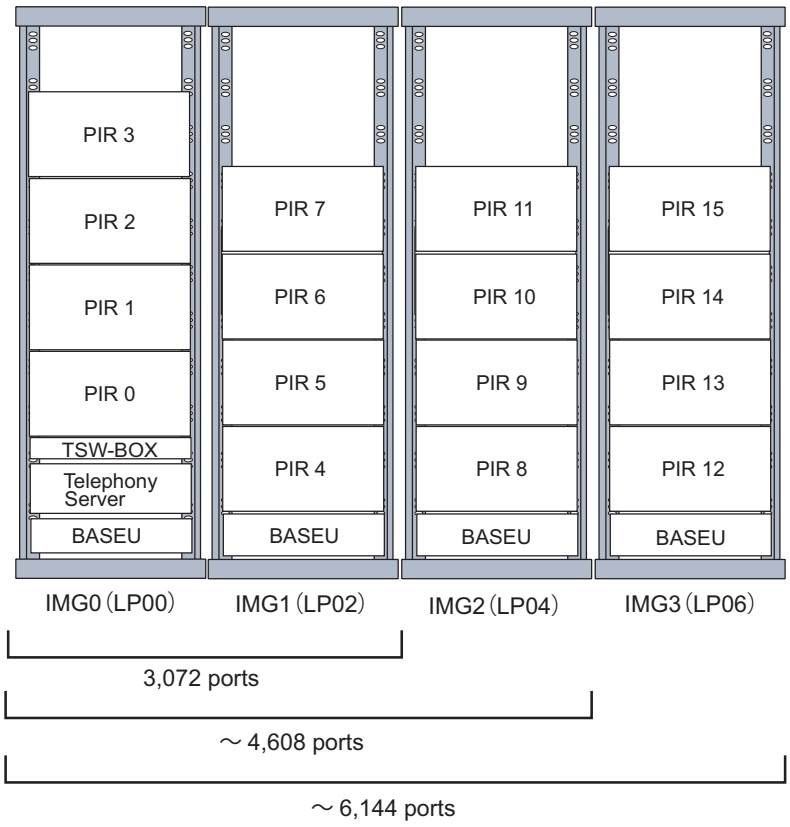
Note: Be sure to mount TSW-BOX and PIR0 right above the server module.

[4-IMG configuration]

Up to 16 PIRs can be accommodated per system.

- When Using TSW-BOX

Module Configuration Example (4-IMG with TSW-BOX)



Note: PIRs need to be mounted closely, without spaces in between.

Note: Be sure to mount TSW-BOX and PIR0 right above the server module.

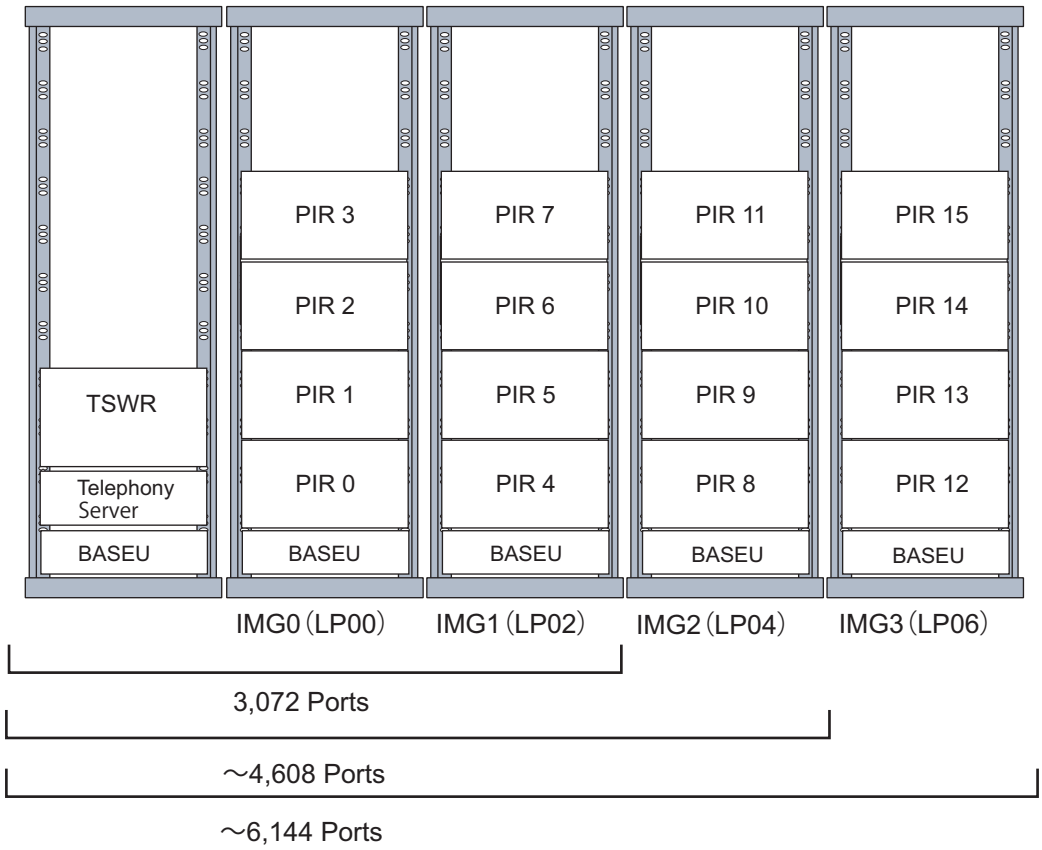
Note: LP refers to local partition. It refers to one unit that a virtual local processor can control. Considering 1IMG (2MG)=1LP, the above figure is showed as multiple of 2.

Conditions for Module Mounting Position

UNIT/MODULE	PIR MODULE CONFIGURATION	MOUNTNG POSITION	REMARKS
TSW-BOX	-	Install TSW-BOX right above the Telephony Server module.	
BASEU	-	Install BASEU at the bottom of each IMG.	Power distributing unit for DC-Powered Model

- When Using TSWR

Module Configuration Example (4-IMG with TSWR)



Note: PIRs need to be mounted closely, without spaces in between.

Note: Be sure to mount TSWR right above the server module.

Note: LP refers to local partition. It refers to one unit that a virtual local processor can control. Considering 1IMG (2MG)=1LP, the above figure is showed as multiple of 2.

Conditions for Module Mounting Position

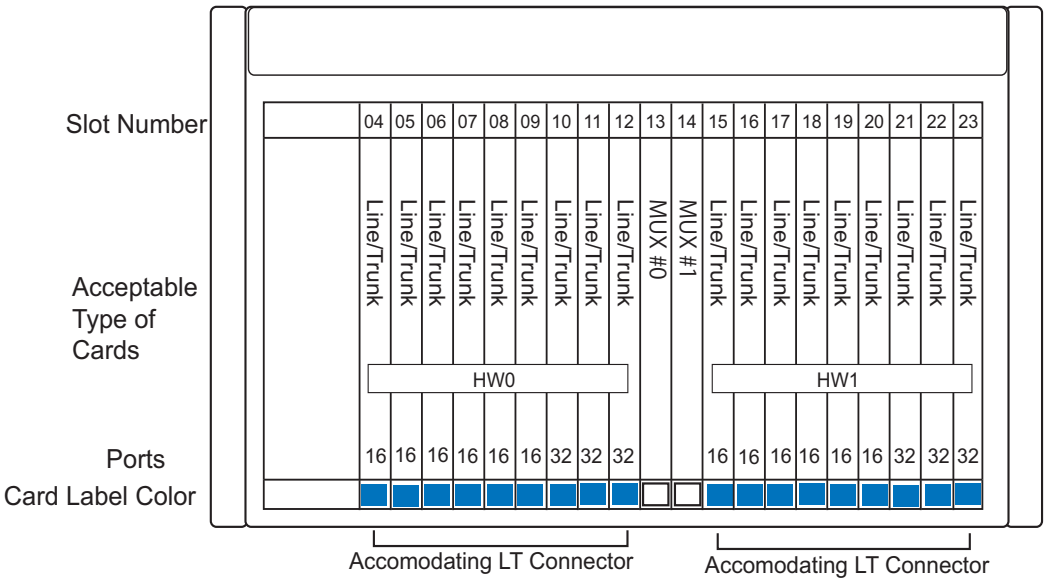
UNIT/MODULE	PIR MODULE CONFIGURATION	MOUNTNG POSITION	REMARKS
TSWR	-	Install TSWR right above the Telephony Server module.	
BASEU	-	Install BASEU at the bottom of each IMG.	Power distributing unit for DC-Powered Model

3.2.4 PIR Slot Configuration

The figure below shows the slot configuration and the condition of mounted circuit card types.

3.2.4.1 7U-PIR

Slot Configuration on 7U-PIR (DC-Powered Model)

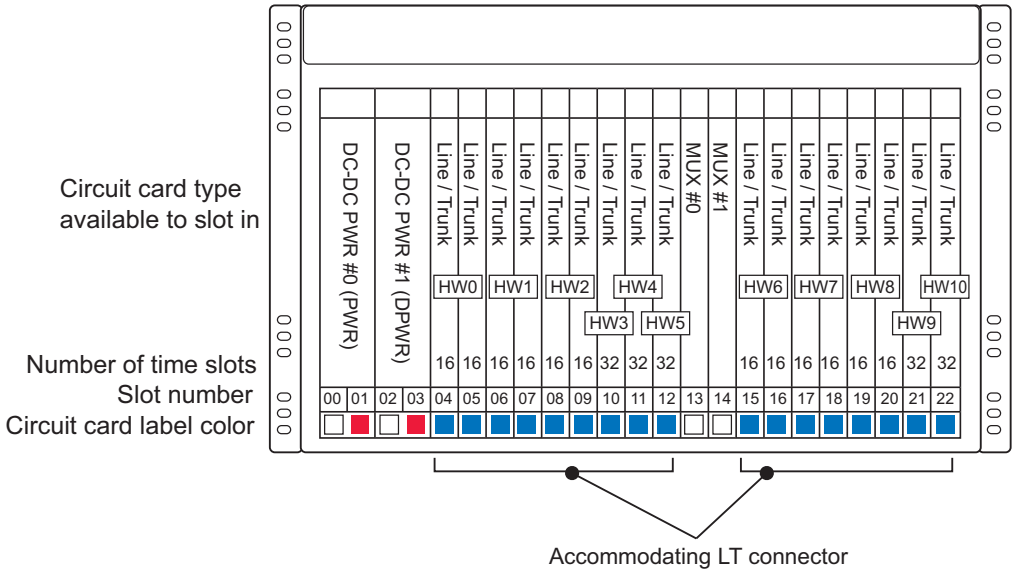


Card Accommodation on 7U-PIR

SLOT NUMBER	FUNCTION OF CIRCUIT CARD	DESCRIPTION
13, 14	**MUX**	MUX is an interface for multiplexing the control information between the port microprocessor of the line/trunk card, the server and the PCM voice between the TSW and the line/trunk.
04-12 **15-23**	**Line/Trunk**	Each universal slot has a communication path called highway (HW) for multiplexing PCM signal on the line/trunk circuit. HW consists of 2 lines (HW0/HW1) and is connected to the card slots from the MUX card. For example, HW0 delivers PCM signals of slots 04-12. PCM signal is sent each 256ch to MUX, and after being multiplexed, is sent to the time division switcher (TSW). After the interchange processing on TSW, a multiplexed PCM signal is sent to MUX, where is divided in units of 256ch and delivered to each card. The number of time slots in the figure above shows the unit for multiplexing/de-multiplexing PCM signal on the applied slot. Make sure to mount the channels of one card consisting of 32 time slots (such as DTI) on the same HW. If there is a mistake, call processing cannot be operated normally.

3.2.4.2 8U-PIR

Slot Configuration on 8U-PIR (DC-Powered Model)

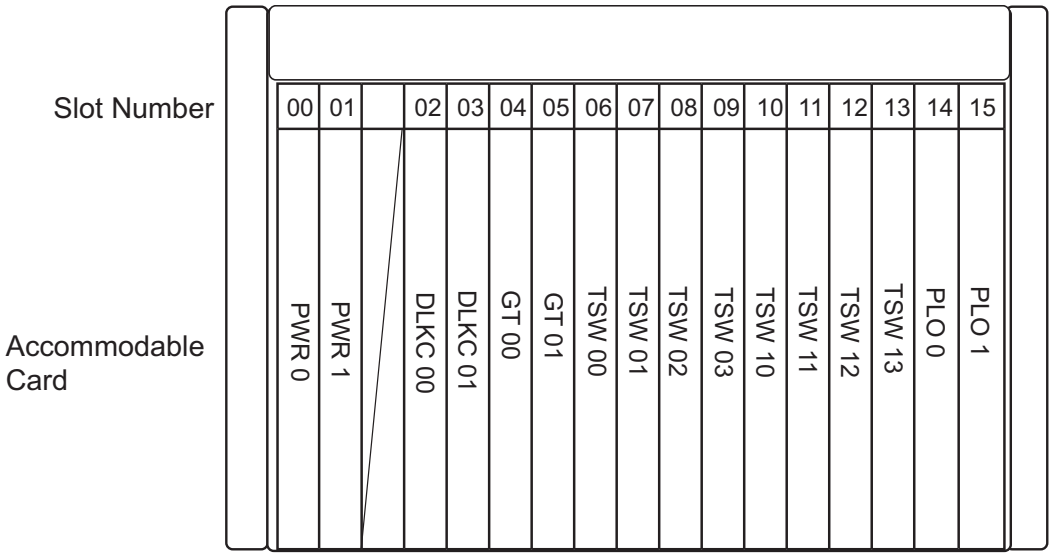


Card Accommodation on 8U-PIR

SLOT NUMBER	FUNCTION OF CIRCUIT CARD	DESCRIPTION
01	**PWR**	DC-DC power converter to supply operating power to each circuit card on PIR. Converting DC-48V input, this card outputs DC+5V, -5V, and +12V. Also it is equipped with ringing and howler tone generating circuit.
03	**DPWR**	
13, 14	**MUX**	Provides an interface for multiplexing/de-multiplexing voice Pulse Code Modulation (PCM) information and digital data information, in between CPR and Port Microprocessor (PM) of line/trunk circuit.
04-12, 15-22	**Line/Trunk**	Slots 04~12 and 15~22 are the universal slot to mount any line/trunk cards. Each universal slot has communication path called highway (HW) for multiplexing PCM signal on line/trunk circuit. Every 32ch of PCM signal is sent out to MUX and then transferred to TSW after being multiplexed. The multiplexed PCM signal is transferred to MUX from TSW through switching process. The PCM signal is parted by 32ch of HW on MUX and distributed to each line/trunk. The number of time slots in the figure above shows the unit for multiplexing/de-multiplexing PCM signal on the applied slot. Make sure to mount the channels of one card consisting of 32 time slots (such as DTI) on the same HW. If these channels across HWs, call processing cannot be operated normally.

3.2.4.3 TSWR

TSWR Slots Configuration



Cards on TSWR

SLOT NUMBER	FUNCTION OF CIRCUIT CARD	DESCRIPTION
00, 01	**PWR**	Supplies DC -48V operating power to the circuit cards mounted on TSWR, and also provides DC-DC converter function to generate and output DC +5V, -5V and +12V power.
02, 03	**DLKC**	Broadcasts ATT calls' termination/answer/release (abandoned) information and idle/busy state of stations from the Telephony Server to all the Attendant Consoles (ATTs) via TSW link, supporting the following functions: - ATT transfer data receiving buffer - format converting of ATT transfer data - serial sending/receiving of ATT transfer data
04, 05	**GT**	Provides the Telephony Server with the interface for controlling TSW, PLO, and DLKC.
06 ~ 13	**TSW**	Provides Time Division Switching (TSW) function. One TSW card provides PCM switch capacity for one IMG (Interface Module Group). Four TSWR cards are combined in the 4-IMG type as there are four IMGs.
14, 15	**PLO**	Provides system clock to each feature. Extracting the source clock signal from digital trunk or Digital Clock Supply (DCS), PLO makes the system synchronizing with network and external clock sources, by supplying the system with a clock signal under the phase synchronization of oscillator's base clock signal.

4. TSW-BOX Configuration

4.1 Hardware Specifications

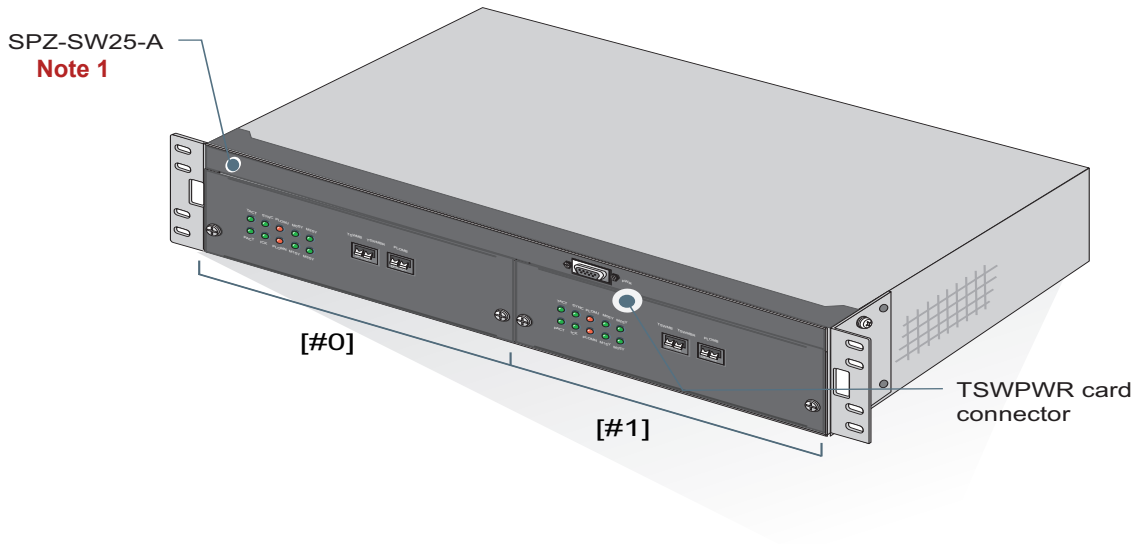
Total weight	Approx. 7.5kg (264.55 oz)
Input power source	Power feeding from TSWPWR card
Dimensions	430 × 371 × 88 mm (1’4.92" × 1’2.60" × 3.46" inches) excluded the brackets 19-inch Rack mount, 2U **Note 1**
Other conditions	1 unit required for 1-IMG/4-IMG configuration

Note 1: If you are going to install TSW-BOX in a space different from the 19-inch rack mention in this manual, make sure that the dimensions are correct. See Installing 19-Inch Rack on Chapter 3.

4.2 Front and Rear Sections

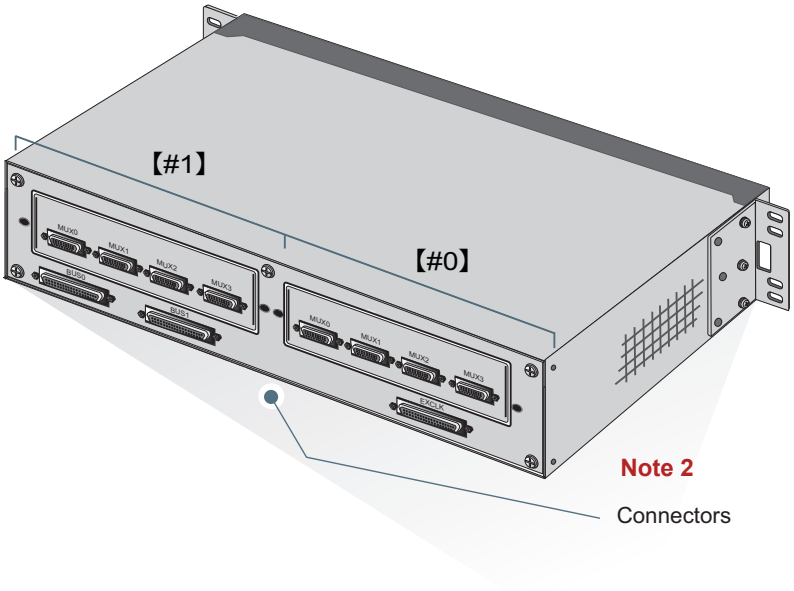
- TSW-BOX for 1-IMG Model

Front Section



Note 1: For detailed information on SPZ-SW25-A, see Circuit Card Description.

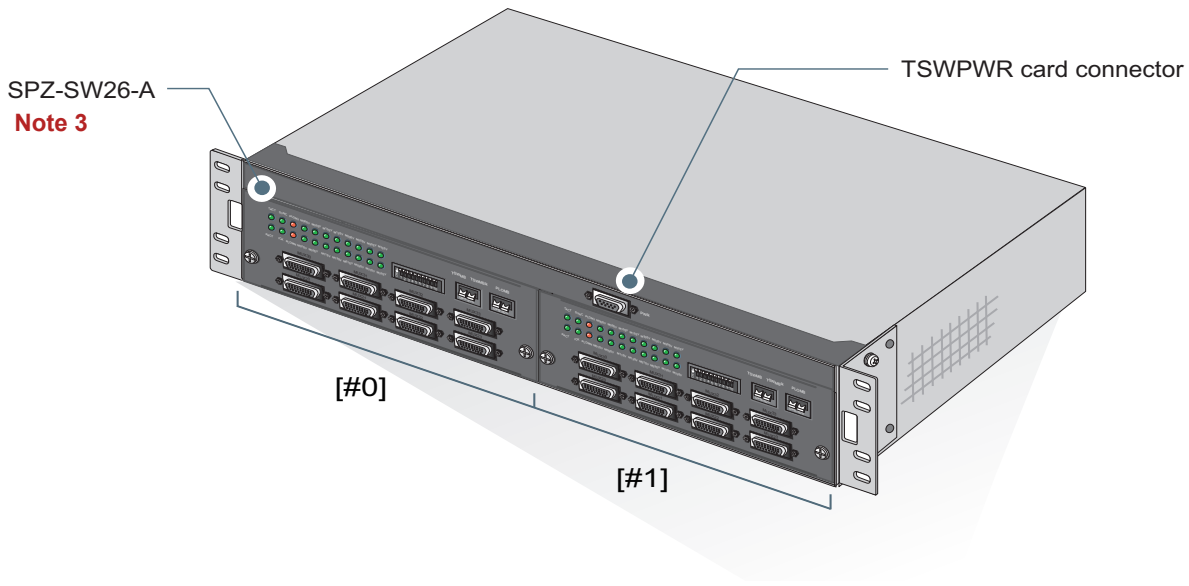
Rear Section



Note 2: For a detailed explanation of connectors, see 4.3 Internal and Inter-Frame Cable Connection in CHAPTER 4 MODULES MOUNTING AND CONNECTION (7U-PIR CONFIGURATION).

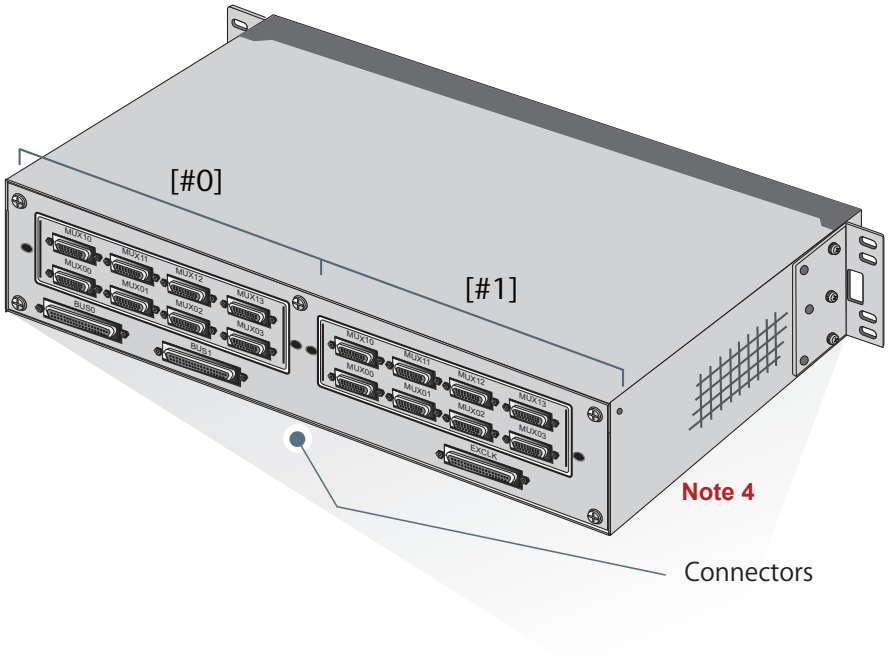
- TSW-BOX for 4-IMG Model

Front Section



Note 3: For detailed information on SPZ-SW26-A, see Circuit Card Description.

Rear Section

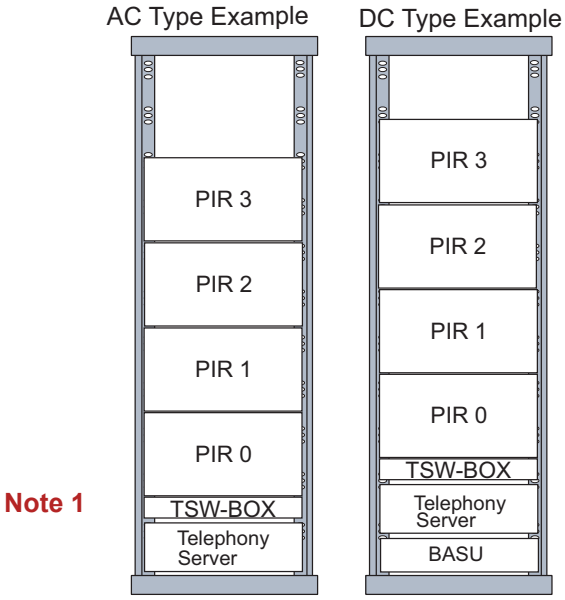


Note 4: For a detailed explanation of connectors, see 4.3 Internal and Inter-Frame Cable Connection in CHAPTER 4 MODULES MOUNTING AND CONNECTION (7U-PIR CONFIGURATION).

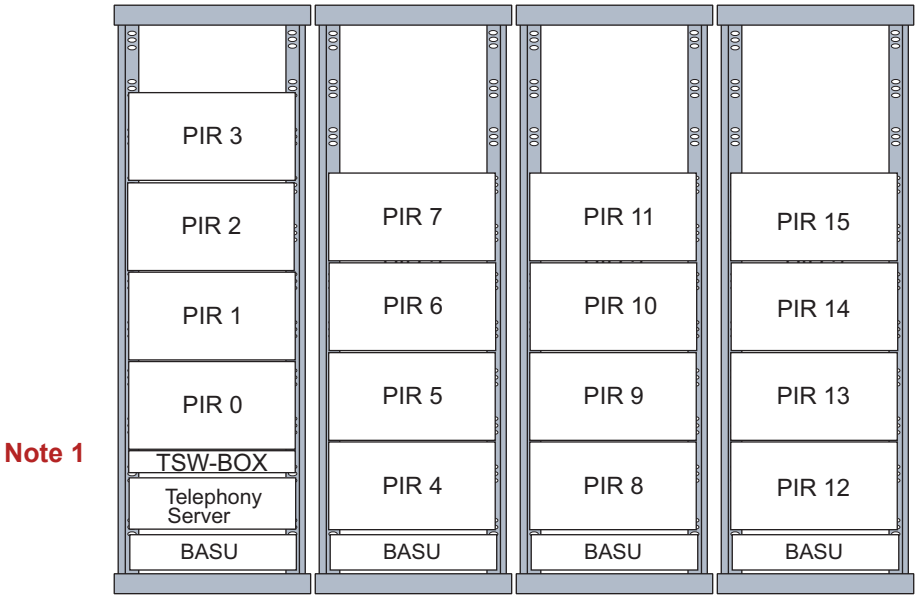
4.3 Module Configuration

Mount TSW-BOX following the figure below.

1-IMG Model



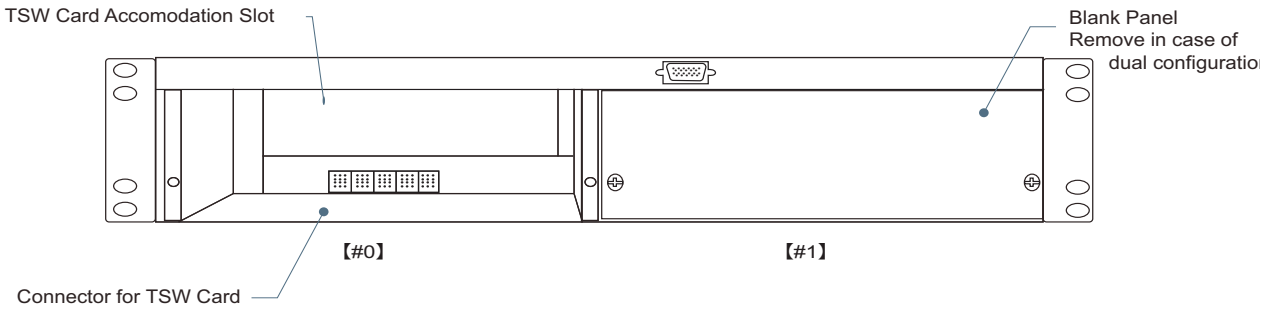
4-IMG Model



Note 1: Be sure to mount TSW-BOX right above the server module.

4.4 Slot Configuration

Slot configuration is as follows.



CHAPTER 2
INSTALLATION DESIGN

This chapter explains the installation design for preparing the required installation environment and materials.

1. Equipment Room Requirements

Ensure that the equipment room meets the specified conditions. Also take any future expansion into consideration.

1.1 Floor Space

The whole system operation also requires floor capacity for operation and maintenance area in addition to the setting space for the Telephony Server's main module, peripheral equipment, and MDF. Dimension of the system equipment and required operation room are described in the tables below.

Dimensions and Weights of System Equipment

EQUIPMENT	DIMENSIONS Unit: mm (inch) width × depth × height	WEIGHTS Unit: kg (oz)	REMARKS
Telephony Server	430 ´ 476 ´ 132 (1' 4.93" ´ 1'6.74" ´ 5.20")	Approx. 16 kg (564.4 oz) (maximum accommodation)	
7U-PIR	437´ 496 ´ 310 (1'5.20" ´ 1'7.50" ´ 1'0.20")	Approx. 26.5 kg (935 oz) (maximum accommodation)	
7U-PIR AC-DC Power Unit	224 ´ 372 ´ 43 (8.82" ´ 1' 2.65" ´ 1.69")	3.7 kg (130.51 oz)	Rack Mount 1U-Box
7U-PIR DC-DC Power Unit	224 ´ 372 ´ 43 (8.82" ´ 1' 2.65" ´ 1.69")	2.5 kg (88.18 oz)	Rack Mount 1U-Box
8U-PIR	437 ´ 531 ´ 354 (1' 5.21 ´ 1' 8.88 ´ 1' 1.94)	Approx. 30 kg (1,058.2 oz)	
1U AC-DC Power Unit	437´ 370 ´ 44 (1'5.20" ´ 1' 4.57" ´ 1.73")	Approx. 6.7 kg (232.8 oz)	Rack Mount 1U-Box
TSW-BOX	430´ 421 ´ 88 (1' 4.93" ´ 1' 4.58" ´ 1' 1.94")	Approx. 7.5 kg (264.55 oz) (in dual configuration)	Rack Mount 2U-Box
TSWR	437´ 421 ´ 399 (1'5.20" ´ 1' 4.58" ´ 1' 3.71")	Approx. 35 kg (1,234.58 oz) (maximum accommodation)	
BASEU	437 × 90 × 87 (1'5.20" × 3.54" × 3.43)	Approx. 3 kg (105.8 oz)	
MDF	480 ´ 94.9 ´ 285.2 (1' 6.90" ´ 3.74" ´ 11.23")	5.8 kg (204.6 oz)	
Telephony Server RACK (39U)	595 ´ 600 ´ 2,000 (1' 11.43" ´ 1' 11.62" ´ 6' 6.74")	280 kg (9,876.7 oz) (maximum accommodation)	

Note: Be sure to check on the dimensions, because there may be a size change.

Operation Room

EQUIPMENT	FRONT MARGIN Unit: mm (inch)	REAR MARGIN Unit: mm (inch)	REMARKS
Telephony Server	1,000 (3’ 3.37")	600 (1’ 11.62")	Leave 600 mm (1’ 11.62" inch) of side margins to the wall.
7U-PIR/8U-PIR	1,000 (3’ 3.37")	600 (1’ 11.62")	
TSW-BOX	1,000 (3’ 3.37")	600 (1’ 11.62")	
TSWR	1,000 (3’ 3.37")	600 (1’ 11.62")	
MDF	1,000 (3’ 3.37")	600 (1’ 11.62")	
Maintenance console (PCPro)	1,200 (3’ 11.24")	800 (2’ 7.50")	

Note: The space for operation room in this table is an example for reference. It may be different according to the equipment room conditions.

1.2 Floor Load

Required floor capacities are as follows:

- Equipment Room: more than 3430 Pa (71.7 pounds/square foot)
- Operator Room: more than 2940 Pa (61.4 pounds/square foot)

1.3 Floor Surface

1. Switching Equipment Room
   - The maximum difference in floor level at any point within the room should be less than +5 mm (0.2 inch).
   - The floor should be an elevated-type floor such as a free-access floor or computer room floor.
2. Battery Room
   - The floor should have a slope of 1/1000, and a drain at the end of the slope.
   - The floor surface should be made of acid-resistant materials.
3. Floor Construction
   - The floor should have a slope of 1/1000, and a drain at the end of the slope.
   - The floor surface should be made of acid-resistant materials.

1.4 Wall, Ceiling, and Window

1. Wall
   - Use concrete to permit the installation of cable racks (in the absence of a free-access floor).
   - Apply paint to avoid generating dust, etc.
   - Ensure that the maximum difference in surface level is less than +5 mm (0.2 inches).
2. Ceiling
   - The minimum ceiling height is 2.3 meters (7.5 feet).
3. Window
   - Keep all of the windows closed if the location is affected by dust, sea breeze or corrosive gas. Curtains or blinds are necessary to avoid direct sunlight.

1.5 Lighting Facilities

1. Switching Equipment Room
   - Fluorescent lamps are recommended.
   - The floor-level illumination must be at least 200 lux (18.6 foot-candles).
2. Operator Room
   - Fluorescent lamps are recommended.
   - The floor-level illumination must be at least 200 lux (18.6 foot-candles).
3. Battery Room
   - Anti-explosion type lamps are required.
   - The floor-level illumination must be at least 150 lux (13.9 foot-candles).

2. Power Supply Requirements

2.1 Main Source Power

The Telephony Server requires operating power of AC 100V ~ 240V (50/60 Hz) ± 10% and DC -48V ± 10%. The DC operating power is supplied from the rectifier, that receives AC power from a commercial AC power source. For greater system reliability, it is recommended that the Telephony Server is supplied with a backup DC operating power, capable of providing power for a predetermined duration, from the batteries installed as the auxiliary power supply source.

The batteries for the Telephony Server must be connected in parallel with the -48V DC output of the rectifier. When installing the batteries, place an EMF panel in-line (series) with the input -48V DC supplied to the Telephony Server. This panel is necessary when changing the state of the rectifier from float to equalize, and vice versa.

Note: When the rectifier is in the equalize state (charging the batteries), the output DC voltage should be 1.5 volts to 2 volts higher than the float voltage. Please refer to the voltages for floating and equalizing below:
Float: 50.5V DC
Equalize: 52V DC (**Note 1**)

Note: The noise that is present in the -48V output from the rectifier should be less than 5mV.

Note 1: The equalize voltage is 1.5 volts to 2 volts higher when an EMF panel (Diode Drop) is used.* When an EMF panel is not used, the float and equalize voltage must be the same (50.5 V).*

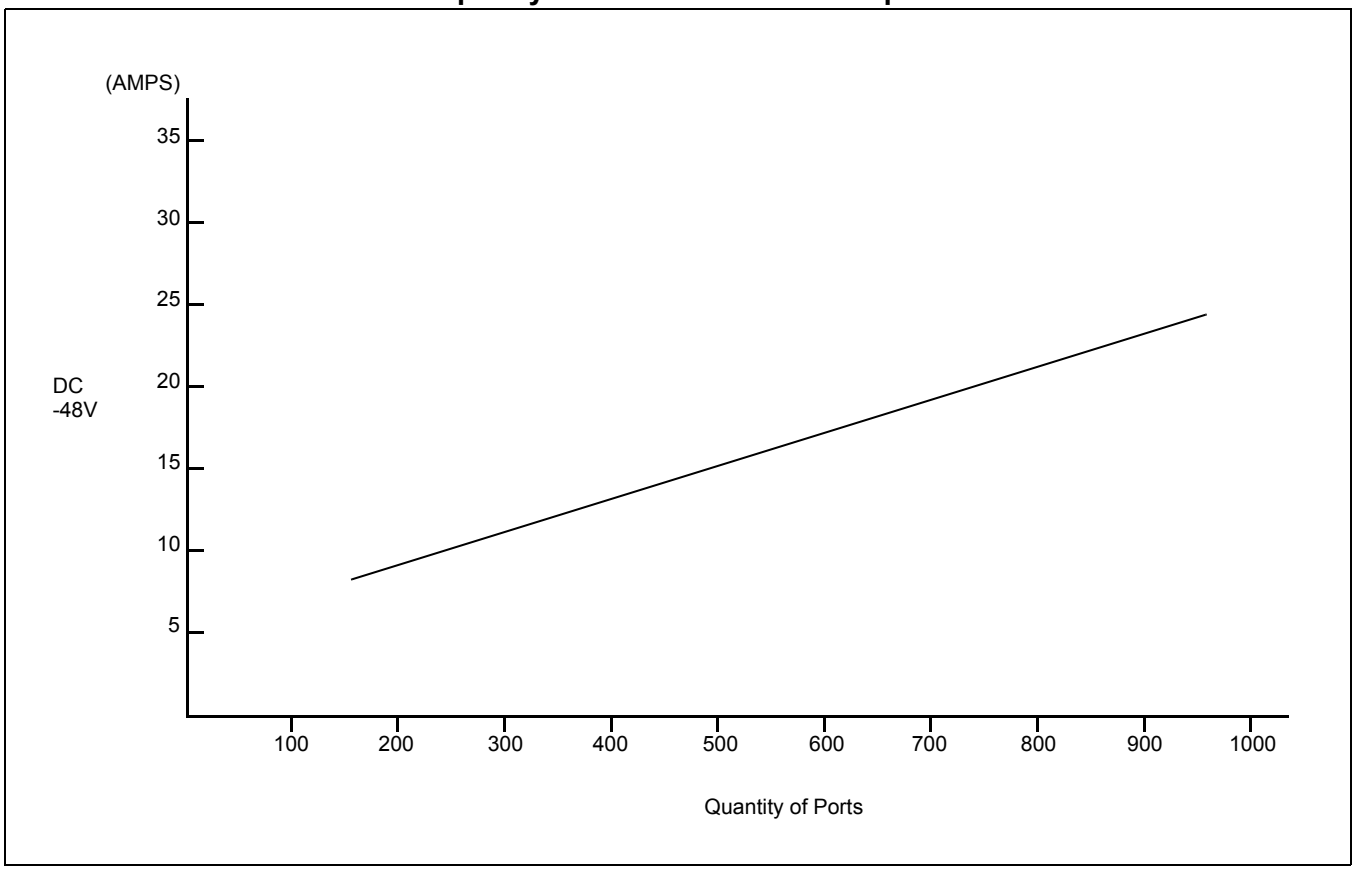
*: *It is important to understand the meaning of Plus(+) or Minus (-) 10%. This is that the Hardware has been certified and is in compliance of the power rating. This does not mean that the PBX can run other than -48V DC.*

2.2 Current Consumption

DC-DC converter in each module provides various DC voltages required within the system. The DC-DC converter, upon receiving the -48V DC source power, converts it into various DC voltages and supplies them to the associated circuits.

The figure below shows the current consumption of the Telephony Server with respect to the quantity of ports.

Telephony Server Current Consumption



2.3 Power Distribution Box Requirements

Install the Power Distribution Box (PDB) with the following considerations:

1. Provide a dedicated AC power source service outlet and junction box fuse for the switching equipment.
2. Attach a warning notice to the PDB circuit breaker so that it will not be turned off accidentally.
3. Install the PDB at a location that is easy to reach.
4. Install the PDB at a location where the connecting cables that extend to the switching equipment will not be accidentally broken.
5. Run the PDB cables in a manner that will not hamper the installation.
6. Provide a separate AC service outlet for maintenance console such as PCPro.

2.4 Grounding

The system grounding must have a specific ground resistance and AC noise level, and be connected to a predetermined terminal in the Telephony Server.

The standard grounding requirements are shown below.

- Communication grounding: Less than 1Ω
- Security ground for Module Group: Less than 1Ω
- Grounding for the MDF line protector: Less than 0.1Ω

Note: The AC ripple of various types of grounding should be less than 1/2 V-pp.

3. Air Conditioning Requirements

The Telephony Server is sensitive to increase in temperature and humidity, as it is a computer. Air conditioning may be required.

3.1 Temperature and Humidity

The table below shows the environmental conditions that are required in the switching equipment room. If the switching system is operated in an environment that does not meet these specifications, the reliability of the switching equipment may be impaired. Improper operating conditions can cause circuit boards, etc. to deteriorate. Therefore, to enable the equipment to operate for the full extent of its expected lifetime, give careful consideration to the location of the equipment and to proper ventilation and air conditioning. If equipment is not provided to remove the heat generated by the system, or if the temperature or humidity fluctuate repeatedly, the system's electronic parts can be adversely affected. Such conditions will increase the corrosion of metal parts and the deterioration of insulation, thereby lowering the overall reliability of the system.

Note: For environmental requirements for peripheral equipment, see Environmental Requirements for Peripheral Equipment in System Description manual.

Temperature and Humidity

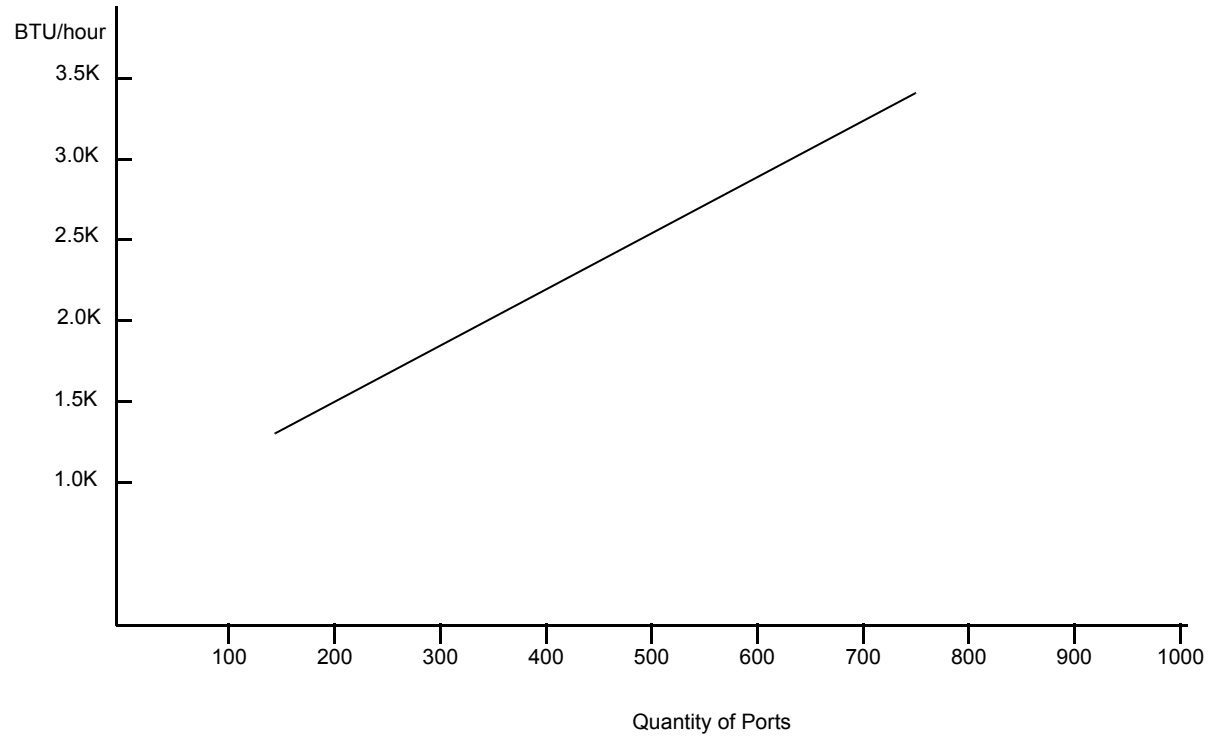
		TEMPERATURE	RELATIVE HUMIDITY	REMARKS
During Operations	Recommended Temperature Range	15°C to 27°C (59°F to 80°F)	20% to 90% (Non-condensing)	
	Operational Temperature Range **Note 1**	0°C to 40°C (32°F to 104°F)		
During Storage and In Transit		–18°C to 50°C (0°F to 122°F)	8% to 90% (Non-condensing)	
Maximum Rate of Temperature Change		5°C/30 Min. (9°F/30 Min.)	90% (Non-condensing)	

Note 1: Based on a maximum of 72 continuous operating hours or a maximum of 360 annual operating hours.

3.2 Switching Equipment Heat Generation

The figure below shows the heat generated from the switching equipment, with respect to the current consumed by the quantity of ports.

Switching Equipment Heat Generation



Note: One British Thermal Unit (BTU) =1058.4J

4. Preparation of Trunking Diagram

4.1 Preparing the Trunking Diagram

Prepare the trunking diagram according to the customer's specifications since different types of switching offices, such as single offices and network offices, are involved.

4.2 Preparing the Module Group Face Layout and the Port Accommodation Diagram

When finalizing the circuit card placement, prepare the Module Group Face Layout and the Port Accommodation Diagram.

4.3 Preparing the Circuit Card Switch Setting Sheets

Prepare the Switch Setting Sheets for the circuit cards mounted on the PIR. Some of the circuit cards may not operate properly with the initial factory switch settings or may not meet the customer's specifications. Referring to Circuit Card Description, note the switch settings in the Switch Setting Sheets that are provided with the circuit card explanations. Make the switch setting entries for all of the circuit cards.

Remember that a circuit card's purpose and role vary with its switch setting.

5. INSTALLATION CABLES

The following installation cables are required for the Telephony Server:

CABLE TYPE	USAGE
DC power cable	For connections between rectifier and batteries, between rectifier and BASEU.
AC power cable	For supplying AC source power to rectifier, AC input type of peripheral equipment and PIR.
Ground cable	Communication, security and line protector grounding.
25P shielded cable with a CHAMP (amphenol) connector at one end	For connections between MDF and LT connector on PIR/TSW-BOX/TS-WR.
25P shielded cable with CHAMP (amphenol) connectors at both ends	For connections between RS-232C connect type of peripheral equipment and the Telephony Server.
Local cable (pair cable, modular cable)	For connections between terminals (telephone sets, etc.) and the MDF
Cables for C.O. line and Tie line	For connections between external lines (C.O. line and Tie line, etc.) and the MDF
Others	For connections between Alarm Indicators and MDF

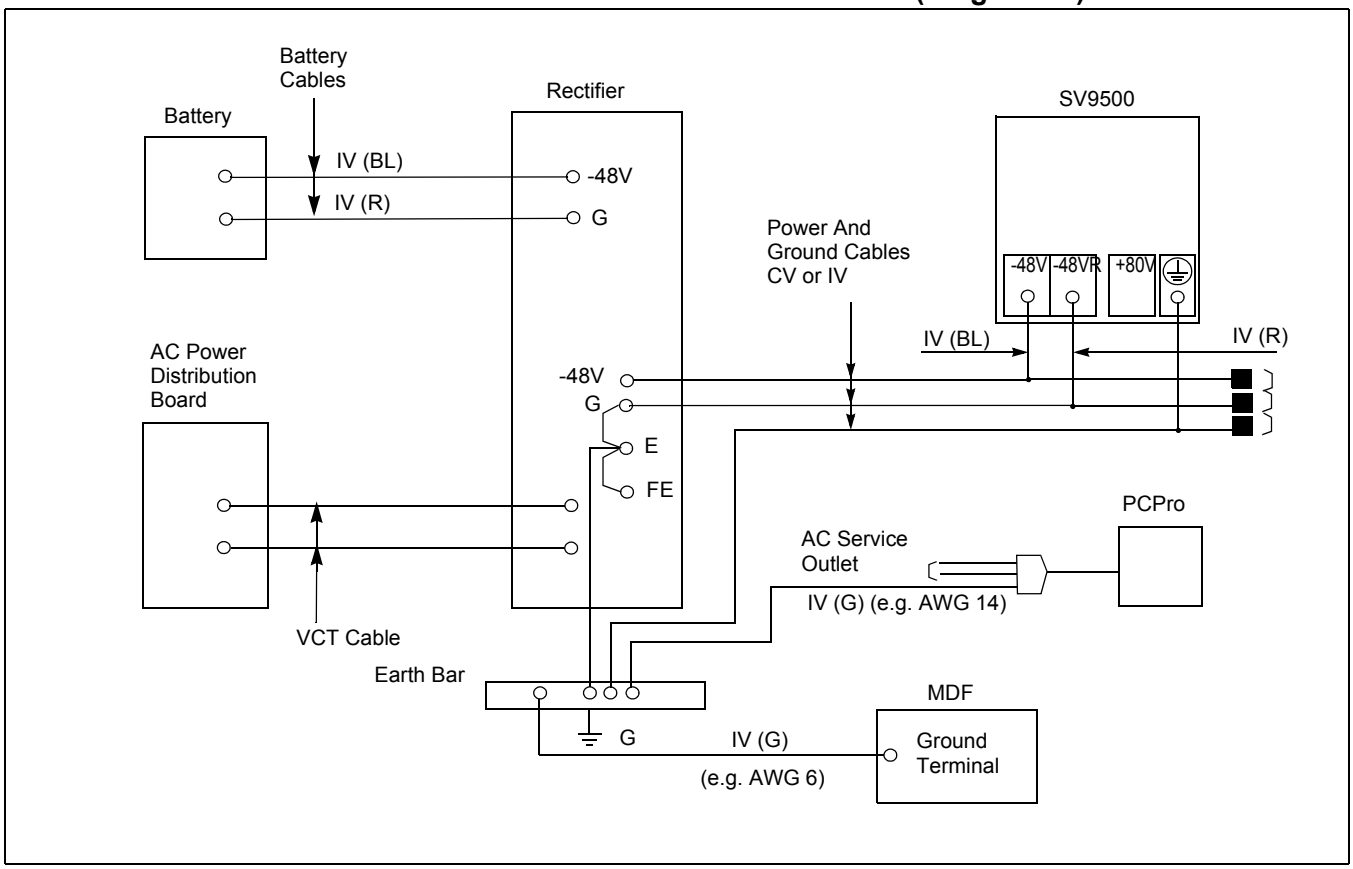
5.1 AC Input, DC Power, and Ground Cables

[1] Use VCT (Polyvinyl Chloride Cabtyre Cable) for AC input cable. If shielding is necessary, which is the case when AC input cable is installed in parallel with a low-voltage power cable, etc., use VCT-S (Shielded Polyvinyl Chloride Cabtyre Cable).

[2] For the main ground cable, use an IV or CV cable of more than 14 mm^2 (AWG 6).

For the maintenance console security ground cable and the externally installed equipment, use an IV cable of 2 mm^2 (AWG 14). For the ground cable for the MDF line protector, use an IV cable of 14 mm^2 (AWG 6).

DC Main Power Cable and Main Ground Cable (Single IMG)

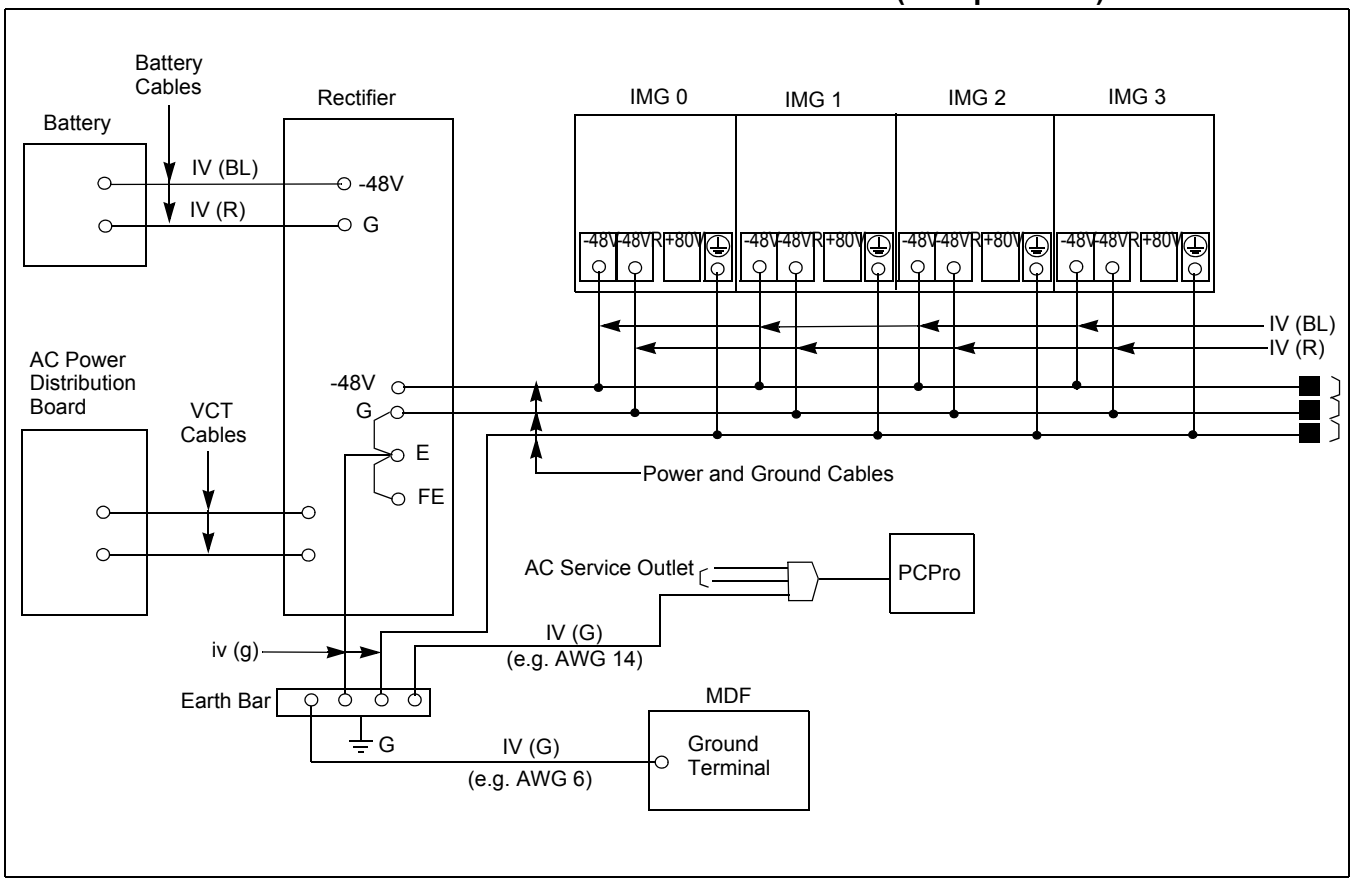


Note: Battery, AC Power Distribution Board, and Rectifier need to be locally arranged. This figure is an example for power and ground cable connection. The connection may vary depending on the installed rectifier type.

Note: If the cover of the CV Cable is black, use the following clamp cover terminals so they can be easily identified.
-48V: Blue cover G: Red cover E: Green cover

Note: Alarm from the rectifier is connected to MPALM on the power module. Alarm is issued when ±0 level is detected.

DC Main Power Cable and Main Ground Cable (Multiple IMGs)



Note: Battery, AC Power Distribution Board, and Rectifier need to be locally arranged. This figure is an example for power and ground cable connection. The connection may vary depending on the installed rectifier type.

Note: If the cover of the CV Cable is black, use the following clamp cover terminals so they can be easily identified.
-48V: Blue cover G: Red cover E: Green cover

Note: Alarm from the rectifier is connected to MPALM on the power module. Alarm is issued when ±0 level is detected.

Note: A lightning strike might cause voltage differences between IMGs, and damage the electrical circuits. To prevent this, use a single main power to connect all the IMGs. Keep the connecting cables, between the terminal boards, as short as possible.

5.2 Cables between SV9500 and MDF

With respect to lines, trunks and NCUs (PFTs), SV9500 and MDF are connected using 25P shielded cables with a CHAMP (amphenol) connector at one end.

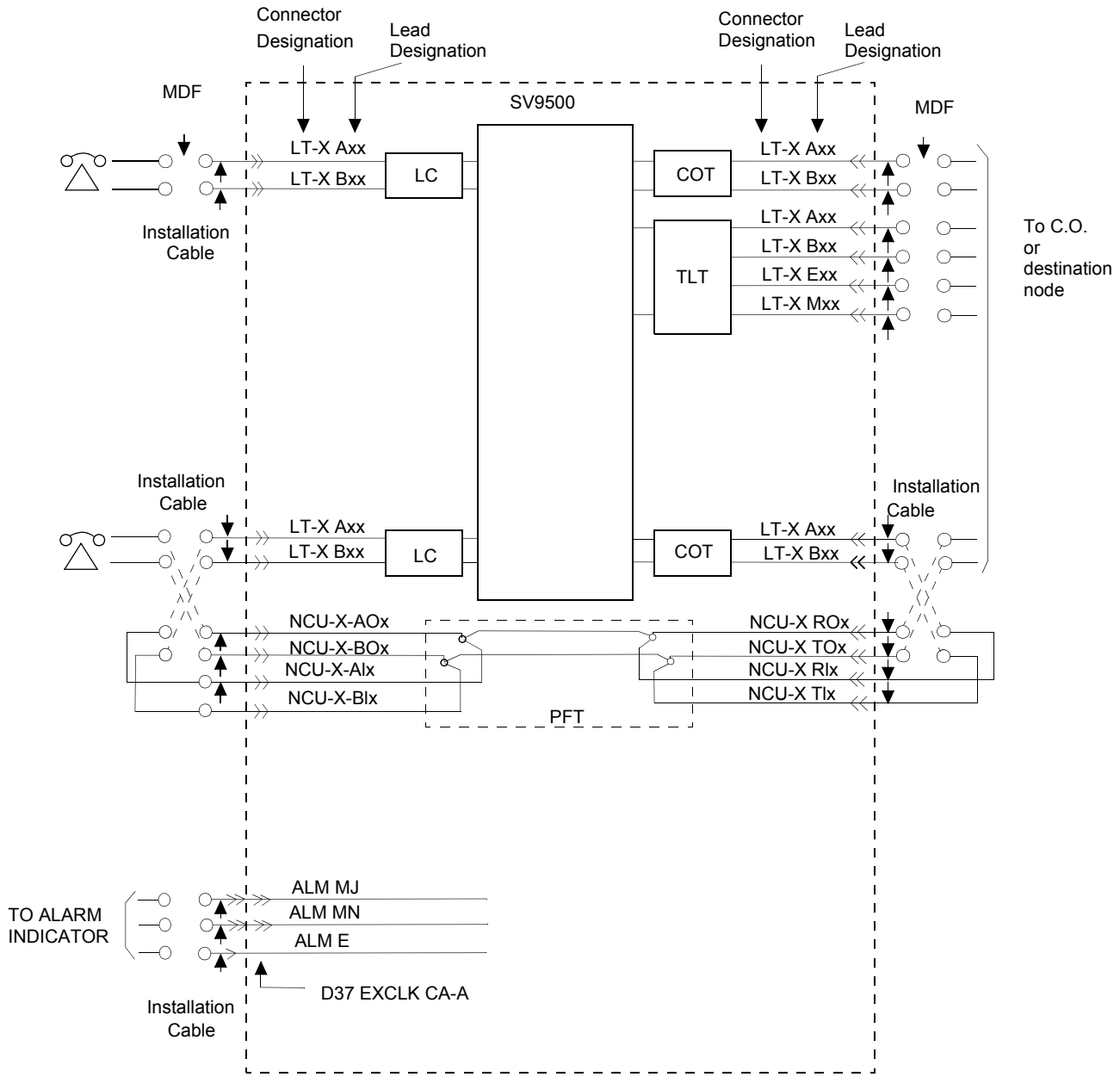
The table below shows the formulae for calculating the required quantity of cables. The following figures show outline of cable connections from the Module Group to outside.

Cable Quantities Calculation

CABLE NAME	CALCULATION	SUB TOTAL
LT cable (LT0 ~ LT11 connectors)	Quantity of PIRs × 12	
Night Change Unit (NCU) cable	Quantity of Power Failure Transfer (PFT) circuit cards × 2	
EXALM cable	1	
ODT cable	Quantity of TLT (8U-PIR)/ODT (7U-PIR) circuit cards × 1 **Note 1**	
PLO cable	IMG × 1	
EXCLK cable	IMG × 2	
TOTAL:		

Note 1: For the ODT card a maximum of six cards can be accommodated per PIR (a maximum of three in the slots 04~12 and another three in the slots 15~23).

Outline of Cable Connection from Module Group to Outside



Note: Legend ◄─: Male CONNECTOR ─►: Female CONNECTOR.

Note: ◄─○ or ○─► indicates that the CONNECTOR ended. Connect the cable between the module connector and MDF.

6. MDF Requirements

Use either a self-standing or a wall-mounted Main Distribution Frame (MDF). The MDF must be equipped with the following types of terminal blocks:

- Arrester board for C.O. lines and external lines
- Test spring terminals for localization tests
- Local block terminals.

SV9500's circuit configuration and the quantity of local lines determine the quantity of terminals.

7. INSTALLATION TOOLS

The table below lists the tools used in a typical system installation.

Typical Installation Tools

FUNCTION	TOOLS		PURPOSE
Leveling and marking	Steel Tape Measure L-Square Iron Square Iron Level	Center Punch Step Ladder Scriber	Leveling and marking plumb line
Drilling	Electric Drill Electric Vibration Drill Hammer Point Drill Drill Bit for Concrete	Concrete Chisel Drill Bit for Metal Power Cable Drum Extension Cable	Drilling
Installing Module Group and rack	Plumb Bob Jigsaw Hacksaw Frame Hacksaw Blade Flat File Half Round File Set File Adjustable Angle Wrench	Frame Cart Cutter Set Wrench Socket Wrench Set Step Ladder Phillips Screwdriver Screwdriver Plastic Hammer	Installing Module Group and rack
Installing Power Cable	Flat-blade driver		Installing power cable
Miscellaneous	Circuit Tester Pocket Measure Scissors Wire Clipper Cable Cutter Nipper Wire Stripper Round Nose Pliers Non-Metallic Stick Solder-Helper Solder Sucker IC Clip Mini Test Probe	Telephone Set Working Lamp Wrapping Tool Unwrapping Tool Soldering Iron Soldering Iron Stand Connector Clamping Tool Logic Checker and Counter Pen Light Precision Screwdriver (+)(-) IC Buzzer Tweezer Portable Field Service Kit	Miscellaneous

CHAPTER 3
SV9500 SERVER INSTALLATION - ASSEMBLING SV9500 SERVER MODULE

This chapter explains the procedures for installing the Telephony Server.

1. Site Surveying

1.1 Equipment Location Check

(1) Environmental Requirements

- Operational Temperature Range: 0°C to 40°C (32°F to 104°F)
- Operational Humidity Range: 20% to 90% (non-condensing)
- Main Source Power: 100 VAC / 120 VAC / 230 VAC / 240 VAC ±10% (50/60 Hz), -48 VDC ±10%

(2) Floor Conditions

Do not place the system under any of the conditions listed below, doing so can cause operational trouble, failure, or electrical shock.

- On unstable floor, unsettled and sideling board
- Locations which might be wet with water, oil, and chemicals
- Dusty environment
- Locations exposed to direct sunlight
- Locations which receive strong electric wave from other equipment
- Any heavy equipment is loaded on the rack
- Locations with poor heat dissipation or poor ventilation
- Locations with vibration

1.2 Floor Layout Check

According to the floor layout, confirm the equipment locations are appropriate:

- No obstructing objects, to allow easy maintenance
- C.O. lines can be easily brought in
- Local cables can be easily brought up to MDF
- Communication and security ground can be obtained as required

1.3 Power and Ground Supply

Confirm that power and ground are provided.

- AC voltage and current capacity is proper
- Circuit breaker (NFB) is provided exclusively for this system
- Ground terminals are provided separately from those of power supply system
- Single main power is provided to connect all of the IMGs

2. Installing Power Equipment



This section explains the procedure for installing the power equipment.

Note: The circuit breaker (NFB) for the rectifier's DC output must remain OFF.

STEP 1: Install the power equipment at the predetermined location using anchor bolts, etc.
Install the framework for the backup batteries. Secure the framework using anchor bolts, etc.

STEP 2: Check the cabling at the primary and secondary sides of the power equipment and the cabling to the batteries.

STEP 3: Confirm that the specifications of the customer-installed AC PDB (NFB capacity, voltage, phase, etc.) conform to the rectifier specifications.

STEP 4: Confirm that the correct communication ground is available.

STEP 5: Connect the input power cable and grounding cable to the rectifier.

STEP 6: Supply electrolyte to each battery according to the battery’s specifications.

STEP 7: Charge the batteries, after verifying that the rectifier is operating normally.

3. Installing 19-Inch Rack

Place the rack for securing the module referring to the attached setting guide of your rack.

3.1 Requirements

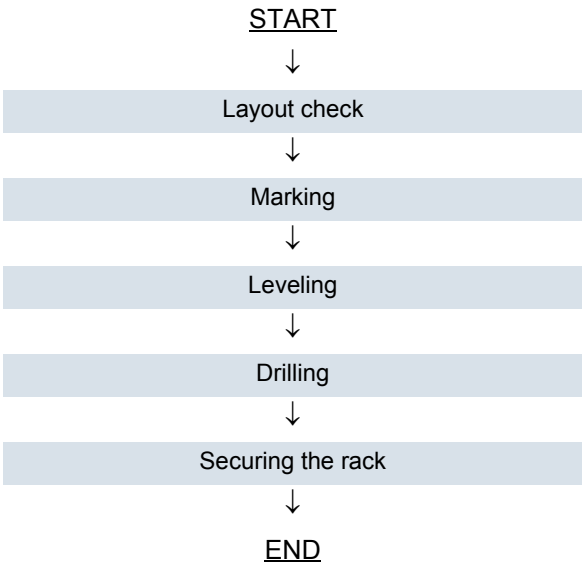
Use any 19-inch rack that meets the following maximum loading conditions.

- Oscillatory waveform: Sine wave
- Vibrational frequency: Minimum 5Hz
- Shock wave: 30 waves
- Quake-proof strength: 1.1G

Here describes the 19-inch rack setting procedure when 39U type of rack is used as an example.

ITEM		SPECIFICATIONS	REMARKS
Outside Dimension	Width	595 mm	
	Depth	600 mm	
	Height	2000 mm	
Unit Mount Part	Pitch	44.45 mm	IEC standard
	Width between holes	465 ± 0.5 mm	
	Front opening width	452 ± 0.5 mm	
	Front margins	75 mm	
	Screw	M5 tapping screw	Supplied with the Telephony Server
	Fastening bracket	44.45 mm	
Floor Space		500 mm × 500 mm ϕ14.8	
Loadage	Number of unit	39U	
	Weight	280 kg	* Maximum accommodation
Rack Weight		100 kg or less	
Anchor Bolt		M12 × 4	
Quake-proof Strength		1.1 G	

3.2 19-Inch Rack Installing Procedure

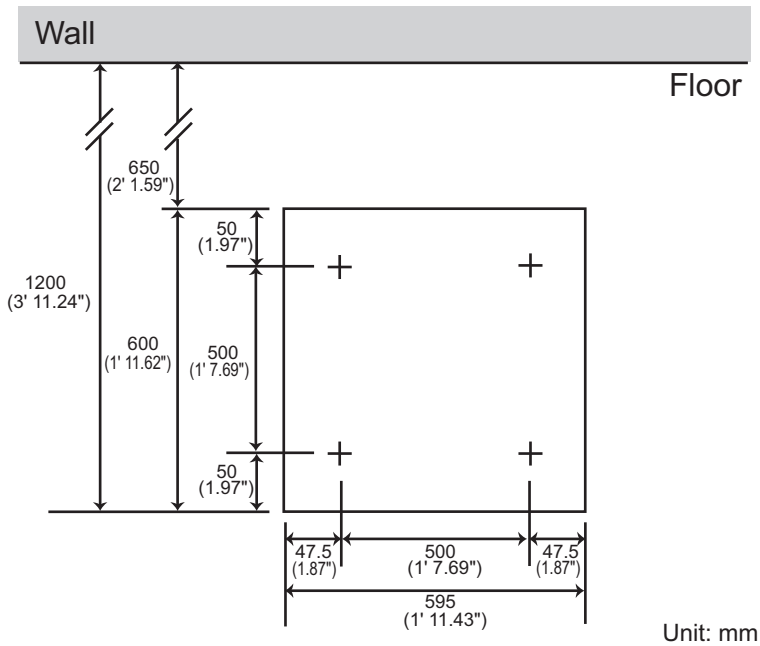


STEP 1: Confirm the setting location on the floor. Determine the floor layout considering the following:

- C.O. lines can be easily brought in
- Local cables can be easily brought up to the MDF
- Power supply and current capacity is properly provided
- Communication and security ground can be obtained properly
- Requirements for equipment (loadage, size)
- Door opening/shutting, passage-way, and maintenance in equipment room

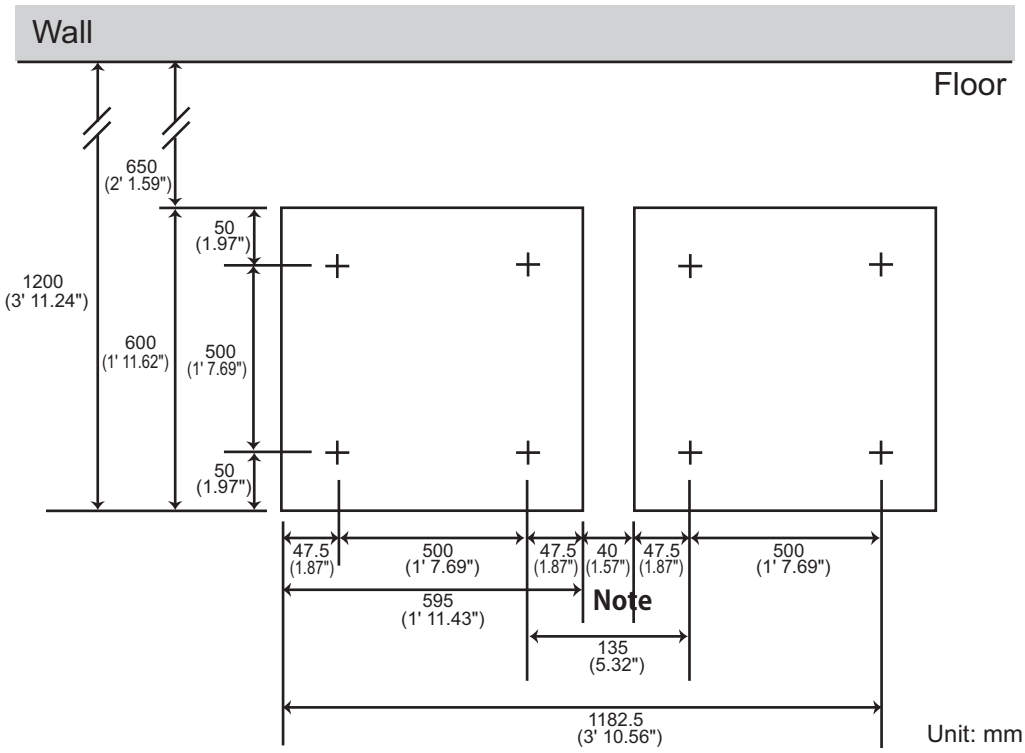
STEP 2: Marking
Referring to figures, mark the securing hole locations for the rack's anchor bolts.

<Single-rack layout>



Unit: mm (inch)

<Multiple-rack layout>

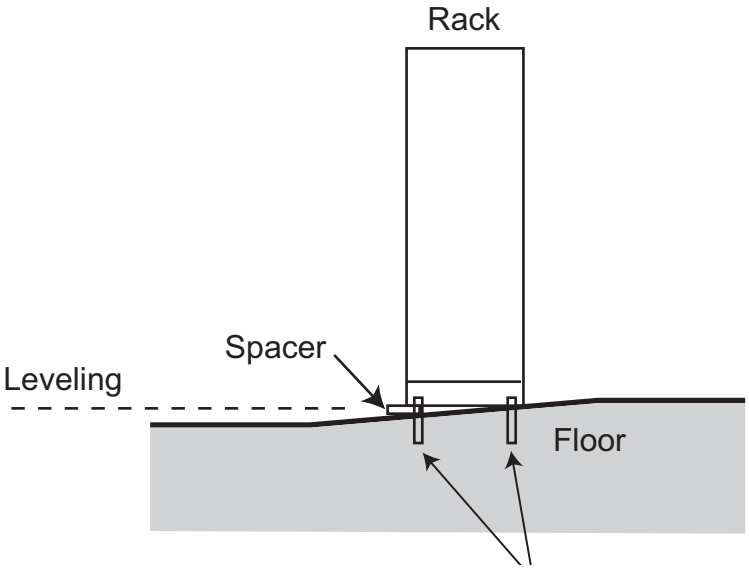


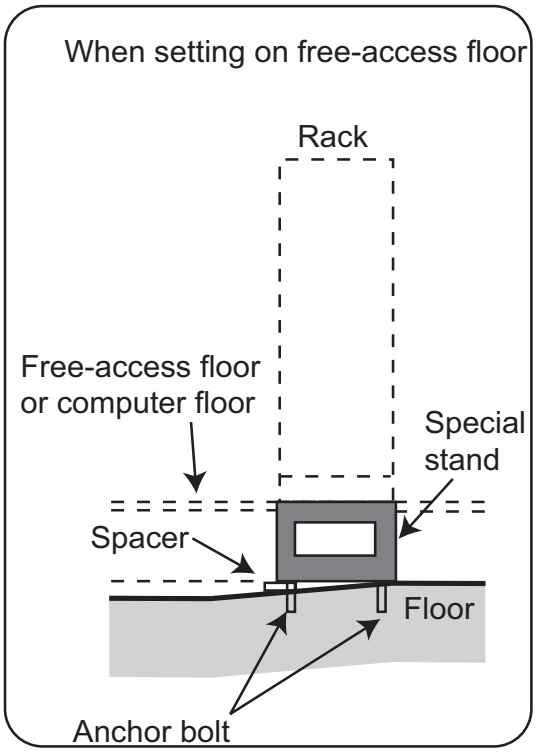
Unit: mm (inch)

Note: For installation with multiple-rack configuration, leave more than 40 mm (1.57 inch) of space between racks to avoid destruction of the equipment caused by shocks when racks shake by a temblor and the top of racks hit each other.

STEP 3: Leveling

Measure the free-access floor's surface level. If the floor is not leveled, adjust the floor level to the rack using spacers. When special stand is used, adjust the level by inserting spacers between the floor and the stand.





(1) Set the special stand on the marked location.

(2) Set a spirit level on the center of the special stand.

(3) If the level meter does not read leveled, insert spacers to adjust the level.

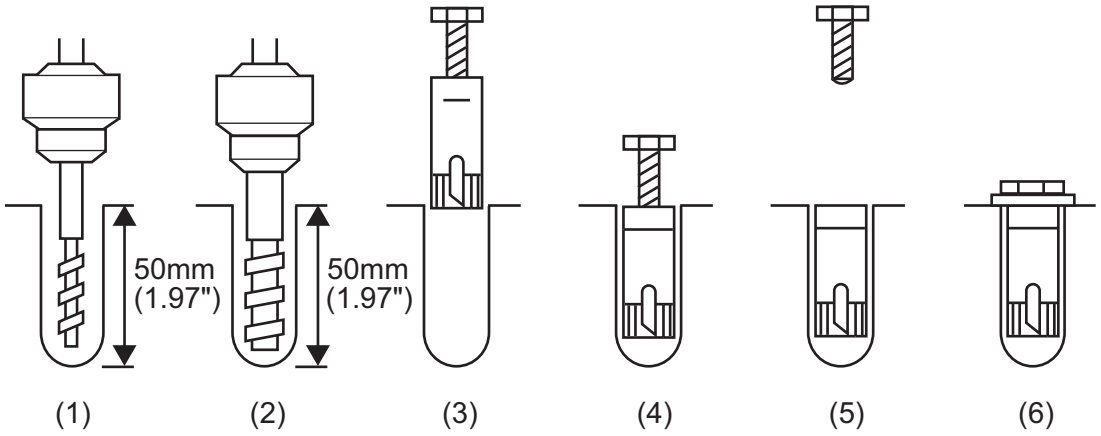
(4) Insert spacers into the front and rear sides of the rack to adjust the level.

(5) Be sure to check the level after securing the special stand with anchor bolts.

STEP 4: Drilling
Drill holes at the marked locations on the free-access floor.

Prepare two types of drill bit, for preliminary holes (6f~8f) and main holes (17.5f). First drill preliminary holes using a small-diameter drill bit, and then drill main holes with 17.5f drill bit.

Note: Do not drill main holes with a 17.5f drill bit directly. Big drill bit might vibrate and drill out of the marked locations.



(1) Make a preliminary hole, using a drill bit for small-diameter holes.

(2) Drill a main hole with a drill bit suitable for a plug bolt a little deeper than the plug bolt length.

(3) Insert the anchor bolt into the hole.

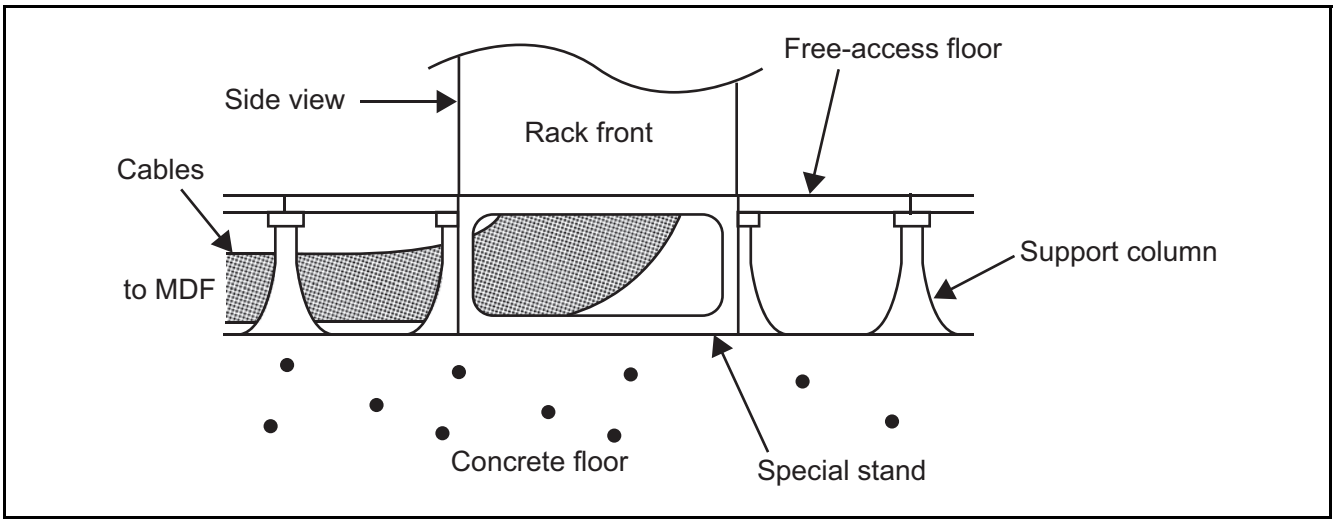
(4) Push the anchor bolt in place.

(5) Turn the bolt counterclockwise and remove.

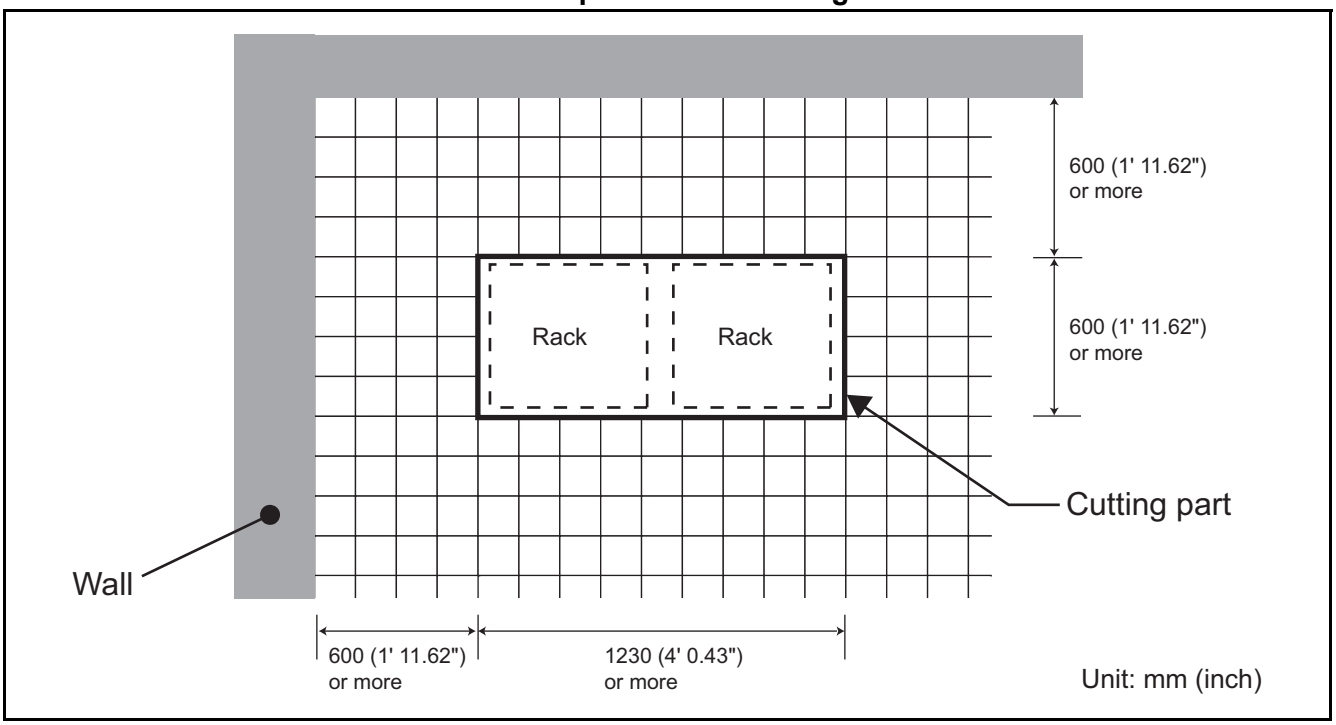
(6) Insert the bolt correctly into the hold for equipment installation, then tighten them properly.

STEP 5: Free-access floor cutting
Generally free-access construction method is applied for cable running. Cut the free-access floor using a jigsaw to lay the cables under the special stand. (Special stand is prepared by installer.)

Free-Access Construction Method



Example of Floor Cutting



Note: Cut the free access floor in the unit of floor size.

Note: Footprint of the rack < Cutting part of the free-access floor = mounting base surface

4. Installing the Telephony Server



This section explains the installation procedure of the Telephony Server.

Note: When you are assembling, do not use an electric screwdriver. The fastening torque could be excessive and damage the screw threads.

4.1 Unpacking

[Before unpacking]

- Confirm the grounding.

  - Be sure to connect the 3M® Model 8012 Portable Field Service Kit to grounding.
  - Do not unpack the packages when grounding is not available.

- Make sure to use the service kit when unpacking the package of circuit card.
- During unpacking, handle the equipment carefully not to be shocked and damaged.

[Unpacking procedure]

START

1.	Package quantity check	Check the quantity of received packages with the packing list.
2.	Package visual check	Check the packaging for external damage.
3.	Unpack	
4.	Components check	Check the name and the quantity of all the components and accessories. If anything is missing, report it to the supplier immediately.
5.	Visual check	Visually check the equipment and accessories. - Surface deformed? - Connectors cracked? - Keys and lamps damaged? - Loose wires and parts? If any damage is found, report it to the supplier immediately.

END

Make sure the following equipment and accessories are prepared:

	ITEM	REMARKS
□	Telephony Server	Main module of the Telephony Server
□	CF card	Capacity of CF card: 8GB.
□	Various cards	Prepare the cards depending on the system configuration.
□	Cables	See 2.3.3 Cable Connection Procedure on CHAPTER 4 MODULES MOUNTING AND CONNECTION (7U-PIR CONFIGURATION).
□	Telephony Server program install DVD	Labeled GENERIC SOFTWARE on the DVD's face.
□	License sheet	
□	Manuals	
□	7U-PIR **Note 1**	Required for 1-IMG and 4-IMG types.
□	TSW-BOX	Required for 1-IMG and 4-IMG types. **Note 2**
□	8U-PIR **Note 1**	Required for 1-IMG and 4-IMG types.
□	TSWR	Required for IMG-4 type. **Note 2**
□	FANU	Required only for 8U-PIR
□	BASEU	Required for DC-powered model.
□	7U-PIR Power Unit	Required for 7U-PIR. It must be installed at the bottom of the PIR. There are AC and DC types.
□	1U AC-DC Power Unit	Required for 8U-PIR AC type. Required for a configuration of only 7U-PIR AC type if devices like an BBU that needs an 48V input are used.

Note 1: You can use either or both 7U-PIR and 8U-PIR.

Note 2: In the case of 4-IMG type, you can use either TSW-BOX or TSWR.

4.2 Assembling the Server Module



This section explains how to assemble the server module.

4.2.1 Inserting CPU Card

This section explains how to insert the CPU card on the Telephony Server module. See the precautions below before handling the CPU card:

- Do not touch the surface, the mounted components, and the gold-coated connectors of the card with bare hands.
- Take countermeasures against static electricity when handling CPU card (refer to How to Use Service Grounding kit in System Description).
- When you want to insert a CPU card after ejecting it from powered server module, wait for a while (about 10 seconds) to insert it into the module again.

STEP 1: Check the CPU card's inserting slot on the chassis.

Note: When using the single configuration, insert the card to #0 slot (lower part).

STEP 2: Insert the card to the slot.

STEP 3: Fasten the screws and fix the CPU card.

STEP 4: Unfasten the screw on the front cover, and flip the cover up.

STEP 5: Insert the CF card. Close the front cover and fasten the screw.

Note: Repeat the STEPs above for the CPU slot #1 when the second CPU card is used for dual configuration.

4.2.2 Inserting Power Module

STEP 1: Check the Power module's inserting slot on the chassis.

STEP 2: Insert the unit to the slot.

STEP 3: Fasten the screws and fix the Power module. **Note 1**

Note 1: Screws on the right and left ends of Power module are used for the server's FG connection, so be sure to fasten these screws tightly. If not, static electricity may cause system failure.

Note: Repeat the STEPs above for the second Power module to configure dual power.

4.2.3 Inserting Various Cards

This section explains how to set EMA MAIN, EMA SUB, EXB, TSWPWR and IOC cards on the server module. See the precautions below before handling the cards:

- Do not touch the surface, the mounted components, and the gold-coated connectors of the card with your bare hands.
- Take countermeasures against static electricity when handling the cards (refer to How to Use Service Grounding kit in System Description).
- When you want to insert a card after ejecting it from powered server module, wait for a while (about 10 seconds) to insert it into the module again.

<EMA MAIN card>

STEP 1: On the front panel, set the MB (SUB) of SW00 switch to ON.

STEP 2: Check the EMA MAIN card's inserting slot on the chassis.

STEP 3: Insert the card to the slot; put the bottom of the card aligning to the rail.

STEP 4: Fasten the screws and fix the card.

STEP 5: When EMA SUB card is used, set the MB (SUB) of SW00 switch to OFF.

<EMA SUB card>

STEP 1: On the front panel of EMA MAIN card, set the MB (SUB) of SW00 switch to ON.

STEP 2: Check the EMA SUB card's inserting slot on the chassis.

STEP 3: Insert the card to the slot; put the bottom of the card aligning to the rail.

STEP 4: Fasten the screws and fix the card.

STEP 5: Set the MB (SUB) of SW00 switch on EMA MAIN card to OFF.

<TSWPWR card>

STEP 1: Check the TSWPWR card's inserting slot on the chassis.

STEP 2: Insert the card to the slot; put the bottom of the card aligning to the rail.

STEP 3: Fasten the screws and fix the card.

<IOC card>

STEP 1: Check the switch settings inside the IOC card referring to the table in **Note 1**.

STEP 2: On the front panel, set the MBR key on SW00 switch to ON.

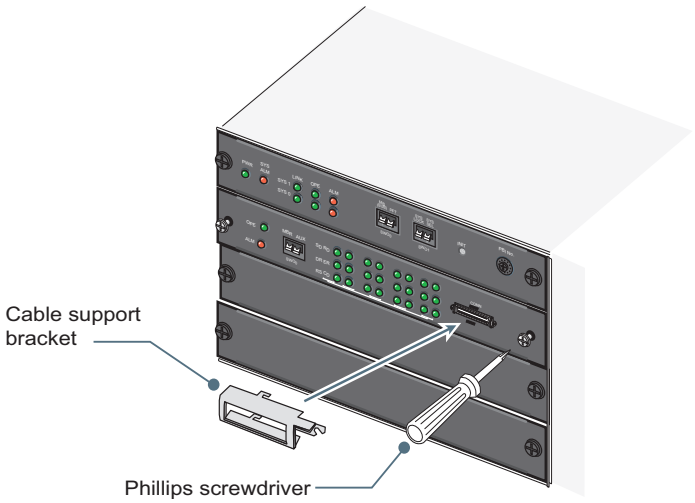
STEP 3: Check the IOC card's inserting slot on the chassis.

Note: When using the single configuration, insert the card to #0 slot (upper part).

STEP 4: Insert the card to the slot; put the bottom of the card aligning to the rail.

Note: Do not insert the card with the IOC cable (SV 4PORT CA-A) connected.

STEP 5: First attach the cable support bracket, and then fasten the screws to fix the card.



(1) Slip the bracket in before fastening the screw.
(2) Slide the bracket rightward and hook on the screw.



(3) Fasten the screw to secure the bracket.

STEP 6: Connect SV 4PORT CA-A cable to the front panel.

STEP 7: On the front panel, set the MBR key on SW00 switch to OFF.

Note 1: See the table below for the switch settings on IOC card.

SWITCH	No.	SETTING	STANDARD SETTING	MEANINGS
S2  DIP Switch	1	ON		This card is inserted into IOC #1.
		OFF	×	This card is inserted into IOC #0.
	2	ON		SMDR BSC **Note 2**
		OFF	×	SMDR free wheeling **Note 3**
	3	OFF	×	Fixed to OFF.
	4	OFF	×	Fixed to OFF.

Note 2: This setting is available when TERMINAL=5 (Terminal Kind = SMDR (BSC)) is assigned with the AIOC command.

Note 3: If connecting SMDR via a modem, set the modem to asynchronous synchronization.

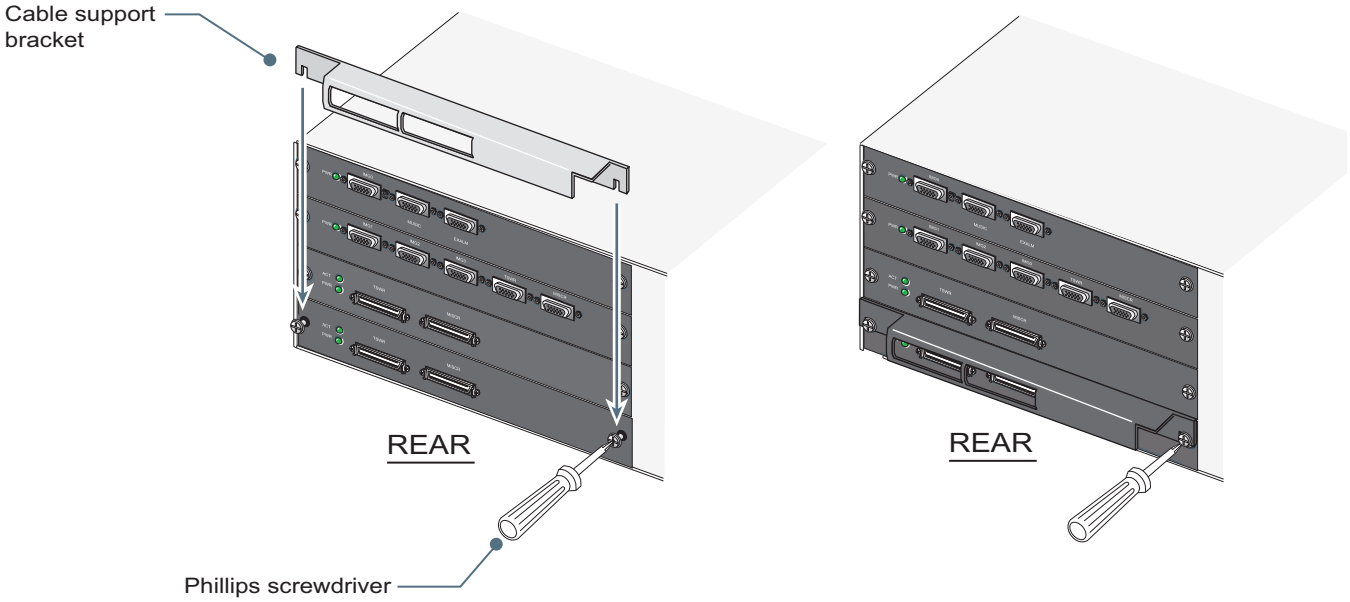
<EXB card>

STEP 1: Check the EXB card's inserting slot on the chassis.

Note: When using the single configuration, insert the card to #0 slot (lower part).

STEP 2: Insert the card to the slot; put the bottom of the card aligning to the rail.

STEP 3: First attach the cable support bracket, and then fasten the screws to fix the card.



(1) Unfasten the screw slightly and slip the bracket in.

(2) Fasten the screw to secure the bracket.

4.2.4 Securing the Server Module on 19-Inch Rack



This section describes how to secure the Telephony Server on 19-inch rack. Take notice of the following cautions during the mounting procedure:

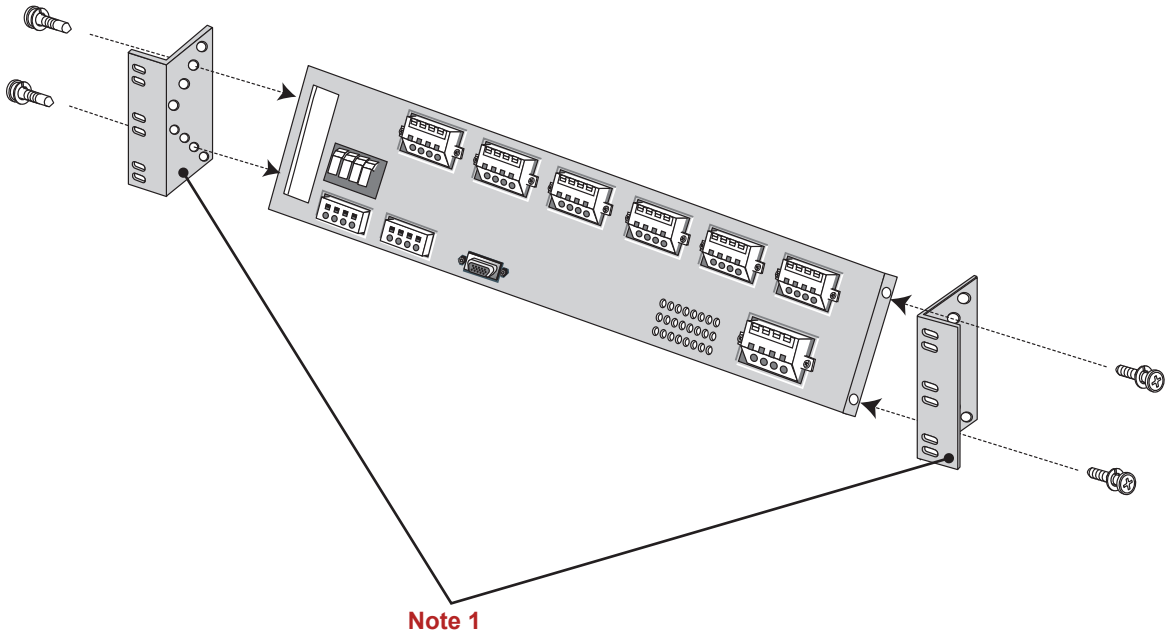
- Considering the safety, be sure to perform the installation working with two or more people.
- Mount the modules and units on the 19-inch rack from bottom to up.
- Quake-proof strength of the bracket for the Telephony Server is 1.1G. Take account of the rack's quake-proof strength.

4.2.5 Securing BASEU on 19-Inch Rack

Note: In case of an AC-powered model, because BASEU is not required, this section is not necessary. Install BASEU to a 19-inch rack.

STEP 1: Attach brackets on the left and right sides of the BASEU as follow:

Attach Brackets

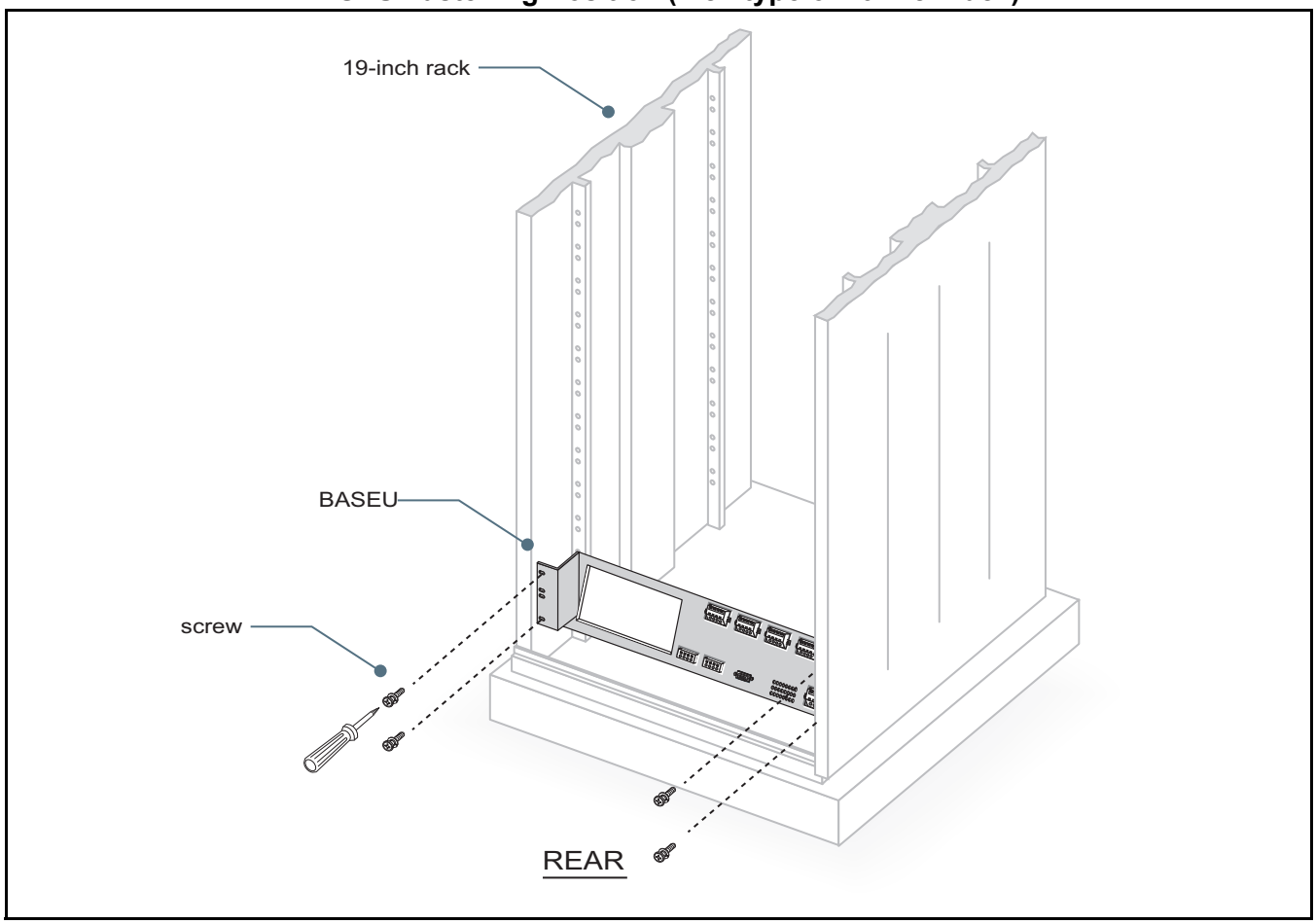


Note 1: You can choose holes to screw on a bracket to adjust the angle of the BASEU.

STEP 2: Secure the BASEU on the 19-inch rack.

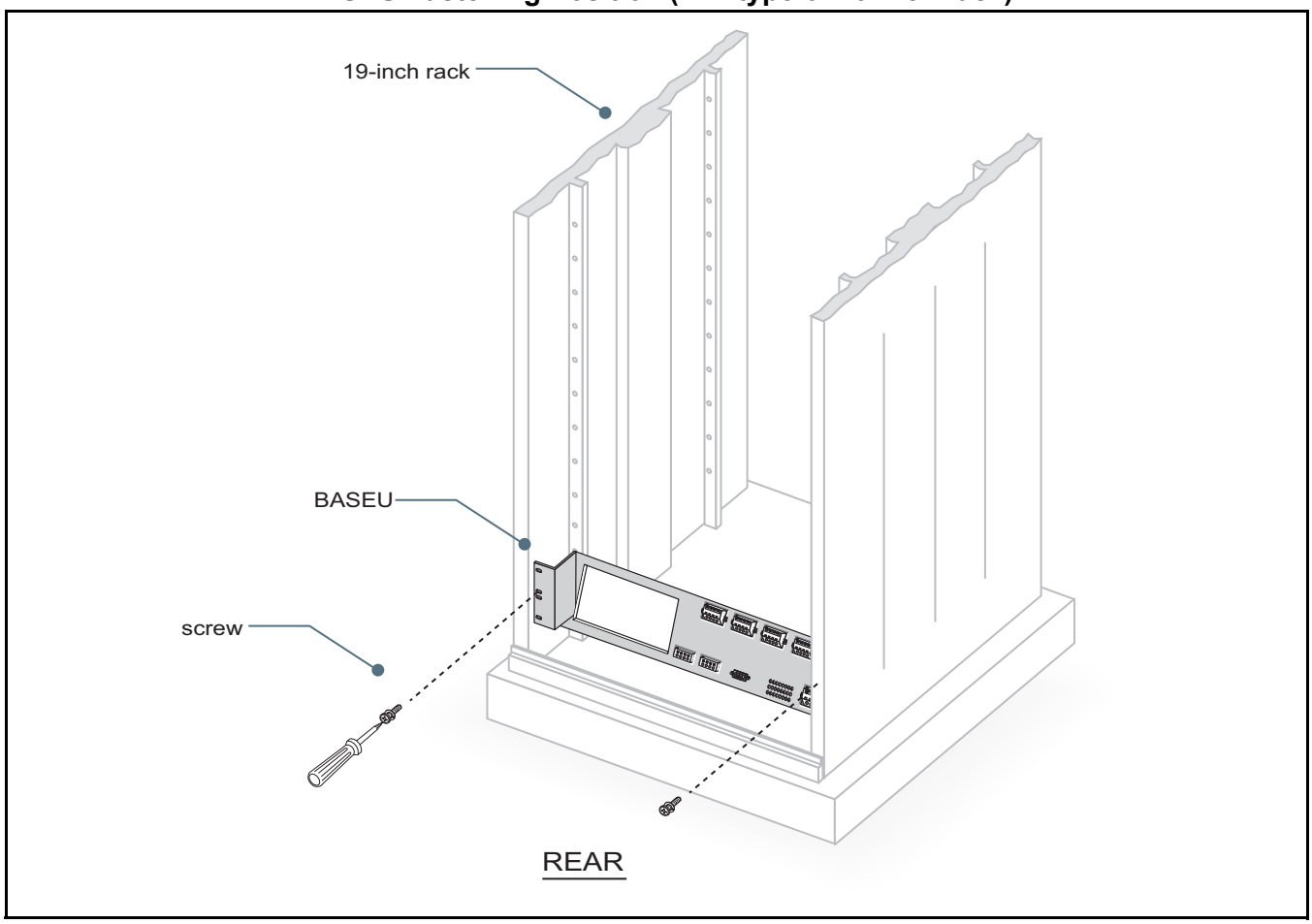
(a) When inch type of 19-inch rack is used:
Fasten the BASEU with four M5 (inch) screws; two screws to the screw holes on the left and right bracket respectively.

BASEU Fastening Position (inch type of 19-inch rack)



(b) When mm type of 19-inch rack is used:
Fasten the BASEU with two M5 (mm) screws; one screw to the center screw hole on the left and right bracket respectively.

BASEU Fastening Position (mm type of 19-inch rack)



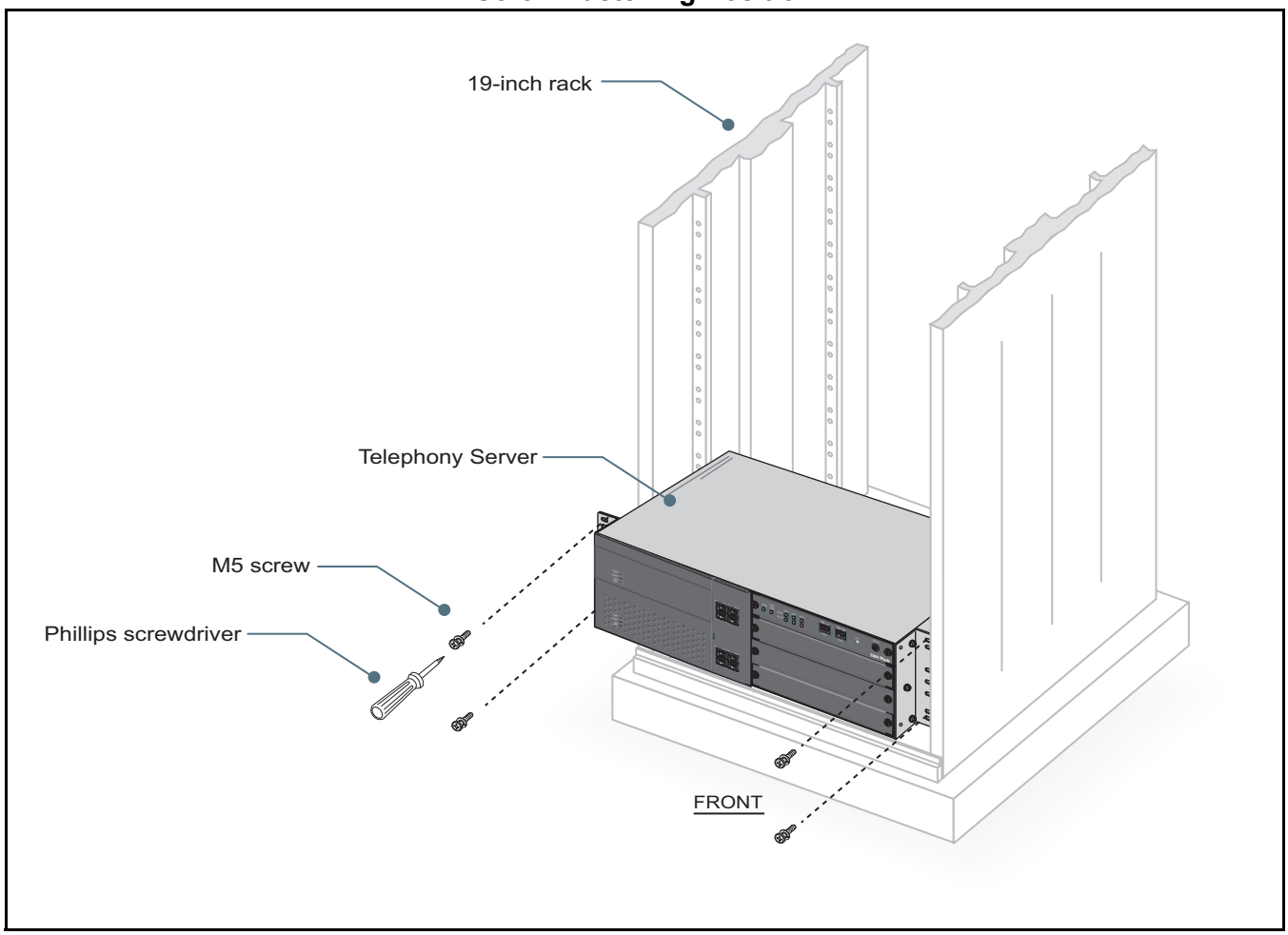
4.2.6 Securing the Telephony Server on a 19-Inch Rack

Secure the Telephony Server on the 19-inch rack.

STEP 1: Secure the module on the 19-inch rack.

Fasten the main module with four M5 (mm) screws; two screws for each bracket.

Screw Fastening Position



5. Source Power Cable and Ground Cable Connection on BASEU



This section explains work items related to DC power cable connection.

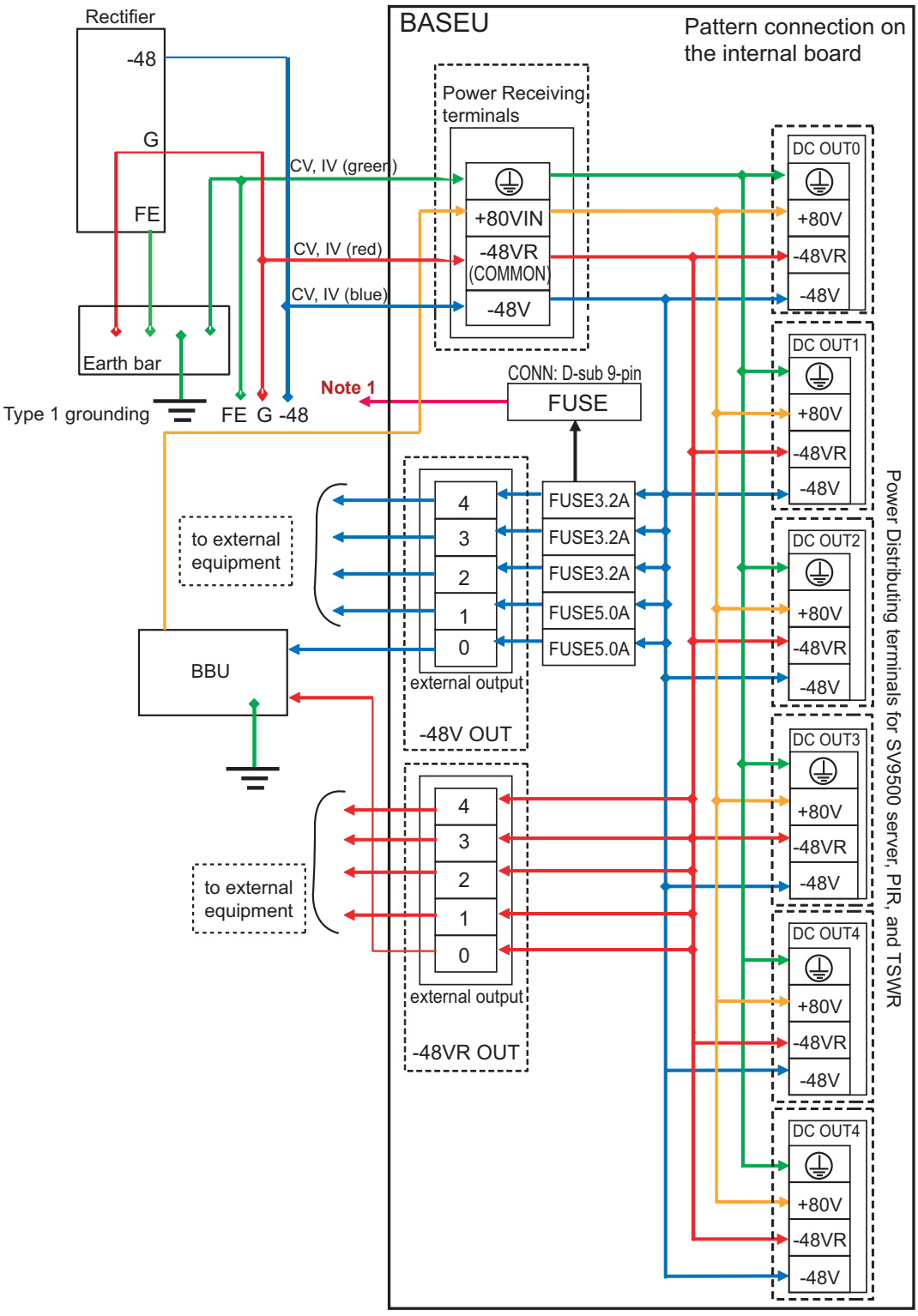
As circumstances permit, use a CV cable (600V Crosslinked Polyethylene Insulated PVC Sheathed Cable) between the Telephony Server and the rectifier. A CV cable is stronger than an ordinary IV cable (600V PVC Insulated Cable) because of its thicker cover. It is suitable to run along the free-access floor where it is difficult to protect the cable from damage. To easily identify different cables, use cables of different colors as follows:

- –48 V: Blue (White)
- GND: Red (Black)
- E: Green

Note: The color shown in parentheses is applicable to the UL Specification.

CAUTION *Grounding circuit continuity is vital to the safe operation of telecommunication equipment. Never operate telecommunication equipment with the grounding conductor disconnected.*

Power Cable Connection Diagram



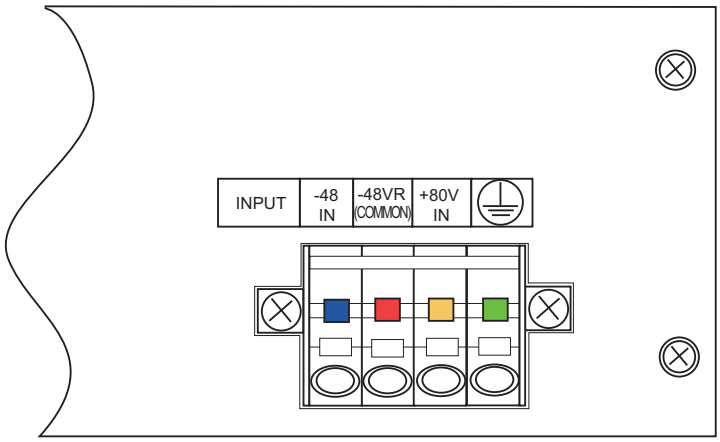
Note 1: FUSE disconnection failure is informed to PIR (AC-DC BASE connector) via D09 ST CA-A cable.

5.1 Power and Grounding Cables

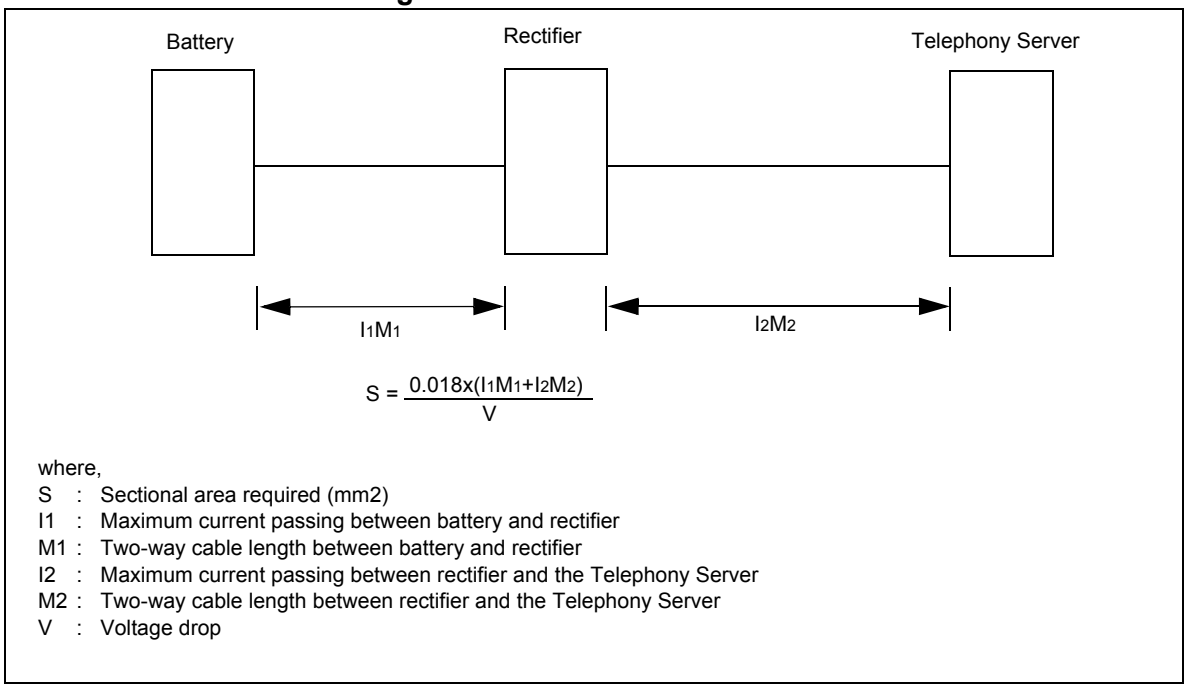
5.1.1 Telephony Server <=> Rectifier

TERMINAL	CABLE	SIZE	CONNECTED TO	REMARKS
-48V	IV (Blue), CV	AWG 6 or 14 sq	Rectifier	
-48VR	IV (Red), CV	AWG 6 or 14 sq	Rectifier	Select main power cable depending on the system configuration and the distance from rectifier (refer to Calculating Sectional Area for Main Power Cable).
FE	IV (Green), CV	AWG 6 or 14 sq	Earth bar	Required for lightning protection.

DC Power Receiving Terminals on BASEU



Calculating Sectional Area for Main Power Cable



where,
S : Sectional area required (mm2)
I1 : Maximum current passing between battery and rectifier
M1 : Two-way cable length between battery and rectifier
I2 : Maximum current passing between rectifier and the Telephony Server
M2 : Two-way cable length between rectifier and the Telephony Server
V : Voltage drop

5.1.2 Rectifier <=> Battery, AC Power Distribution Board, and Earth Bar

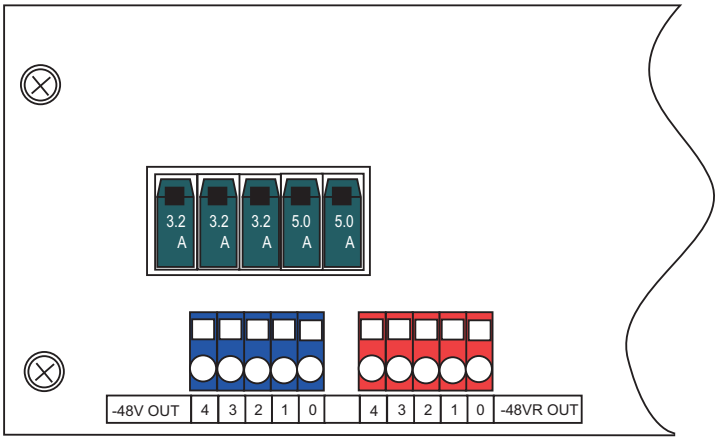
TERMINAL	CABLE	SIZE	CONNECTED TO	REMARKS
AC	VCT (2-wired)	Note 1	AC power distribution board	Use VCT-S or VCT-SB to run along with low current cables.
-48V	IV (Blue), CV		Battery	Used for AC power backup.
GND	IV (Red), CV			
FE	IV (Green), CV		Earth bar	Required for grounding.
E	IV (Green), CV			Required for lightning protection.

Note 1: Varies depending on the system configuration and the distance from the Telephony Server.

5.1.3 Telephony Server <=> MDF

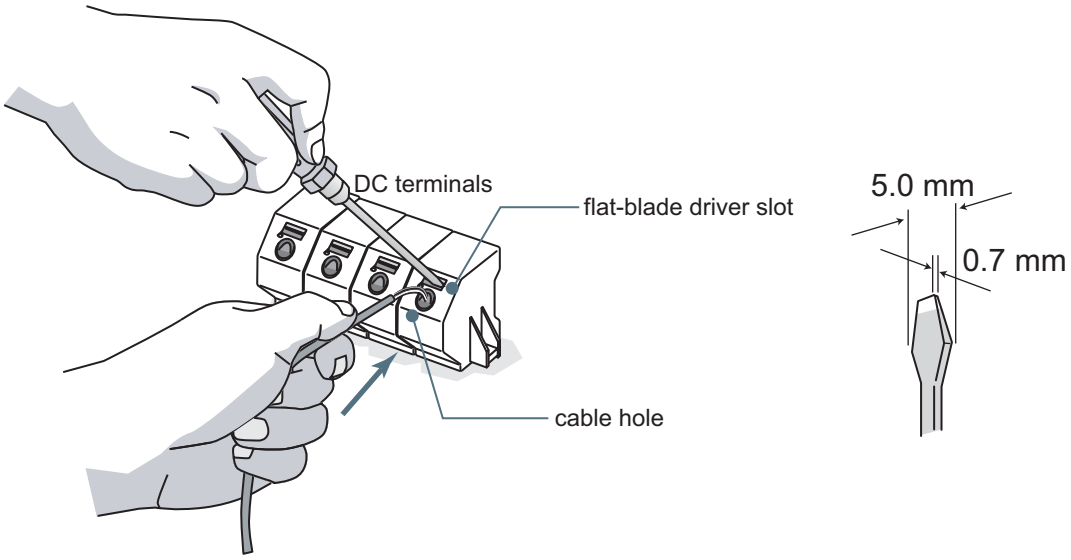
TERMINAL		CABLE	SIZE	CONNECTED TO	REMARKS
-48VOUT	2-3	IV (Blue), CV or internal cable	AWG 16	MDF	-48VOUT 3.2A
-48VOUT	0, 1	IV (Blue), CV or internal cable	AWG 16		-48VOUT 5.2A
-48VROUT	0-4	IV (Red), CV or internal cable	AWG 16		-48VROUT

FUSE and External Output Terminals on BASEU



5.2 Power and Grounding Cables Connection

STEP 1: Run the main power and ground cables up to DC power receiving terminals on BASEU. Use a flat-blade driver to connect main power cable (AWG 6 or 14sq).



STEP 2: Confirm the rectifier's circuit breaker (NFB) is OFF.

STEP 3: Connect power and ground cables to DC Power terminals on BASEU.

STEP 4: Connect the power and ground cables to the rectifier's output terminals.

STEP 5: Using a continuity tester, confirm that the -48V power cable is not shorting to the G power cable or the FE ground cable.

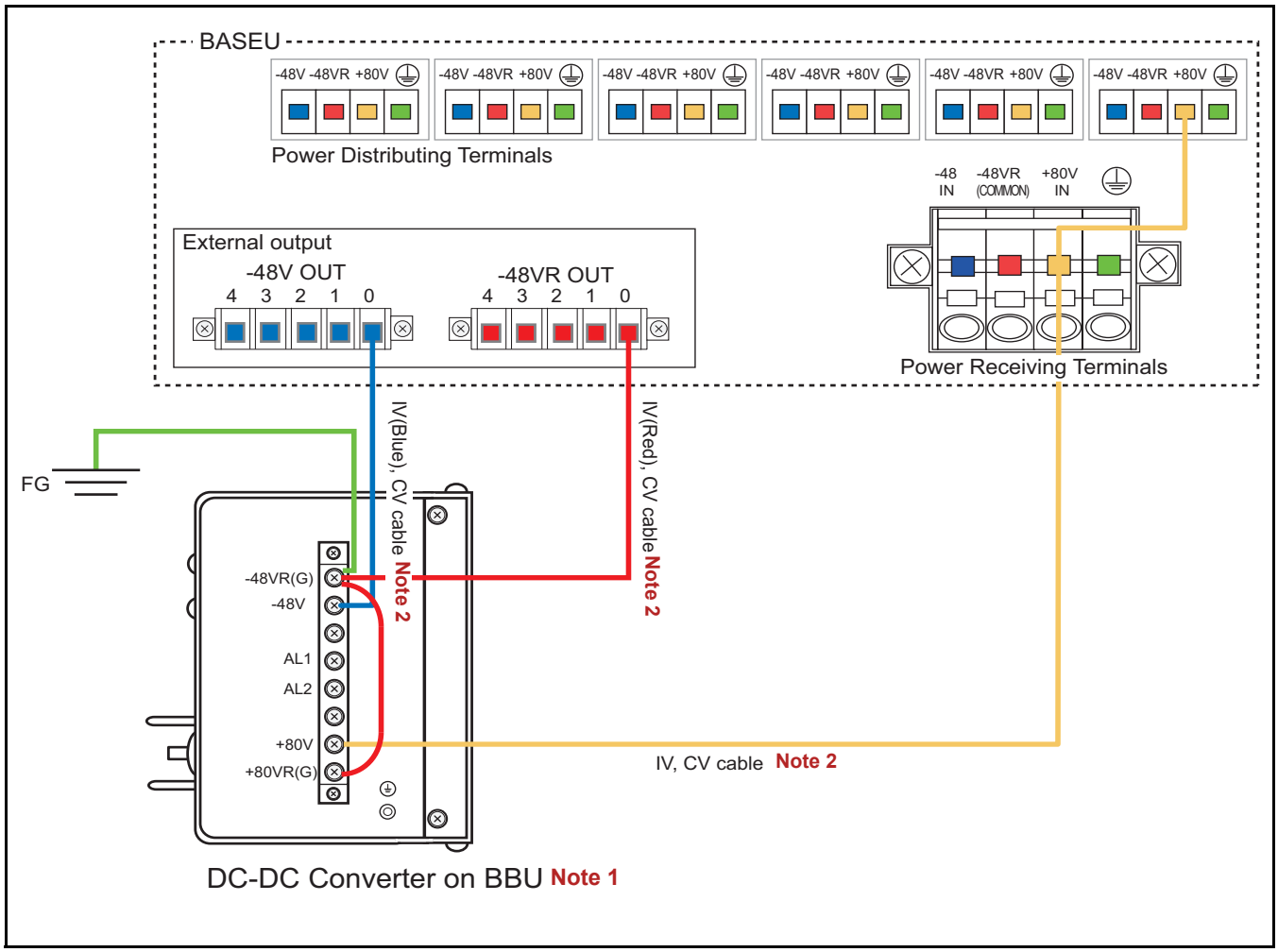
5.3 DC-DC Converter for Message Waiting Lamp

STEP 1: Remove the shorting piece from the +80V connector on Power Distributing Terminals, and then connect the cable provided on the +80V Power Receiving Terminals to the +80V connector.

STEP 2: Connect the power and ground cables to each terminal of the equipment.

STEP 3: Using a continuity tester, confirm that the –48V and +80V power cables are not shorting to the G power cable or the FE ground cables.

BBU Connection



Note 1: The above is an example when SN1757 BBUB is used. The marking on BBU (such as "-48V") might be different, depending on the type of the BBU used.

Note 2: The cable sheath of CV cables is black color only, therefore, use the color tape to distinguish the cables.

6. Cable Connection to the Telephony Server



This section explains the cable connection for the Telephony Server (cable connection for PIR is not included).

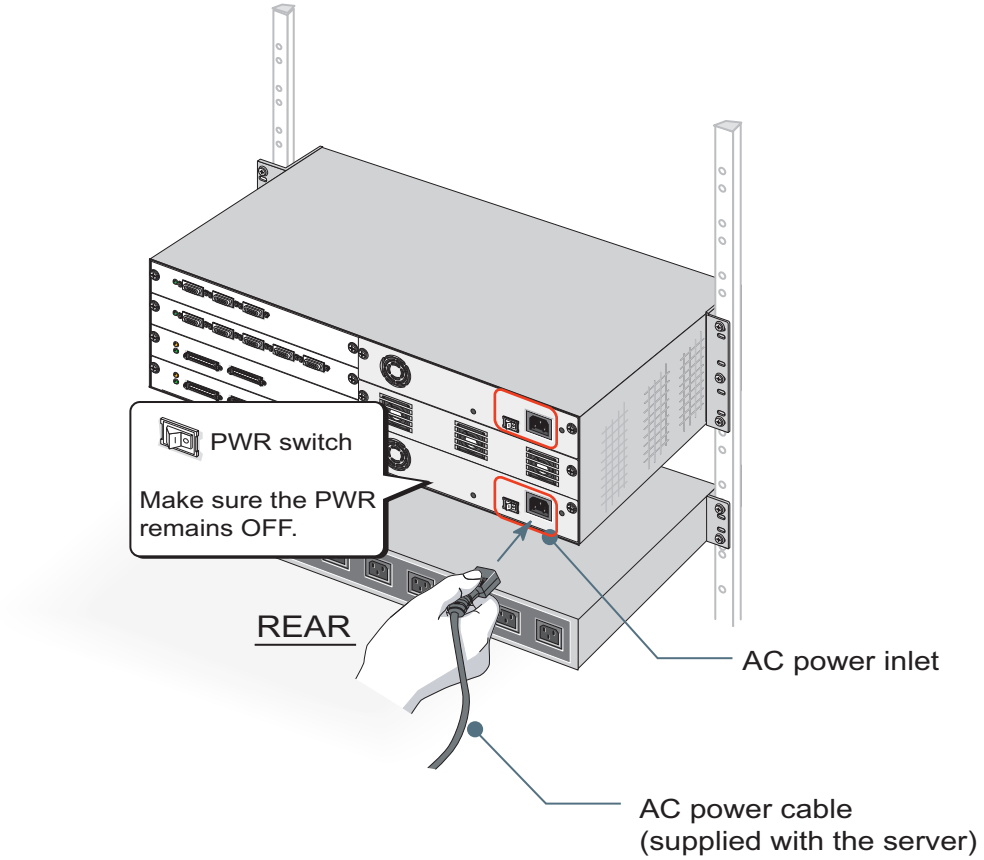
6.1 Power Cable Connection

Connect the power cable on the rear panel of main module.

[Power Cable Connection for AC-Powered Model]

STEP 1: Make sure the PWR switch on the rear panel of the main module remains OFF.

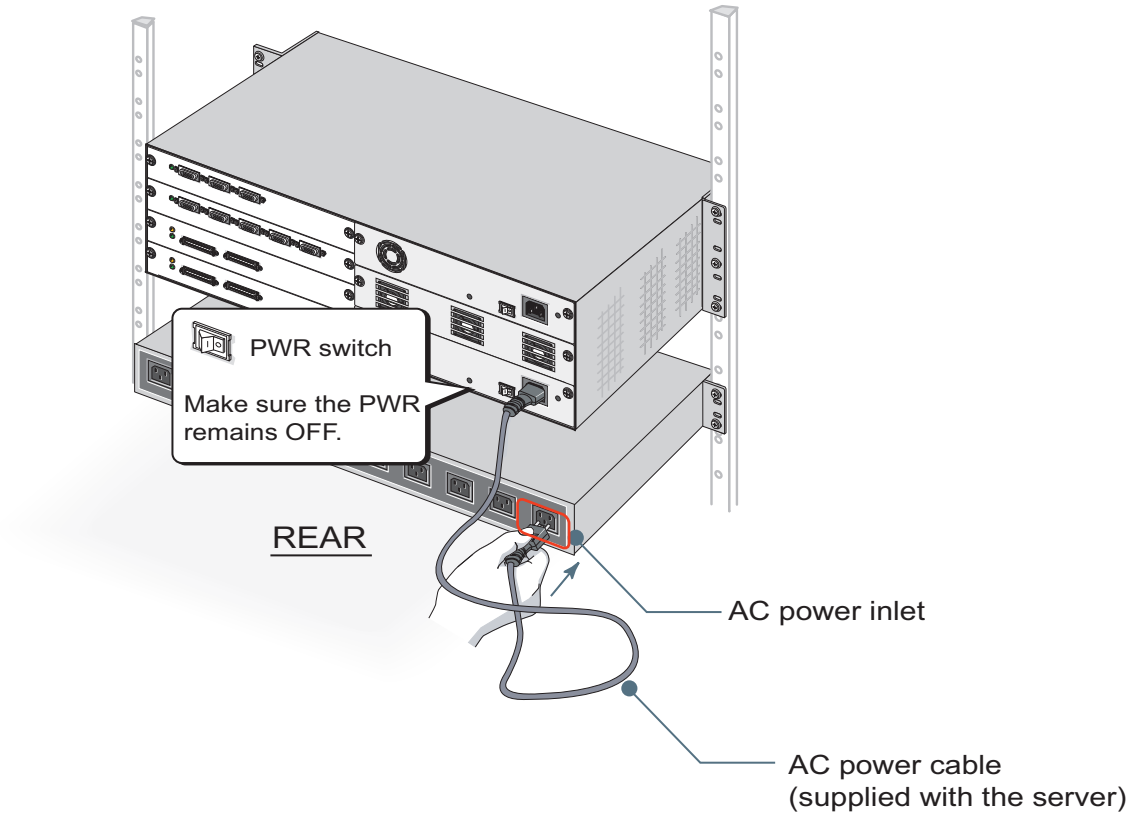
STEP 2: Plug the AC power cord into AC power inlet on the rear panel of main module.



Note: Type 1 grounding conductor (below 10 Ω) is required (be sure to use the AC power cable supplied with the server)

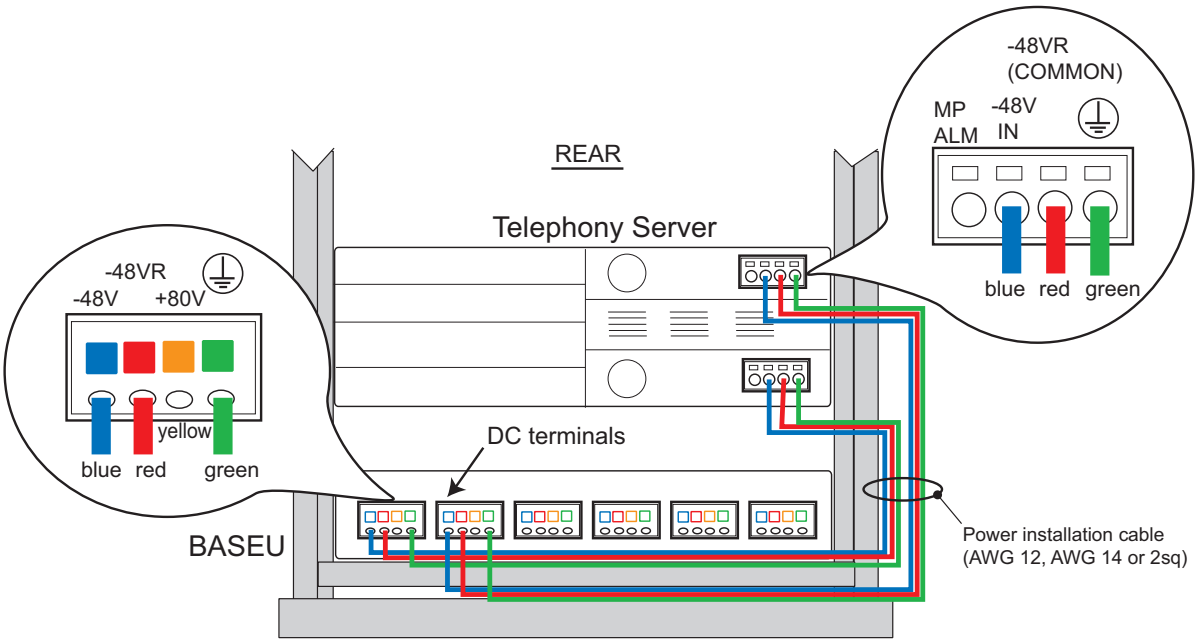
CAUTION	*Do not connect the ground cable to gas barrel. It may cause fire.*

STEP 3: Connect the other end of AC power cord to proper AC power source equipment. In this example, AC power is supplied through the power unit accommodated on the bottom of the 19-inch rack.

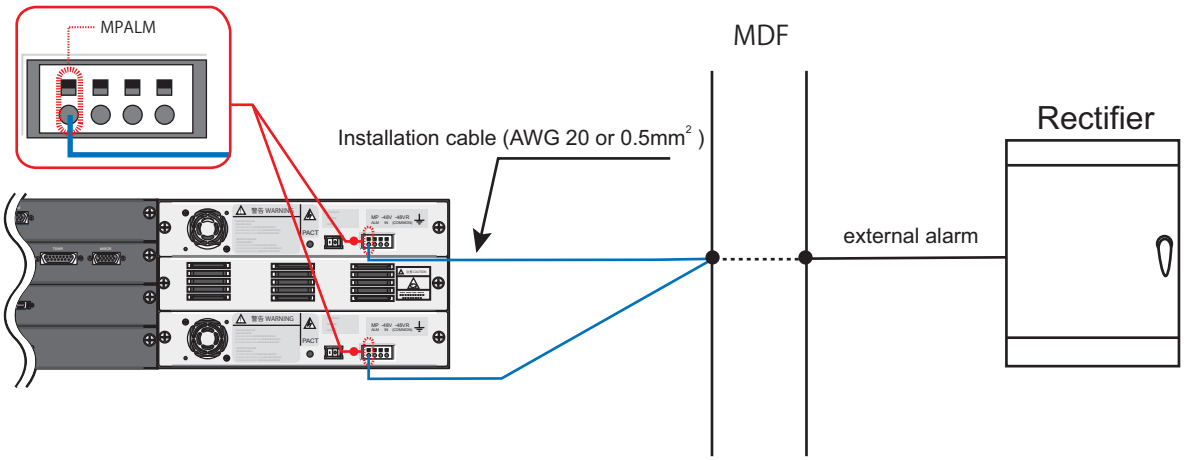


[Power Cable Connection for DC-Powered Model]

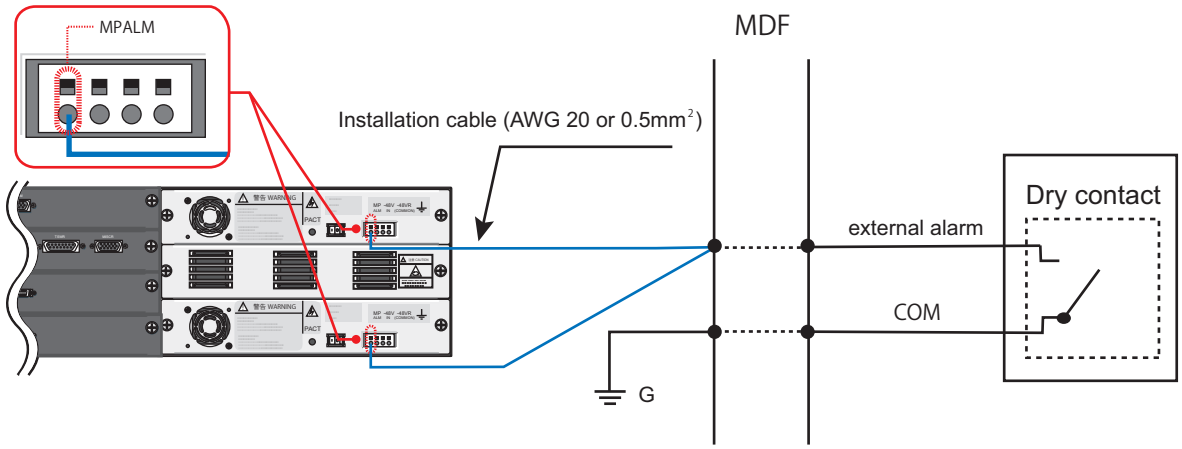
STEP 1: Connect DC power cables between the DC terminals (-48V, -48VR, FE) on the rear panel of the Telephony Server and on BASEU.



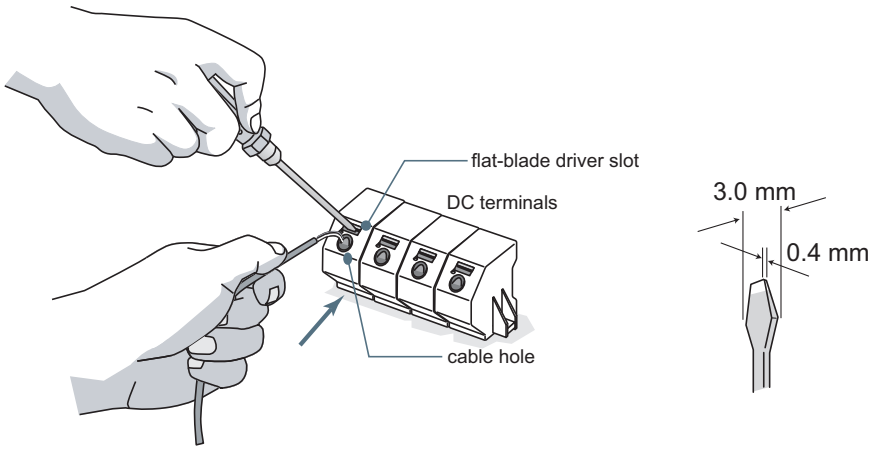
STEP 2: Connect alarm cables to detect main power alarm on a DC-powered model of power module. Detecting ±0 level is considered to be an alarm.
**Perform this step if required.*



For the rectifier equipped with dry contact, apply the following connection.

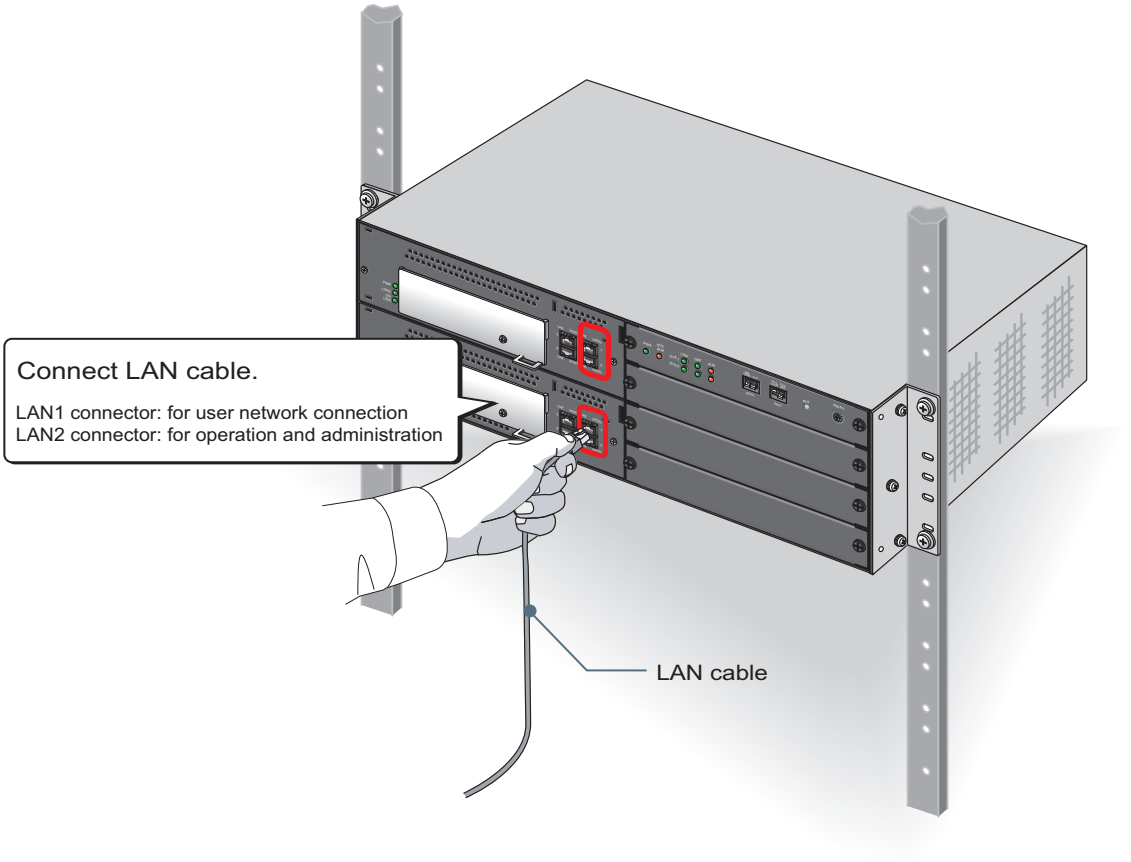


Use a flat-blade driver to connect power cables (AWG12, 14, or 2sq) to DC terminals.
**Be careful not to touch electric potential with the metallic part of the driver when connecting the power cable.*



6.2 LAN Cable Connection

Connect LAN cables (1000BASE-T) to LAN1 connector (for user network connection) and LAN2 connector (for operation and administration) on the front panel of the Telephony Server. LAN3 and LAN4 connectors are used for FCCS network connection.



CHAPTER 4
MODULES MOUNTING AND CONNECTION (7U-PIR CONFIGURATION)

This chapter explains how to install each module in the system built up with 7U-PIR only. For the system that combines 7U-PIR and 8U-PIR, refer to CHAPTER 5 MODULES MOUNTING AND CONNECTION (7U-PIR AND 8U-PIR MIXED CONFIGURATION).

Note: This installation process is done after completing the steps described in CHAPTER 2 INSTALLATION DESIGN and CHAPTER 3 SV9500 SERVER INSTALLATION - ASSEMBLING SV9500 SERVER MODULE.

1. Preparation

1.1 Equipment Location Check

(1) Environmental Requirements

- Operational Temperature Range: 0°C to 40°C (32°F to 104°F)
- Operational Humidity Range: 20% to 90% (non-condensing)
- Main Source Power: 100 VAC / 120 VAC / 230 VAC / 240 VAC (50/60 Hz) ±10%, -48 VDC ±10%

(2) Floor Conditions

Do not place SV9500 system under any of the conditions listed below, doing so can cause operational trouble, failure, or electrical shock.

- On unstable floor, unsettled and sideling board
- Locations which might be wet with water, oil, and chemicals
- Dusty environment
- Locations exposed to direct sunlight
- Locations which receive strong electric waves from other equipment
- Any heavy equipment is loaded on the rack
- Locations with poor heat dissipation or poor ventilation
- Locations with vibration

(3) Floor Space

Floor space for the system equipment, such as maintenance console (PCPro), Main Distribution Frame (MDF), and the rectifier is required in addition to the main rack mounting area.

1.2 Unpacking

[Before unpacking]

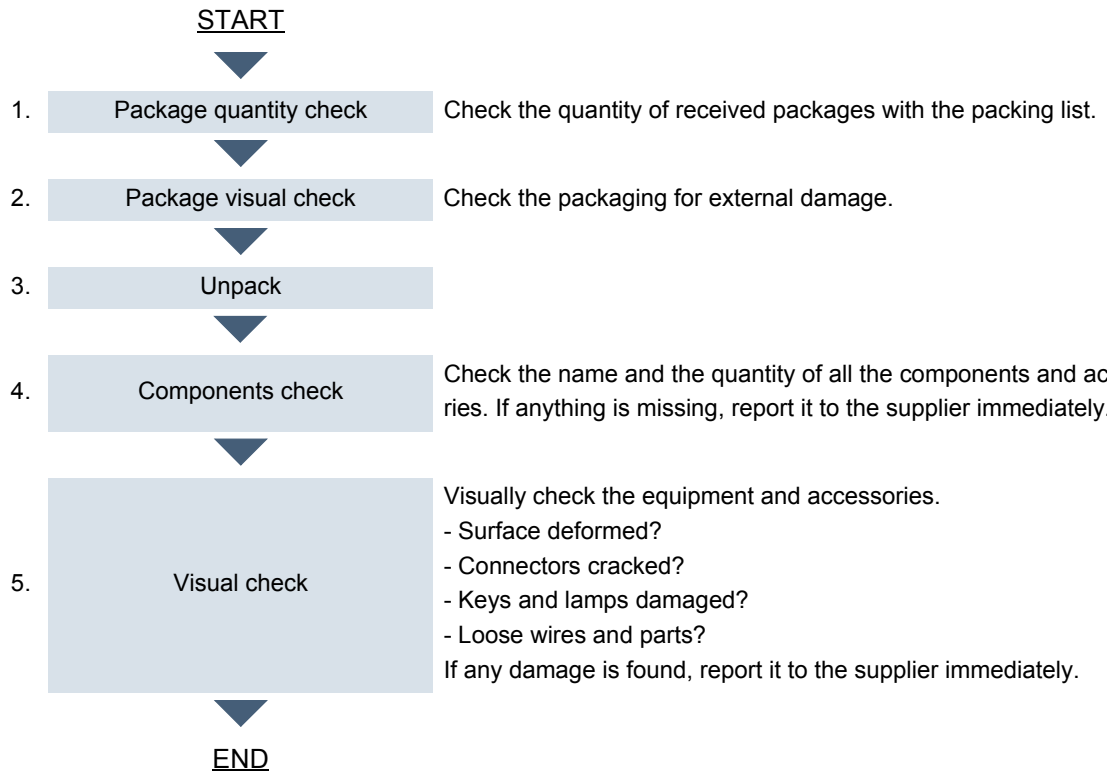
- Confirm the grounding.

  - Be sure to connect the 3M® Model 8012 Portable Field Service Kit to grounding.

  - Do not unpack the packages when grounding is not available.

- Make sure to use the service kit when unpacking the package of circuit card.
- During unpacking, handle the equipment carefully not to be shocked and damaged.

[Unpacking procedure]



Make sure all the following components and accessories listed per each model below are prepared.

1.2.1 Components and Accessories of AC-Powered Model

Note: The AC-powered model is only available in 1-IMG Configuration; this model does not support 4-IMG Configuration except for North America.

- Modules:

Module Name	Quantity	REMARKS
7U-PIR	As required	Maximum 4 PIRs
7U-PIR AC-DC Power Unit	1/PIR	In case of dual power unit configuration 2/PIR
TSW-BOX	1	
1U AC-DC Power Unit **Note 1**	Optional	Needed when a SN1757 BBUB booster battery unit (BBU) is connected **Note 2**

Note 1: For dual power configuration, see Mounting Second Power Unit on 1U AC-DC Power Unit (8U-PIR) for Dual Power Configuration in CHAPTER 5 MODULES MOUNTING AND CONNECTION (7U-PIR AND 8U-PIR MIXED CONFIGURATION).

Note 2: For an explanation on booster battery unit (BBU), see SN1757 BBUB Installation Design in Peripheral Equipment Description (Digital/Analog Devices)

- PIR/TSW-BOX mounted control cards:

CIRCUIT CARD NAME	Quantity	REMARKS
TSW (SPZ-SW25-A)	1	Time Division Switching (accommodated in TSW-BOX) 2 for dual TSW configuration
MUX (CJ-PC00)	1/PIR	7U-PIR mounted card that provides interface between TSW and line/trunk 2/PIR for dual configuration

- Cables:

CABLE NAME		Quantity	REMARKS
BUS cable between the Telephony Server and TSW-BOX	D37-SC50 CA-E	1	2 for dual configuration
Cable between MDF and TSW-BOX	D37 EXCLK CA-A	1	PLO Cable
BUS cable between TSW-BOX and PIR	D26-D25 TSW-PIR CA-A/B	1/PIR	2 for TSW dual configuration/PIR
Internal PIR cable	MT24-D25 CA-C	1/PIR	2 for TSW dual configuration/PIR
BUS cable between two PIRs	D15 ST CA-A/B	1/PIR	ALM cable
BUS cable between the Telephony Server and PIR0	D15 ST-F CA-A	1/PIR	ALM cable
Power cable between the Telephony Server and TSW-BOX	D09 POW CA-A	1	1 even for TSW dual configuration
Installation cable (shielded LT cable)		Max. 12/PIR	Required for station/trunk connection from PIR LT connector to MDF

1.2.2 Components and Accessories of DC-Powered Model (1-IMG)

- Modules:

Module Name	Quantity	REMARKS
7U-PIR	As required	Maximum 4 PIRs
7U-PIR DC-DC Power Unit	1/PIR	In case of dual power unit configuration 2/PIR
TSW-BOX	1	
BASEU	1/Rack	

- PIR/TSW-BOX mounted control cards:

CIRCUIT CARD NAME	Quantity	REMARKS
TSW (SPZ-SW25-A)	1	Time Division Switching (accommodated in TSW-BOX) 2 for dual TSW configuration
MUX (CJ-PC00)	1/PIR	Interface between 7U-PIR mounted TSW and line/trunk card 2/PIR for dual configuration

- Cables:

CABLE NAME		Quantity	REMARKS
BUS cable between the Telephony Server and the TSW-BOX	D37-SC50 CA-E	1	2 for dual configuration
Cable between MDF and TSW-BOX	D37 EXCLK CA-A	1	PLO Cable
BUS cable between TSW-BOX and PIR	D26-D25 TSW-PIR CA-A/B	1/PIR	2 for TSW dual configuration
Internal PIR cable	MT24-D25 CA-C	1/PIR	2 for TSW dual configuration
BUS cable between two PIRs	D15 ST CA-A/B	1/PIR	ALM cable
BUS cable between the Telephony Server and PIR0	D15 ST-F CA-A	1/PIR	ALM cable
Power cable between the Telephony Server and TSW-BOX	D09 POW CA-A	1	1 even for TSW dual configuration
Installation cable (shielded LT cable)		Max. 12/PIR	Required for station/trunk connection from PIR LT connector to MDF

1.2.3 Components and Accessories of DC-Powered Model (4-IMG)

1.2.3.1 When Using TSW-BOX

- Modules:

Module Name	Quantity	REMARKS
7U-PIR	As required	Maximum 16 PIRs
7U-PIR DC-DC Power Unit	1/PIR	In case of dual power unit configuration 2/PIR
TSW-BOX	1	
BASEU	1/Rack	

- PIR/TSW-BOX mounted control cards:

CIRCUIT CARD NAME	Quantity	REMARKS
TSW (SPZ-SW26-A)	1	Time Division Switching (accommodated in TSW-BOX) 2 for dual TSW configuration
MUX (CJ-PC00)	1/PIR	Interface between 7U-PIR mounted TSW and line/trunk card 2/PIR for dual configuration

- Cables:

CABLE NAME		Quantity	REMARKS
BUS cable between the Telephony Server and the TSW-BOX	D37-SC50 CA-E	1	2 for dual configuration
Cable between MDF and TSW-BOX	D37 EXCLK CA-A	1	PLO cable 2 cables for dual clock configuration
BUS cable between TSW-BOX and PIR	D26-D25 TSW-PIR CA-C	1/PIR	TSW cable 2/PIR for dual-TSW configuration
Internal PIR cable	MT24-D25 CA-C	1/PIR	2/PIR for dual-TSW configuration
BUS cable between two PIRs	D15 ST CA-A	1/IMG	ALM cable
BUS cable between the Telephony Server and PIR0	D15 ST-F CA-C	1/IMG	ALM cable
Power cable between the Telephony Server and TSW-BOX	D09 POW CA-A	1	1 even for TSW dual configuration
Installation cable (shielded LT cable)		Max. 12/PIR	Required for station/trunk connection from PIR LT connector to MDF

1.2.3.2 When Using TSWR

- Modules:

Module Name	Quantity	REMARKS
7U-PIR	As required	Maximum 16 PIRs
7U-PIR DC-DC Power Unit	1/PIR	In case of dual power unit configuration 2/PIR
TSWR	1/System	
BASEU	1/Rack	

- PIR/TSWR mounted control cards:

CIRCUIT CARD NAME	Quantity	REMARKS
MUX (CJ-PC00)	1/PIR	Interface between 7U-PIR TSW and line/trunk card 2/PIR for dual-TSW configuration
DC-DC PWR (PH-PW14)	2	TSWR PWR card 2 for DC-DC power dual configuration on TSWR
TSW (PH-SW12)	1	Time Division Switching on TSWR 2/IMG for dual-TSW configuration (max. 8)
GT (PH-GT09)	1	Interface between the Telephony Server and TSWR 2 for dual-TSW configuration
DLCK (PH-PC20/PH-PC20-B)	1	Information recollection during Attendant Console conversation 2 for dual-TSW configuration
PLO (PH-CK20)	1	System PLO 2 for dual-TSW configuration

- Cables:

CABLE NAME		Quantity	REMARKS
BUS cable between the Telephony Server and TSWR	D37-SC50 CA-B	1	2 for Telephony Server dual configuration
Cable between MDF and TSWR	D37 EXCLK CA-A	1	PLO Cable 2 cables for dual clock configuration
Internal PIR cable	MT24-D25 CA-C	1/PIR	2/PIR for dual-TSW configuration
BUS cable between TSWR and PIR	D37-D25 CA-A	1/PIR	TSW cable 2/PIR for dual-TSW configuration
BUS cable between PIRs	D15 ST CA-A	1/PIR	ALM cable
Power cable between the Telephony Server and TSWR	D15 ST CA(S)-A	1	ALM cable
BUS cable between the Telephony Server and PIR	D15 ST-F CA-C	1/IMG	ALM cable

CABLE NAME	Quantity	REMARKS
Installation cable (shielded LT cable)	Max. 12/PIR	Required for station/trunk connection from PIR LT connector to MDF

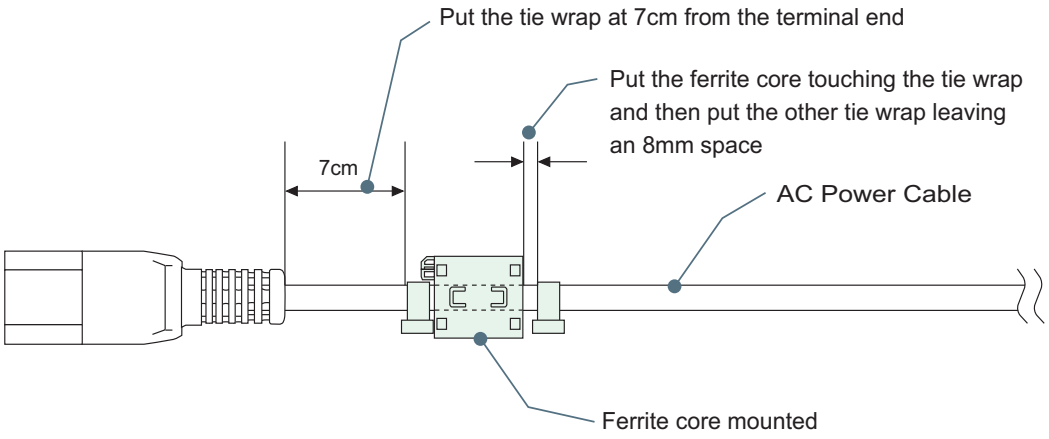
- If any component is lacking, contact NEC maintenance personnel immediately.
- Prepare a Phillips screwdriver, a flat-blade screwdriver, and a box-end wrench (5 mm) for installation.

1.3 Ferrite Core Installation to AC Cable

AC power cable for 7U-PIR and 1U AC-DC Power Unit (**Note 1**) needs a ferrite core, please install it before connect the cable to each device. Regarding the AC power cable for 7U-PIR use, install the ferrite core included in SN1769 PWRMAD. As for the other AC power cables, install a ferrite core separately arranged. The figure below gives the measures for installation using an AC power cable for 7U-PIR as example.

Note 1: 1U AC-DC Power Unit is required when using a BBUB booster battery unit (BBU).

Ferrite Core Installation Position

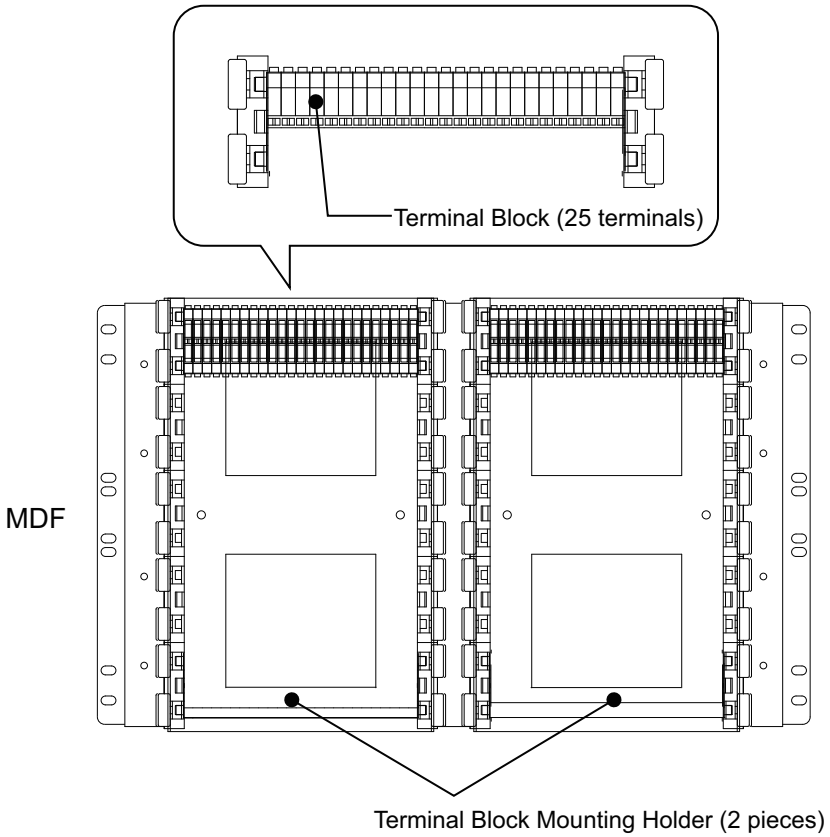


2. Mounting MDF

ATTENTION
Contents
Static Sensitive
Handling
Precautions Required

Install Main Distribution Frame (MDF) considering the lead-in holes for local cables, C.O. lines, Tie lines, and cable running route. Here explains how to set rack-mounted type of MDF as an example. Determine the required number of MDF according to the SV9500's circuit configuration and the quantity of local lines.

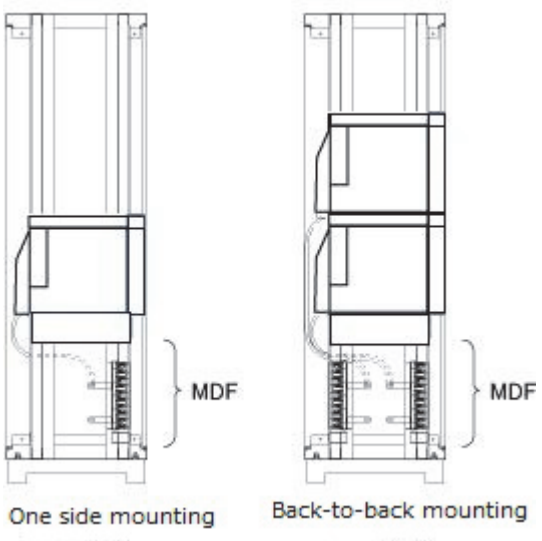
One set of MDF is required per PIR.
- 2 pieces of Terminal Block Mounting Holder per MDF
- 10 pieces of Terminal Block (250 terminals) per Mounting Holder, total 500 terminals on one MDF



Note: Three types of terminal blocks can be mounted on the MDF.
- Arrester (line protector) board for C.O. lines and external lines
- Test spring terminal (25P Jack board) for localization test
- Local block terminal

2.1 MDF Mounting Position

MDF can be mounted on the front and rear sides of the rack.



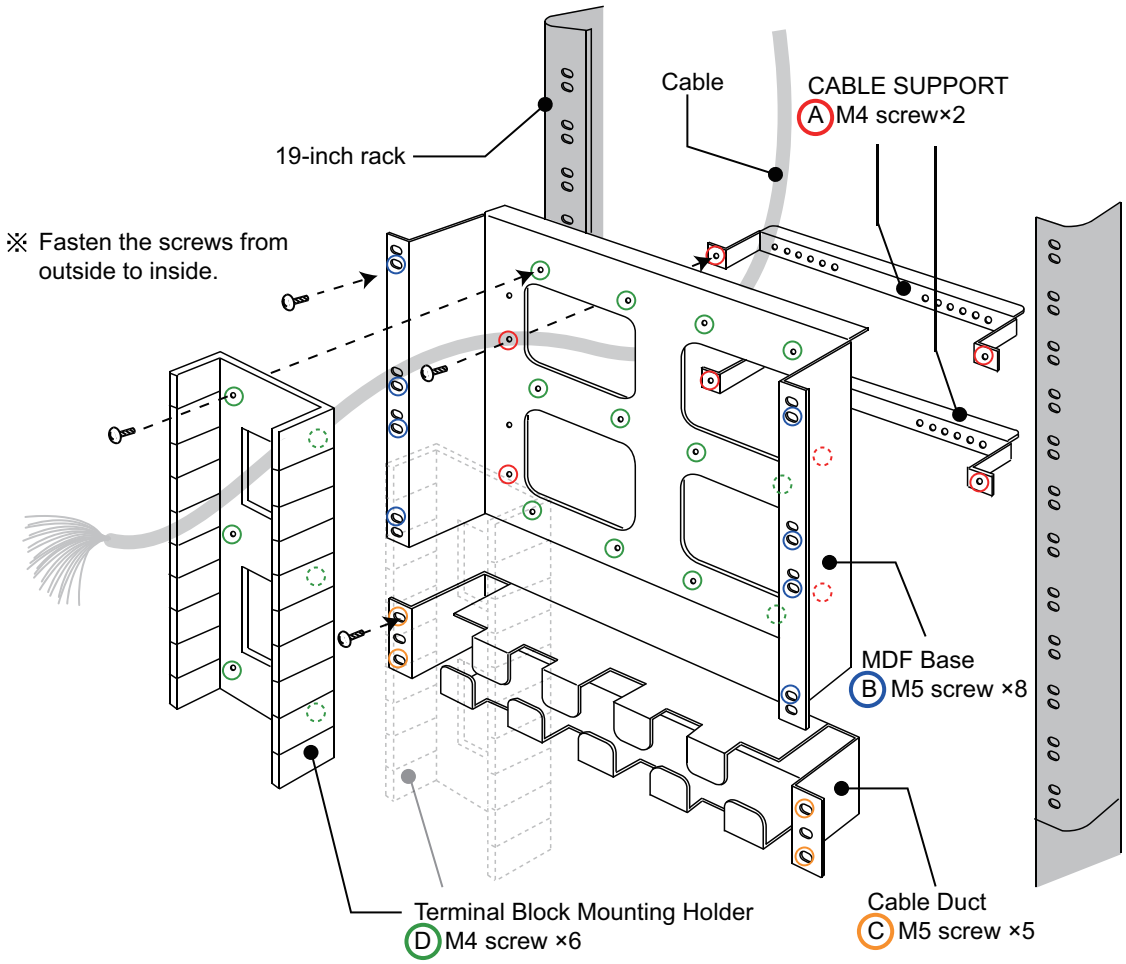
2.2 MDF Mounting Procedure

Install the MDF to the predetermined location on the rack.

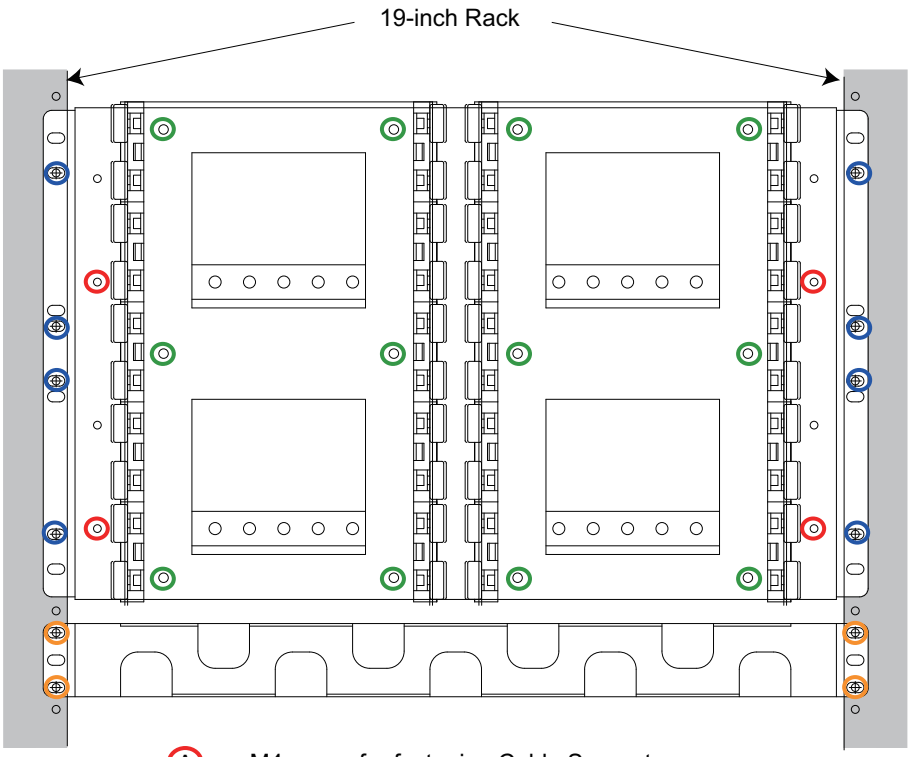
Step1: Check the quantity of required accessory items, such as arresters, block terminals, etc. according to your system configuration.

One MDF is configured with the following components:
- Cable Support (2P)
- MDF Base
- Cable Duct
- Terminal Block Mounting Holder (2P)

Step2: Referring the figure below, secure the MDF with screws in the order from A to D.



Step3: Confirm all the screws are fastened on the appropriate positions.



A ··· M4 screw for fastening Cable Support

B ··· M5 screw for fastening MDF Base

C ··· M5 screw for fastening Cable Duct

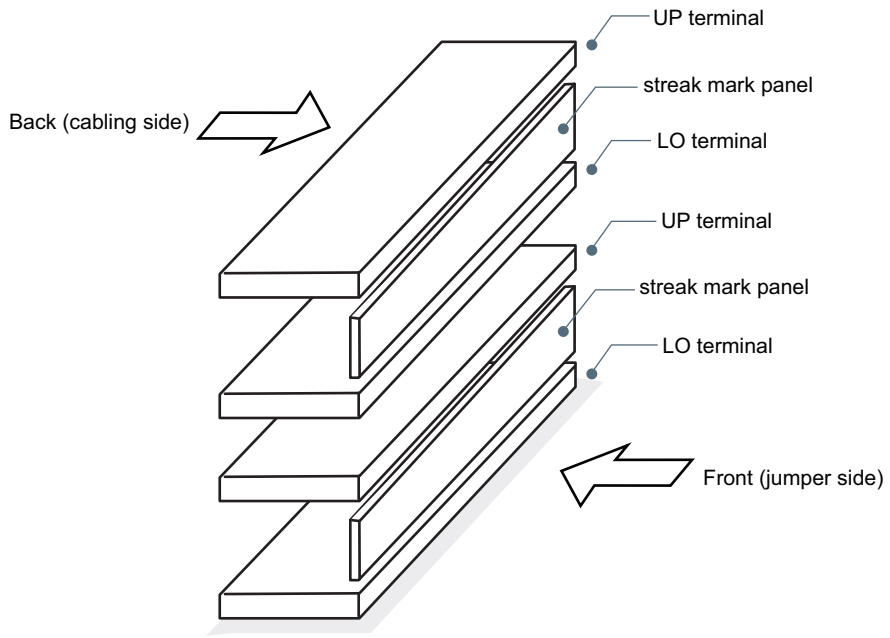
D ··· M4 screw for fastening Terminal Block Mounting Holder

2.3 Cable Termination on MDF

This section describes how to connect the cables on MDF terminal.

2.3.1 MDF Terminal

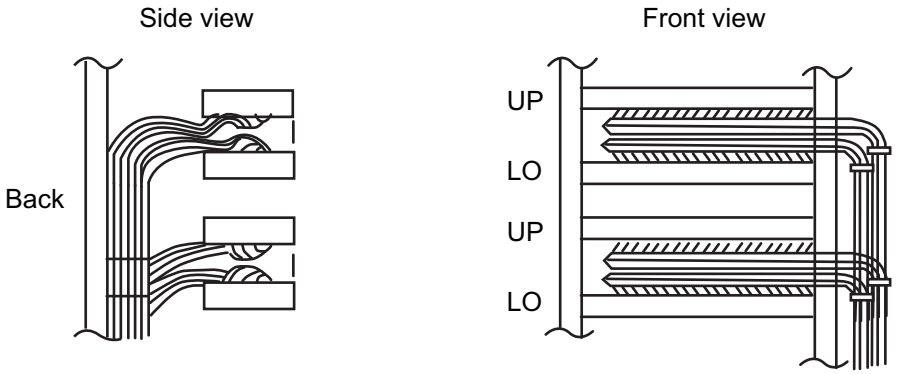
Sandwiching a streak mark panel between two terminal blocks, upper terminals are called as “UP” and lower terminals as “LO” in this explanation.



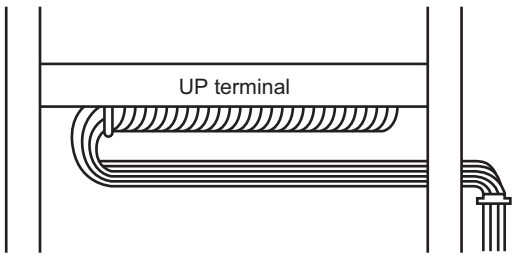
- Connect the cables to the back side of terminal block.
- Leave blank at the front of terminal blocks for jumper connection.

2.3.2 MDF Terminal Connection

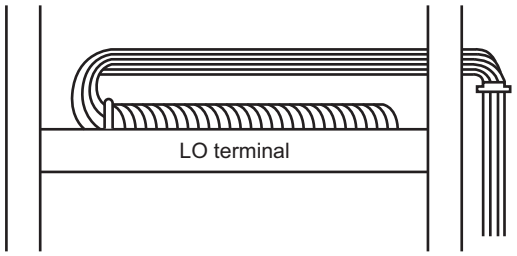
The wires for UP and LO terminals are connected to reverse ways.



(a) Cable connection to UP terminal



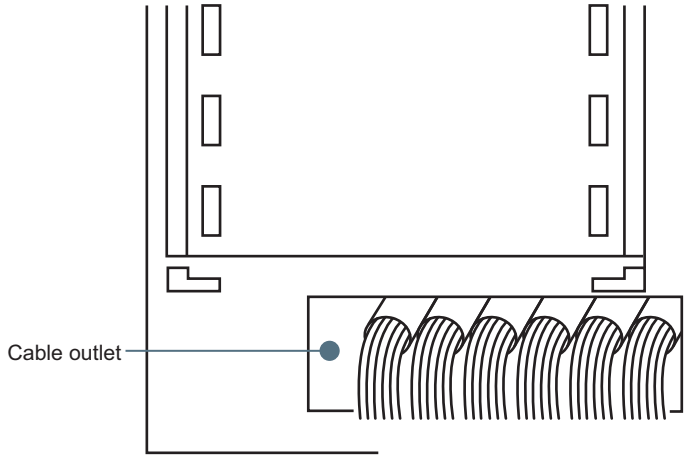
(b) Cable connection to LO terminal



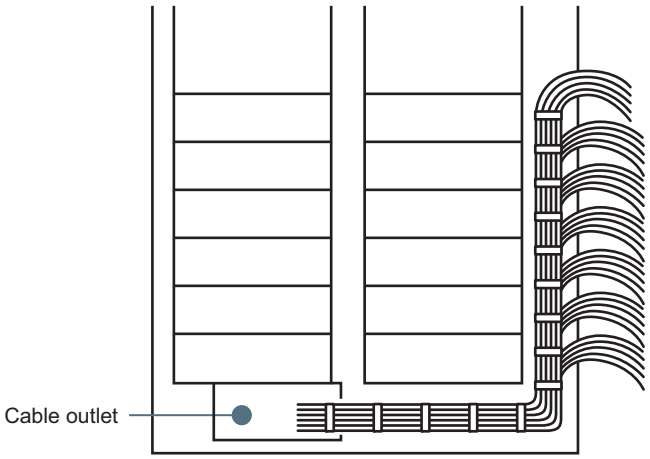
2.3.3 Cable Connection Procedure

Local cable connection to MDF terminal is explained in the following steps.

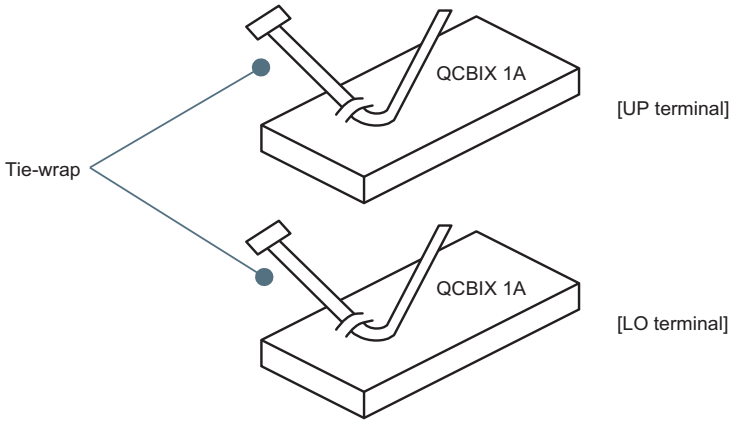
Step1: Peel off the local cables' cover at the outlet.



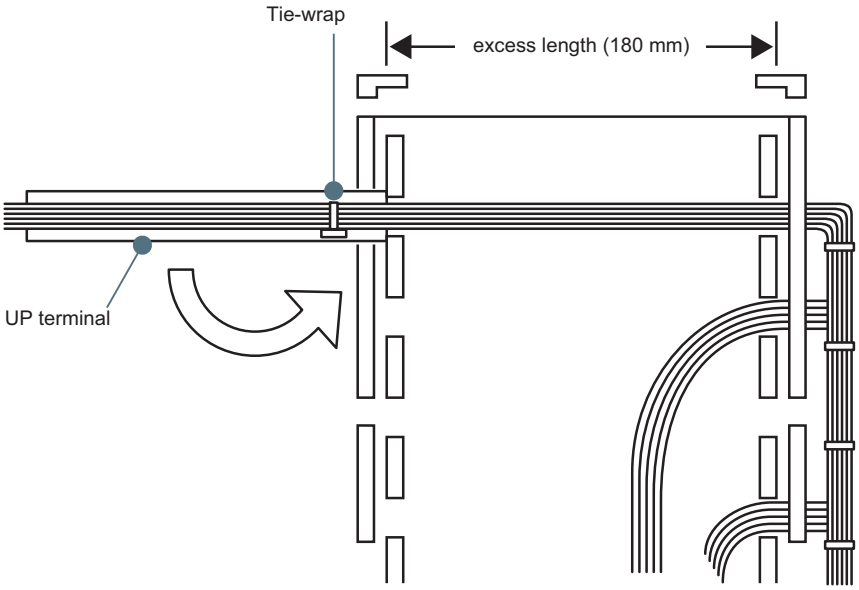
Step2: Determine the cable length to the MDF terminal, and cast on cloth the peeled cables.



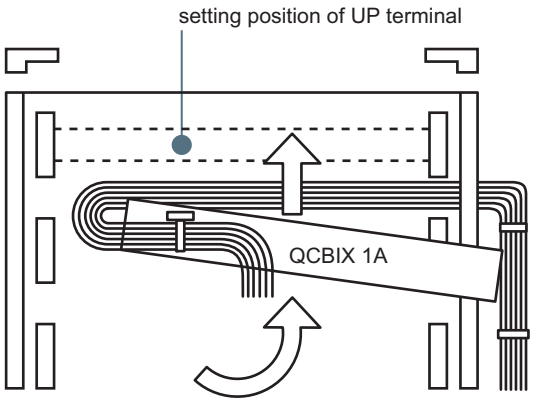
Step3: Insert a tie-wrap to MDF terminal (both UP and LO terminals).



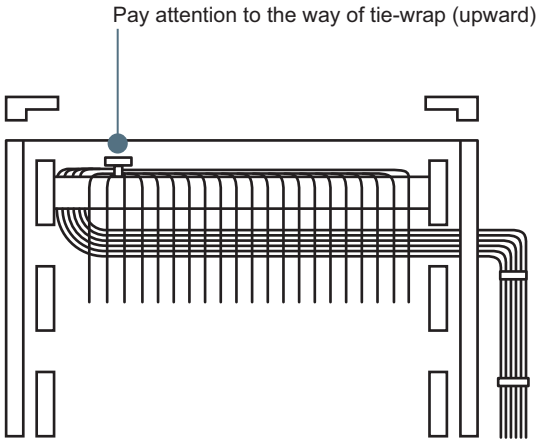
Step4: Run the peeled cables through the mounting holder. Fix the cables with the tie-wrap, leaving enough length (approx. 180 mm/7 inch).



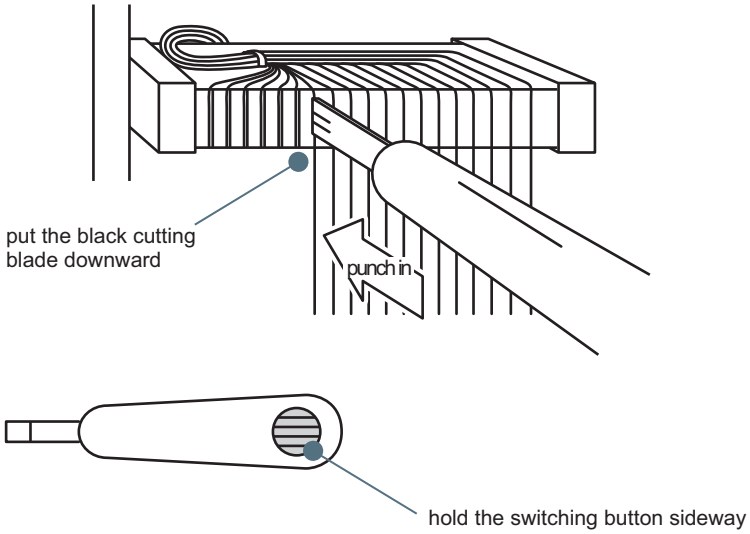
Step5: Attach the UP terminal to the mounting holder.



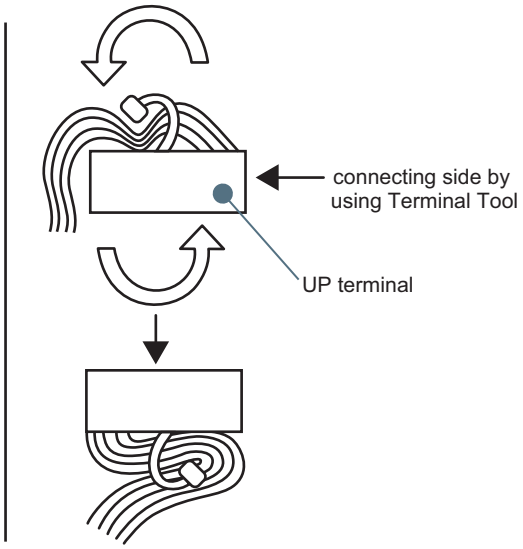
Step6: Tie up the wires lightly confirming the wiring positions on the UP terminal, from low-numbered terminals in order.



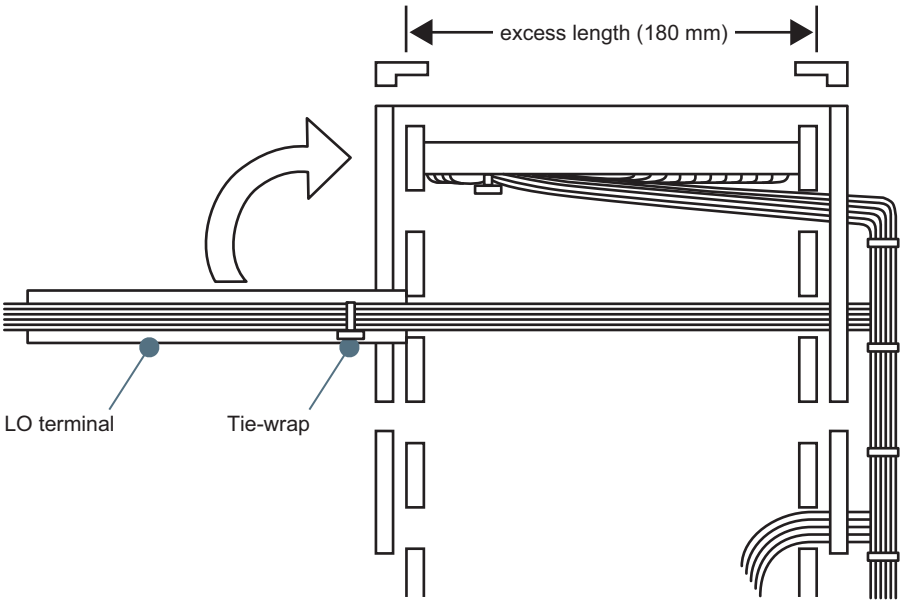
Step7: Punch the Terminal Tool into the target tine of UP terminal to fix the wire and cut off the excess wire.



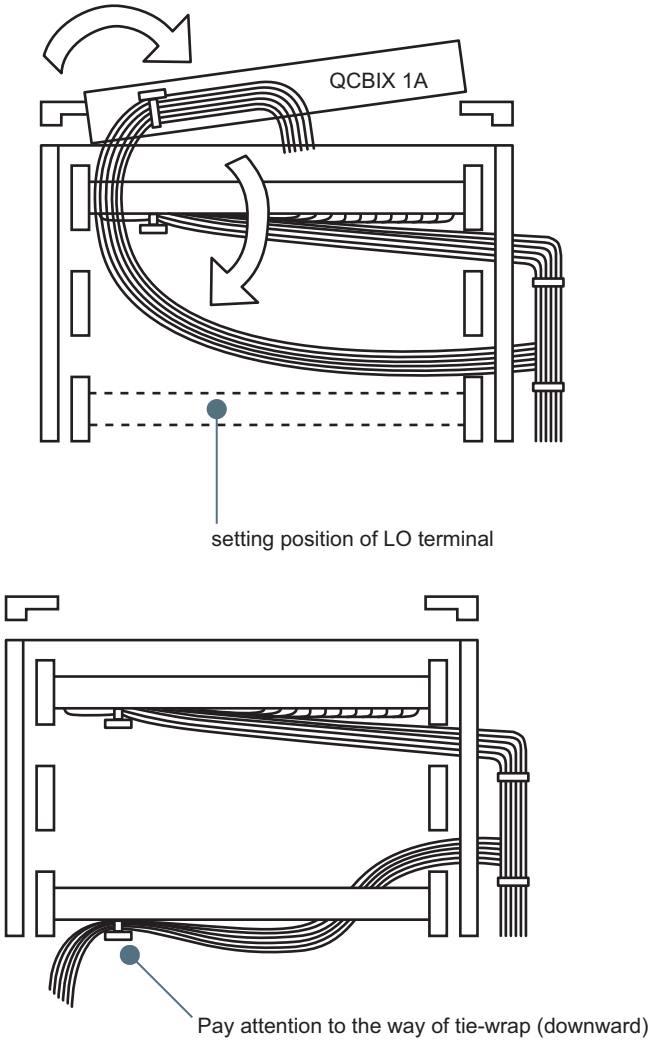
Step8: Invert the UP terminal and attach it onto the mounting holder.



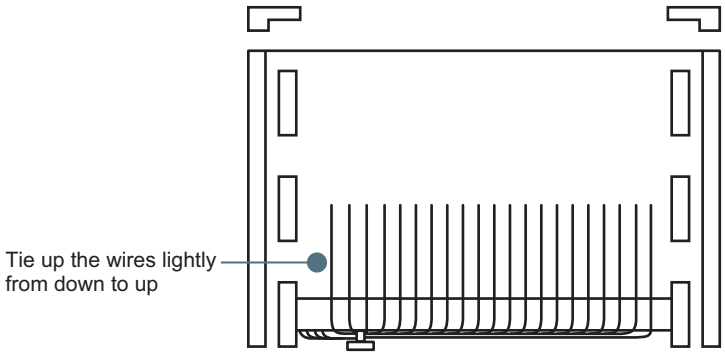
Step9: Fix the cables with the tie-wrap to LO terminal, leaving approximately 180 mm (7 inch) of excess length.



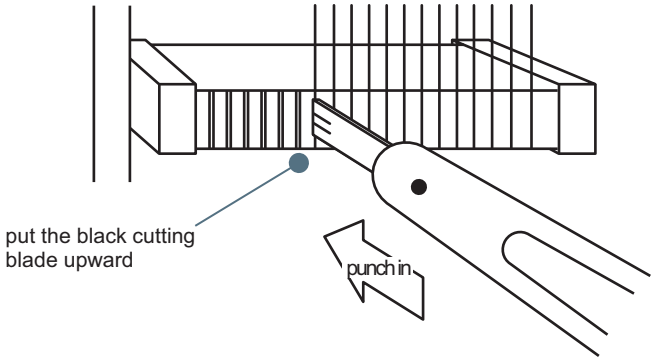
Step10: Invert the LO terminal and attach it onto the mounting holder.



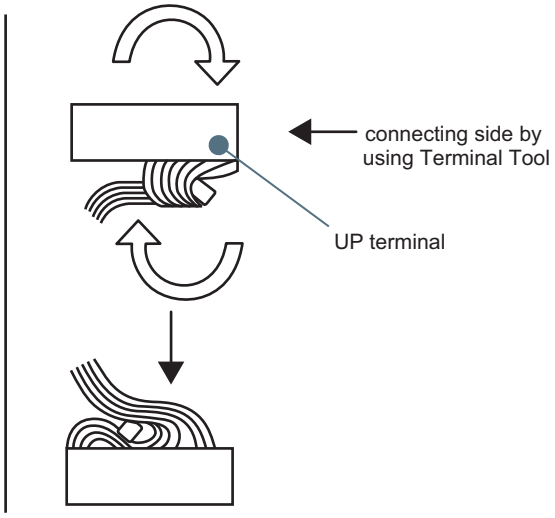
Step11: Tie up the wires lightly confirming the wiring positions on the LO terminal, from low-numbered terminals in order.



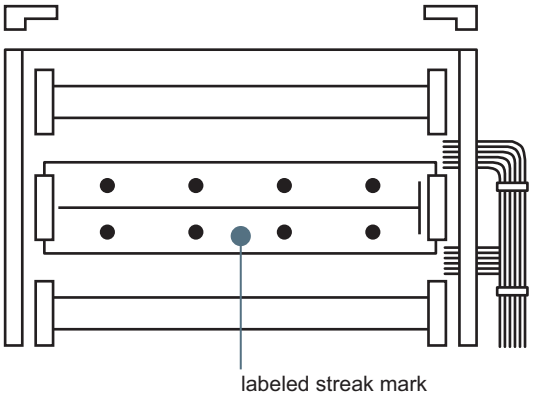
Step12: Punch the Terminal Tool into the target tine of LO terminal to fix the wire and cut off the excess wire. Put the black tine of Terminal Tool upward for LO terminal connection.



Step13: Return the inverted UP terminal and attach it to the mounting holder.



Step14: After arranging the cables, attach the labeled streak mark panel to the mounting holder. Write the cable information to the label.



2.4 Test Spring Terminal and Arrester on MDF

Accommodate localization test terminals and arresters on 25P Jack board equipped with dividing parts.

2.4.1 Purpose of Use

(a) Test Spring Terminal (Localization Test Terminal)

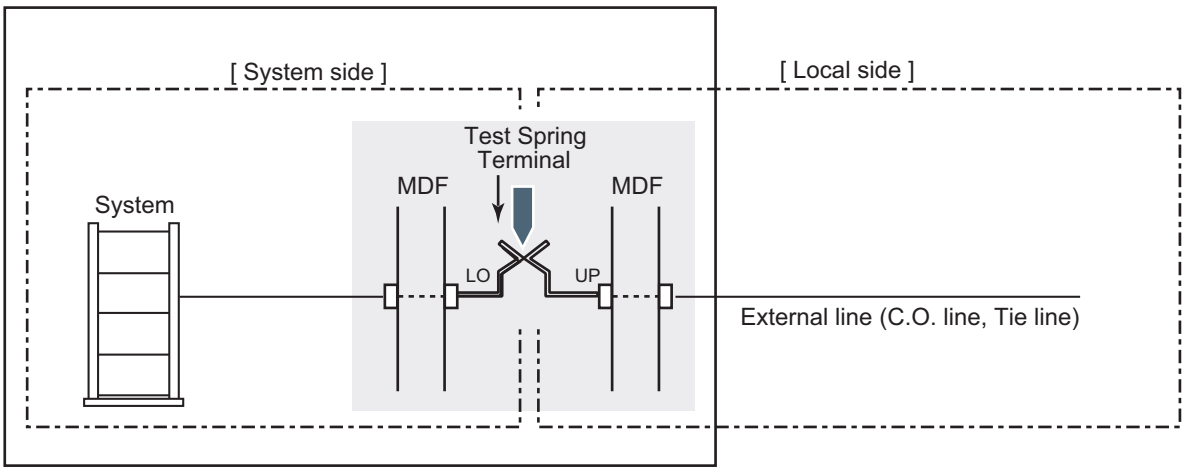
Used in combination with local block terminals, the Test Spring Terminal can divide the communication circuit into system side and external line. Also this terminal is used to mount arrester.

(b) Arrester (Line Protector)

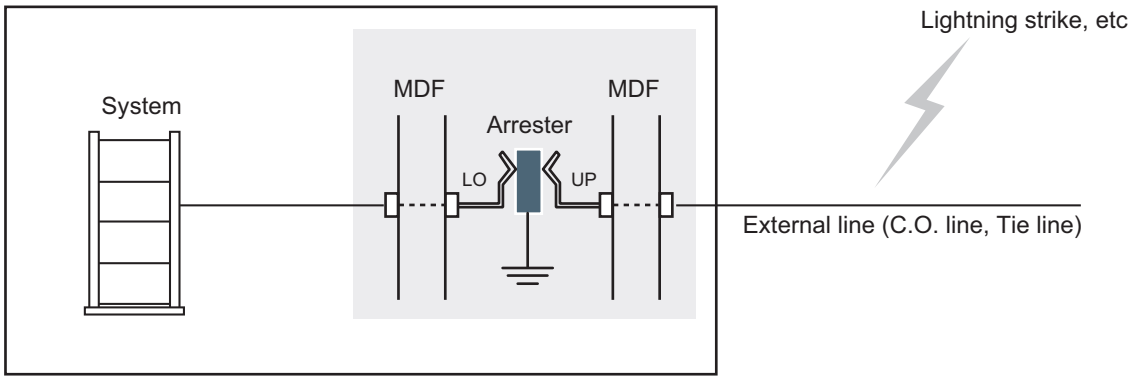
Protects the system and the line circuit from lightning strikes and other electrical surges.

2.4.2 Connecting Diagram

(a) Connecting Diagram of Test Spring Terminal

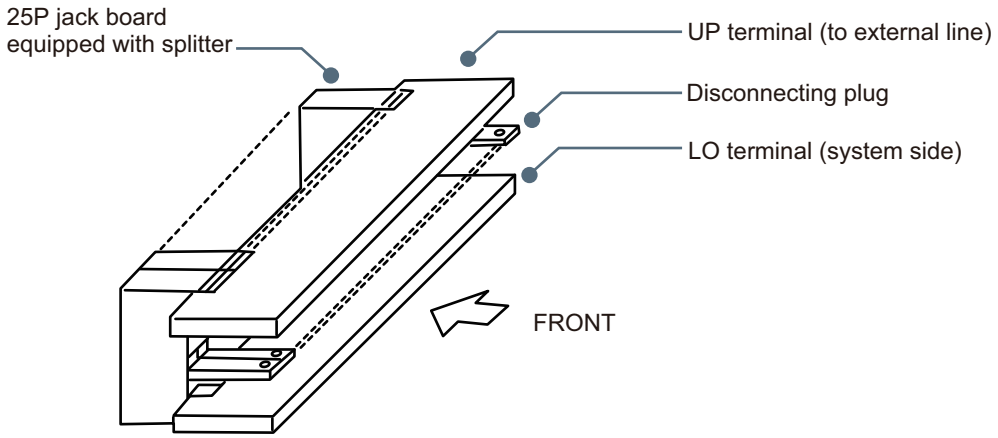


(b) Connecting Diagram of Arrester

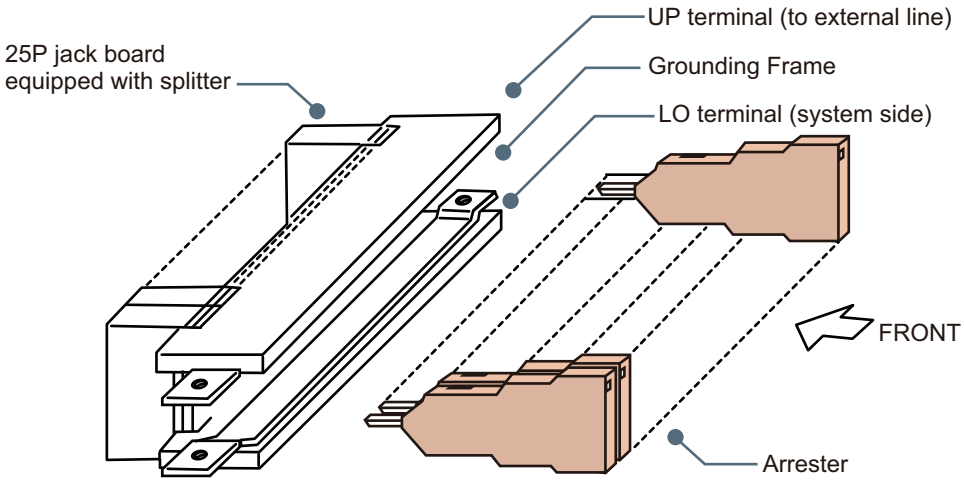


2.4.3 Outline View

(a) Outer View of Test Spring Terminal

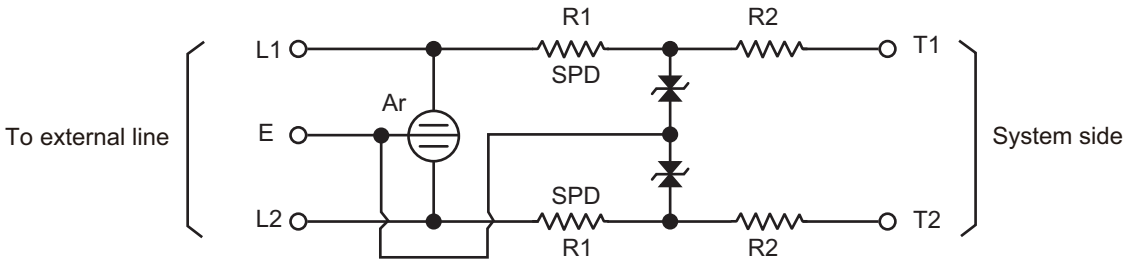


(b) Outer View of Arrester



2.4.4 Circuit Diagram of Arrester

Circuit diagram of arrester is shown for reference.



2.4.5 Connecting Arrester

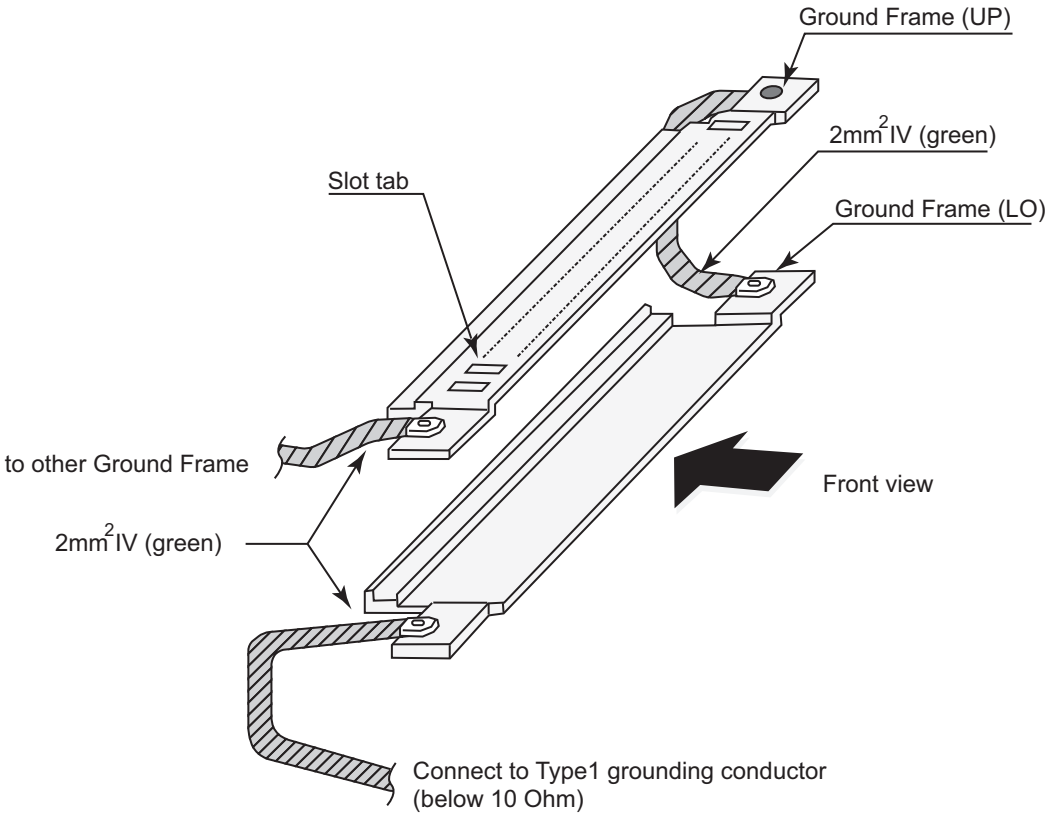
Here describes the connection of arrester.

- Arrester has two types of Ground Frames for UP side and LO side. Ground Frame for UP side has tab slots.
- Connect the ground cable 2mm^{2}IV to Type 1 grounding conductor (less than 10Ω).

Step1: Solder the ground cables to Ground Frames.

Step2: Connect 25P Jack board to local block terminal.

Step3: Attach the 25P Jack board on the mounting holder of MDF.



Note: Secure Type 1 grounding (less than 10Ω). When the system has Type 1 grounding, FE terminal connection is also accepted. Connect to ground frame for horizontal installation type of MDF.

3. Installing Modules

How to install modules and circuit card mounting procedures are explained in this section.

3.1 Module Mounting (AC-Powered Model of 7U-PIR)

Regarding the AC type, PIR installation is performed as follows.

PIR Installation (AC Type)

START

1	Checking the PIR Position	⇒Check the position of 7U-PIRs and the TSW-BOX on the 19-inch rack
2	Mounting on the 19-inch Rack	⇒Mount the TSW-BOX and 7U-PIR on the 19-inch rack.
3	Mounting the Power Unit	⇒Mount the AC Power Unit on the power unit slot of 7U-PIR.
4	Mounting the Cards	⇒Mount cards to 7U-PIR.

END

Note: The AC-powered model is only available in 1-IMG configuration; this model does not support 4-IMG Configuration except for North America.

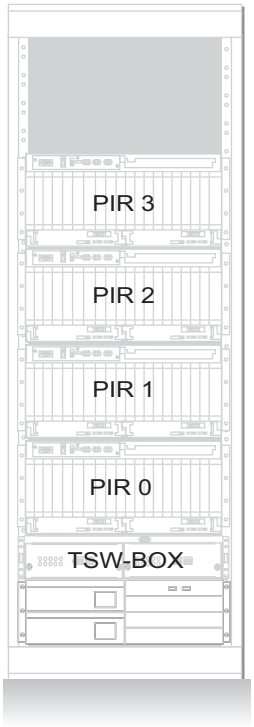
3.1.1 Checking the PIR Position

This section describes how to check the position of the PIRs and the TSW-BOX on a 19-inch rack.

Check the following mounting position on the rack: Telephony Server, TSW-BOX, PIRs. This figure shows an example for a 19-inch rack (mm-type) with a 39U capacity.

Mounting Position on 19-inch Rack (AC Type)

Example 4-PIR
(TSW-BOX x 1, 7U-PIR x 4)



Note: TSW-BOX needs to be mounted right above the Telephony Server.

3.1.2 Mounting on the 19-inch Rack

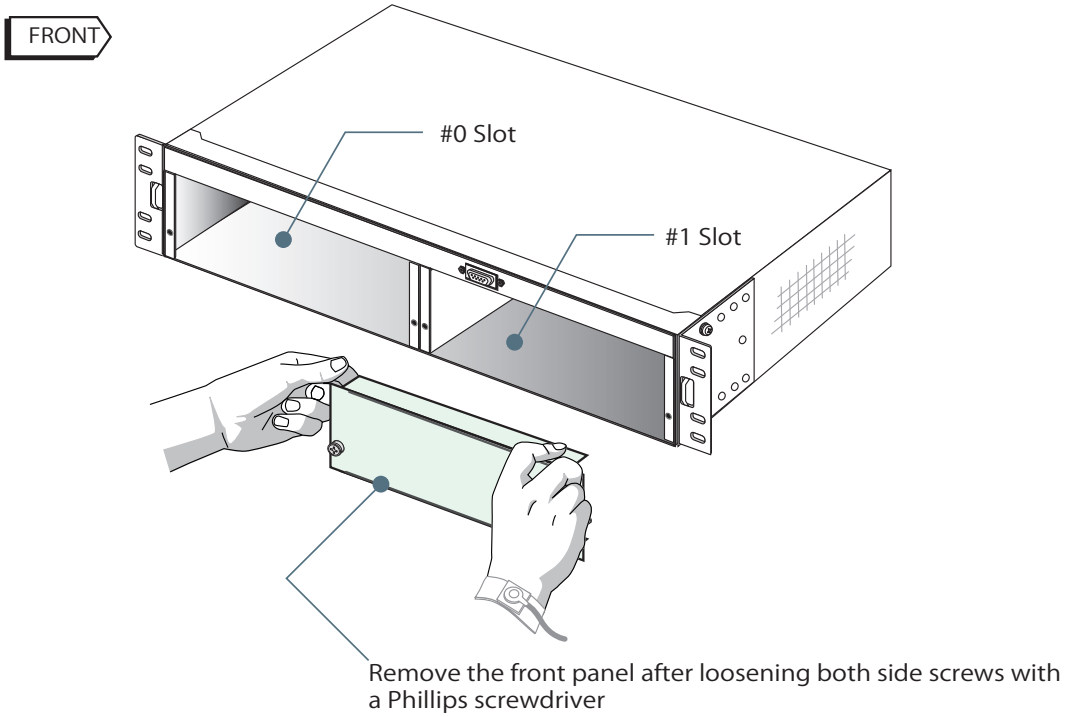
This section describes how to mount the TSW-BOX and the 7U-PIR on the 19-inch Rack. Take notice of the following cautions during the mounting procedure.

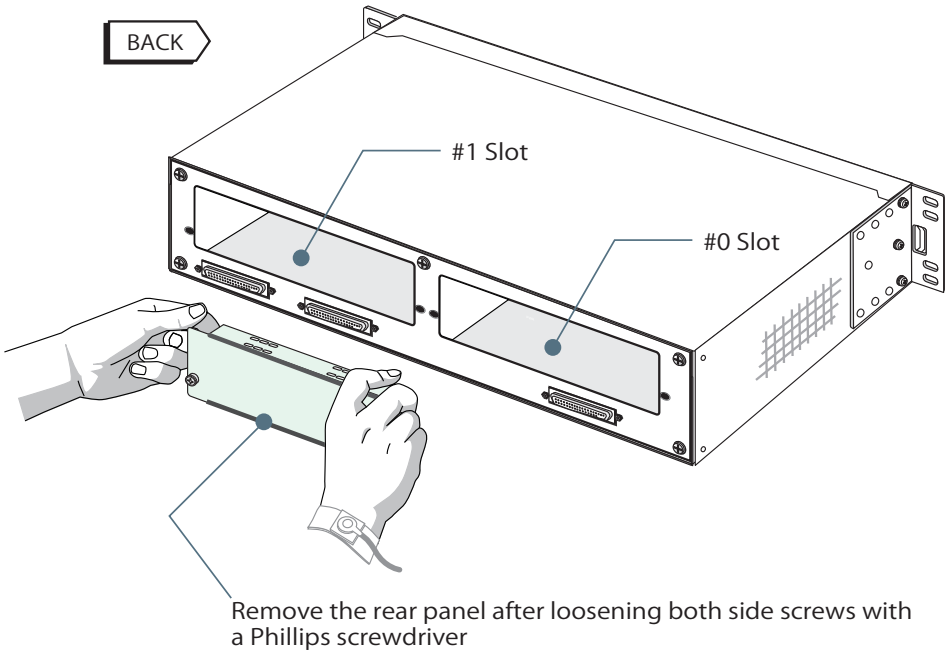
- Considering the safety, be sure to perform the installation working with two or more people.
- Mount the modules and units on the 19-inch rack from bottom to up.
- Mount TSW-BOX right above the Telephony Server.

Note: The recommended 19-inch rack has a front side and a back side. When you mount a module be careful to do it in the correct direction. Figures in this section will depict the frontal part of the rack facing to the left.

Step1: Check Circuit Card Description and set the switches of the TSW card (SPZ-SW25-A).

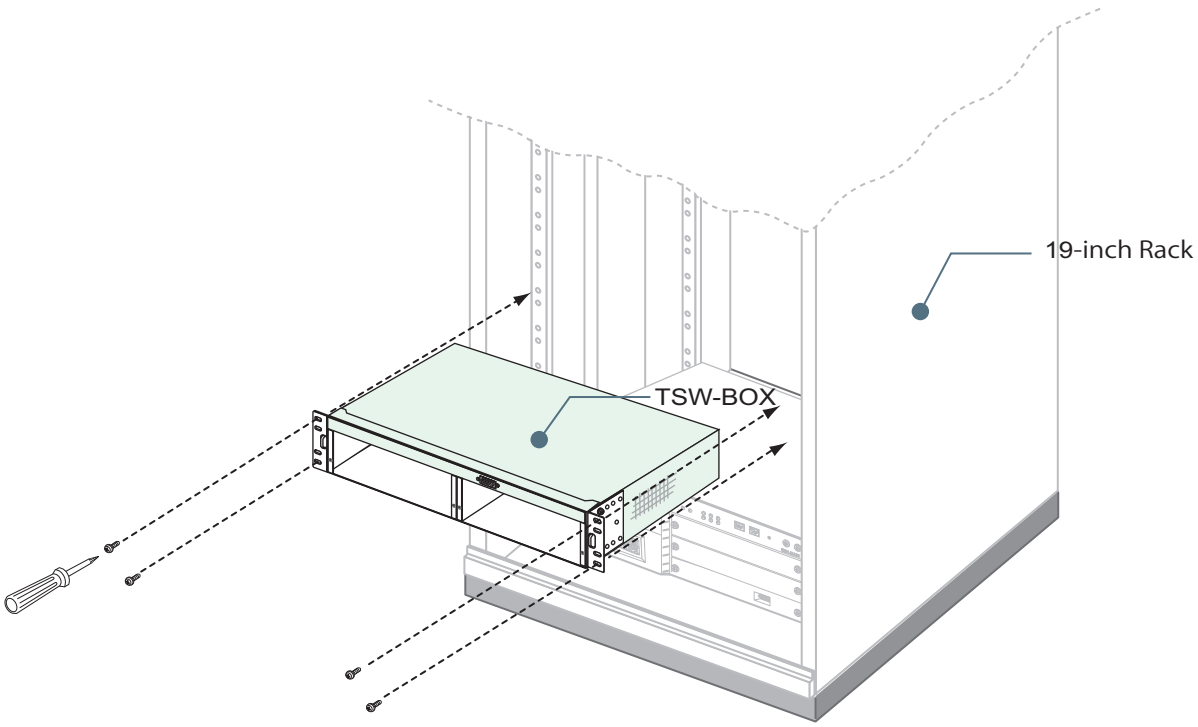
Step2: In case of a TSW dual configuration, remove the front and rear covers of the #1 slot (use a Phillips screwdriver to loosen right and left screws).



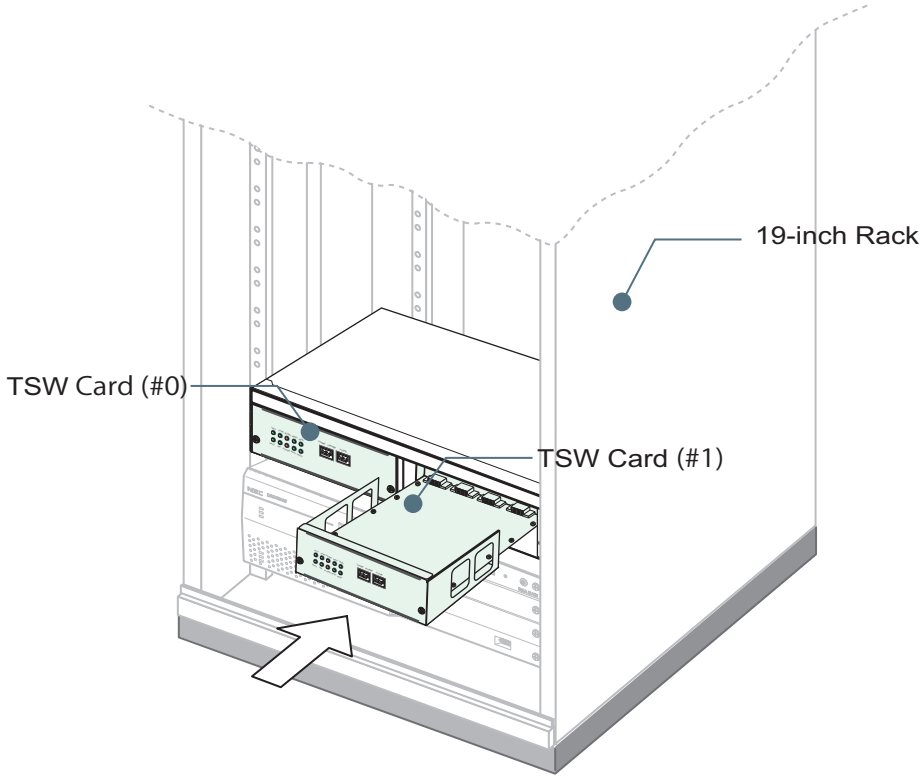


Step3: Mount the TSW-BOX on the 19-inch Rack.

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

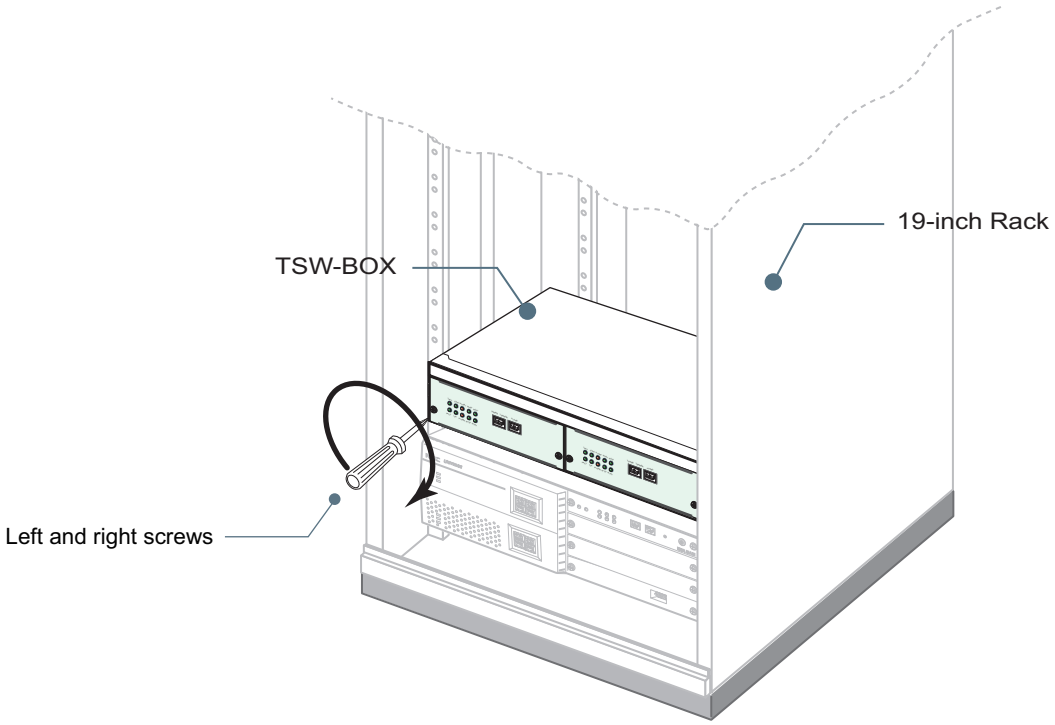


Step4: Mount the TSW card (SPZ-SW25-A) in the TSW-BOX slot. The following example is for a TSW dual configuration (left: #0, right: #1).



Step5: After mounting the TSW card, use a Phillips screwdriver to screw right and left screws on the front side.

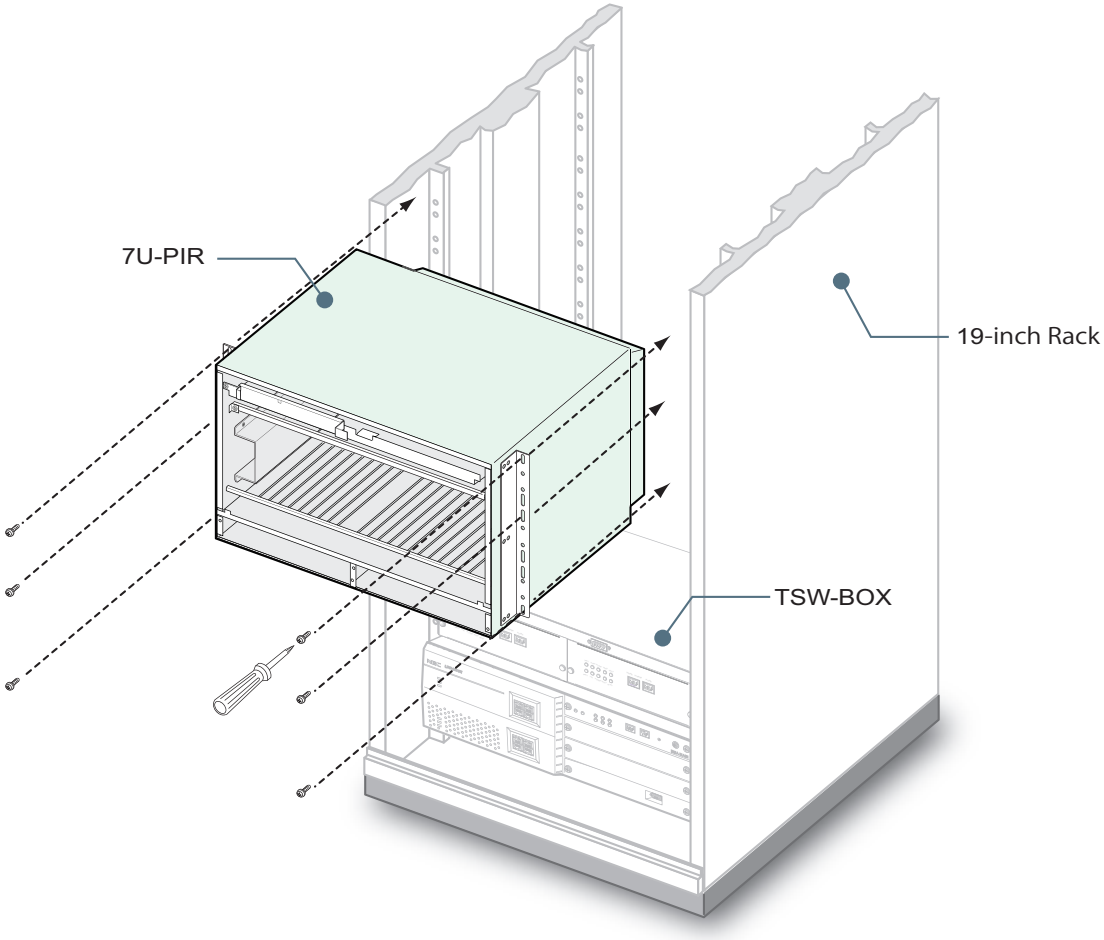
Note: Do not use an electric screwdriver. The fastening torque could be excessive and damage the screws.



Step6: Mount the 7U-PIR on the 19-inch Rack.

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

7U-PIR Mounting



3.1.3 Mounting the Power Unit

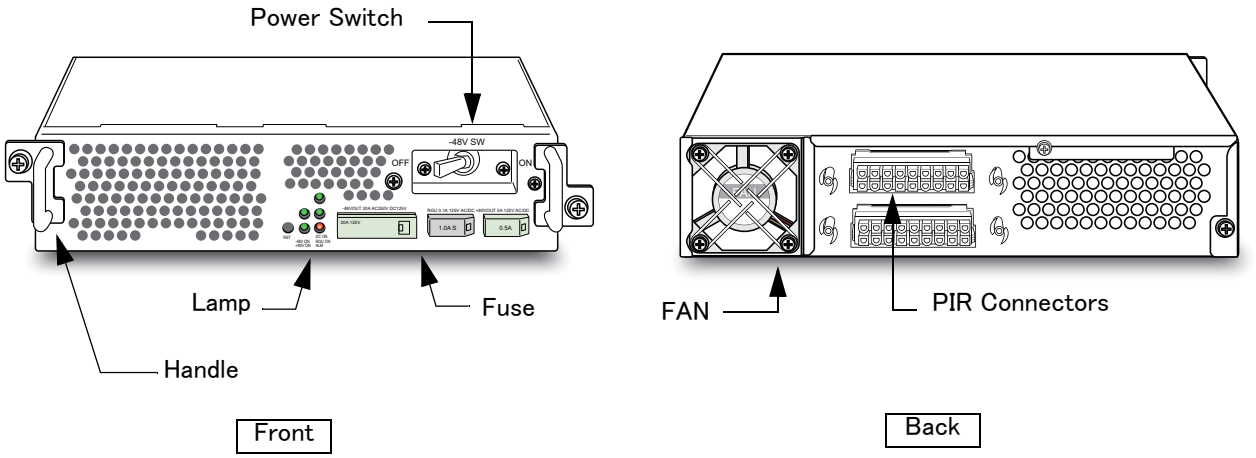
This section describes how to mount 7U-PIR AC Power Unit to the power unit slot in the lower part of 7U-PIR.

CAUTION

When you mount or remove a power unit, take the following precautions.

- Only touch the handles. Specially, when removing the unit after it has been used, upper and lower parts can be very hot and cause a burning, therefore do not touch those parts of the unit.
- Make sure that the power switch on the front panel is set to OFF before any operation.

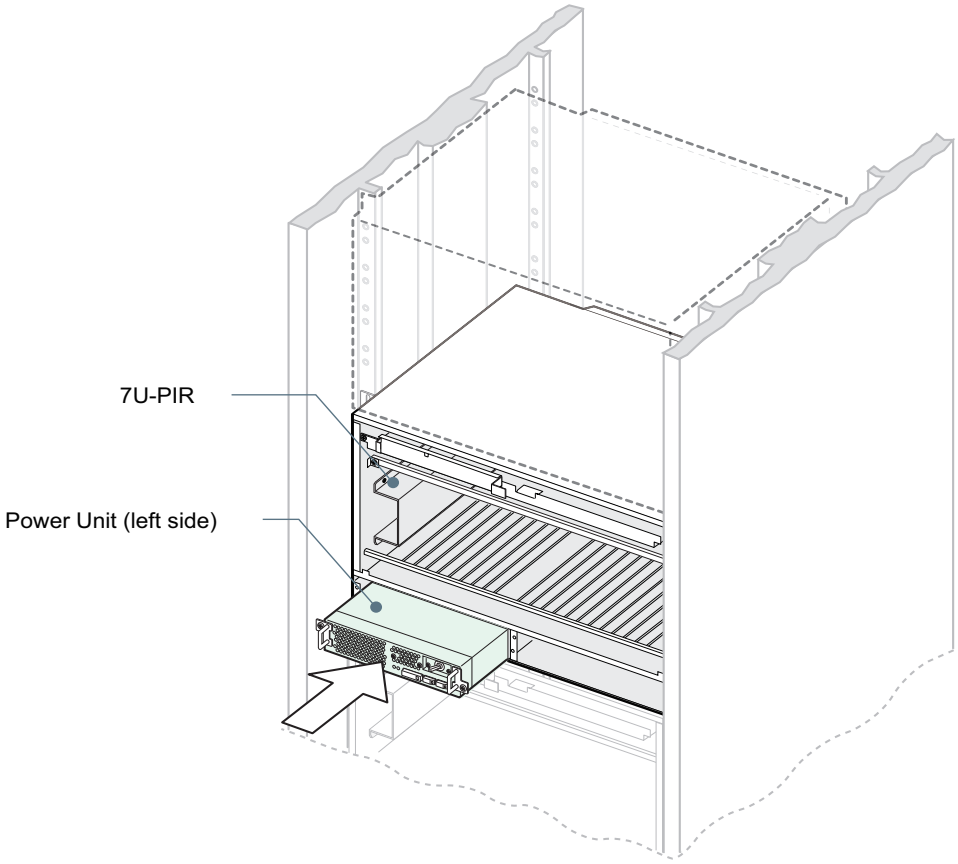
Power Unit



Step1: Insert 7U-PIR AC Power Unit on the power unit slot in the lower part of the 7U-PIR following the illustrations below.

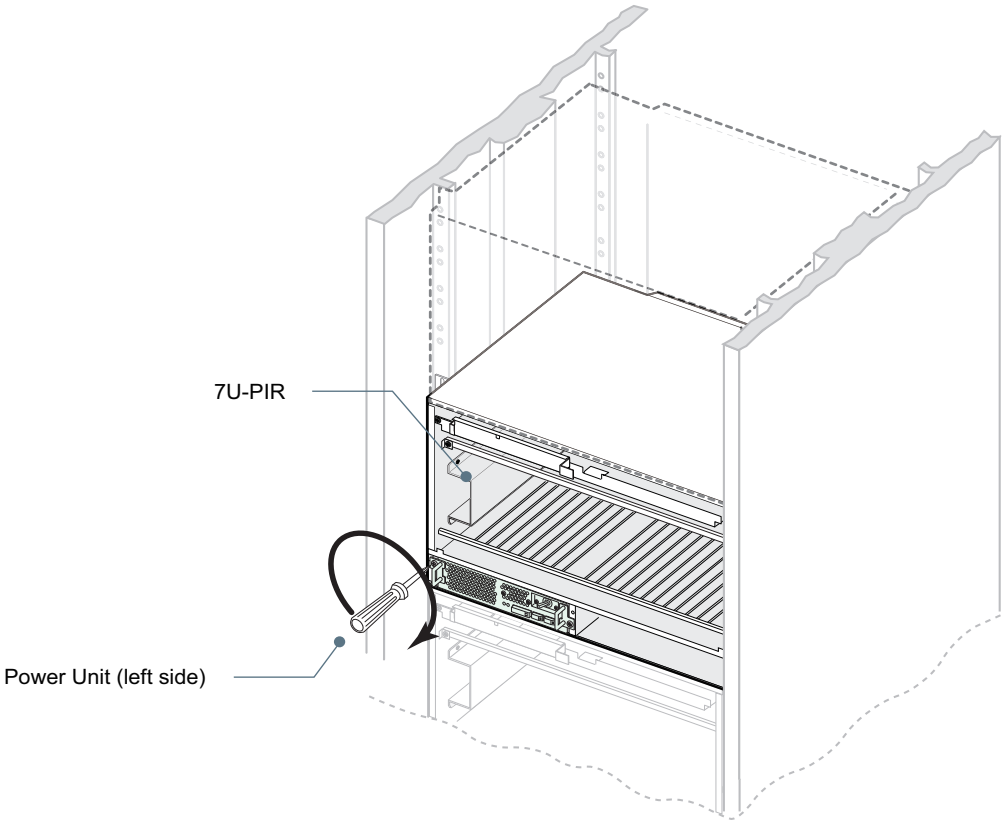
- On the lower part of 7U-PIR, there are two mounting slots for power units (dual configuration). The left slot is for #0 and the right for #1. In case of a single configuration, use the left slot (#0) for the power unit mounting.
- Mount the connector on the back of the power unit to the 7U-PIR connector.

Note: If you cannot mount the unit smoothly, check again that the 7U-PIR connector and the power unit connector are meshing.

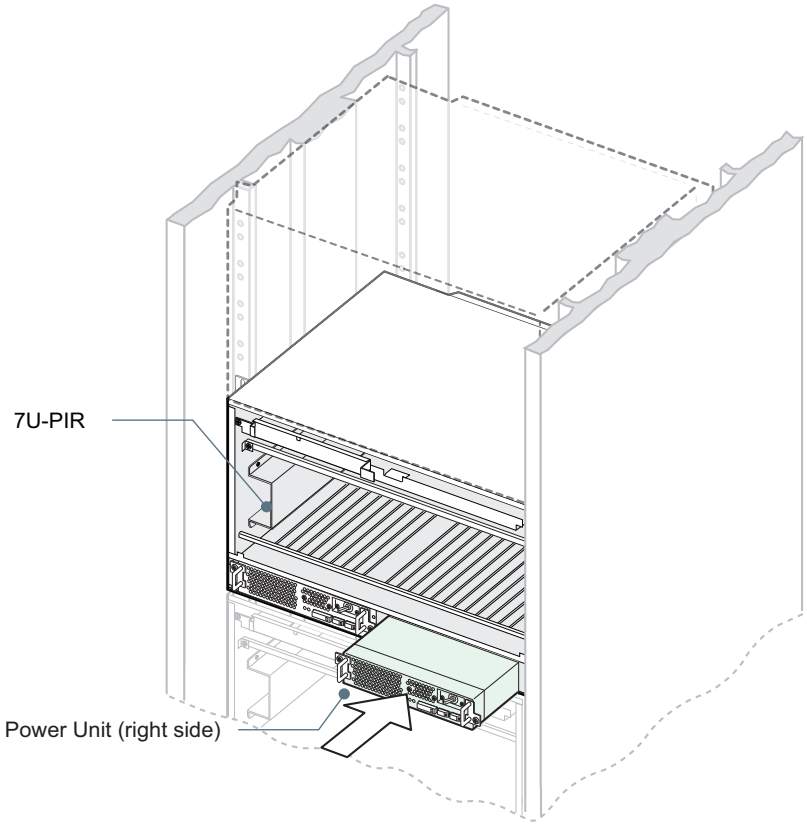


Step2: After mounting the power unit, use a Phillips screwdriver to firmly screw right and left screws on the front side.

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



Step3: In case of a dual configuration, mount the other power unit in the right slot (#1) using the same operation as with the left power unit.



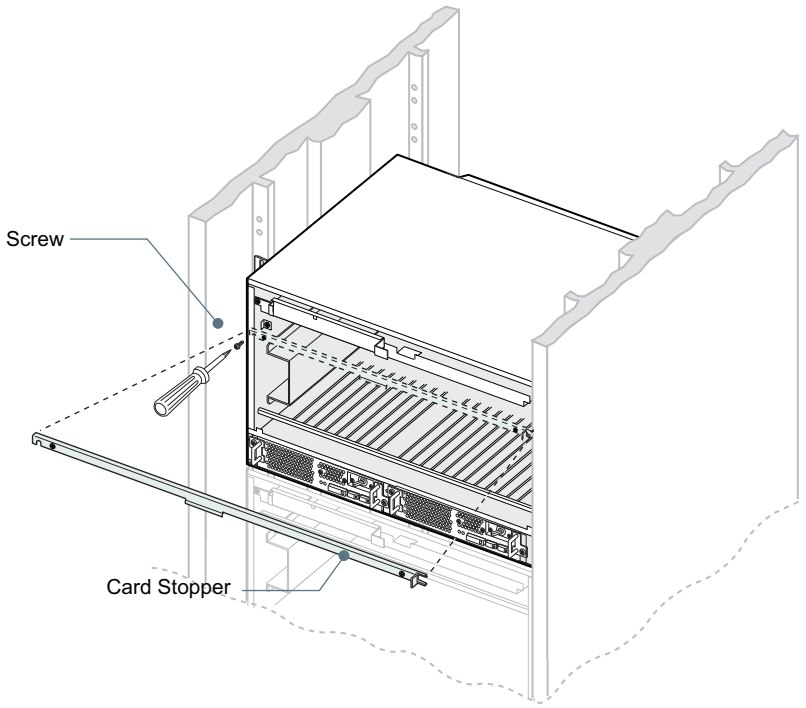
3.1.4 Mounting the Cards

This section describes how to mount cards to 7U-PIR. When inserting the cards, 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 on Chapter 2 of System Description manual.
- After removing a card, wait at least 10 seconds to mount it again.

Step1: Use a Phillips screwdriver to remove the front card stopper of 7U-PIR. Be careful not to lose the screws. The stopper serves as a measure against earthquakes (with an earth-quake-resistance strength of 1.1G), therefore do not forget to install it again after mounting the cards.

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

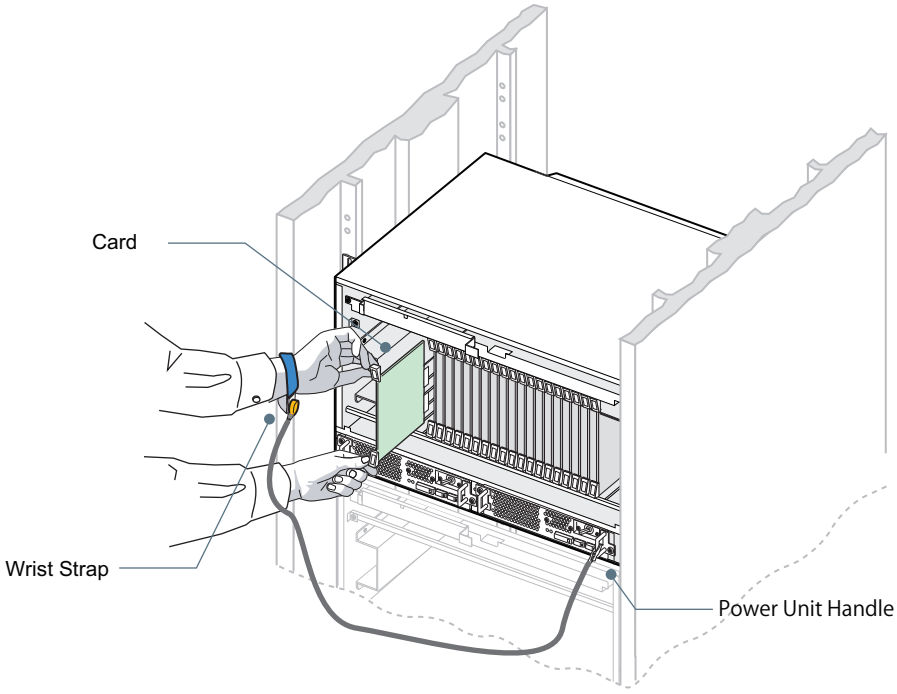


Step2: Check the mounting position per each card. Consult the figure for the front composition of PIR and check that the slot numbers and card label colors are matching.

Step3: Consult Circuit Card Description and set the hardware switches for each card.

Note: The setting can be done only for hardware switches. As for software switches, after power activation, set them using PCPro (CPSW command) or a serial console.

Step4: The cards are inserted to the appropriate slot. First, accommodate the upper and lower part of the card to the rails and press to insert it. Stop the insertion 5 centimeters before reaching the back side, if there is not any problem, continue until the back and check that the connector is firmly connected to the back board.

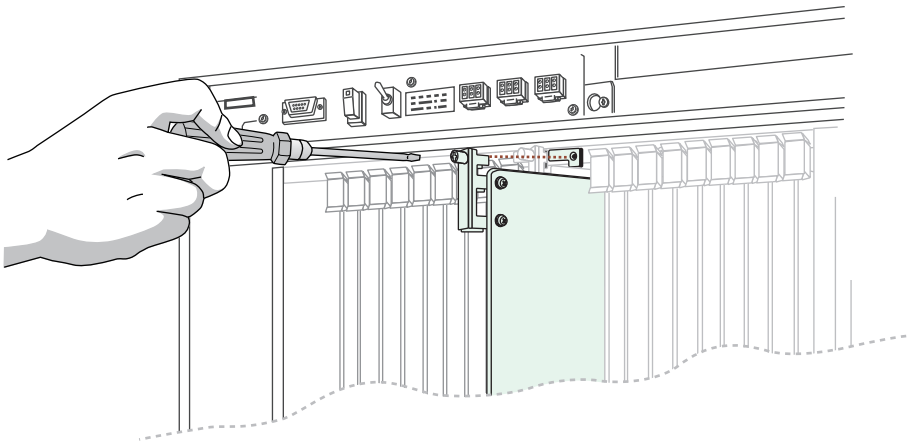


Note: Without a proper frame grounding to the 19-inch rack, even when a wrist strap is connected, static electricity cannot be released and it may cause equipment failure. In that case, connect the wrist strap to another part that is properly grounded. Also, even if the frame grounding is proper, if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

[CJ-PC00 (MUX) Card]

The CJ-PC00 (MUX) card includes in its upper part a front plate for clasping. Use the driver to firmly fix it to PIR.

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



Step5: After mounting all the cards, put again the card stopper with the screws.

3.2 Module Mounting (DC-Powered Model (1-IMG) of 7U-PIR)

Regarding the DC (1-IMG) type, PIR installation is performed as follows.

PIR Installation (DC 1-IMG Type)

START

1 Checking the PIR Position ⇒Check the position of 7U-PIRs and the TSW-BOX on the 19-inch rack.

2 Mounting on the 19-inch Rack ⇒Mount the TSW-BOX and 7U-PIR on the 19-inch rack.

3 Mounting the Power Unit ⇒Mount 7U-PIR DC-DC Power Unit on the power unit slot of 7U-PIR

4 Mounting the Cards ⇒Mount cards to 7U-PIR.

END

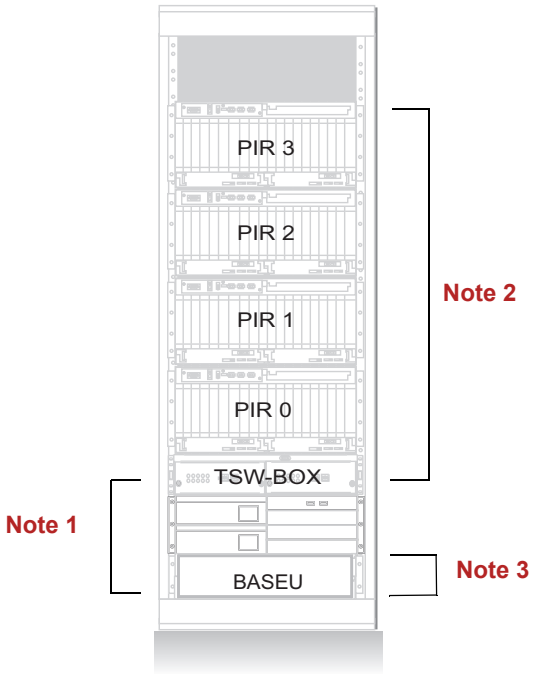
3.2.1 Checking the PIR Position

This section describes how to check the position of PIRs and the TSW-BOX on a 19-inch rack.

Check the following mounting position on the rack: Telephony Server, TSW-BOX, PIRs. This figure shows an example when a 19-inch rack (mm-type) with a 39U capacity is used.

Mounting Position on 19-inch Rack

PIR DC (1-IMG) Type



Note 1: TSW-BOX needs to be mounted right above the server module.

Note 2: Do not let open spaces between the modules.

Note 3: When you decide the position of the modules take into consideration that the fuse alarm cables from the BASEU to each module (PIR) have a length of 1 meter.

3.2.2 Mounting on the 19-inch Rack

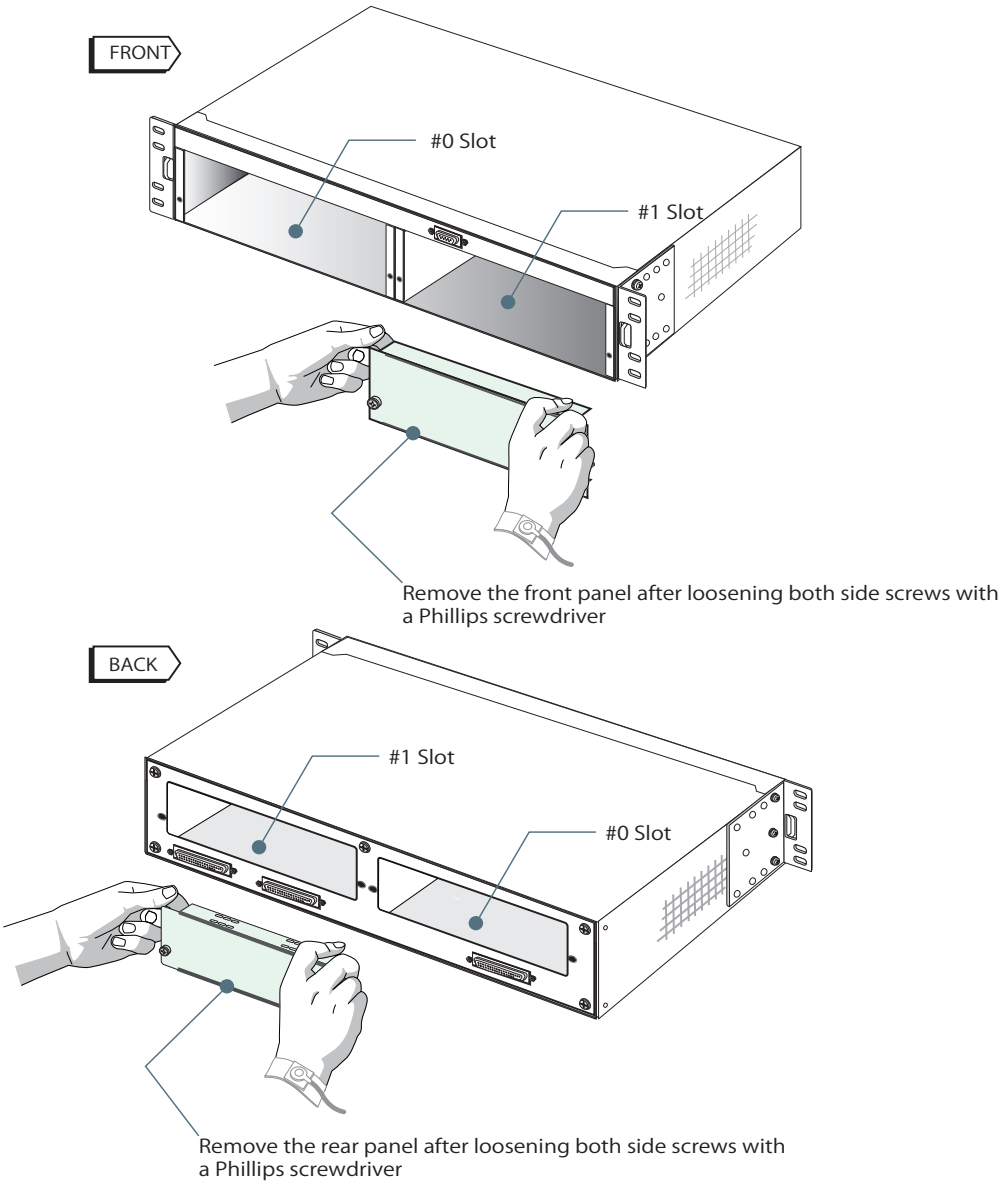
This section describes how to mount the TSW-BOX and the 7U-PIR on the 19-inch Rack. Take notice of the following cautions during the mounting procedure.

- Considering the safety, be sure to perform the installation working with two or more people.
- Mount the modules and units on the 19-inch rack from bottom to up.
- Mount TSW-BOX right above the Telephony Server.

Note: The recommended 19-inch rack has a front side and a back side. When you mount a module be careful to do it in the correct direction. Figures in this section will depict the frontal part of the rack facing to the left.

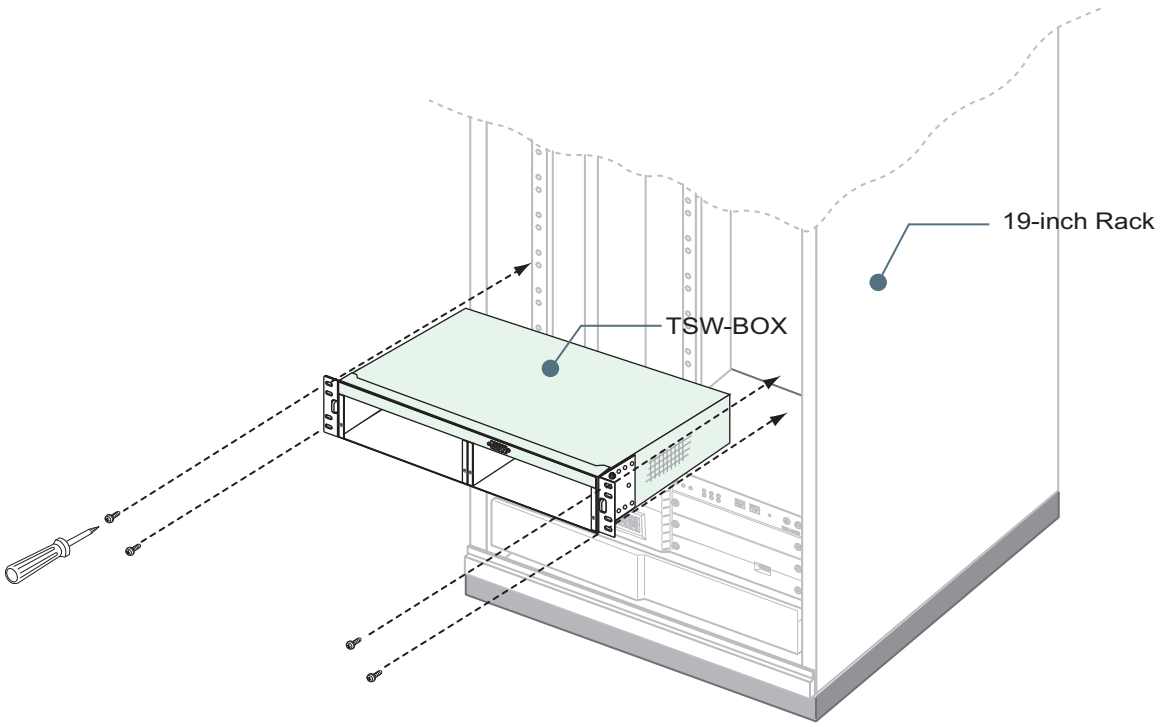
Step1: Check Circuit Card Description and set the switches of the TSW card (SPZ-SW25-A).

Step2: In case of a TSW dual configuration, remove the front and rear covers of the #1 slot (use a Phillips screwdriver to loosen right and left screws).

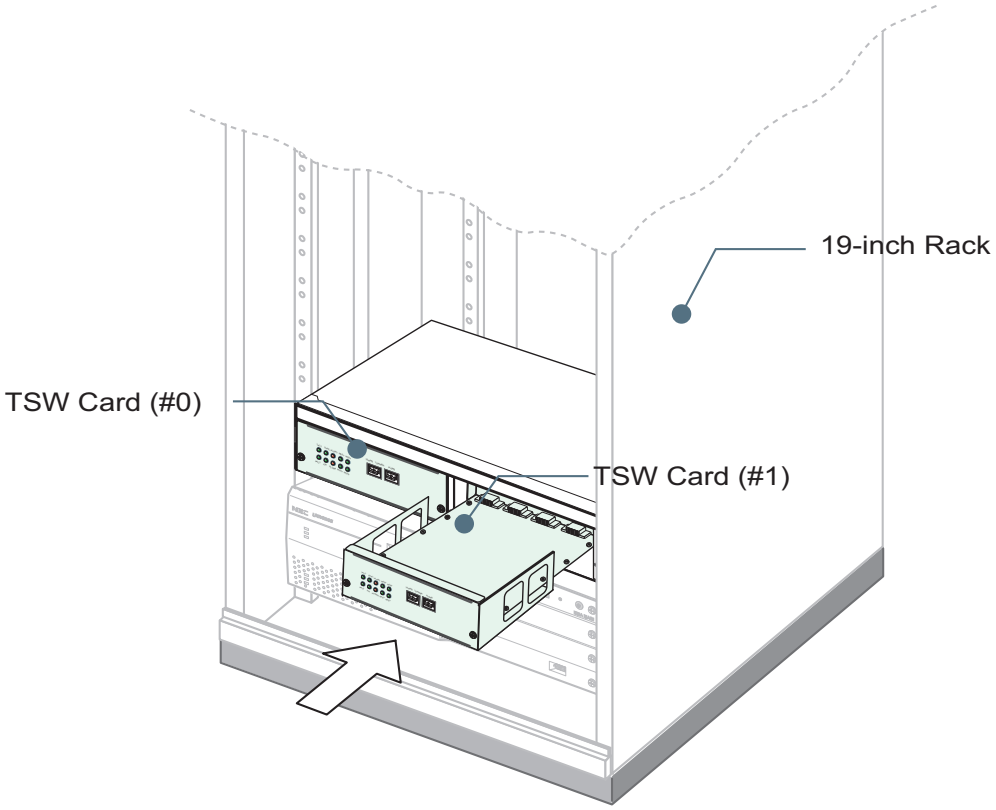


Step3: Mount the TSW-BOX on the 19-inch Rack.

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

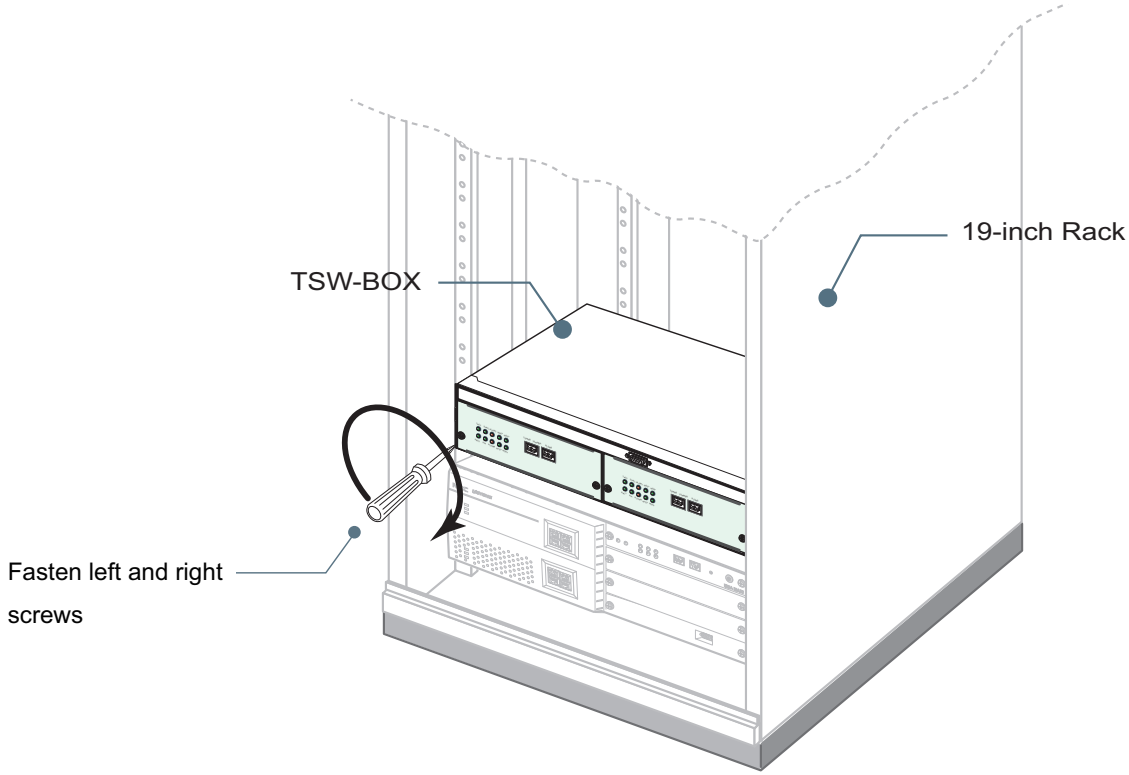


Step4: Mount the TSW card (SPZ-SW25-A) in the TSW-BOX slot. The following example is for a TSW dual configuration (left: #0, right: #1).



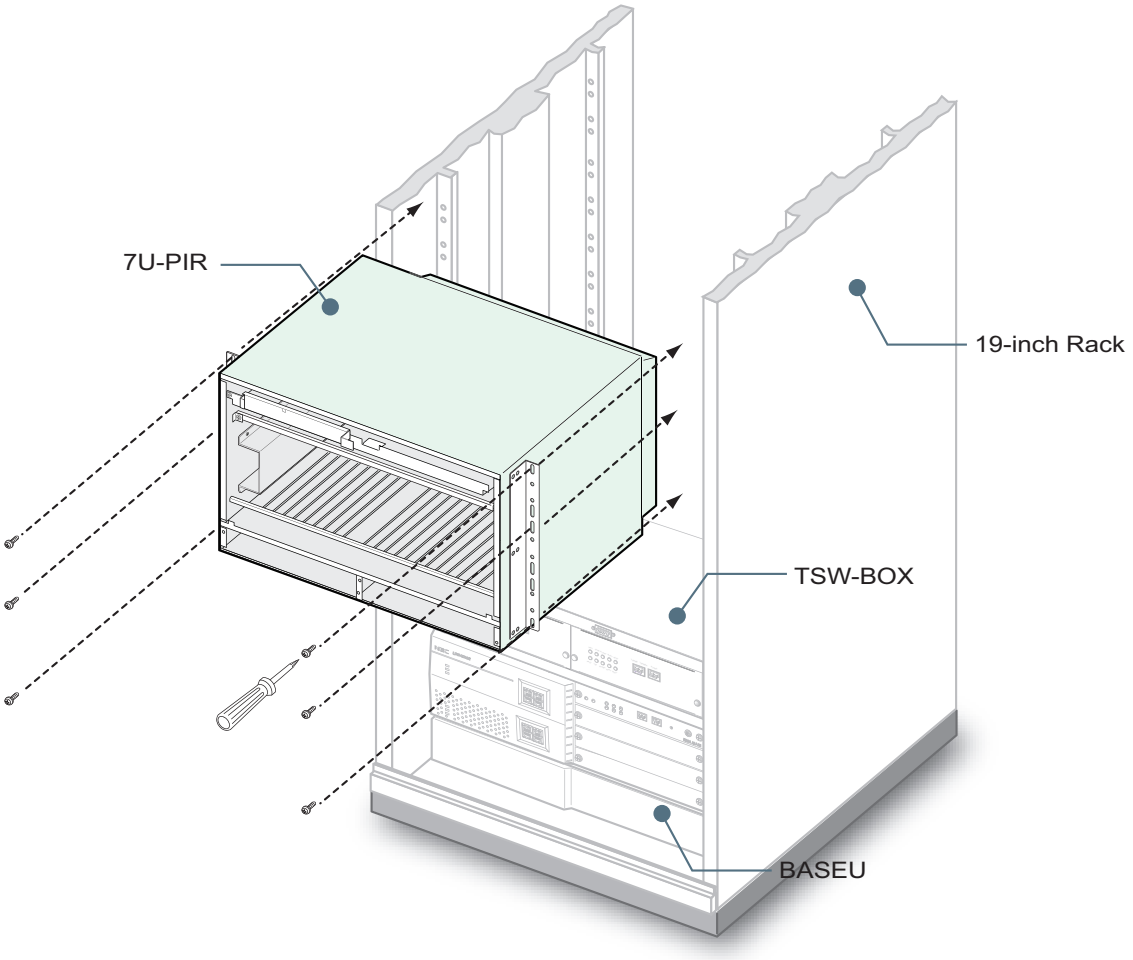
Step5: After mounting the TSW card, use a Phillips screwdriver to firmly screw right and left screws on the front side.

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



Step6: Mount the 7-PIR on the 19-inch Rack

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



3.2.3 Mounting the Power Unit

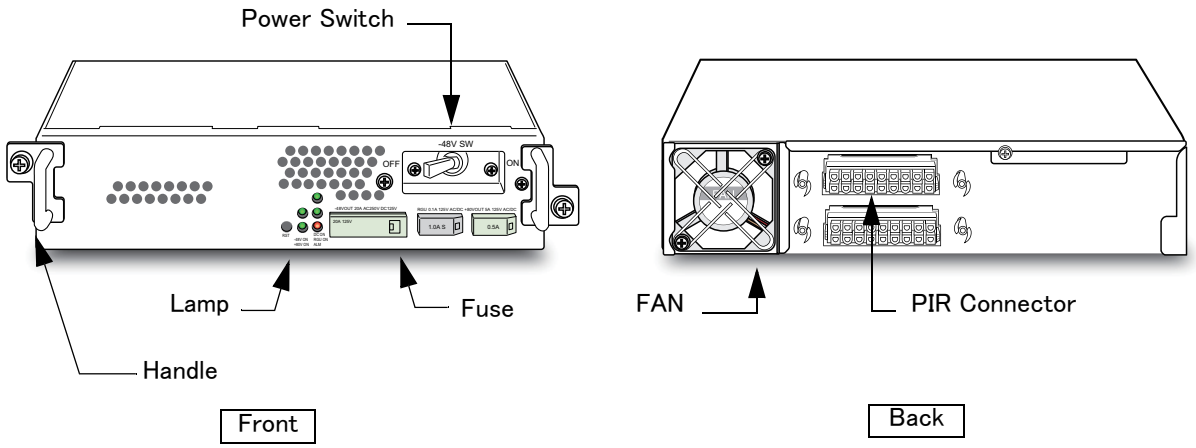
This section describes how to mount 7U-PIR DC-DC Power Unit to the power unit slot in the lower part of the 7U-PIR.

CAUTION

When you mount or remove a power unit, take the following precautions.

- Only touch the handles. Specially, when removing the unit after it has been used, upper and lower parts can be very hot and cause a burning, therefore do not touch those parts of the unit.
- Make sure that the power switch on the front panel is set to OFF before any operation.

Power Unit

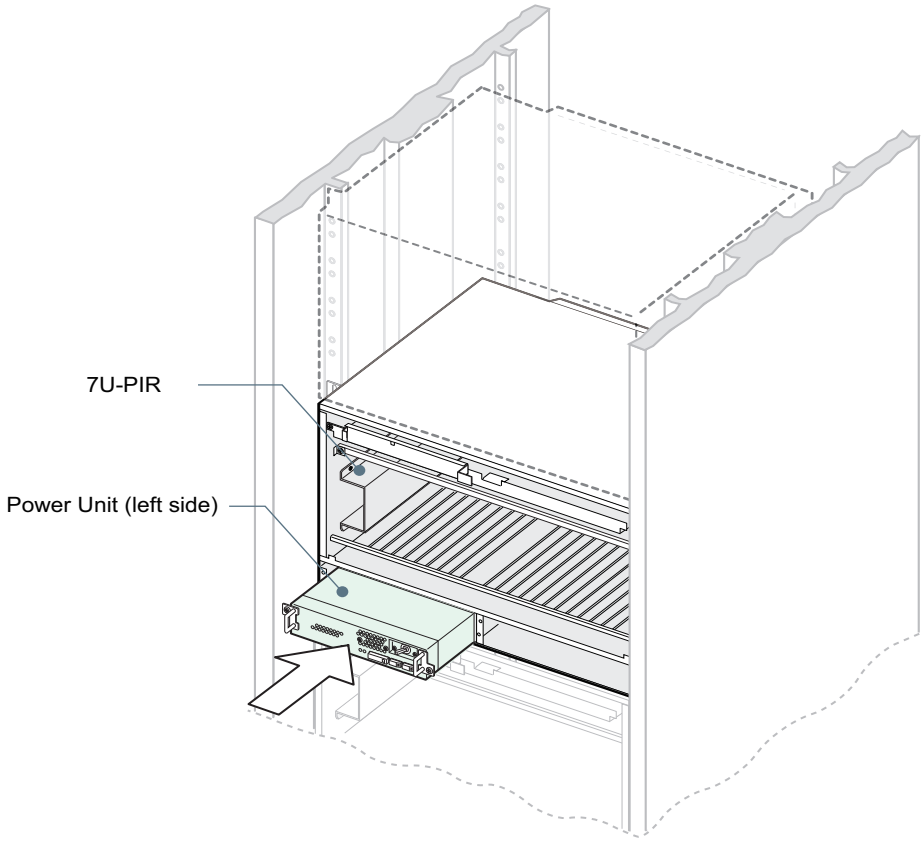


Step1: Insert 7U-PIR DC-DC Power Unit on the power unit slot in the lower part of the 7U-PIR following the illustrations below.

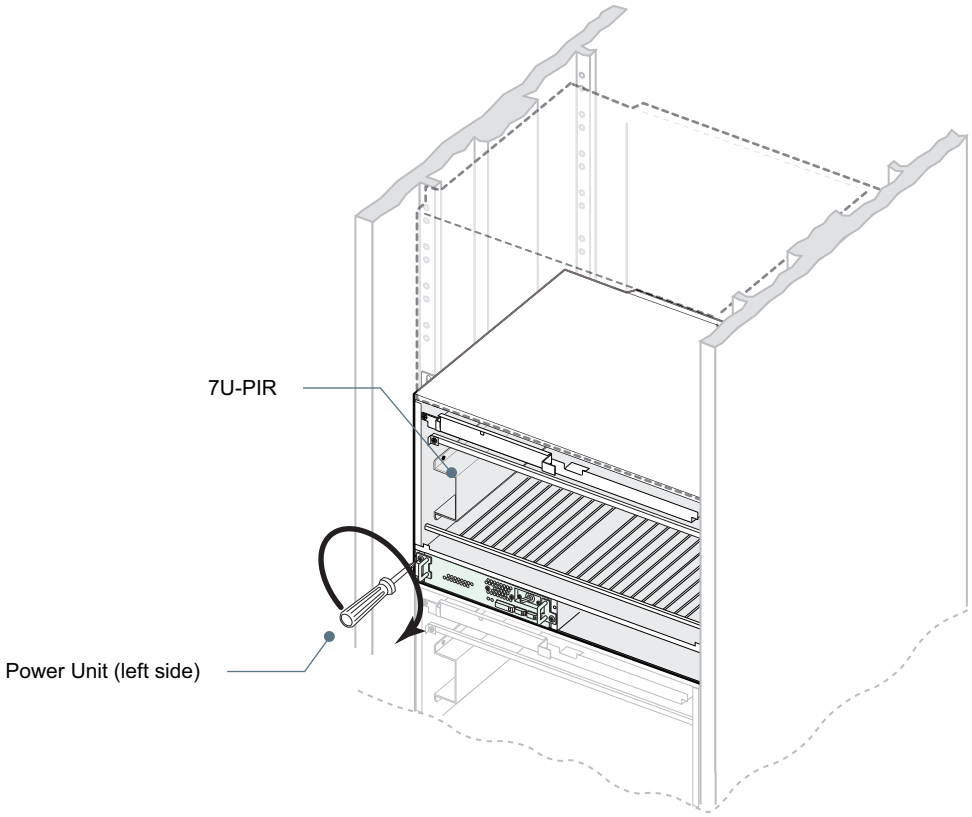
- On the lower part of 7U-PIR there are two mounting slots for power units (dual configuration). The left slot is for #0 and the right for #1. In case of a single configuration, use the left slot (#0) for the power unit mounting.
- Mount the connector on the back of the power unit to the 7U-PIR connector.

Note: If you cannot mount the unit smoothly, check again that the 7U-PIR connector and the power unit connector are meshing.

Power Unit Installation

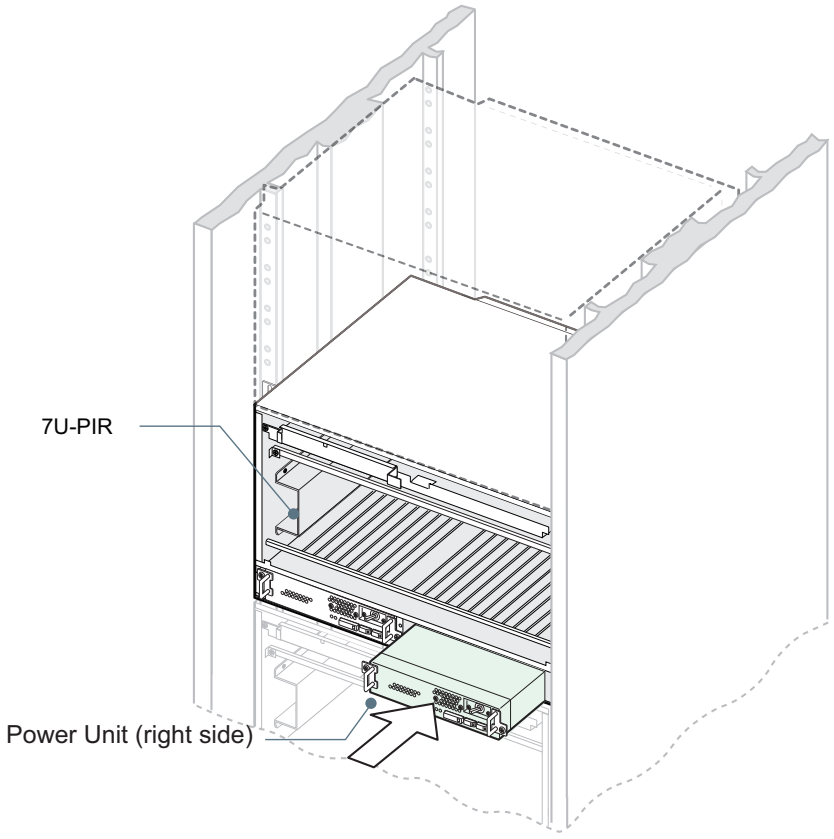


Step2: After mounting the power unit, use a Phillips screwdriver to firmly screw right and left screws on the front side.



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

Step3: In case of a dual configuration, mount the other power unit in the right slot (#1) using the same operation as with the left power unit.



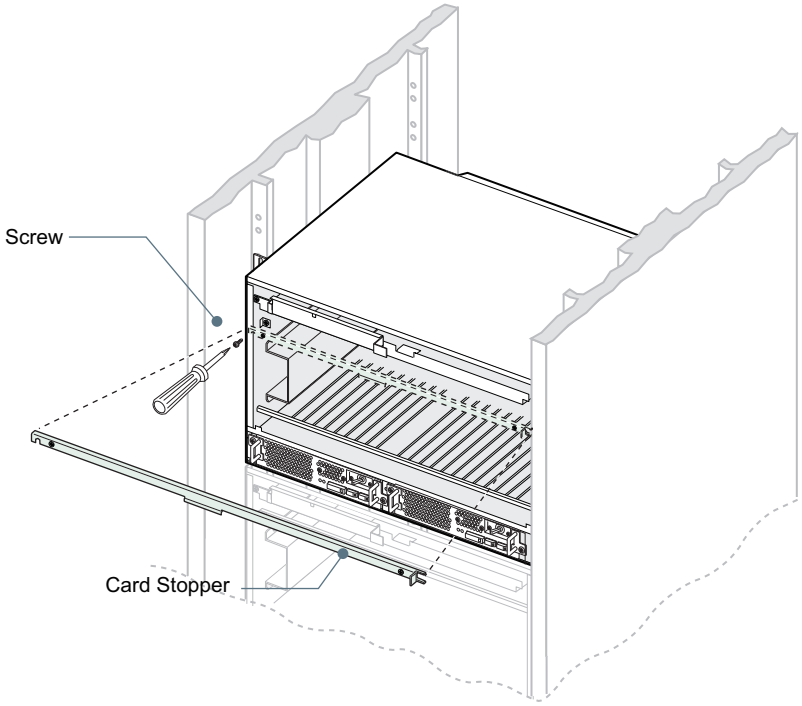
3.2.4 Mounting the Cards

This section describes how to mount cards to 7U-PIR. When inserting the cards, 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 on Chapter 2 of System Description manual.
- After removing a card, wait at least 10 seconds to mount it again.

Step1: Use a Phillips screwdriver to remove the front card stopper of the 7U-PIR. Be careful not to lose the screws. The stopper serves as a measure against earthquakes (with a earthquake-resistance strength of 1.1G), therefore do not forget to install it again after mounting the cards.

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

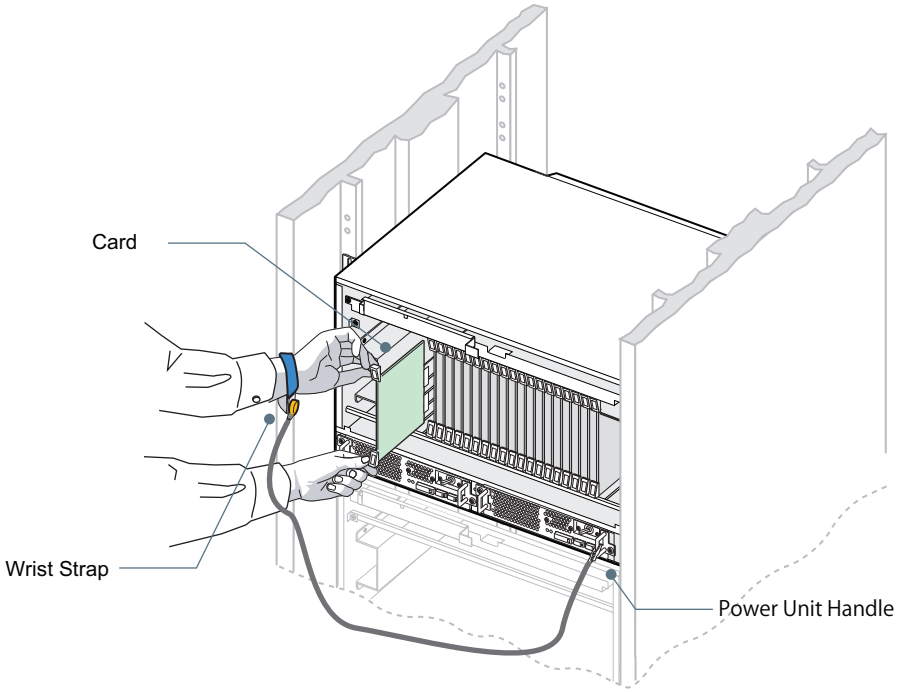


Step2: Check the mounting position per each card. Consult the figure for the front composition of PIR and check that the slot numbers and card label colors are matching.

Step3: Consult Circuit Card Description and set the hardware switches for each card.

Note: The setting can be done only for hardware switches. As for software switches, after power activation, set them using PCPro (CPSW command) or a serial console.

Step4: The cards are inserted to the appropriate slot. First, accommodate the upper and lower part of the card to the rails and press to insert it. Stop the insertion 5 centimeters before reaching the back side, if there is not any problem, continue until the back and check that the connector is firmly connected to the back board.

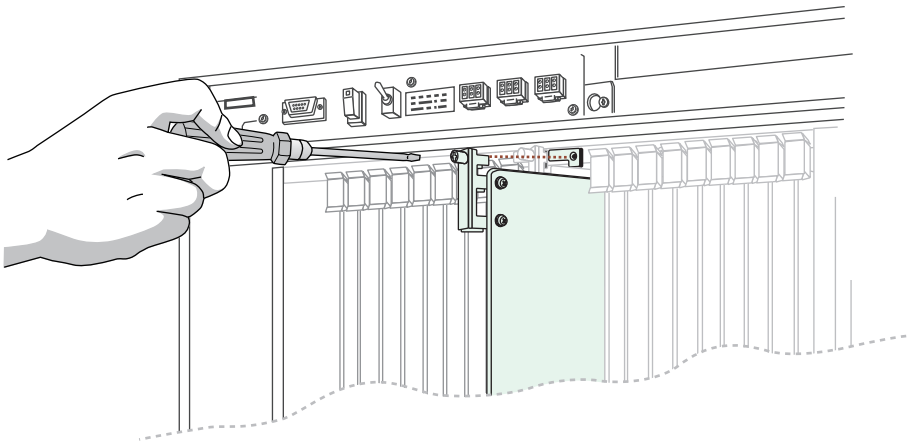


Note: Without a proper frame grounding to the 19-inch rack, even when a wrist strap is connected, static electricity cannot be released and it may cause equipment failure. In that case, connect the wrist strap to another part that is properly grounded. Also, even if the frame grounding is proper, if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

[CJ-PC00 (MUX) Card]

The CJ-PC00 (MUX) card includes in its upper part a front plate for clasping. Use the driver to firmly fix it to PIR.

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



Step5: After mounting all the cards, put again the card stopper with the screws.

3.3 Module Mounting (DC-Powered Model (4-IMG) of 7U-PIR)

Regarding the DC (4-IMG) type, PIR installation is performed as follows.

PIR Installation (DC 4-IMG Type with TSW-BOX)

START

1	Checking the PIR Position (When Using TSW-BOX)	⇒Check the position of 7U-PIRs and the TSW-BOX on the 19-inch rack.
2	Mounting on the 19-inch Rack (Mounting TSW-BOX, Mounting 7U-PIR)	⇒Mount the TSW-BOX and 7U-PIR on the 19-inch rack.
3	Mounting the Power Unit	⇒Mount 7U-PIR DC-DC Power Unit on the power unit slot of 7U-PIR.
4	Mounting the Cards	⇒Mount cards to 7U-PIR.

END

PIR Installation (DC 4-IMG Type with TSWR)

START

1	Checking the PIR Position (When Using TSWR)	⇒Check the position of 7U-PIRs and the TSWR on the 19-inch rack.
2	Mounting on the 19-inch Rack (Mounting TSWR, Mounting 7U-PIR)	⇒Mount the TSWR and 7U-PIR on the 19-inch rack.
3	Mounting the Power Unit	⇒Mount 7U-PIR DC-DC Power Unit on the power unit slot of 7U-PIR.
4	Mounting the Cards	⇒Mount cards to 7U-PIR/TSWR.

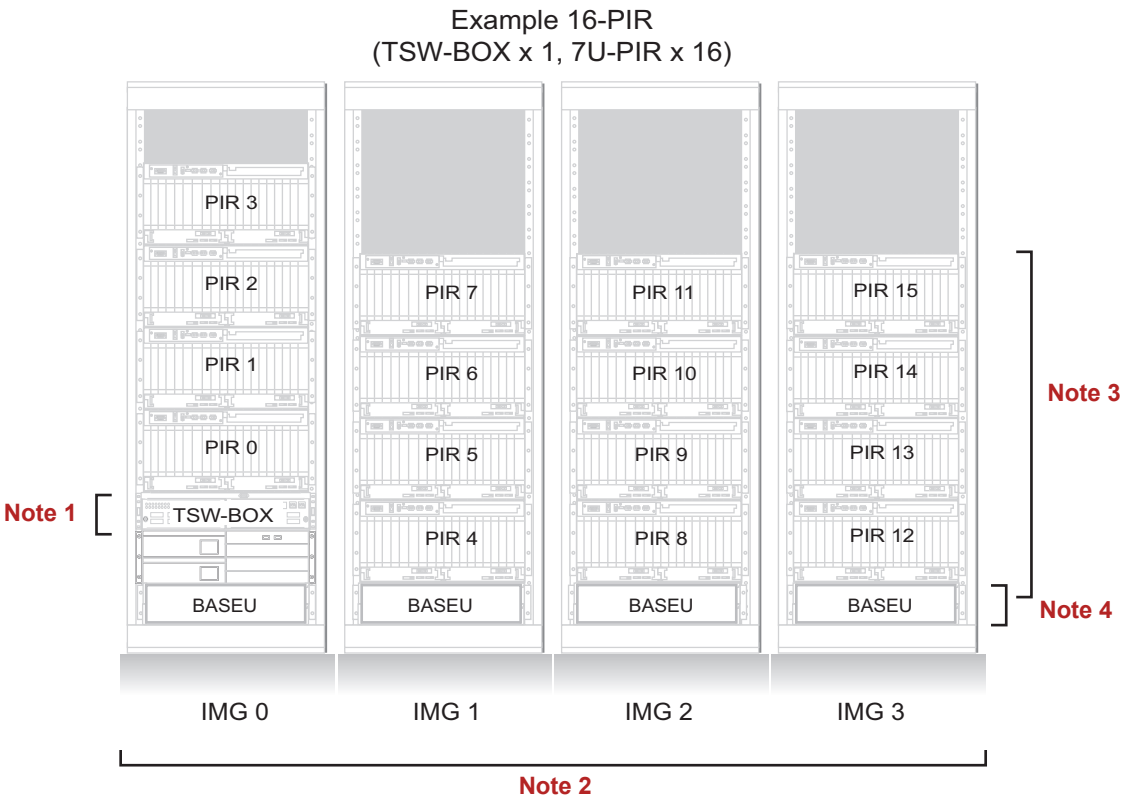
END

3.3.1 Checking the PIR Position

3.3.1.1 When Using TSW-BOX

Check the following mounting position on the rack: Telephony Server, PIRs, TSW-BOX. This figure shows an example when a 19-inch rack (mm-type) with a 39U capacity is used.

Mounting Position on 19-inch Rack



Note 1: TSW-BOX needs to be mounted right above the server module.

Note 2: PIRs on the DC (4-IMG) type are divided and mounted in IMG0, 1, 2, 3 with each IMG being a 19-inch Rack.

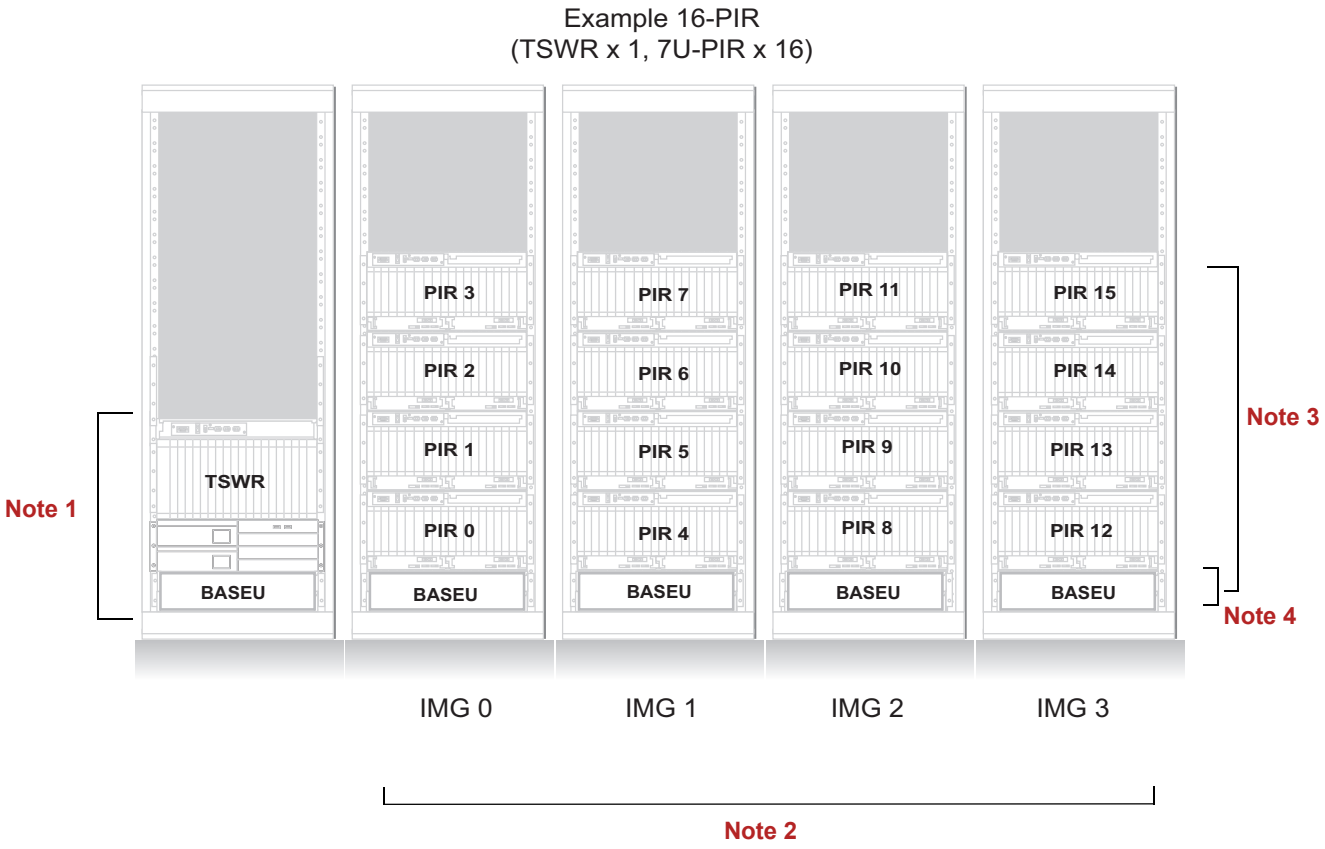
Note 3: Do not let open spaces between the modules.

Note 4: When you decide the position of the modules take into consideration that the fuse alarm cables from the BASEU to each module (PIR) have a length of 1 meter.

3.3.1.2 When Using TSWR

Check the following mounting position on the rack: Telephony Server, PIRs, TSWR. This figure shows an example when a 19-inch rack (mm-type) with a 39U capacity is used.

Mounting Position on 19-inch Rack



Note 1: TSWR needs to be mounted right above the server module.

Note 2: PIRs on the DC (4-IMG) type are divided and mounted in IMG0, 1, 2, 3 with each IMG being a 19-inch Rack.

Note 3: Do not let open spaces between the modules.

Note 4: When you decide the position of the modules take into consideration that the fuse alarm cables from the BASEU to each module (PIR/TSWR) have a length of 1 meter.

3.3.2 Mounting on the 19-inch Rack

This section explains how to mount the TSW-BOX/TSWR and 7U-PIR onto 19-inch rack.

Note: The recommended 19-inch rack has a front side and a back side. When you mount a module be careful to do it in the correct direction. Figures in this section will depict the frontal part of the rack facing to the left.

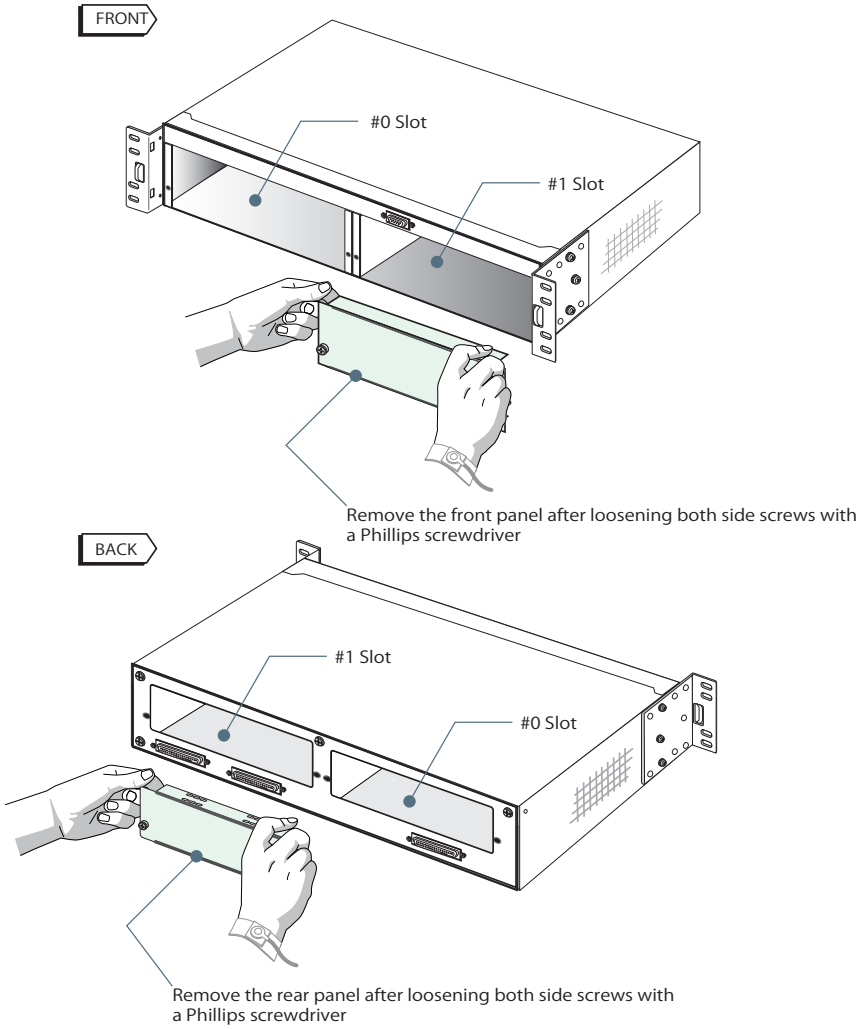
Note: Do not use an electric screwdriver. The fastening torque could be excessive and damage the screws.

3.3.2.1 Mounting TSW-BOX

Follow the steps below to mount the TSW-BOX.

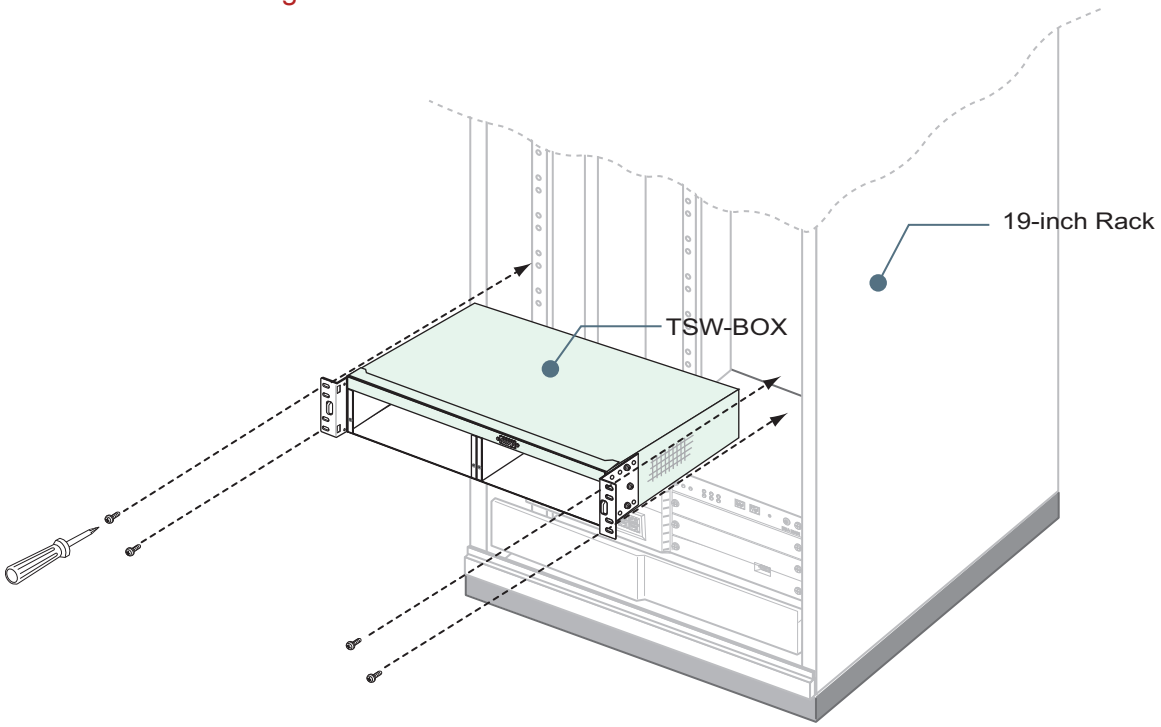
Step1: Set the switches on the TSW card (SPZ-SW26-A) by referring to Circuit Card Description.

Step2: For TSW dual configuration, remove the blank panels (for front and rear) of slot #1. Loosen the both side screws on the panel with a Phillips screwdriver.

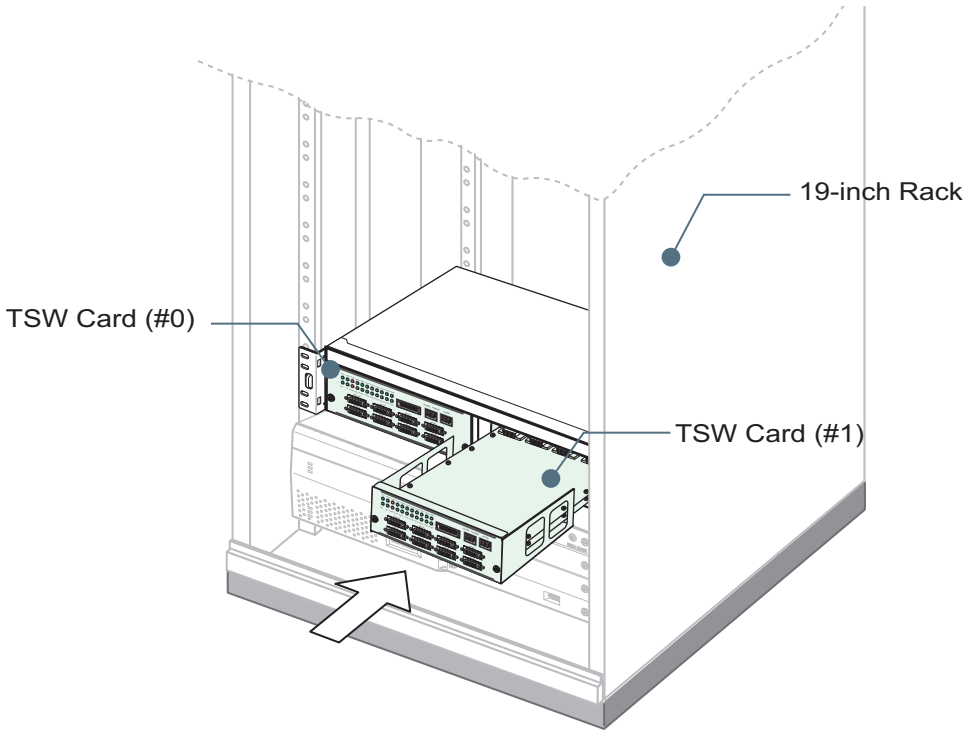


Step3: Mount the TSW-BOX on the 19-inch Rack.

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

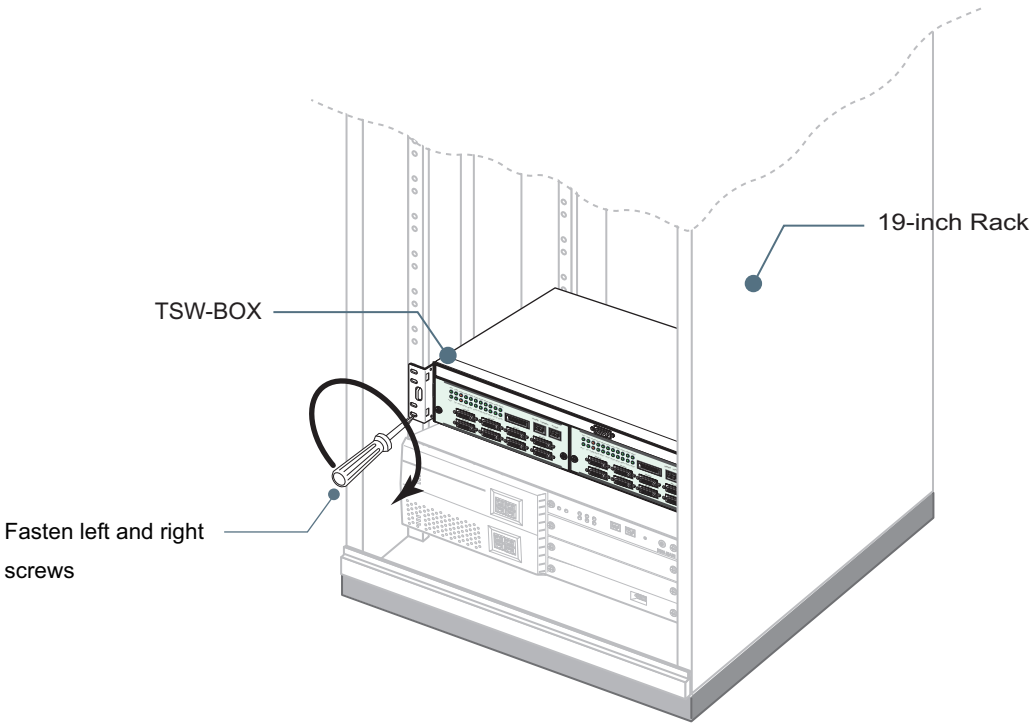


Step4: Mount the TSW card (SPZ-SW26-A) in the TSW-BOX slot. The following example is for a TSW dual configuration (left: #0, right: #1).



Step5: After mounting the TSW card, use a Phillips screwdriver to firmly screw right and left screws on the front side.

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

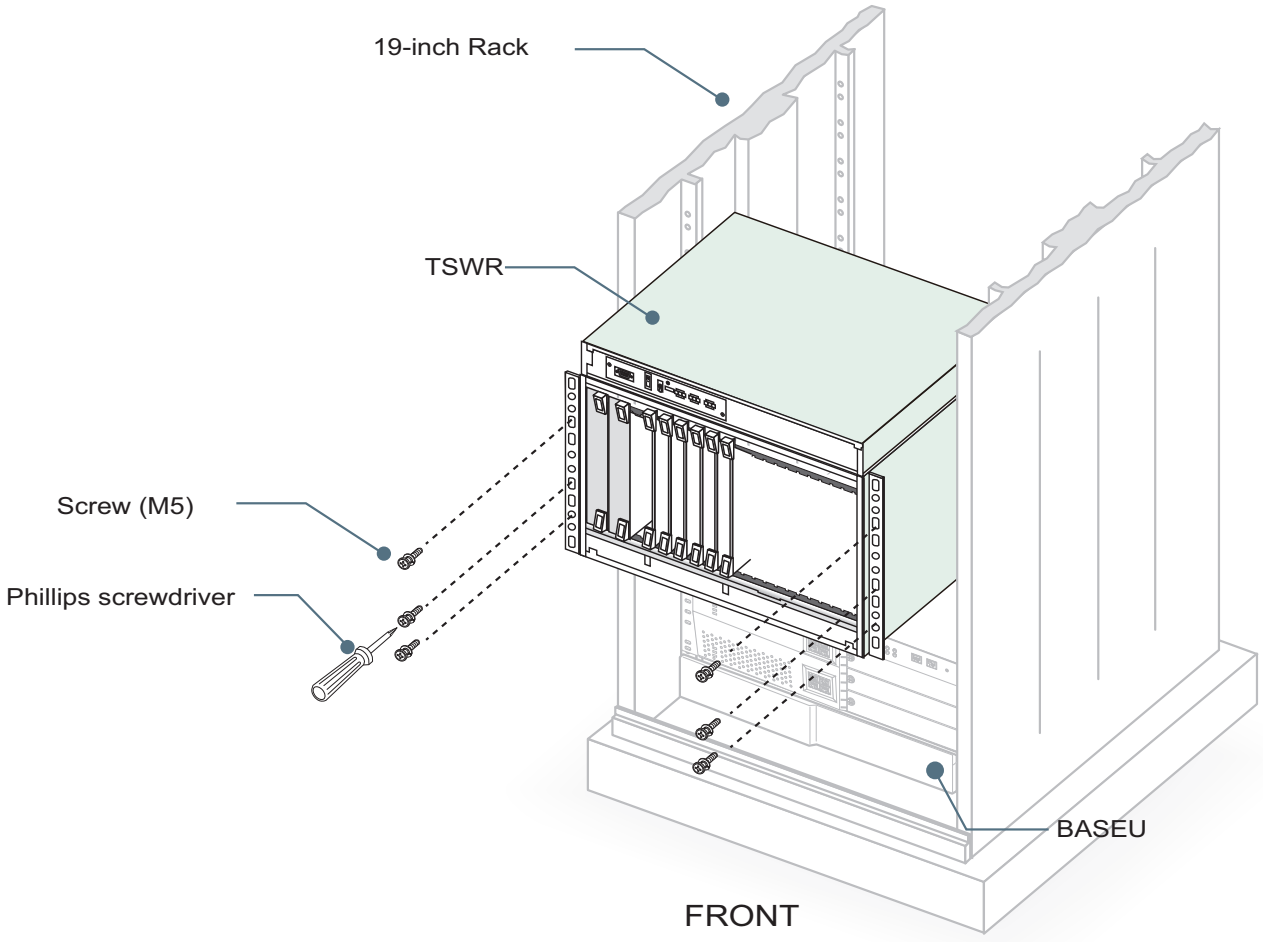


3.3.2.2 Mounting TSWR

Follow the steps below to mount the TSWR.

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

TSWR Installation

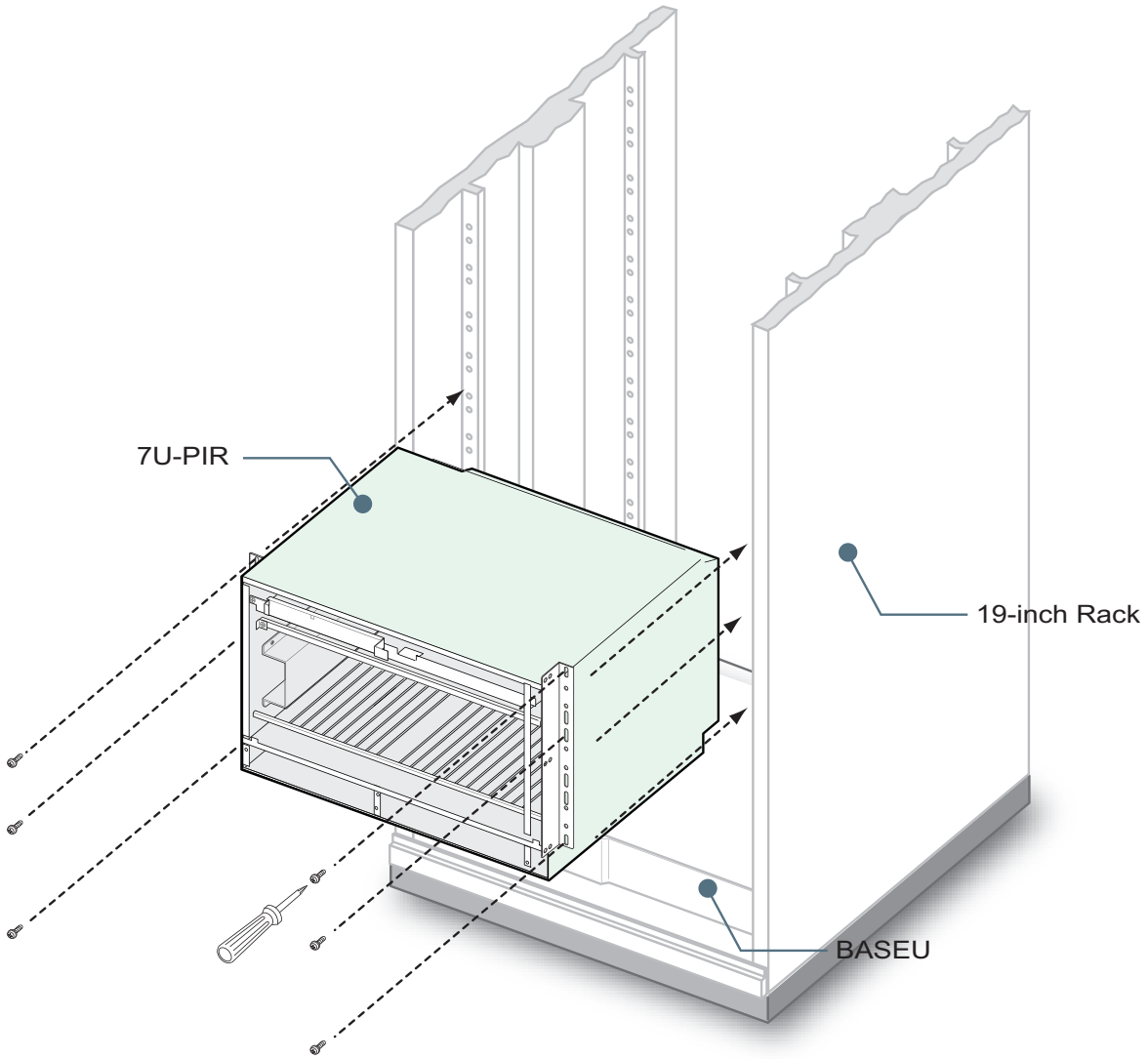


3.3.2.3 Mounting 7U-PIR

Follow the steps below to mount the 7U-PIR

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

7U-PIR Installation



3.3.3 Mounting the Power Unit

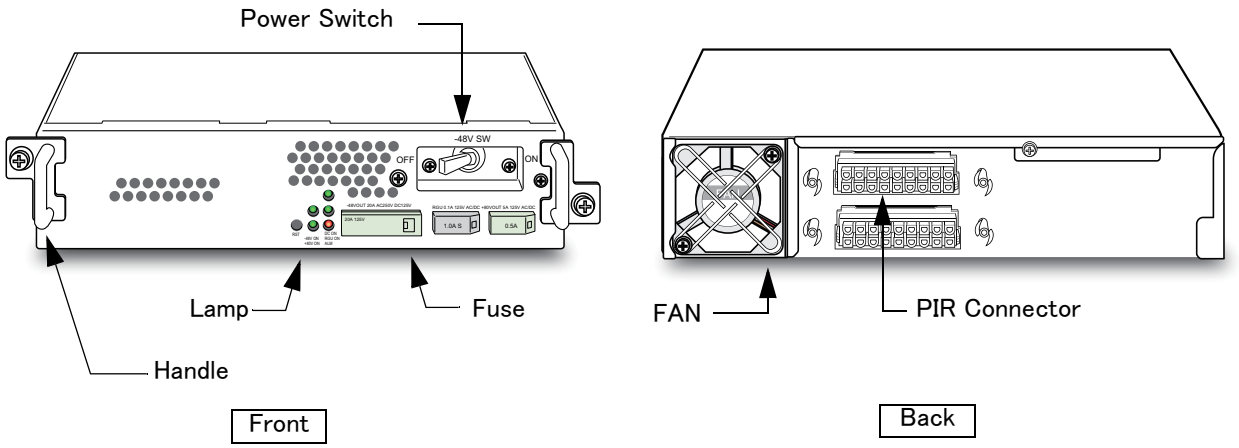
This section describes how to mount 7U-PIR DC-DC Power Unit to the power unit slot in the lower part of the 7U-PIR.

CAUTION

When you mount or remove a power unit, take the following precautions.

- Only touch the handles. Specially, when removing the unit after it has been used, upper and lower parts can be very hot and cause a burning, therefore do not touch those parts of the unit.
- Make sure that the power switch on the front panel is set to OFF before any operation.

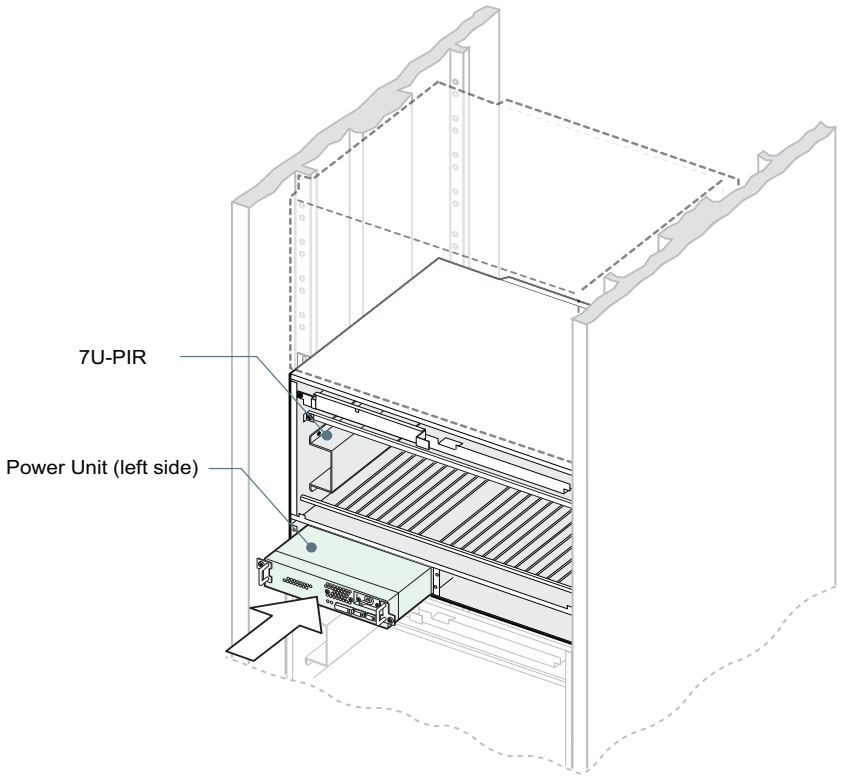
Power Unit



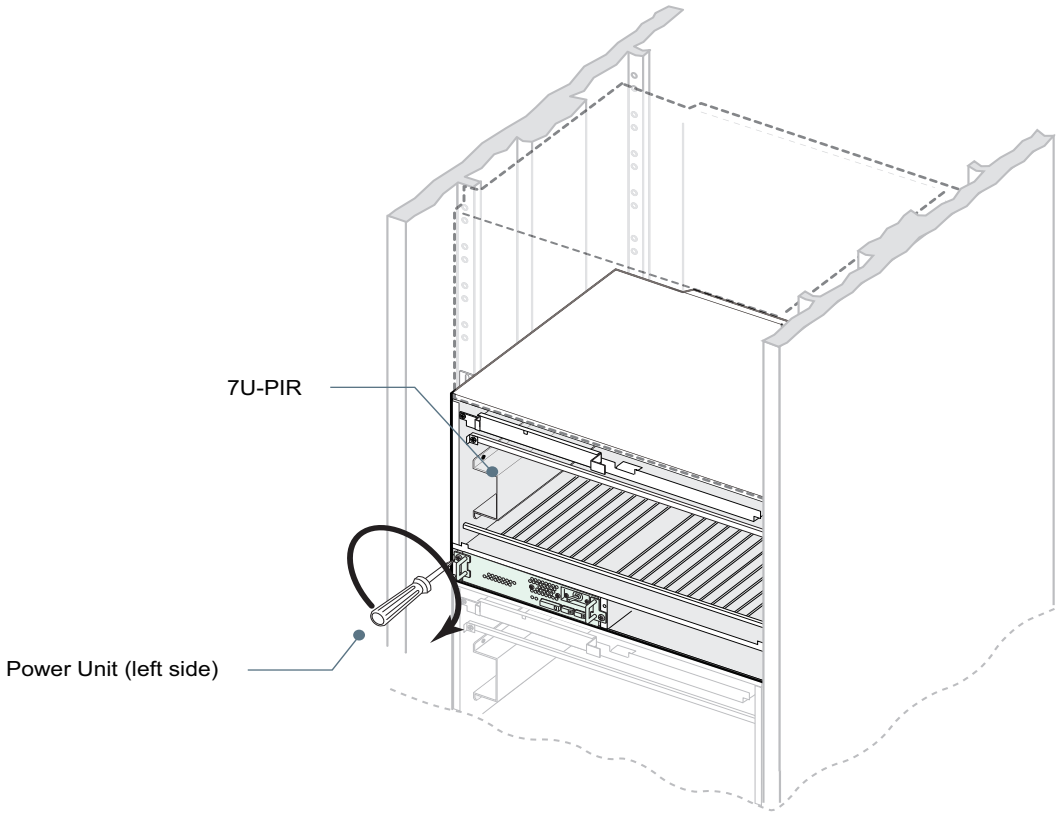
Step1: Insert 7U-PIR DC-DC Power Unit on the power unit slot in the lower part of the 7U-PIR following the illustrations below.

- On the lower part of 7U-PIR there are two mounting slots for power units (dual configuration). The left slot is for #0 and the right for #1. In case of a single configuration, use the left slot (#0) for the power unit mounting.
- Mount the connector on the back of the power unit to the 7U-PIR connector.

Note: If you cannot mount the unit smoothly, check again that the 7U-PIR connector and the power unit connector are meshing.

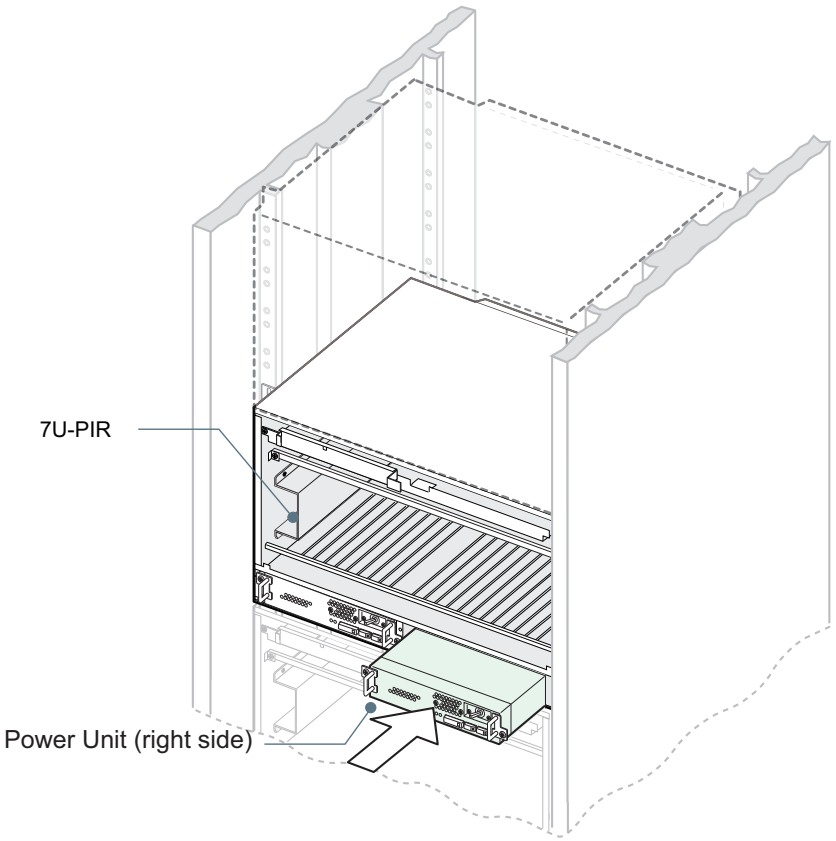


Step2: After mounting the power unit, use a Phillips screwdriver to firmly screw right and left screws on the front side



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

Step3: In case of a dual configuration, mount the other power unit in the right slot (#1) using the same operation as with the left power unit.



3.3.4 Mounting the Cards

This section describes how to mount cards to 7U-PIR/TSWR. When inserting the cards, take the following precautions.

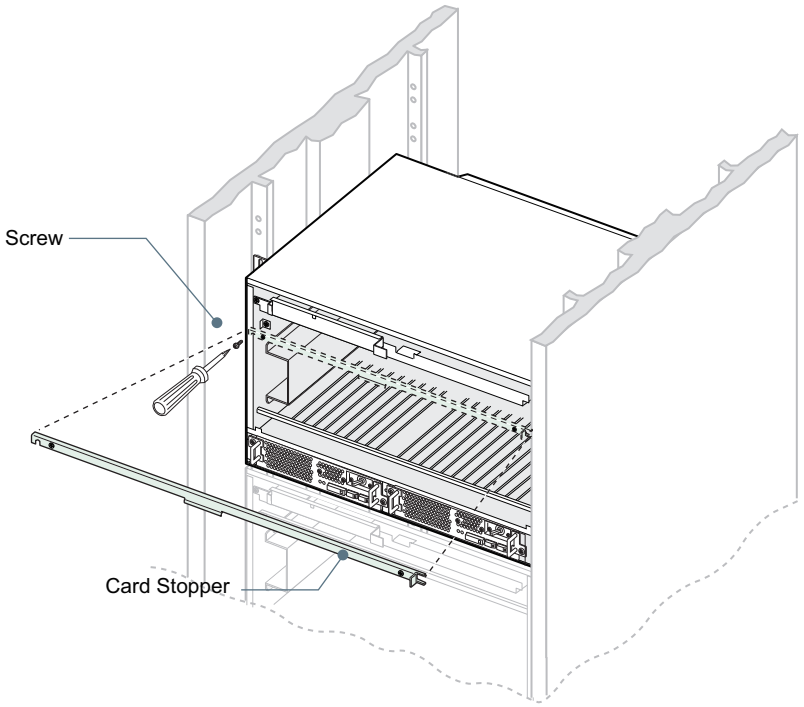
- Do not touch with your bare hands the board area or the metal coated terminals.
- During any operation take electrostatic countermeasures. Refer to How to use Service Grounding Kit on Chapter 2 of System Description manual.
- After removing a card, wait at least 10 seconds to mount it again.

The steps below show how to mount cards to 7U-PIR as an example.

Step1: Use a Phillips screwdriver to remove the front card stopper of the 7U-PIR. Be careful not to lose the screws. The stopper serves as a measure against earthquakes (with a earthquake-resistance strength of 1.1G), therefore do not forget to install it again after mounting the cards.

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

Card Stopper Removal



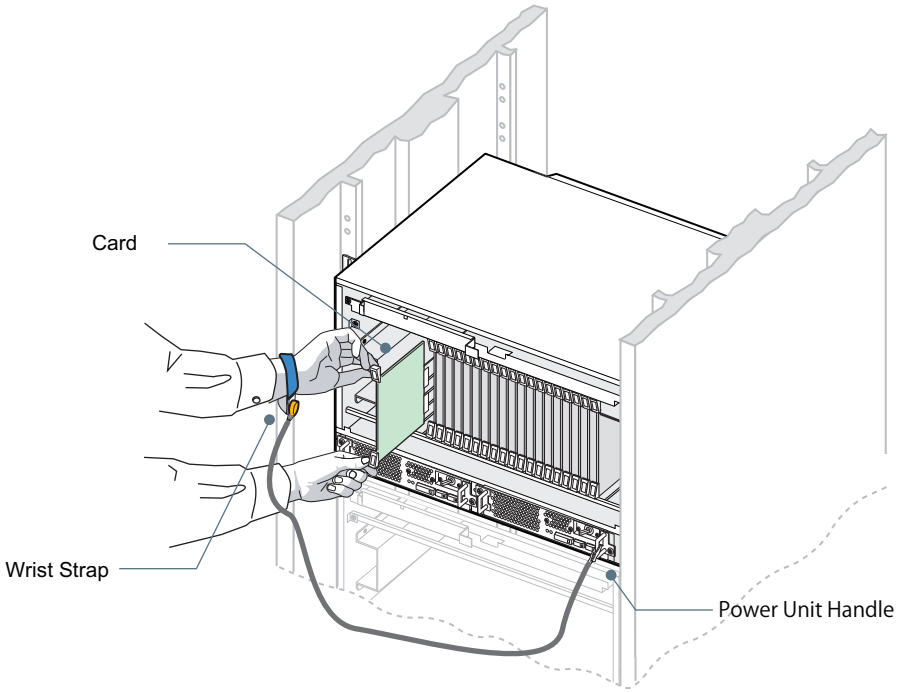
Step2: Put a little of isopropyl alcohol in a gauze and wipe both side connectors. Make sure there is no dust or fluff.

Step3: Check the mounting position per each card. Consult the figure for the front composition of PIR and check that the slot numbers and card label colors are matching.

Step4: Consult Circuit Card Description and set the hardware switches for each card.

Note: The setting can be done only for hardware switches. As for software switches, after power activation, set them using PCPro (CPSW command) or a serial console.

Step5: The cards are inserted to the appropriate slot. First, accommodate the upper and lower part of the card to the rails and press to insert it. Stop the insertion 5 centimeters before reaching the back side, if there is not any problem, continue until the back and check that the connector is firmly connected to the back board.

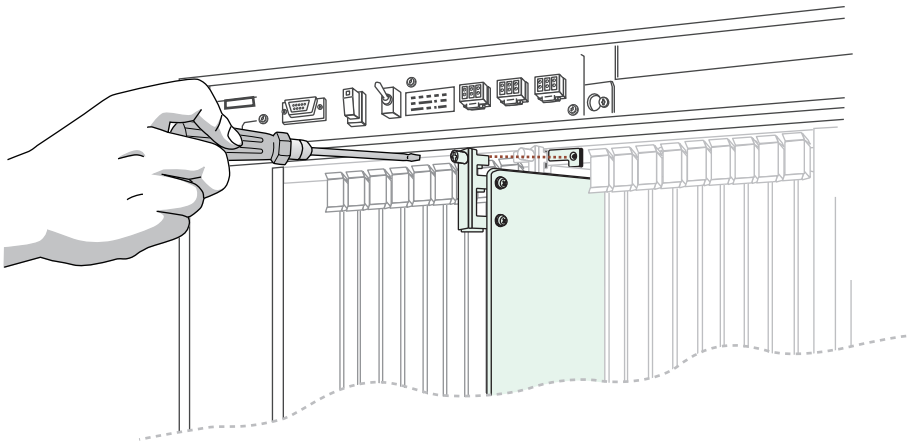


Note: Without a proper frame grounding to the 19-inch rack, even when a wrist strap is connected, static electricity cannot be released and it may cause equipment failure. In that case, connect the wrist strap to another part that is properly grounded. Also, even if the frame grounding is proper, if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

[CJ-PC00 (MUX) Card]

The CJ-PC00 (MUX) card includes in its upper part a front plate for clasping. Use the driver to firmly fix it to PIR.

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



Step6: After mounting all the cards, put again the card stopper with the screws.

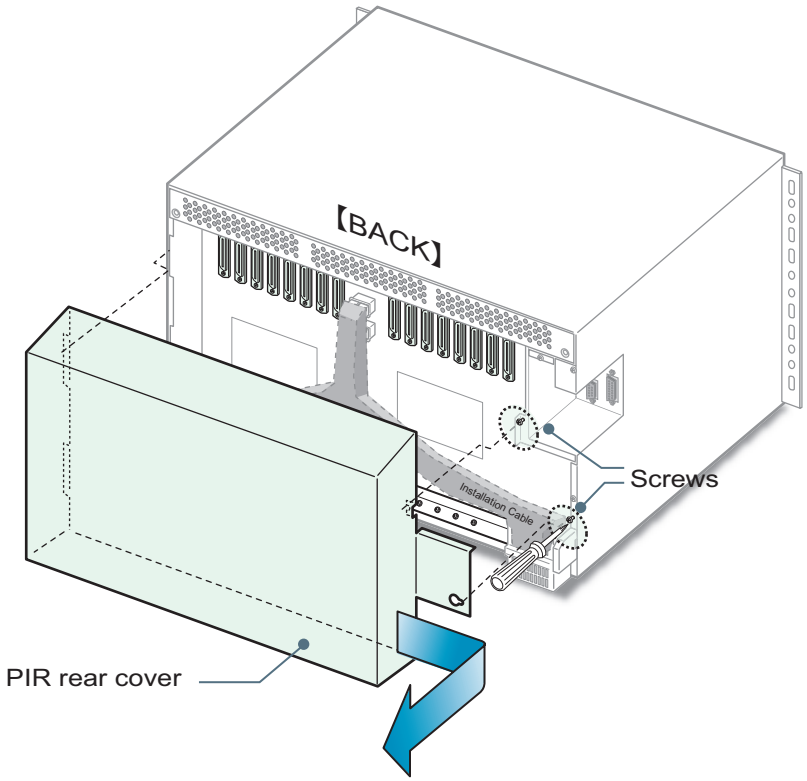
4. Cable Connections

4.1 Cables from LT Connectors on 7U-PIR Backboard to MDF

This section explains how to connect the installation cable from the LT connector on the backboard of 7U-PIR to MDF. MDF is required to connect stations and trunk lines.

Step1: Remove the rear cover from PIR. Loosen the screws, and slide the cover to remove.

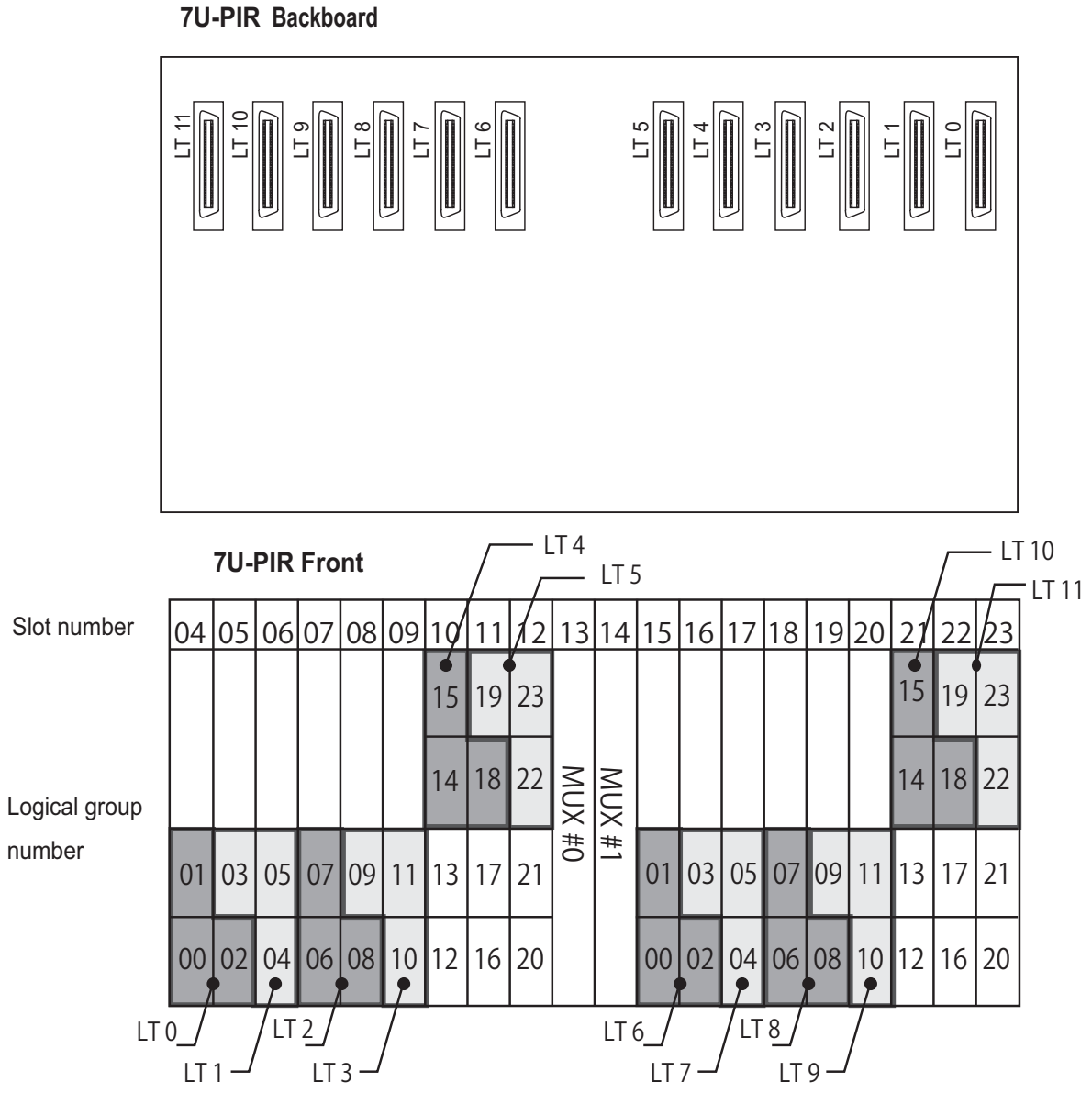
7U-PIR Rear Cover Removal Procedure



Note: To avoid losing the screws it is possible to remove the cover after just loosening such screws. Loosen the screws no more than needed.

Step2: Check the location of LT connectors that have mounted a line/trunk circuit card on the PIR backboard. The figure below shows the correspondence of LT connectors with the circuit card mounting slots.

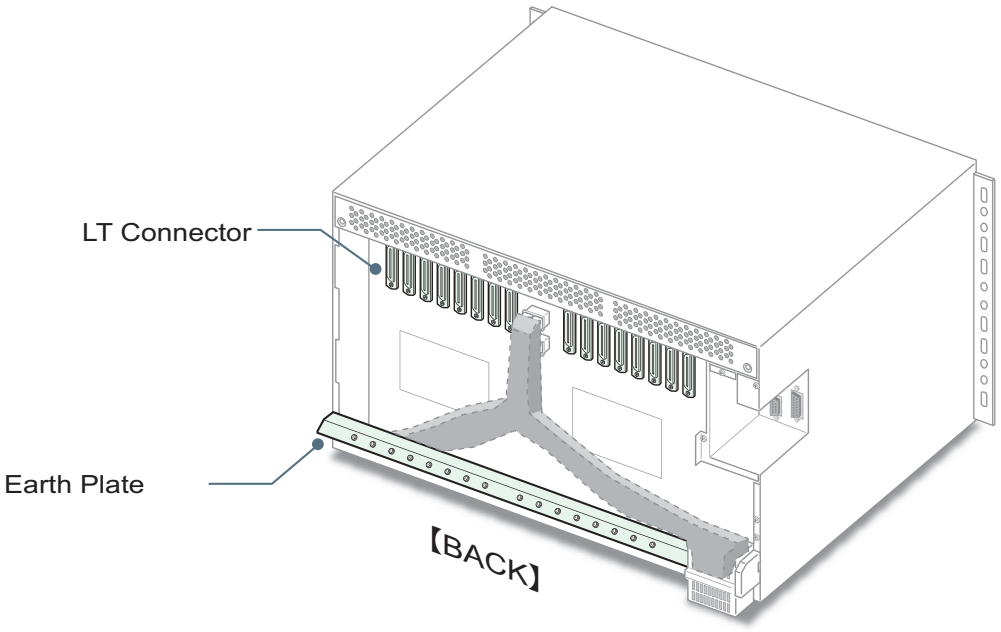
LT Connectors Slot Correspondence



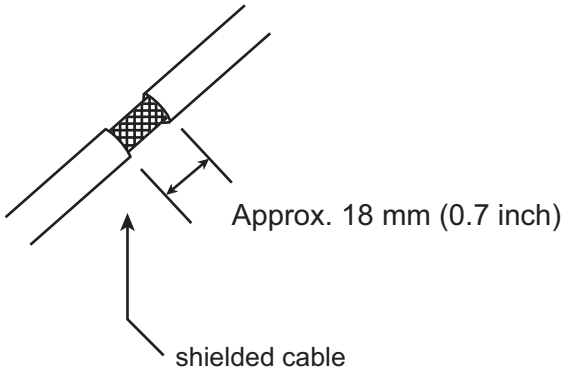
Step3: Connect the installation cable to the appropriate LT connector.

Step4: Secure the installation cable to the earth plate on the back bottom of each PIR.
Put the cables from PIR module together on the earth plate with clamps, and then connect to MDF for outside routing.

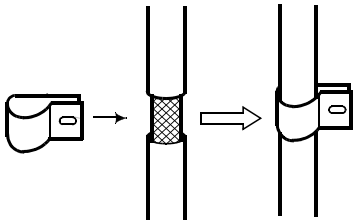
Earth Plate Position



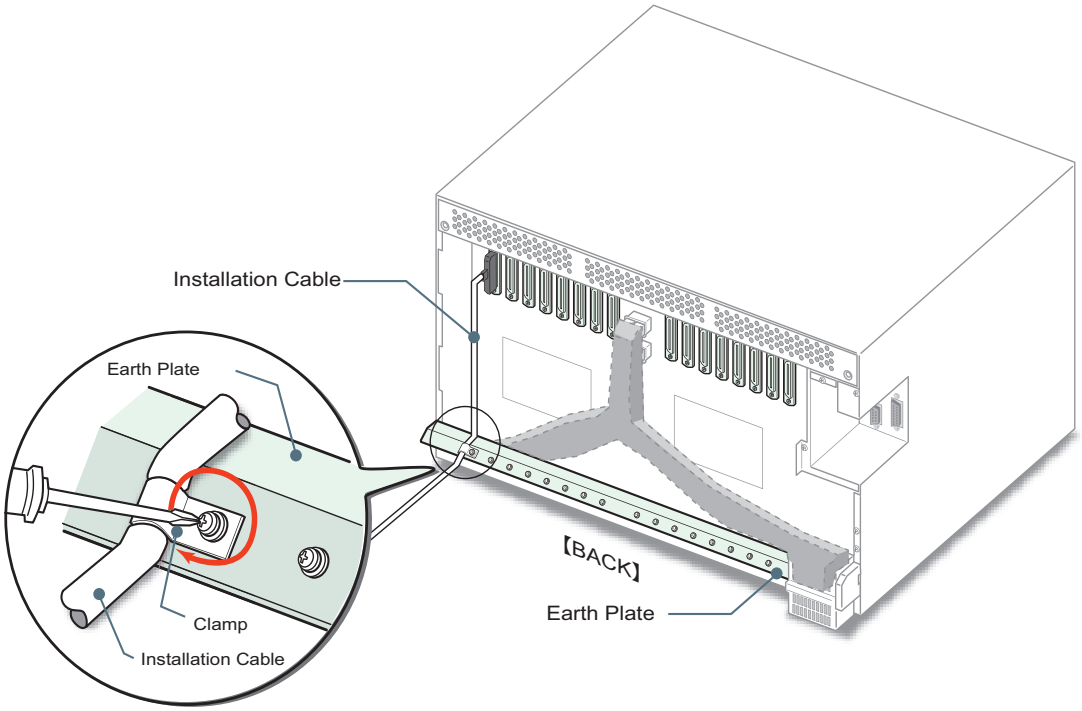
Step5: Peel off the cable cover approximately 18 mm (0.7 inch) adapting to the tie-up position of the earth plate for frame grounding.



Step6: Wind the clamp around the cables.



Step7: Tie up the clamped cable to the earth plate.



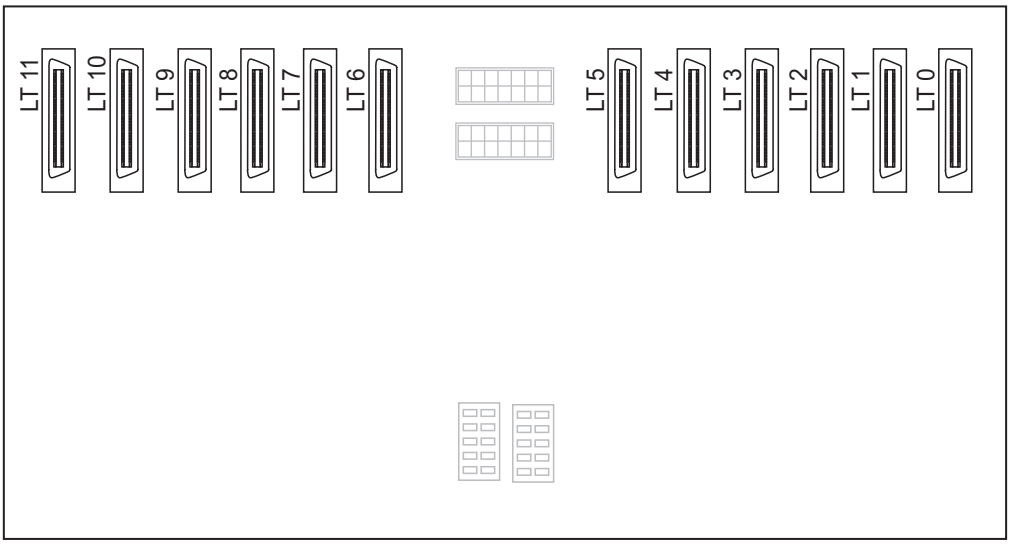
Note: Fix the clamps to the earth plate in the same direction, if you do not do it, they could interfere each other and make impossible the fixing.

4.2 7U-PIR and TSWR Backboard Connectors

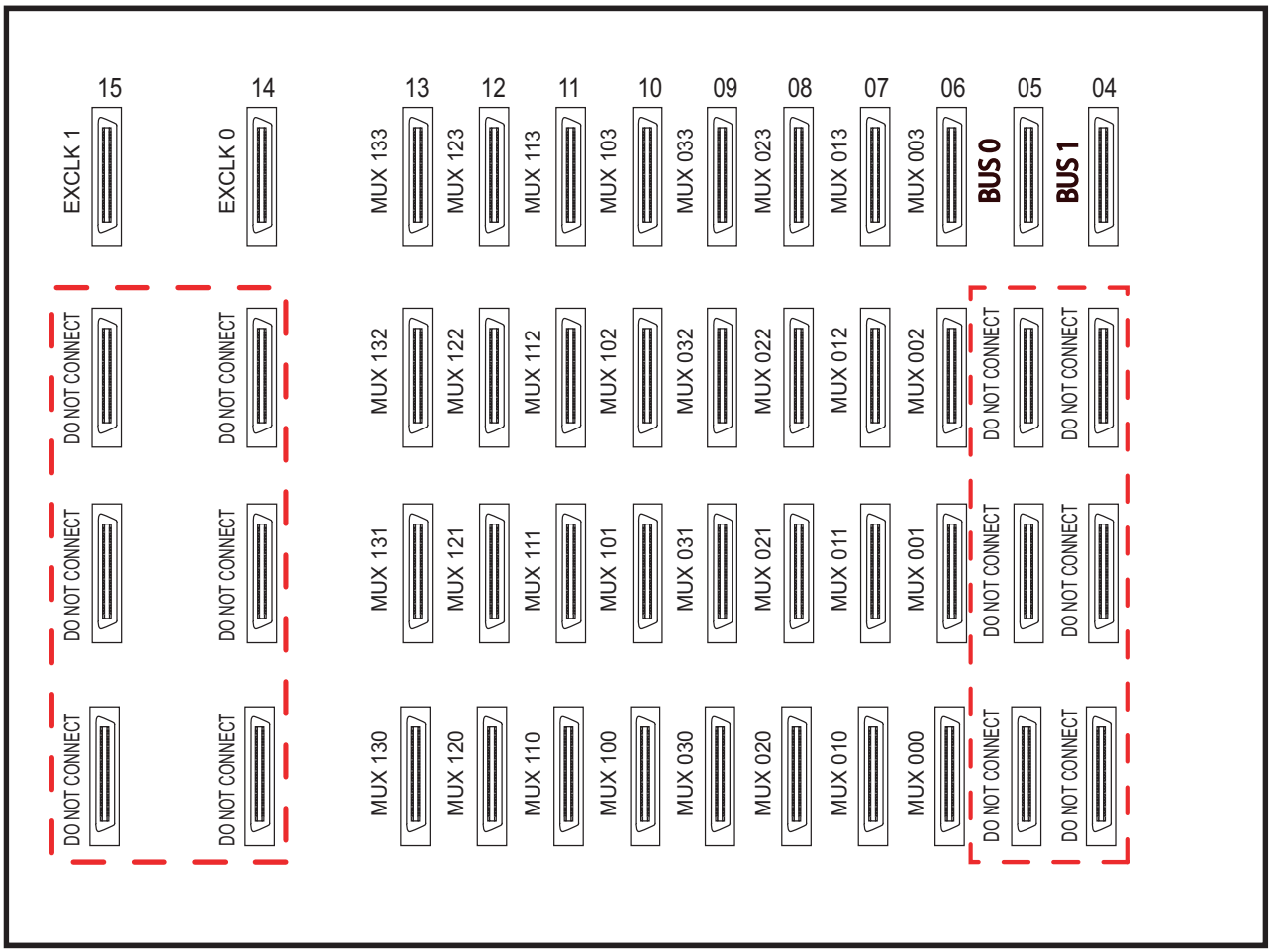
7U-PIR and TSWR backboards are explained in the figure below.

Note: As for the TSW-BOX, see SPZ-SW25-A/SPZ-SW26-A in Circuit Card Description.

Connectors on 7U-PIR Backboard



Connectors on TSWR Backboard



The use of the connectors inside the red dot line is prohibited

4.3 Internal and Inter-Frame Cable Connection

This section explains the internal and inter-frame cable connections. Connect the cables according to the system configuration.

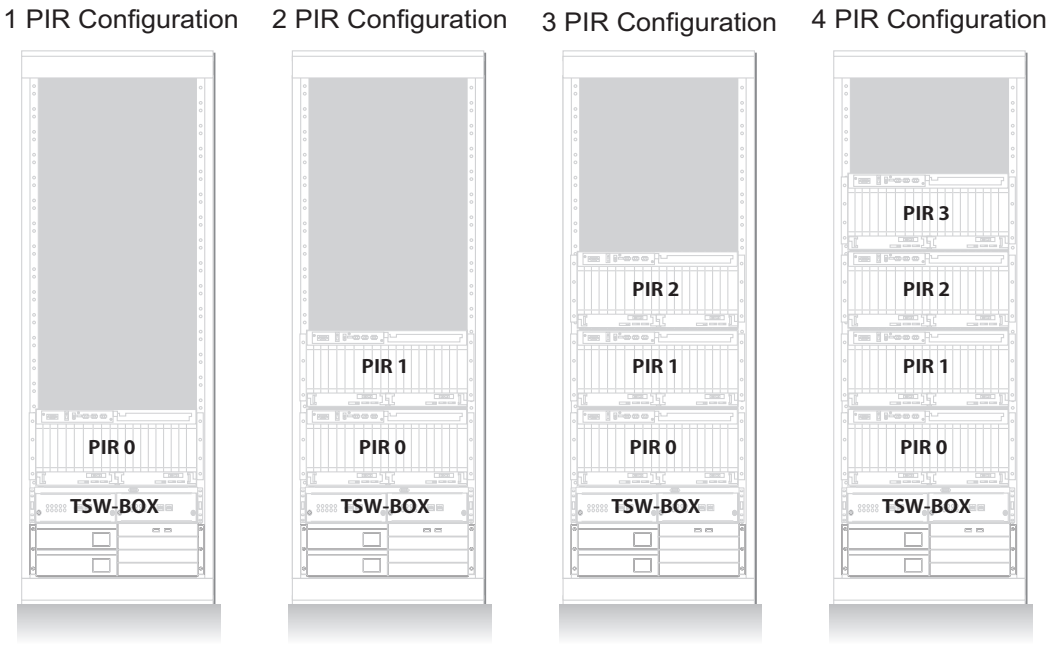
CAUTION	The operations described hereinafter must be performed after checking that all the power switches are set to OFF. If any of the switches of the modules is set to ON when performing any operation, that can be the reason for equipment damage, fire or electrocution.

4.3.1 Cable Connection for AC-Powered Model Configuration

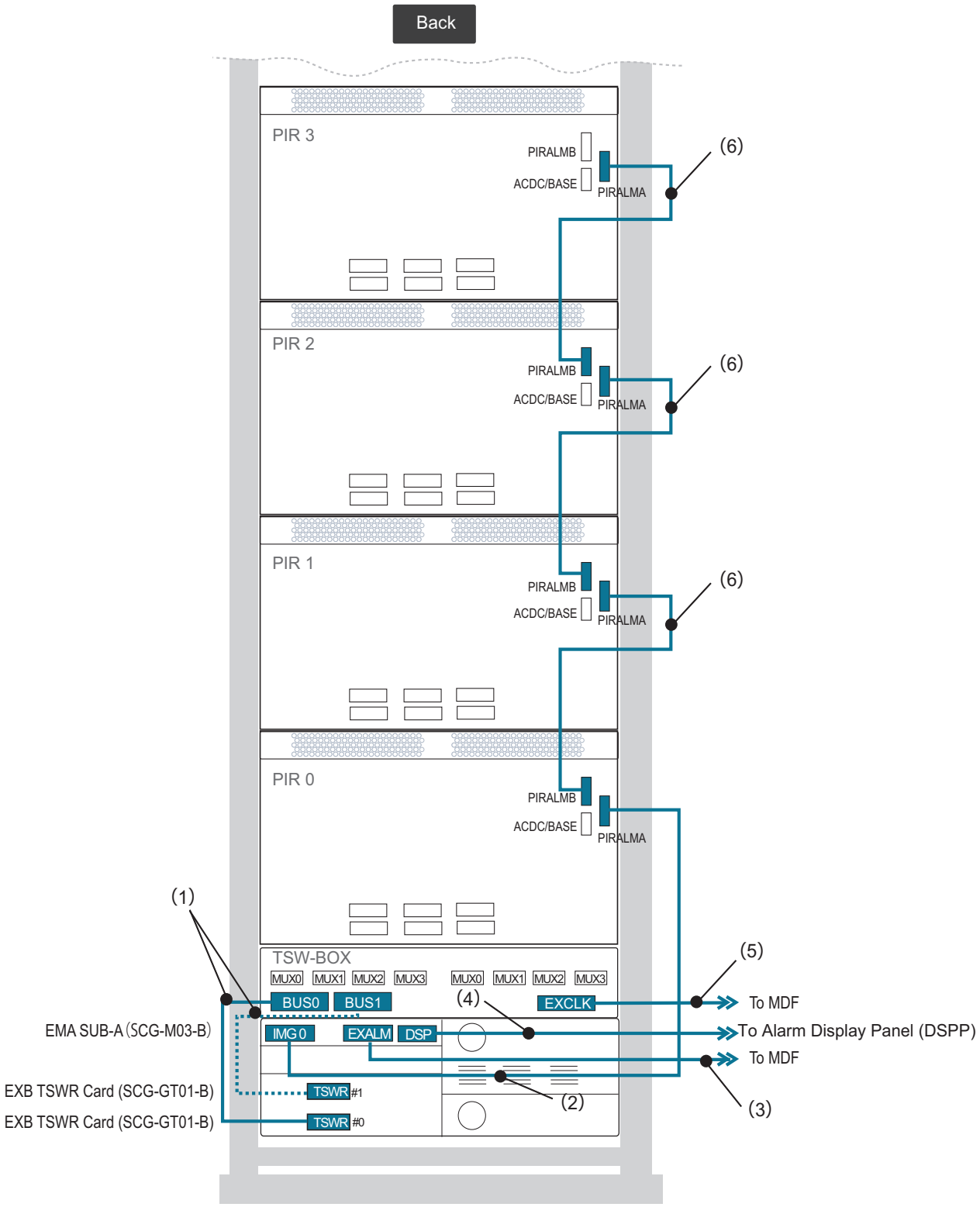


Note: The AC-powered model is only available in 1-IMG Configuration; this model does not support 4-IMG Configuration except for North America.

Connect the cables according to the module configuration.

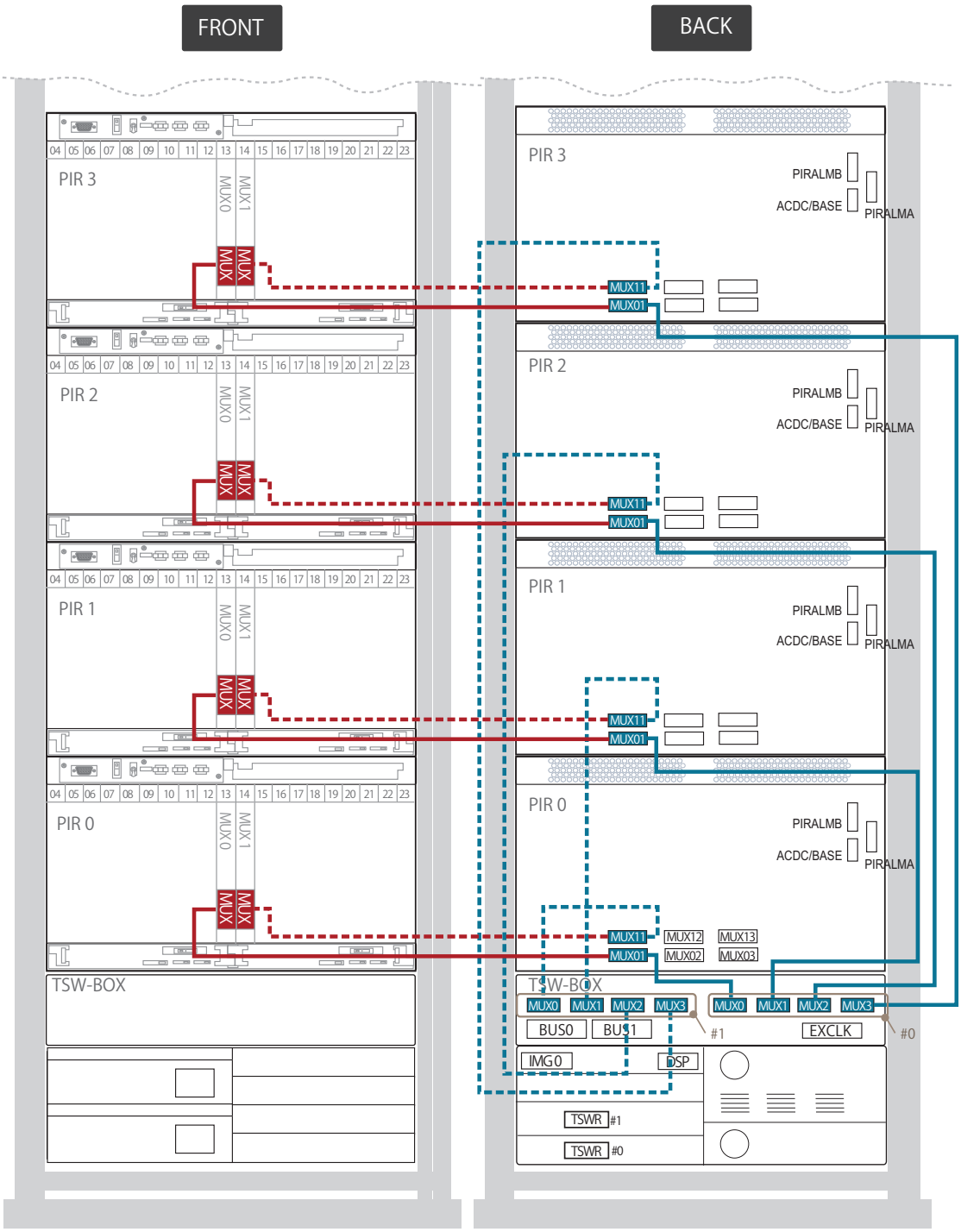


Step1: Connect the BUS cable.



NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	Telephony Server (EXB-TSWR card #0)	TSWR	TSW-BOX	BUS0	D37-SC50 CA-E	-
	Telephony Server (EXB-TSWR card #0)	TSWR	TSW-BOX	BUS1	D37-SC50 CA-E	-
(2)	Telephony Server (EMA SUB-A card)	IMG0	PIR0	PIRALMA	D15 ST-F CA-A	-
(3)	Telephony Server (EMA SUB-A card)	EXALM	MDF		D25 EXALM CA-A	Necessary when External Alarm Indication Panel is used
(4)	Telephony Server (EMA SUB-A card)	DSP	Alarm Display Panel (DSPP)	J1	D15 ST-FF CA-C	Necessary when Alarm Display Panel (DSPP) is used
(5)	TSW-BOX	EXCLK	MDF		D37 EXCLK CA-A	Necessary when clock synchronization is performed Necessary when Music-On-Hold is used
(6)	PIR0	PIRALMB	PIR1	PIRALMA	D15 ST CA-A/B	Necessary when PIR1 mounted
	PIR1	PIRALMB	PIR2	PIRALMA		Necessary when PIR2 mounted
	PIR2	PIRALMB	PIR3	PIRALMA		Necessary when PIR3 mounted

Step2: Connect BUS cables between TSW and MUX.



MUX#0

: D26-D25 TSW-PIR CA-A/B

: MT24-D25 CA-C

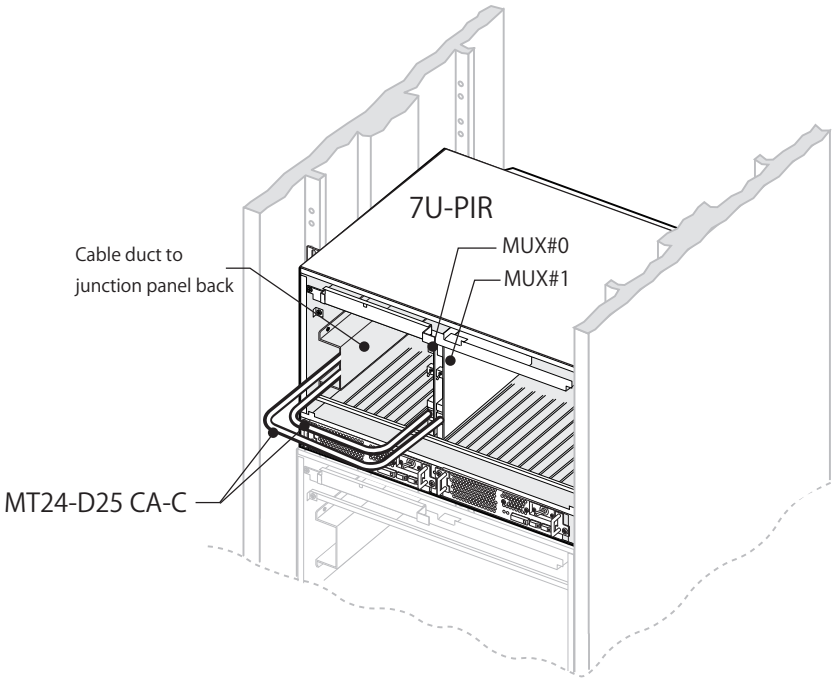
MUX#1

: D26-D25 TSW-PIR CA-A/B

: MT24-D25 CA-C

FROM			TO		CABLE NAME	REMARKS
UNIT/MODULE		CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
TSW-BOX (Back)	TSW 0#	MUX0	PIR0 (Back)	MUX01	D26-D25 TSW-PIR CA-A/B	#0 use
		MUX1	PIR1 (Back)			#0 use Necessary when PIR1 mounted
		MUX2	PIR2 (Back)			#0 use Necessary when PIR2 mounted
		MUX3	PIR3 (Back)			#0 use Necessary when PIR3 mounted
	TSW 1#	MUX0	PIR0 (Back)	MUX02		#1 use
		MUX1	PIR1 (Back)			#1 use Necessary when PIR1 mounted
		MUX2	PIR2 (Back)			#1 use Necessary when PIR2 mounted
		MUX3	PIR3 (Back)			#1 use Necessary when PIR3 mounted
PIR0 (Back)		MUX01	PIR0 (Back)	MUX (Slot 13 CJ-PC00 front connector)	MT24-D25 CA-C	#0 use
PIR1 (Back)			PIR1 (Back)			#0 use Necessary when PIR1 mounted
PIR2 (Back)			PIR2 (Back)			#0 use Necessary when PIR2 mounted
PIR3 (Back)			PIR3 (Back)			#0 use Necessary when PIR3 mounted
PIR0 (Back)		MUX11	PIR0 (Back)	MUX (Slot 14 CJ-PC00 front connector)		#1 use
PIR1 (Back)			PIR1 (Back)			#1 use Necessary when PIR1 mounted
PIR2 (Back)			PIR2 (Back)			#1 use Necessary when PIR2 mounted
PIR3 (Back)			PIR3 (Back)			#1 use Necessary when PIR3 mounted

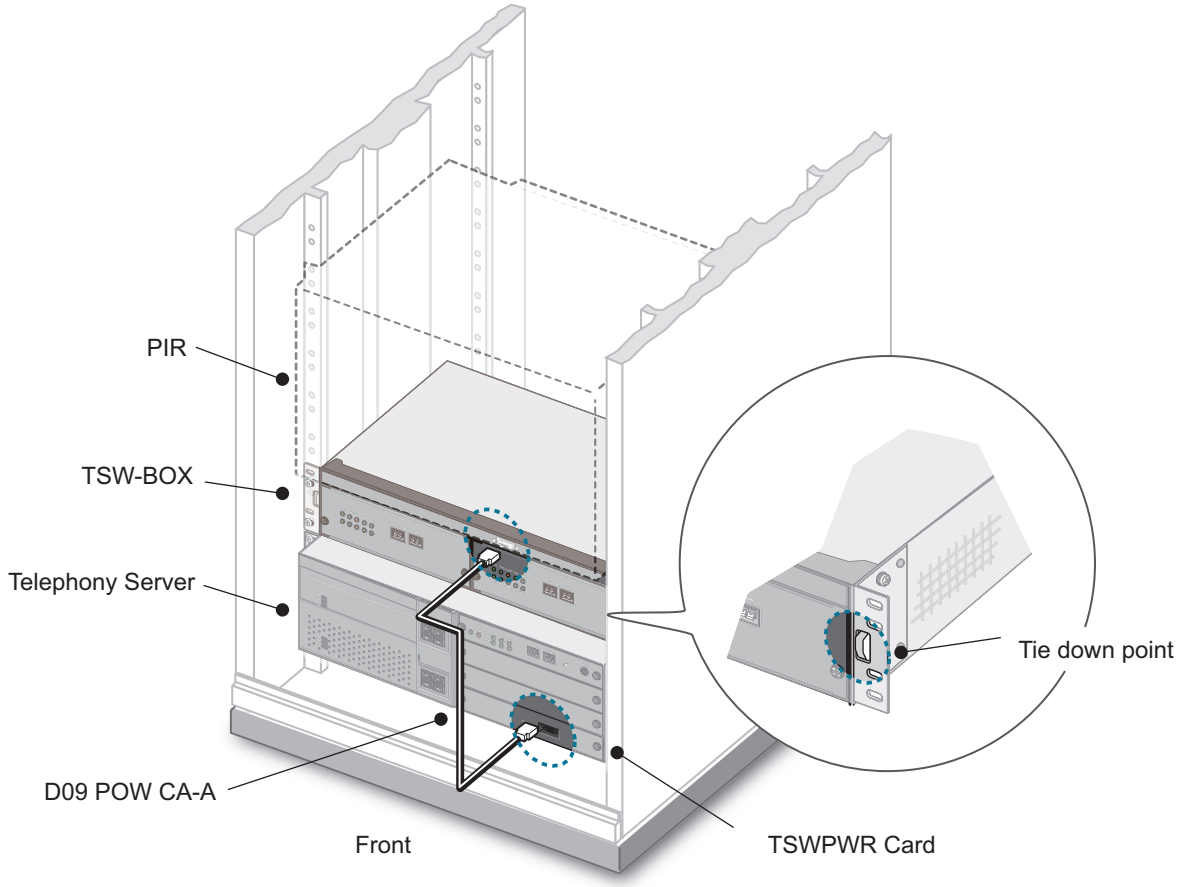
Note: Run the cables (such as BUS cables between the front connectors on TSW/MUX card and the MUX0x/1x connectors on backboard) from front to back through the cable duct at the bottom of each PIR to protect the cables.



Note: Refer to 4.4 How to Fix Connectors on PIR for MUX Use BUS Cable for the way to connect the cables to junction panel on rear PIR.

Note: To avoid obstructions when inserting the cards, fix firmly the cables with a tie-wrap to the tie-down point set up at the lower part of PIR.

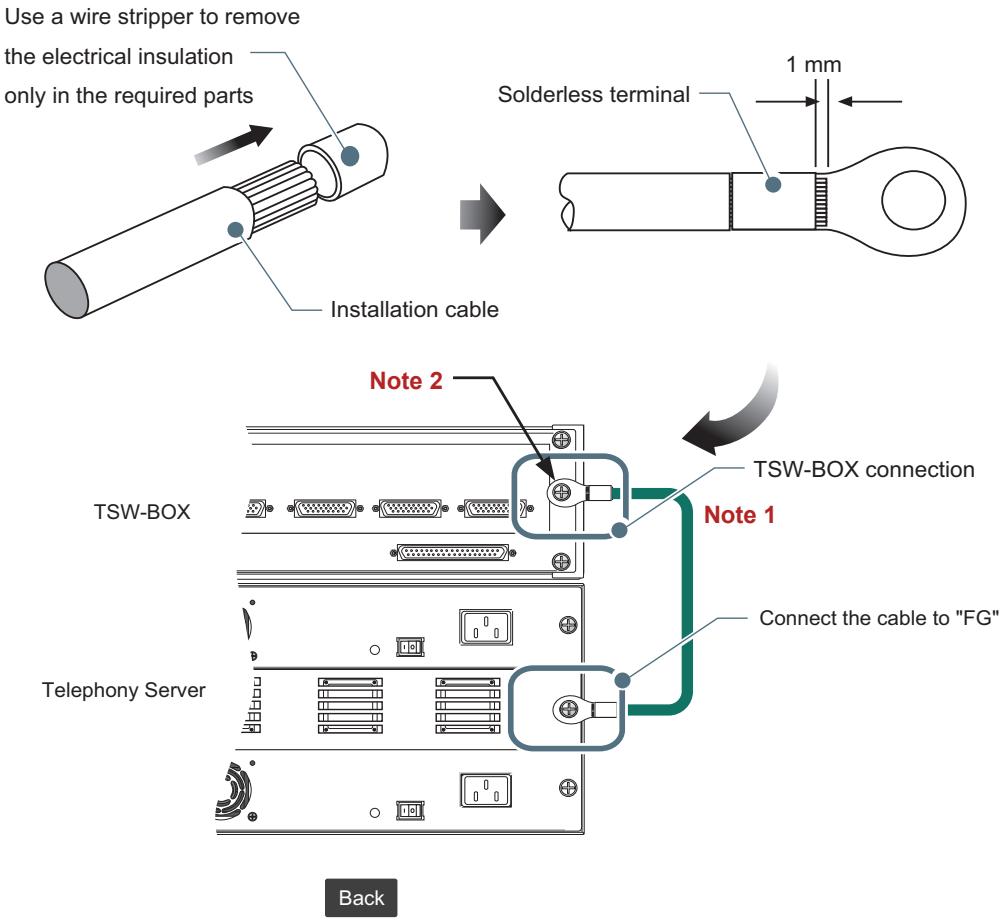
Step3: Connect the external power cable of the TSW-BOX. Power is fed through the TSWPWR card (SCA-M01-A) installed on the Telephony Server.



Note: Secure the cables with a tie wrap to the tie down point on the rack mount bracket of the TSW-BOX so as not to interfere with installation or removal of the cards.

FROM		TO		CABLE NAME
UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME	
Telephony Server (TSWPWR card)	TSWPWR	TSW-BOX	PWR	D09 POW CA-A

Step4: Connect FG cable between TSW-BOX and Telephony Server as shown the figure below.



Note 1: Use the following installation cable:
AWG12, Cable length: within 250mm, Solderless terminal: R5.5-4
or
AWG14 or 2sq, Cable length: within 250mm, Solderless terminal: R2-4

Note 2: Use a screw (M4 screw on the earth plate of PIR) not in use.

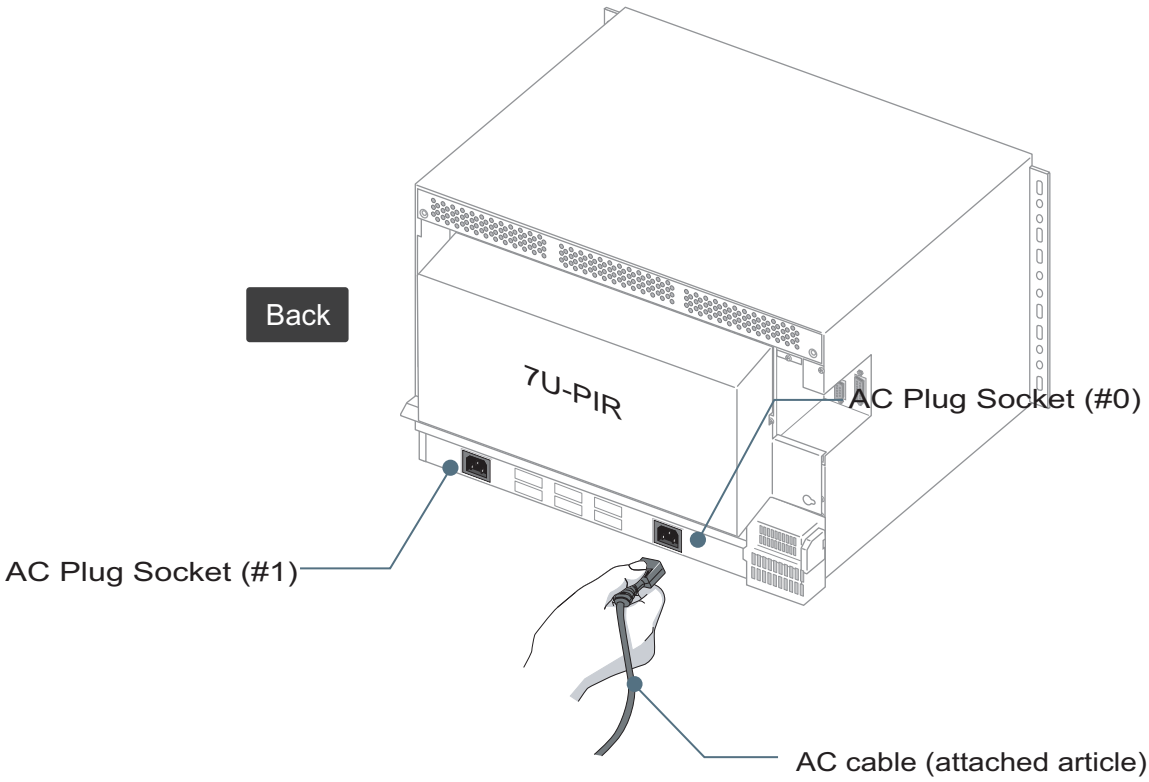
Step5: Connect the AC power cable.

Take the following precautions for power supply and protective grounding.

- Use a three-pole AC power cable.
- According to the system configuration, connect the AC power cable to a power source that can supply enough power to the Telephony Server and PIRs.
- Connect all the AC power cables from the server and 7U-PIR AC-DC Power Units to one AC tap, for securing protective common grounding.
- Extract Type1 grounding (below 10Ω) for the AC tap.
- AC tap or power supply unit connected to power distribution board needs to be prepared by the user.

Step6: First plug the AC power cable to the Telephony Server (refer to 6. Cable Connection to the Telephony Server in CHAPTER 3 SV9500 SERVER INSTALLATION - ASSEMBLING SV9500 SERVER MODULE).

Step7: Plug the AC power cable to the AC power inlet on the rear panel of the 7U-PIR AC-DC Power Unit.



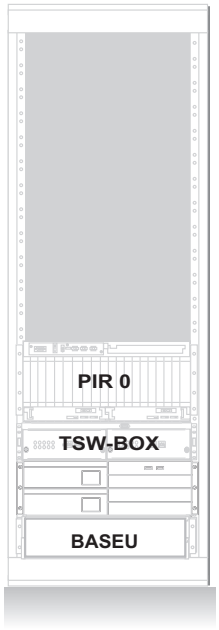
Note: Use the attached ferrite core with the AC power cable. Refer to Ferrite Core Installation to AC Cable on page 108.

4.3.2 Cable Connection for DC-Powered Model (1-IMG Configuration)

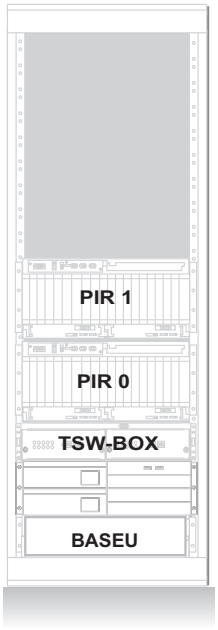


Connect the cables according to the module configuration.

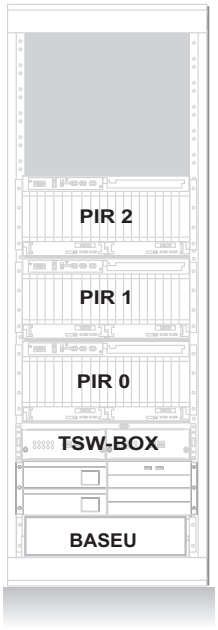
1 PIR Configuration



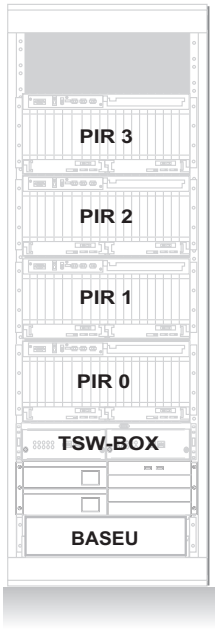
2 PIR Configuration



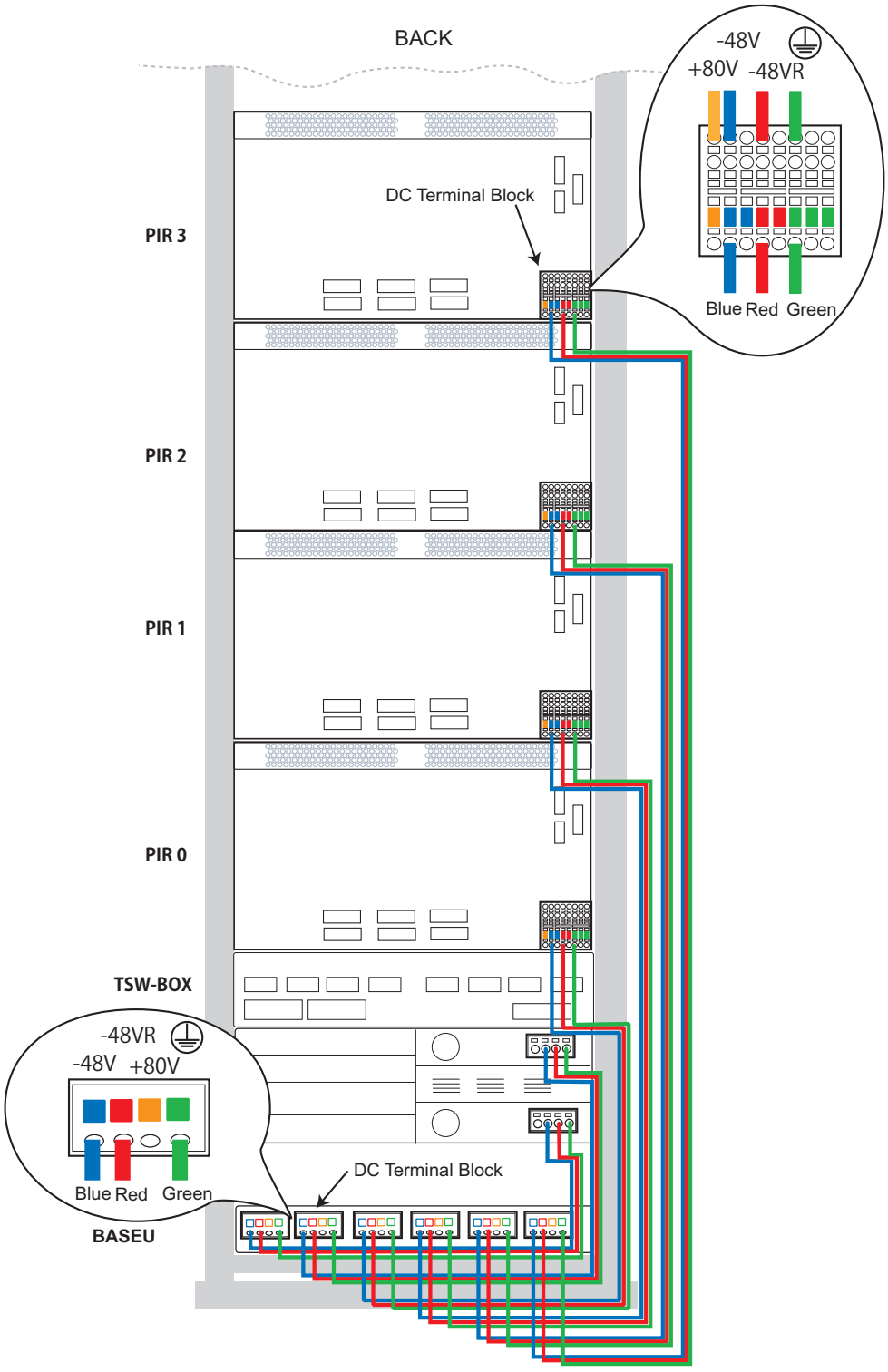
3 PIR Configuration



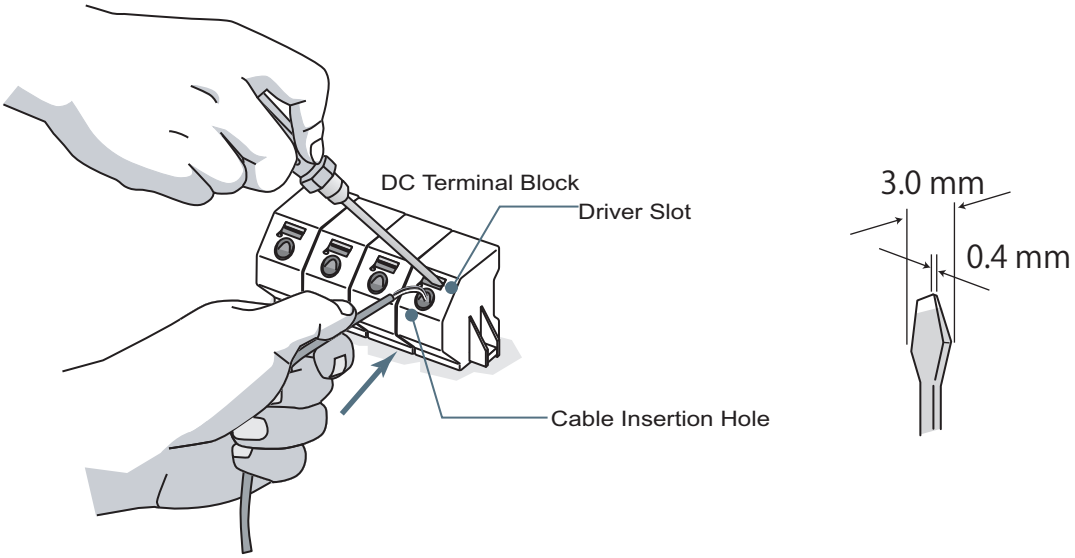
4 PIR Configuration



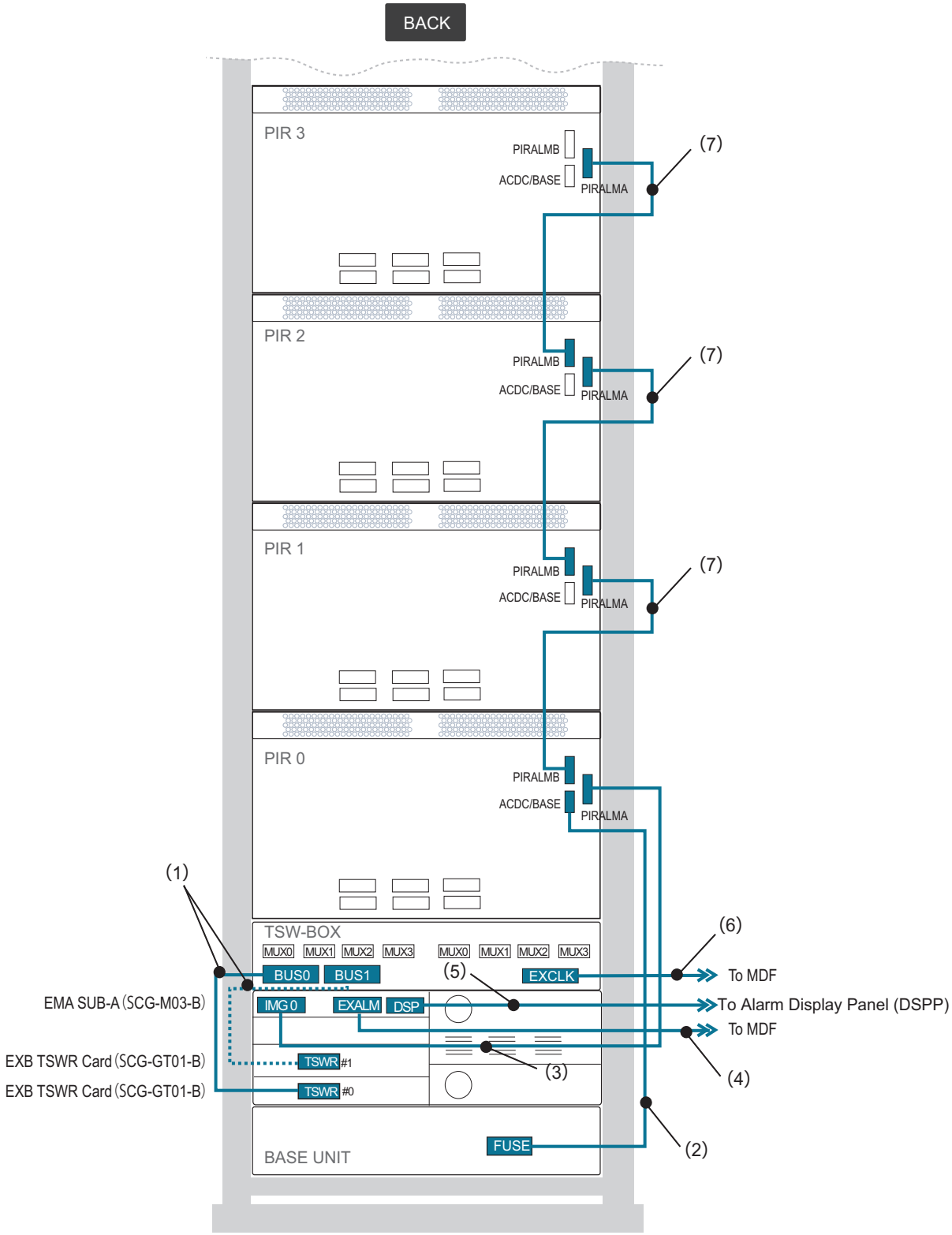
Step1: Connect power, ground, and FG cables (-48V, G, FE) between PIR and BASEU.
**see SN1757 BBUB Installation Design in Peripheral Equipment Description (Digital/Analog Devices) for cable connection with BBU to use Message Waiting Lamp.*



Use a flat-blade driver to connect power cables (AWG12, 14 or 2sq) to DC terminals.
**Be careful not to touch an electric pole with the metallic part of the driver when connecting the power cable.*

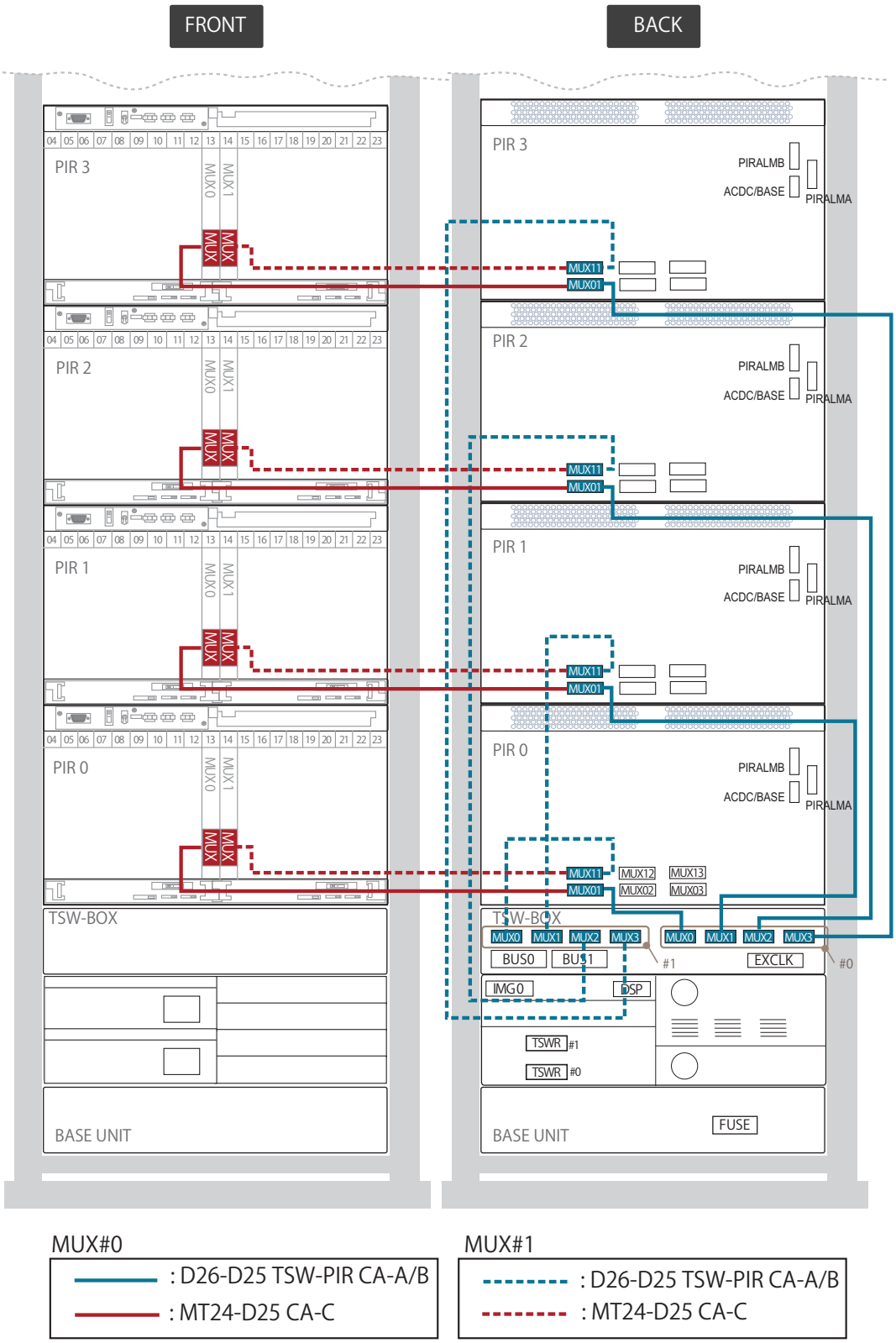


Step2: Connect BUS cables.

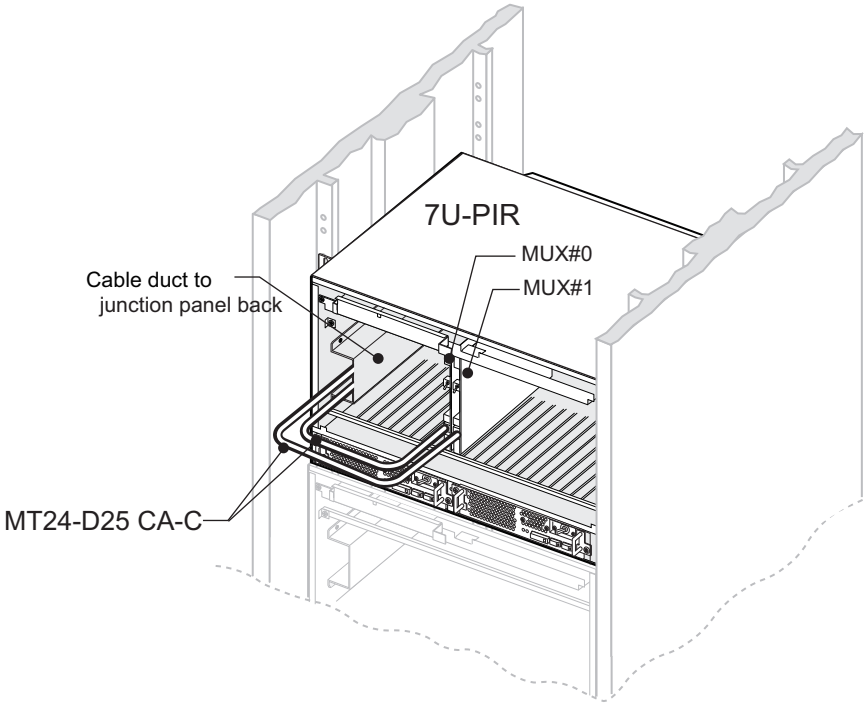


NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	Telephony Server (EXB-TSWR card #0)	TSWR	TSW-BOX	BUS0	D37-SC50 CA-E	-
	Telephony Server (EXB-TSWR card #0)	TSWR	TSW-BOX	BUS1	D37-SC50 CA-E	-
(2)	BASEU	FUSE	PIR	BASE	D09 ST CA-A	Connect to PIR0
(3)	Telephony Server (EMA SUB-A card)	IMG0	PIR0	PIRALMA	D15 ST-F CA-A	-
(4)	Telephony Server (EMA SUB-A card)	EXALM	MDF		D25 EXALM CA-A	Necessary when External Alarm Indication Panel is used
(5)	Telephony Server (EMA SUB-A card)	DSP	Alarm Dis-play Panel (DSPP)	J1	D15 ST-FF CA-C	Necessary when Alarm Display Panel (DSPP) is used
(6)	TSW-BOX	EXCLK	MDF		D37 EXCLK CA-A	Necessary when clock synchronization is performed Necessary when Music-On-Hold is used
(7)	PIR0	PIRALMB	PIR1	PIRALMA	D15 ST CA-A/B	Necessary when PIR1 is mounted
	PIR1	PIRALMB	PIR2	PIRALMA	D15 ST CA-A/B	Necessary when PIR2 is mounted
	PIR2	PIRALMB	PIR3	PIRALMA	D15 ST CA-A/B	Necessary when PIR3 is mounted

Step3: Connect BUS cables between TSW and MUX.



FROM			TO		CABLE NAME	REMARKS
UNIT/MODULE		CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
TSW-BOX (Back)	TSW #0	MUX0	PIR0 (Back)	MUX01	D26-D25 TSW-PIR CA-A/B	#0 use
		MUX1	PIR1 (Back)			#0 use Necessary when PIR1 mounted
		MUX2	PIR2 (Back)			#0 use Necessary when PIR2 mounted
		MUX3	PIR3 (Back)			#0 use Necessary when PIR3 mounted
	TSW #1	MUX0	PIR0 (Back)	MUX11		#1 use
		MUX1	PIR1 (Back)			#1 use Necessary when PIR1 mounted
		MUX2	PIR2 (Back)			#1 use Necessary when PIR2 mounted
		MUX3	PIR3 (Back)			#1 use Necessary when PIR3 mounted
PIR0 (Back)		MUX01	PIR0 (Back)	MUX (Slot 13 CJ-PC00 front connector)	MT24-D25 CA-C	#0 use
PIR1 (Back)			PIR1 (Back)			#0 use Necessary when PIR1 mounted
PIR2 (Back)			PIR2 (Back)			#0 use Necessary when PIR2 mounted
PIR3 (Back)			PIR3 (Back)			#0 use Necessary when PIR3 mounted
PIR0 (Back)		MUX11	PIR0 (Back)	MUX (Slot 14 CJ-PC00 front connector)		#1 use
PIR1 (Back)			PIR1 (Back)			#1 use Necessary when PIR1 mounted
PIR2 (Back)			PIR2 (Back)			#1 use Necessary when PIR2 mounted
PIR3 (Back)			PIR3 (Back)			#1 use Necessary when PIR3 mounted

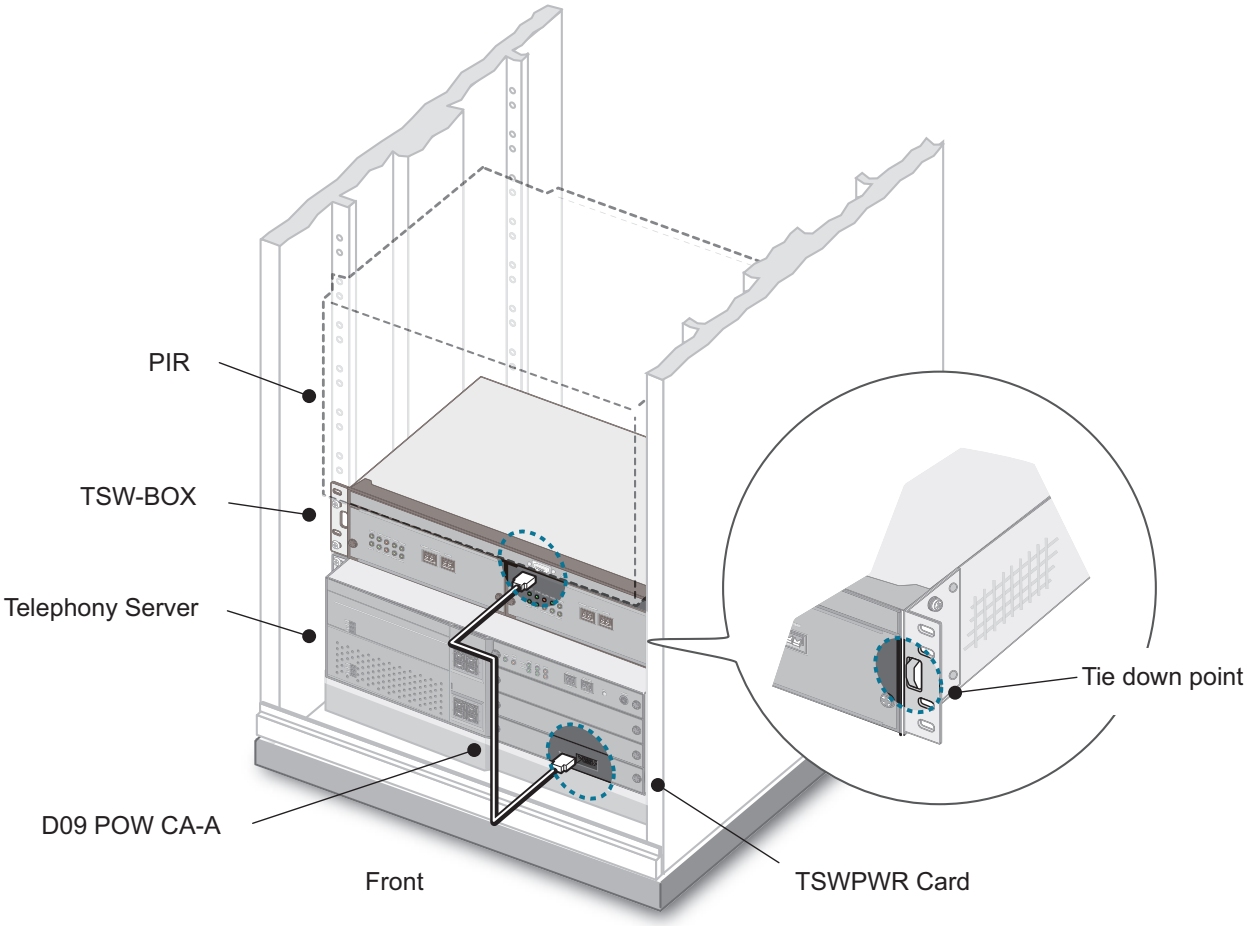


Note: Run the cables (such as BUS cables between the front connectors on TSW/MUX card and the MUX0x/1x connectors on backboard) from front to back through the cable duct at the bottom of each PIR to protect the cables.

Note: Refer to 4.4 How to Fix Connectors on PIR for MUX Use BUS Cable for the way to connect the cables to junction panel on rear PIR.

Note: To avoid obstructions when inserting the cards, fix firmly the cables with a tie-wrap to the tie-down point set up at the lower part of PIR.

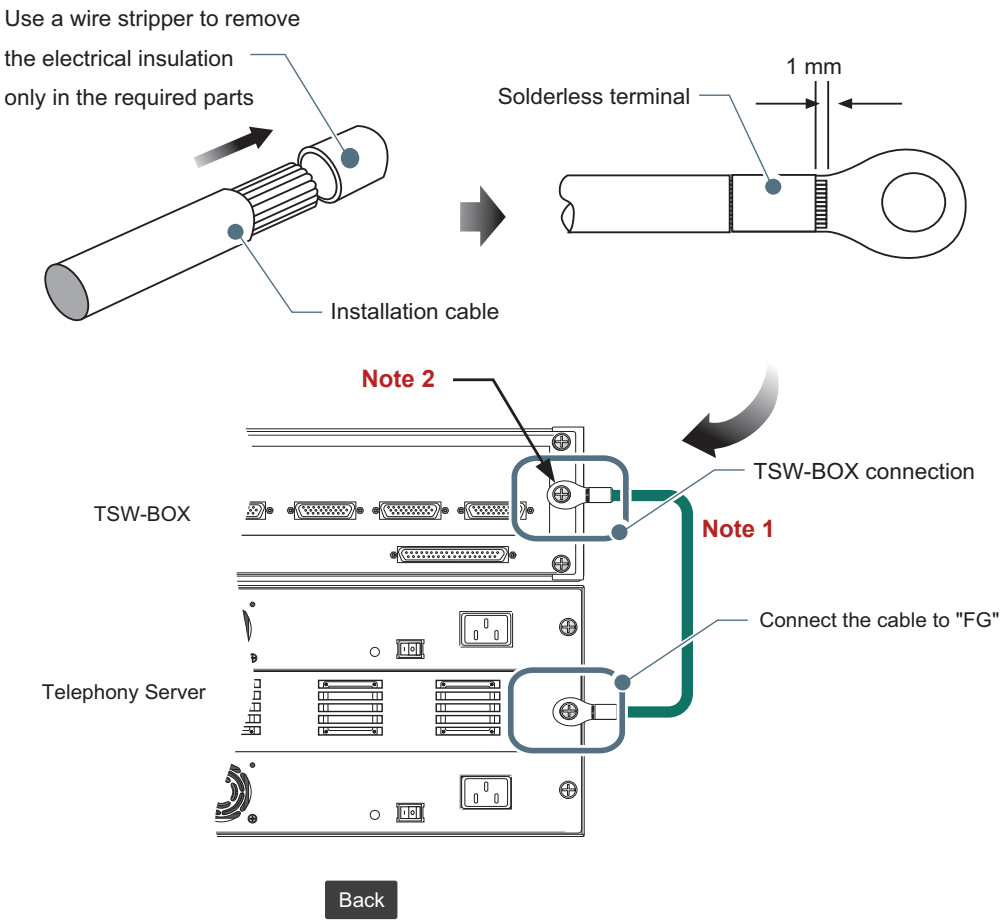
Step4: Connect the external power cable of the TSW-BOX. Power is fed through the TSWPWR card (SCA-M01-A) installed on the Telephony Server.



Note: Secure the cables with a tie wrap to the tie down point on the rack mount bracket of the TSW-BOX so as not to interfere with installation or removal of the cards.

FROM		TO		CABLE NAME
UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME	
Telephony Server (TSWPWR card)	TSWPWR	TSW-BOX	PWR	D09 POW CA-A

Step5: Connect FG cable between TSW-BOX and Telephony Server as shown the figure below.



Note 1: Use the following installation cable:
AWG12, Cable length: within 250mm, Solderless terminal: R5.5-4
or
AWG14 or 2sq, Cable length: within 250mm, Solderless terminal: R2-4

Note 2: Use a screw (M4 screw on the earth plate of PIR) not in use.

4.3.3 Cable Connection for DC-Powered Model (4-IMG Configuration)

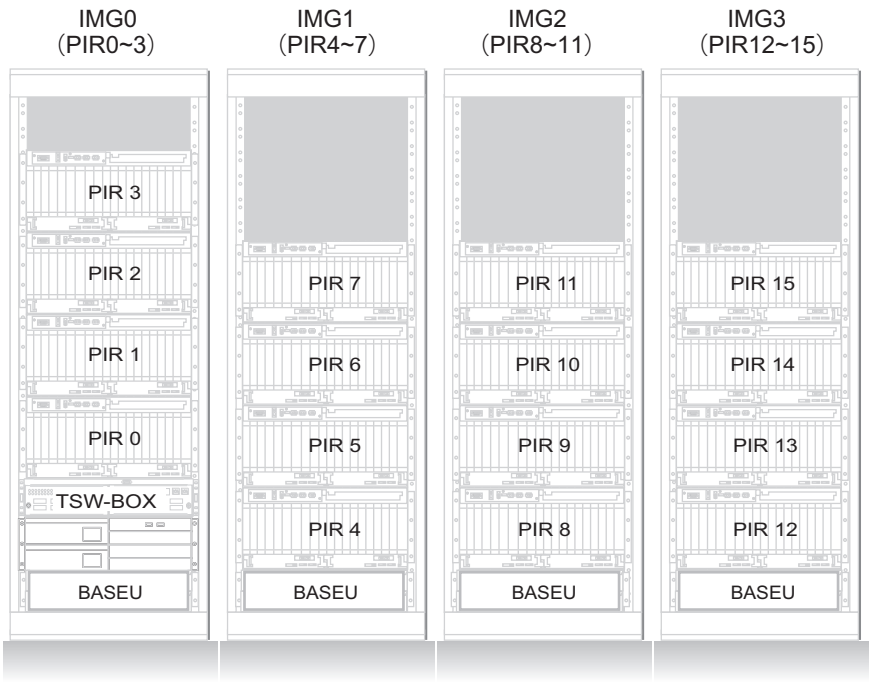


This section explains cable connections for DC-Powered Model (4-IMG).

- When Using TSW-BOX
- When Using TSWR

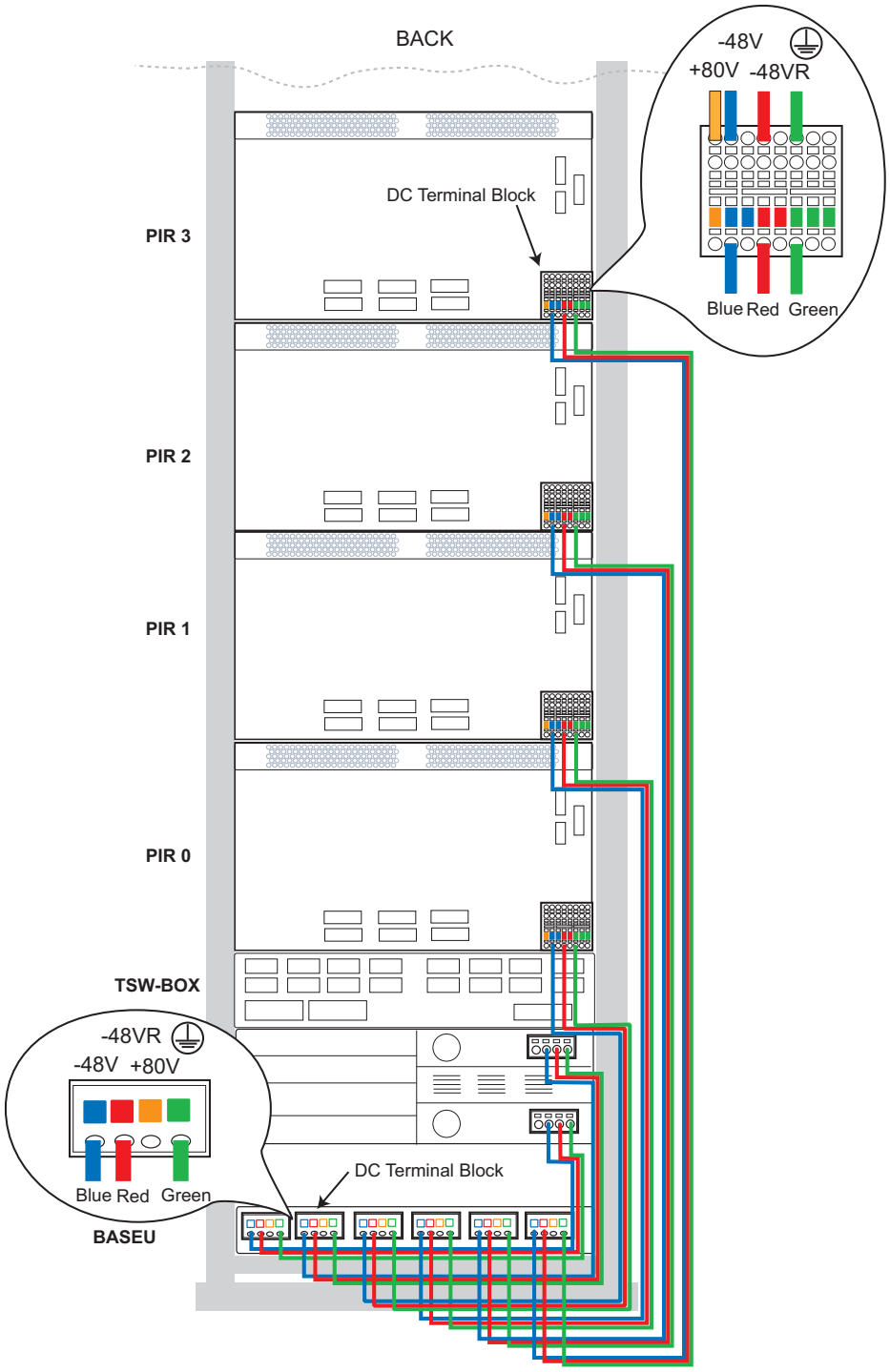
4.3.3.1 When Using TSW-BOX

Connect the cables according to the module configuration.

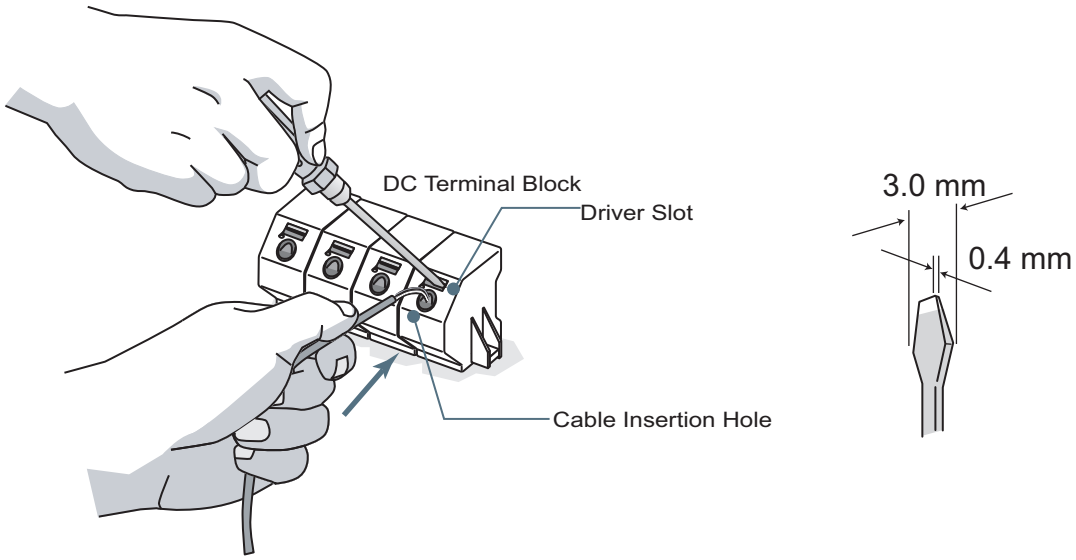


Step1: Connect power, ground, and FG cables (-48V, G, FE) between PIR and BASEU.
**see SN1757 BBUB Installation Design in Peripheral Equipment Description (Digital/Analog Devices) for cable connection with BBU to use Message Waiting Lamp.*

- BASEU - PIRs



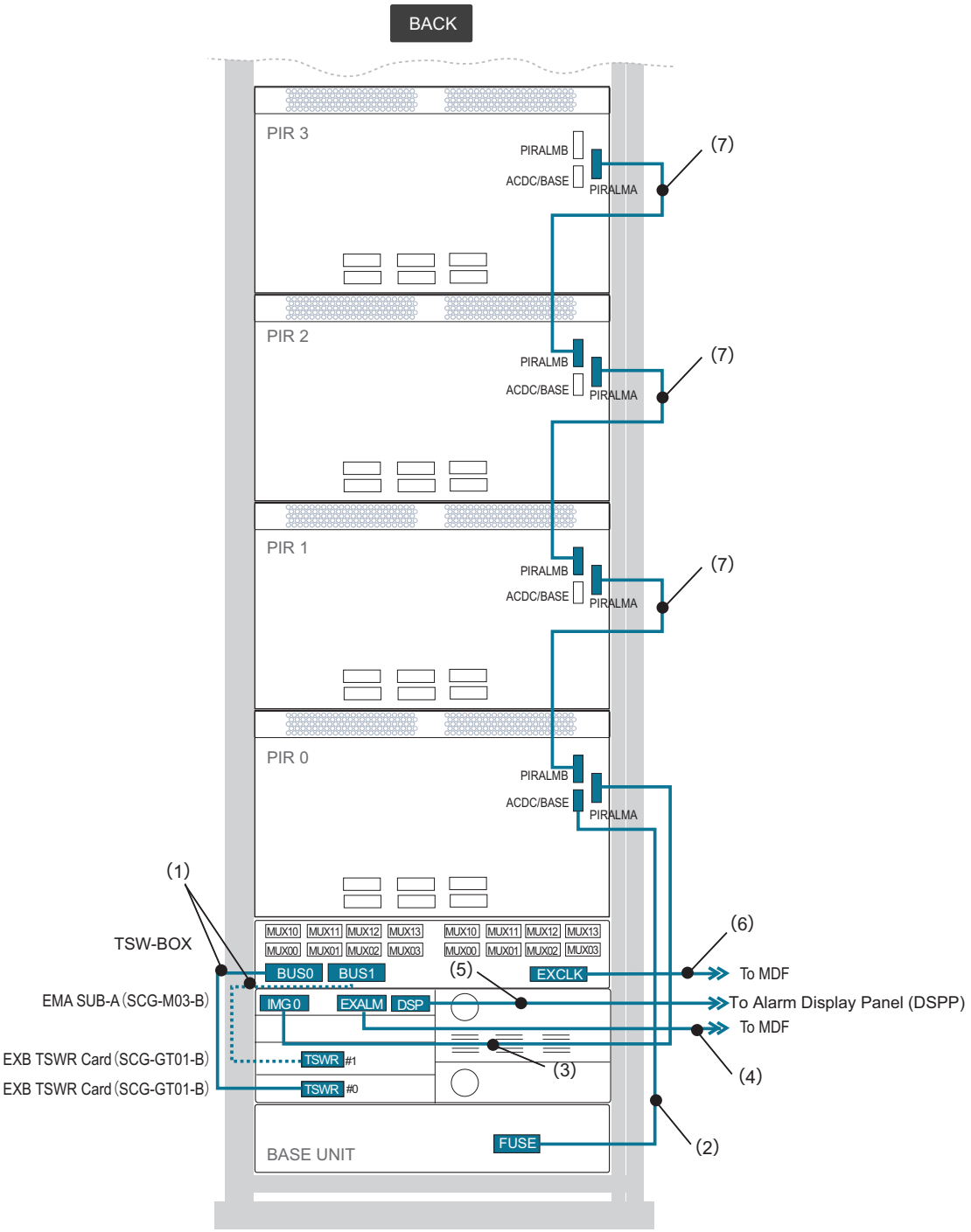
Use a flat-blade driver to connect power cables (AWG12, 14 or 2sq) to DC terminals.
**Be careful not to touch an electric pole with the metallic part of the driver when connecting the power cable.*



Step2: Connect BUS cables.

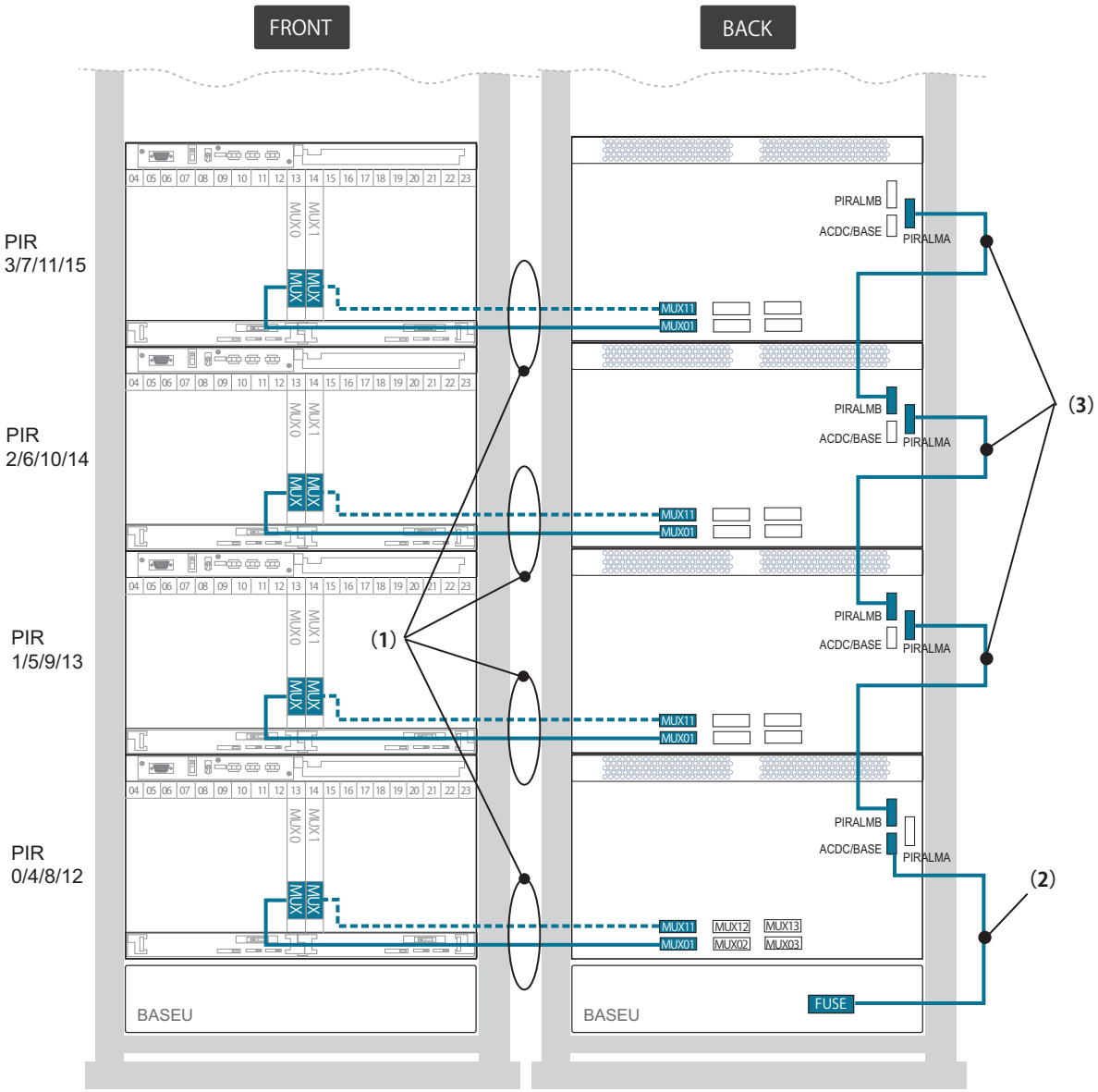
Note: In the figure below, cable connections for TSW #1 are shown by dotted lines.

- TSW-BOX Part Connections



NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	Telephony Server (EXB-TSWR card #0)	TSWR	TSW-BOX	BUS0	D37-SC50 CA-E	-
	Telephony Server (EXB-TSWR card #1)	TSWR	TSW-BOX	BUS1	D37-SC50 CA-E	-
(2)	BASEU	FUSE	PIR	BASE	D09 ST CA-A	Connect to PIR0
(3)	Telephony Server (EMA SUB-A card)	IMG0	PIR0	PIRALMA	D15 ST-F CA-A	-
(4)	Telephony Server (EMA SUB-A card)	EXALM	MDF		D25 EXALM CA-A	Necessary when External Alarm Indication Panel is used
(5)	Telephony Server (EMA SUB-A card)	DSP	Alarm Dis-play Panel (DSPP)	J1	D15 ST-FF CA-C	Necessary when Alarm Display Panel (DSPP) is used
(6)	TSW-BOX	EXCLK	MDF		D37 EXCLK CA-A	Necessary when clock synchronization is performed Necessary when Music-On-Hold is used
(7)	PIR0	PIRALMB	PIR1	PIRALMA	D15 ST CA-A/B	Necessary when PIR1 is mounted
	PIR1	PIRALMB	PIR2	PIRALMA	D15 ST CA-A/B	Necessary when PIR2 is mounted
	PIR2	PIRALMB	PIR3	PIRALMA	D15 ST CA-A/B	Necessary when PIR3 is mounted

- Common Connections per IMG

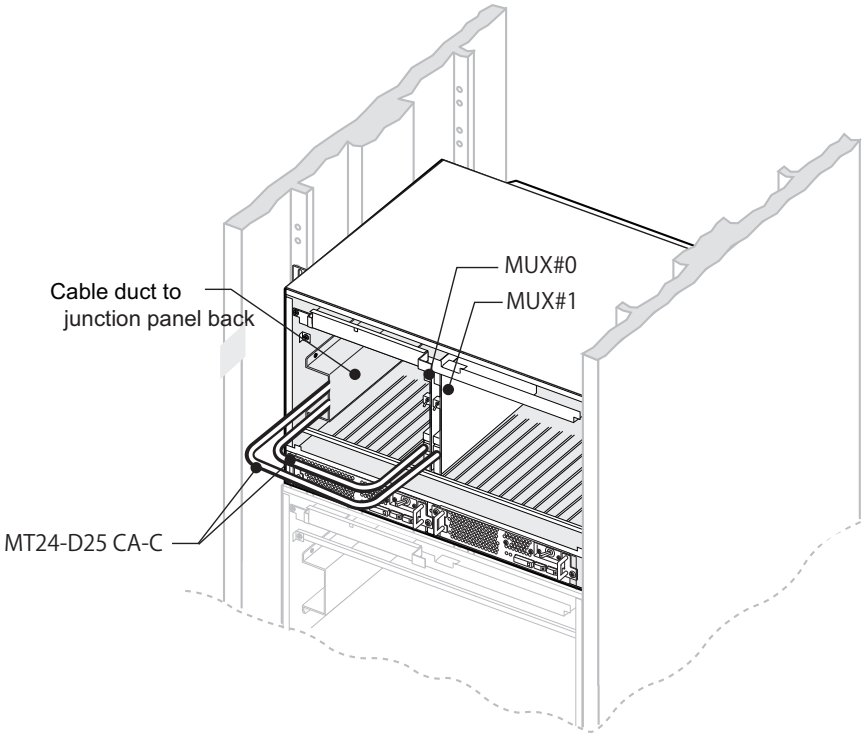


IMG0/1/2/3

Bus Cable Connections

NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	PIR0/4/8/12 (back)	MUX01	PIR0/4/8/12 (front)	MUX (slot 13 CJ-PC00 front connector)	MT24-D25 CA-C **Note 1**	Needed when connecting to PIR4/8/12 #0 use
	PIR0/4/8/12 (back)	MUX11	PIR0/4/8/12 (front)	MUX (slot 14 CJ-PC00 front connector)		Needed when connecting to PIR4/8/12 #1 use
	PIR1/5/9/13 (back)	MUX01	PIR1/5/9/13 (front)	MUX (slot 13 CJ-PC00 front connector)		Needed when connecting to PIR5/9/13 #0 use
	PIR1/5/9/13 (back)	MUX11	PIR1/5/9/13 (front)	MUX (slot 14 CJ-PC00 front connector)		Needed when connecting to PIR5/9/13 #1 use
	PIR2/6/10/14 (back)	MUX01	PIR2/6/10/14 (front)	MUX (slot 13 CJ-PC00 front connector)		Needed when connecting to PIR6/10/14 #0 use
	PIR2/6/10/14 (back)	MUX11	PIR2/6/10/14 (front)	MUX (slot 14 CJ-PC00 front connector)		Needed when connecting to PIR6/10/14 #1 use
	PIR3/7/11/15 (back)	MUX01	PIR3/7/11/15 (front)	MUX (slot 13 CJ-PC00 front connector)		Needed when connecting to PIR7/11/15 #0 use
	PIR3/7/11/15 (back)	MUX11	PIR3/7/11/15 (front)	MUX (slot 14 CJ-PC00 front connector)		Needed when connecting to PIR7/11/15 #1 use
(2)	BASEU	FUSE	PIR0/4/8/12	ACDC/BASE	D09 ST CA-A	
(3)	PIR0/4/8/12	PIRALMB	PIR1/5/9/13	PIRALMA	D15 ST CA-A	Connect to the proper PIR
	PIR1/5/9/13	PIRALMB	PIR2/6/10/14	PIRALMA		
	PIR2/6/10/14	PIRALMB	PIR3/7/11/15	PIRALMA		

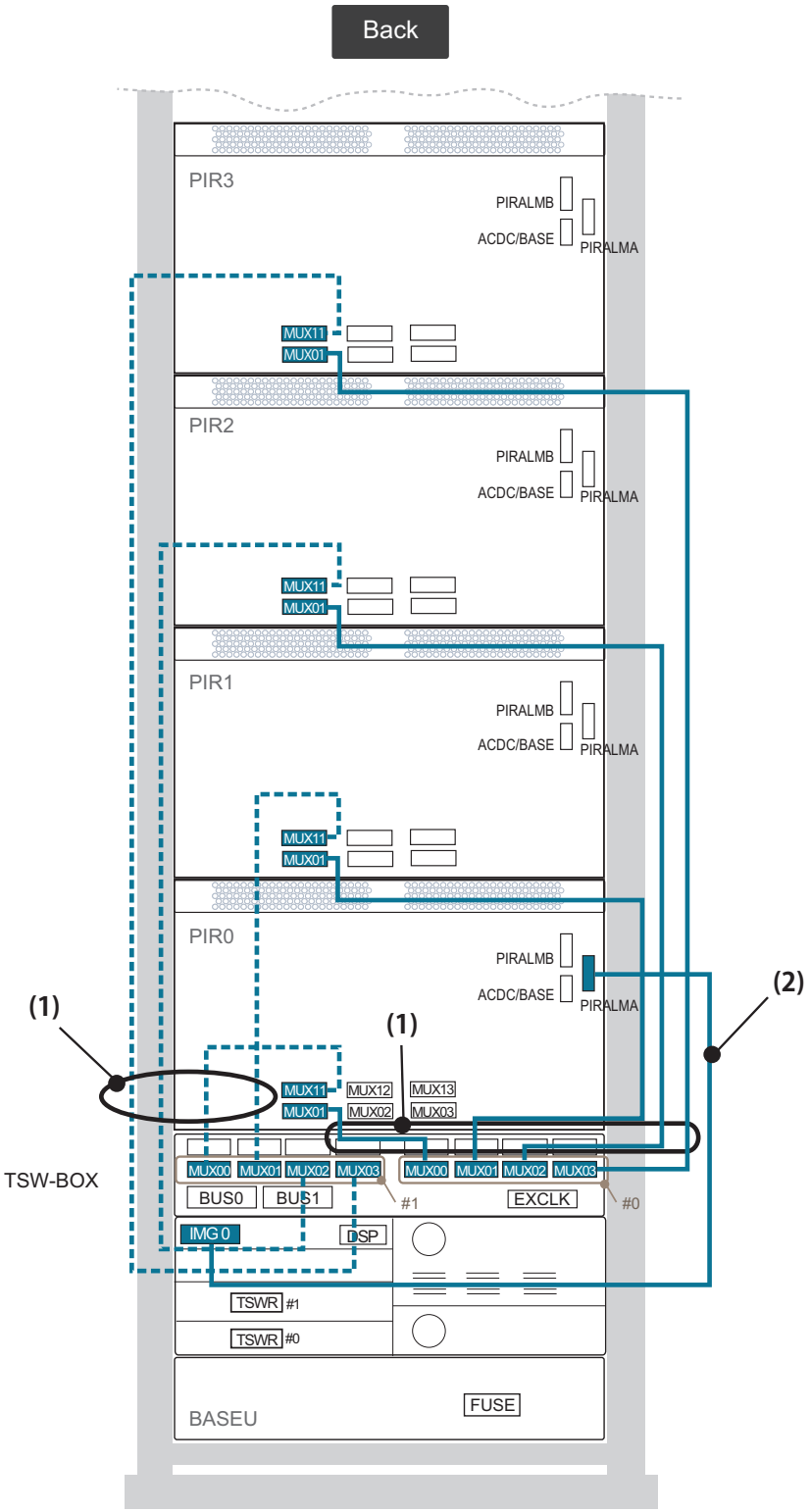
Note 1: Run the cable between the front connectors on TSW/MUX card and the MUX0x/1x connectors on the backboard through the cable duct at the bottom of PIRs to protect the cables.



Note: Refer to 4.4 How to Fix Connectors on PIR for MUX Use BUS Cable for the way to connect the cables to the junction panel on rear PIR.

Note: To avoid obstructions when inserting the cards, fix firmly the cables with a tie-wrap to the tie-down point set up at the lower part of PIR.

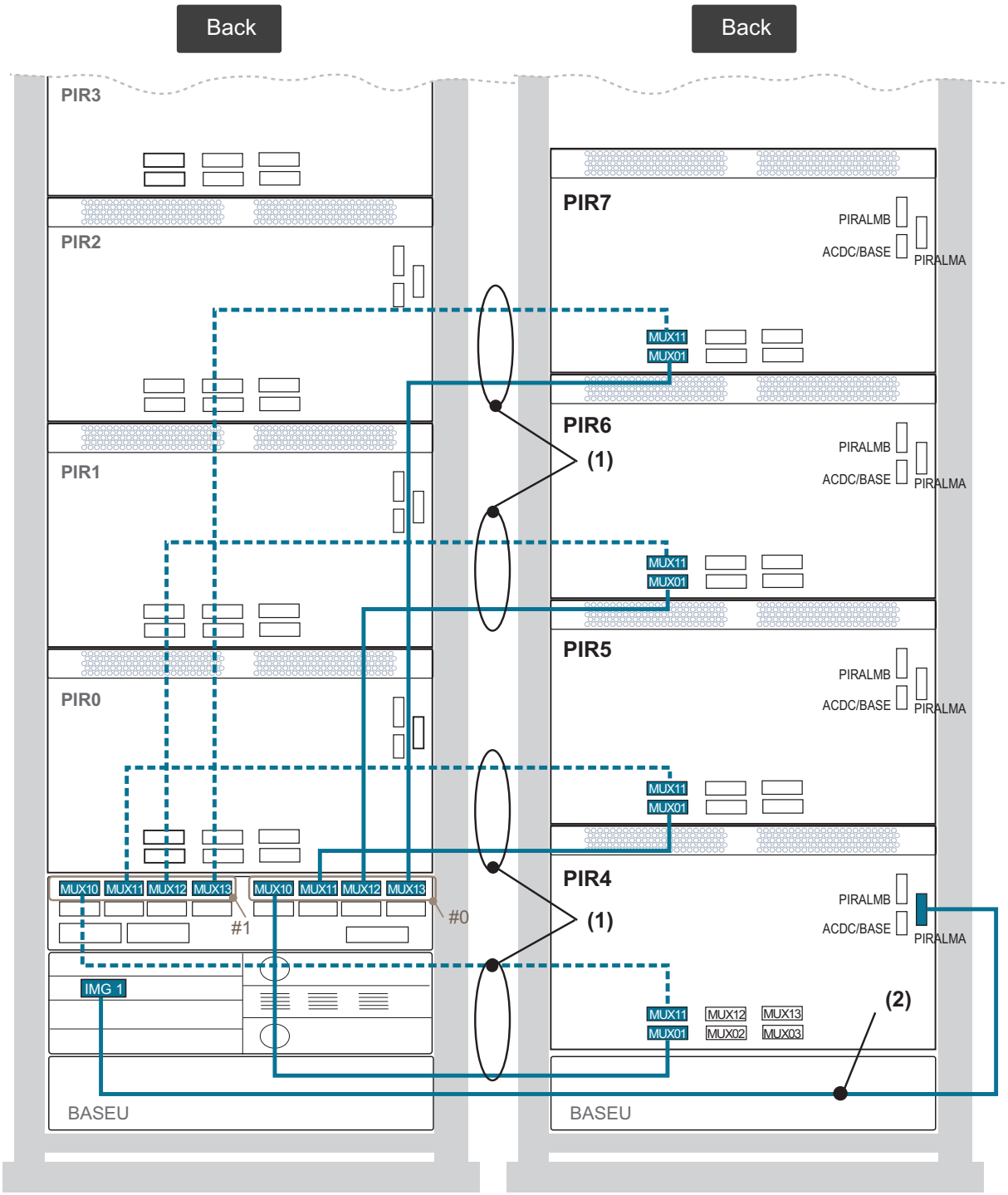
- Connections between TSW-BOX and IMG 0



Bus Cable Connections (between TSW-BOX and IMG0)

NO.	FROM			TO		CABLE NAME	REMARKS
	UNIT/MODULE		CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	TSW-BOX (Back)	TSW #0	MUX00	PIR0 (Back)	MUX01	D26-D25 TSW-PIR CA-C	#0 use
			MUX01	PIR1 (Back)			#0 use Necessary when PIR1 mounted
			MUX02	PIR2 (Back)			#0 use Necessary when PIR2 mounted
			MUX03	PIR3 (Back)			#0 use Necessary when PIR3 mounted
		TSW #1	MUX00	PIR0 (Back)	MUX11		#1 use
			MUX01	PIR1 (Back)			#1 use Necessary when PIR1 mounted
			MUX02	PIR2 (Back)			#1 use Necessary when PIR2 mounted
			MUX03	PIR3 (Back)			#1 use Necessary when PIR3 mounted
(2)	Telephony Server (EMA SUB-A card)		IMG0	PIR0	PIRALMA	D15 ST-F CA-C	Necessary when connecting to IMG0

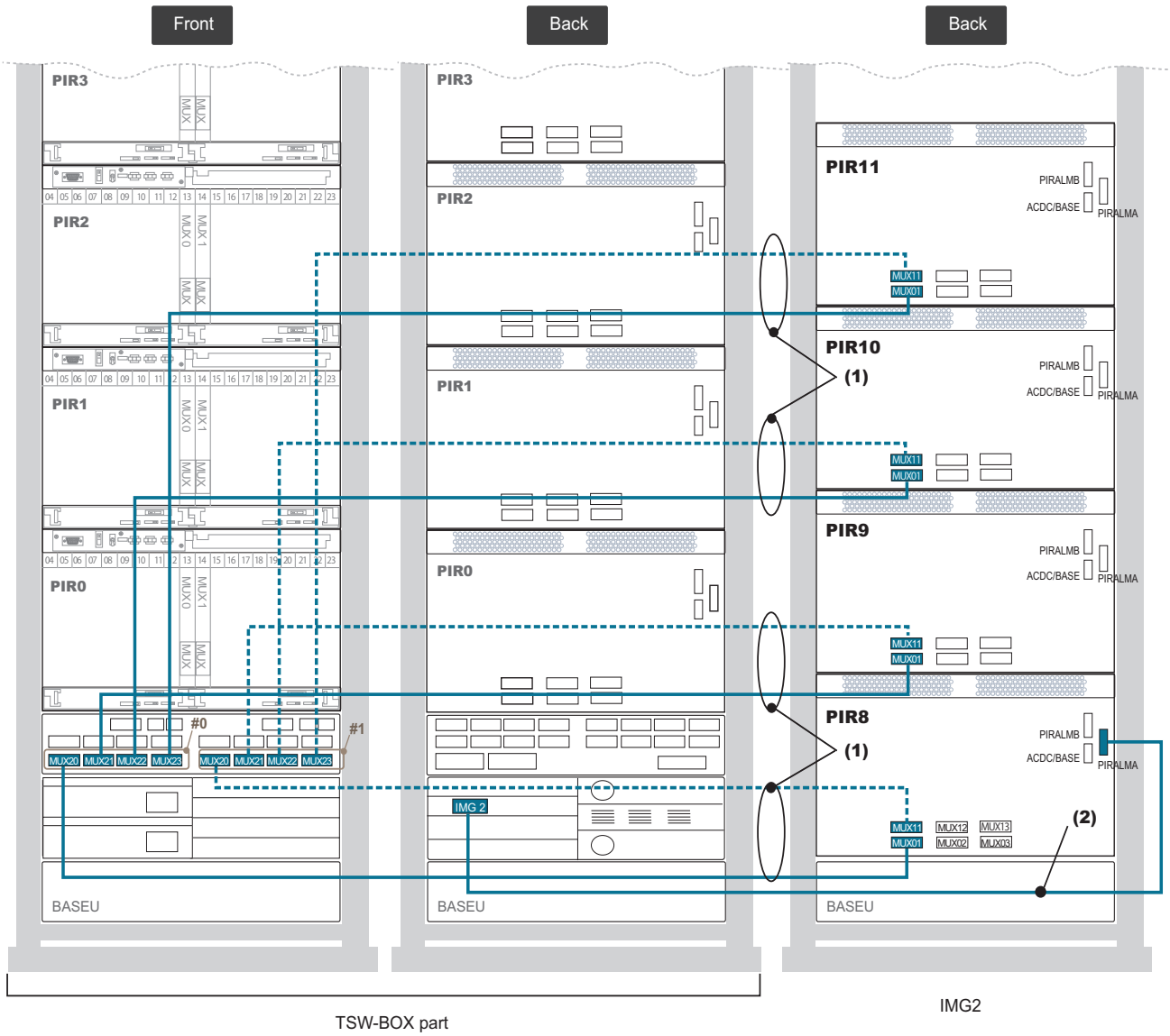
- Connections between TSW-BOX and IMG1



Bus Cable Connections (between TSW-BOX and IMG1)

NO.	FROM			TO		CABLE NAME	REMARKS
	UNIT/MODULE		CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	TSW-BOX (Back)	TSW #0	MUX10	PIR4 (Back)	MUX01	D26-D25 TSW-PIR CA-C	#0 use Necessary when PIR4 mounted
			MUX11	PIR5 (Back)			#0 use Necessary when PIR5 mounted
			MUX12	PIR6 (Back)			#0 use Necessary when PIR6 mounted
			MUX13	PIR7 (Back)			#0 use Necessary when PIR7 mounted
		TSW #1	MUX10	PIR4 (Back)	MUX11		#1 use Necessary when PIR4 mounted
			MUX11	PIR5 (Back)			#1 use Necessary when PIR5 mounted
			MUX12	PIR6 (Back)			#1 use Necessary when PIR6 mounted
			MUX13	PIR7 (Back)			#1 use Necessary when PIR7 mounted
(2)	Telephony Server (EMA SUB-B card)		IMG1	PIR4	PIRALMA	D15 ST-F CA-C	Necessary when connecting to IMG1

- Connections between TSW-BOX and IMG2

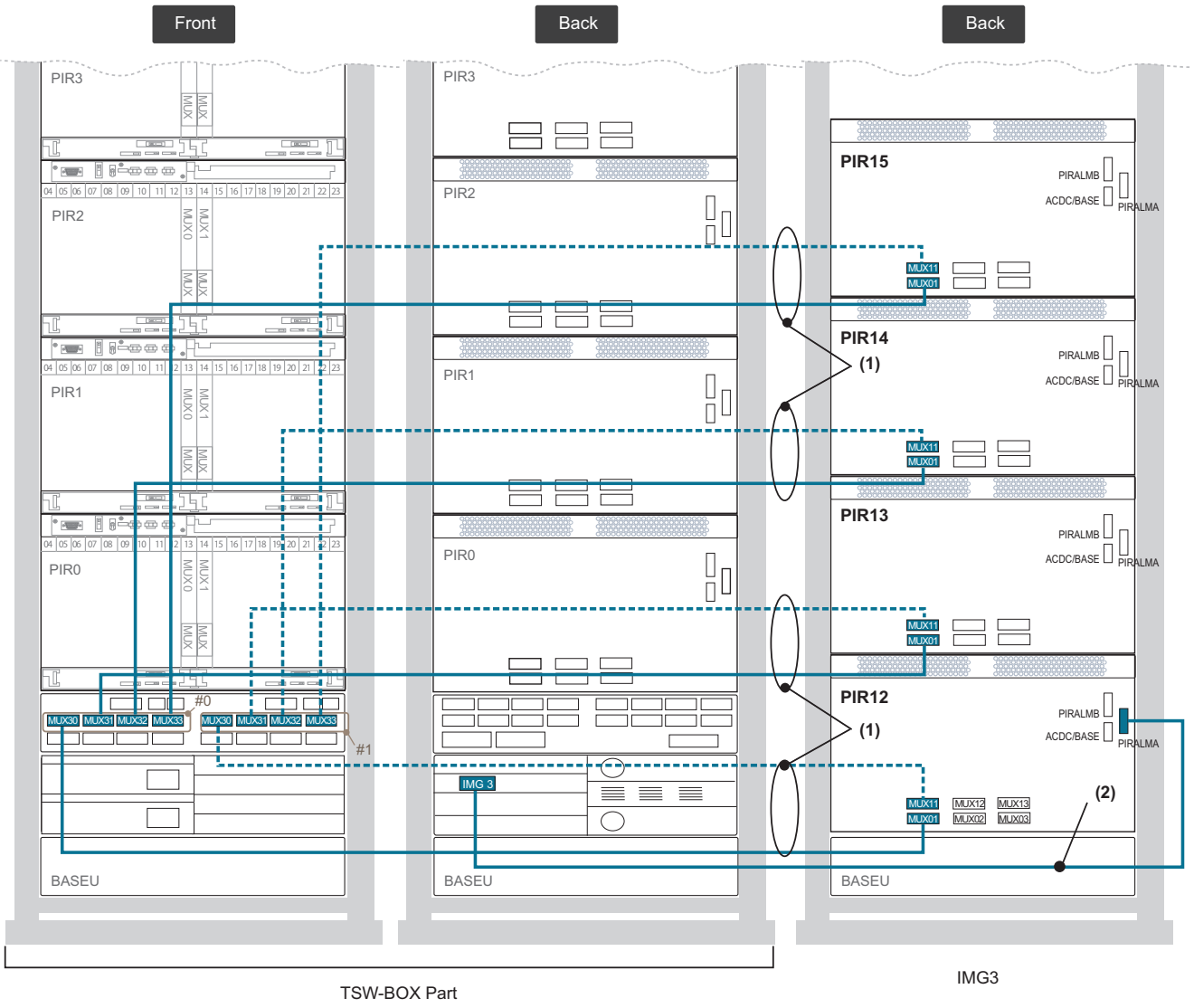


Bus Cable Connections (between TSW-BOX and IMG2)

NO.	FROM			TO		CABLE NAME	REMARKS
	UNIT/MODULE		CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1) Note 2	TSW-BOX (Front)	TSW #0	MUX20	PIR8 (Back)	MUX01	D26-D25 TSW-PIR CA-C	#0 use Necessary when PIR8 mounted
			MUX21	PIR9 (Back)			#0 use Necessary when PIR9 mounted
			MUX22	PIR10 (Back)			#0 use Necessary when PIR10 mounted
			MUX23	PIR11 (Back)			#0 use Necessary when PIR11 mounted
		TSW #1	MUX20	PIR8 (Back)	MUX11		#1 use Necessary when PIR8 mounted
			MUX21	PIR9 (Back)			#1 use Necessary when PIR9 mounted
			MUX22	PIR10 (Back)			#1 use Necessary when PIR10 mounted
			MUX23	PIR11 (Back)			#1 use Necessary when PIR11 mounted
(2)	Telephony Server (EMA SUB-B card)		IMG2	PIR8	PIRALMA	D15 ST-F CA-C	Necessary when connecting to IMG2

Note 2: If the system is not installed on a raised floor, run the BUS cables between the front connectors on TSW-BOX (4-IMG) and the connectors on the back board of PIRs through the free space at the bottom of 19-inch rack.

- Connections between TSW-BOX and IMG3

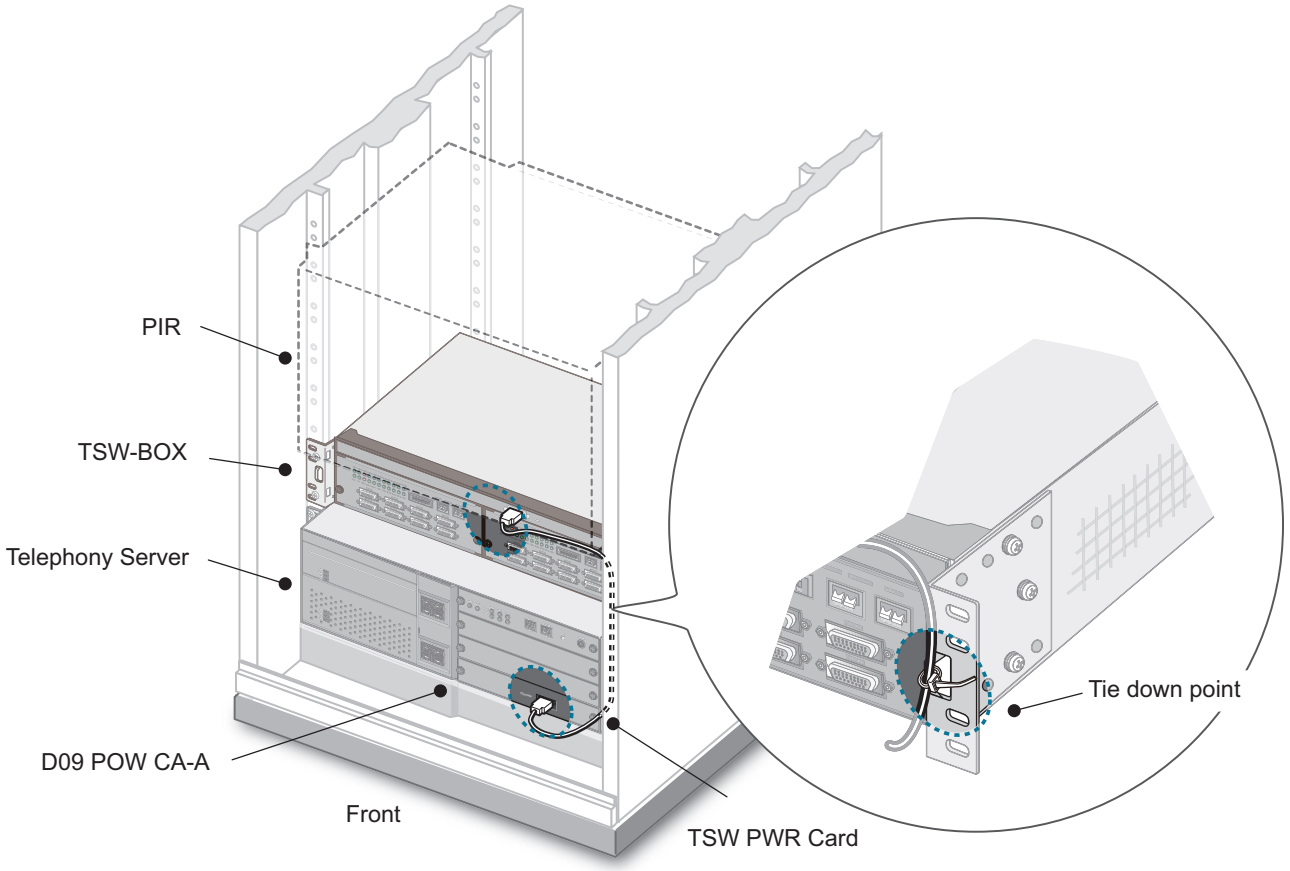


Bus Cable Connections (between TSW-BOX and IMG3)

NO.	FROM			TO		CABLE NAME	REMARKS
	UNIT/MODULE		CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1) Note 3	TSW-BOX (Front)	TSW #0	MUX30	PIR12 (Back)	MUX01	D26-D25 TSW-PIR CA-C	#0 use Necessary when PIR12 mounted
			MUX31	PIR13 (Back)			#0 use Necessary when PIR13 mounted
			MUX32	PIR14 (Back)			#0 use Necessary when PIR14 mounted
			MUX33	PIR15 (Back)			#0 use Necessary when PIR15 mounted
		TSW #1	MUX30	PIR12 (Back)	MUX11		#1 use Necessary when PIR12 mounted
			MUX31	PIR13 (Back)			#1 use Necessary when PIR13 mounted
			MUX32	PIR14 (Back)			#1 use Necessary when PIR14 mounted
			MUX33	PIR15 (Back)			#1 use Necessary when PIR15 mounted
(2)	Telephony Server (EMA SUB-B card)		IMG3	PIR12	PIRALMA	D15 ST-F CA-C	Necessary when connecting to IMG3

Note 3: If the system is not installed on a raised floor, run the BUS cables between the front connectors on TSW-BOX (4-IMG) and the connectors on the back board of PIRs through the free space at the bottom of 19-inch rack.

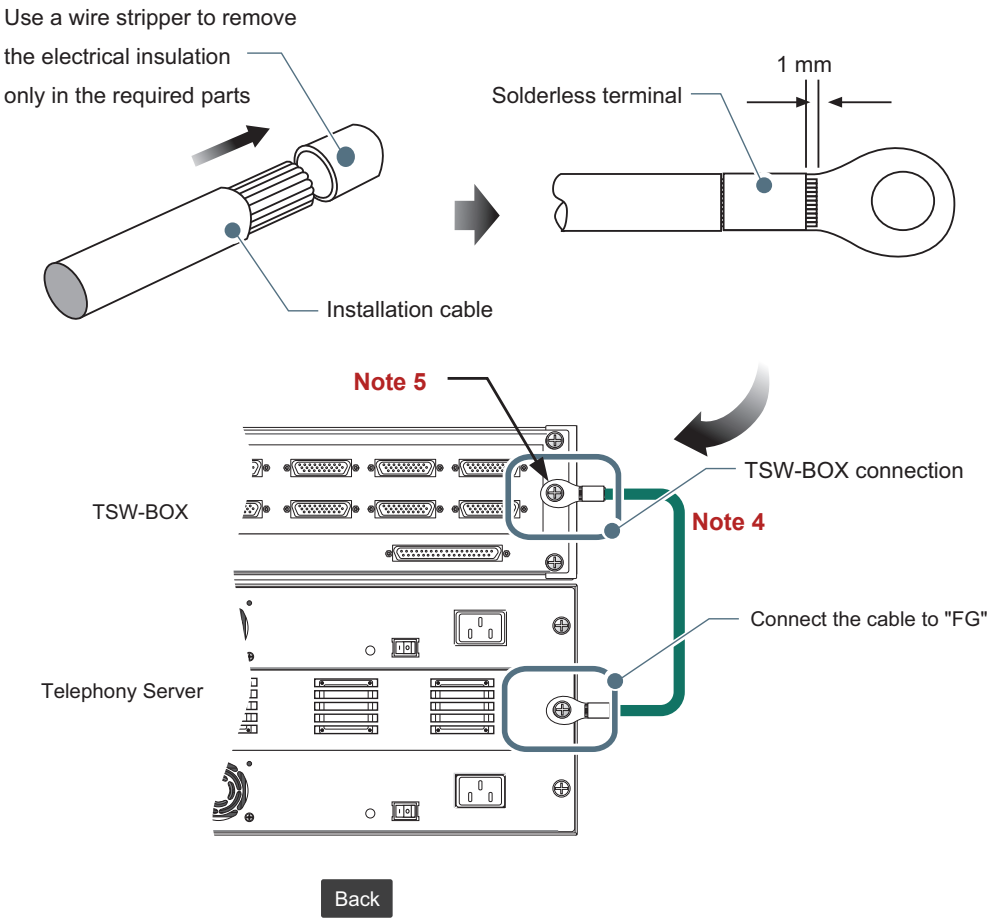
Step3: Connect the external power cable of the TSW-BOX. Power is fed through the TSWPWR card (SCA-M01-A) installed on the Telephony Server.



Note: Secure the cables with a tie wrap to the tie down point on the rack mount bracket of the TSW-BOX so as not to interfere with installation or removal of the cards. In the case of cable cover installation, this work must be carried out when all the cables between TSW-BOXs and PIRs are secured. For details, see Attach Covers in Chapter 9.

FROM		TO		CABLE NAME
UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME	
Telephony Server (TSWPWR card)	TSWPWR	TSW-BOX	PWR	D09 POW CA-A

Step4: Connect FG cable between TSW-BOX and Telephony Server as shown the figure below.

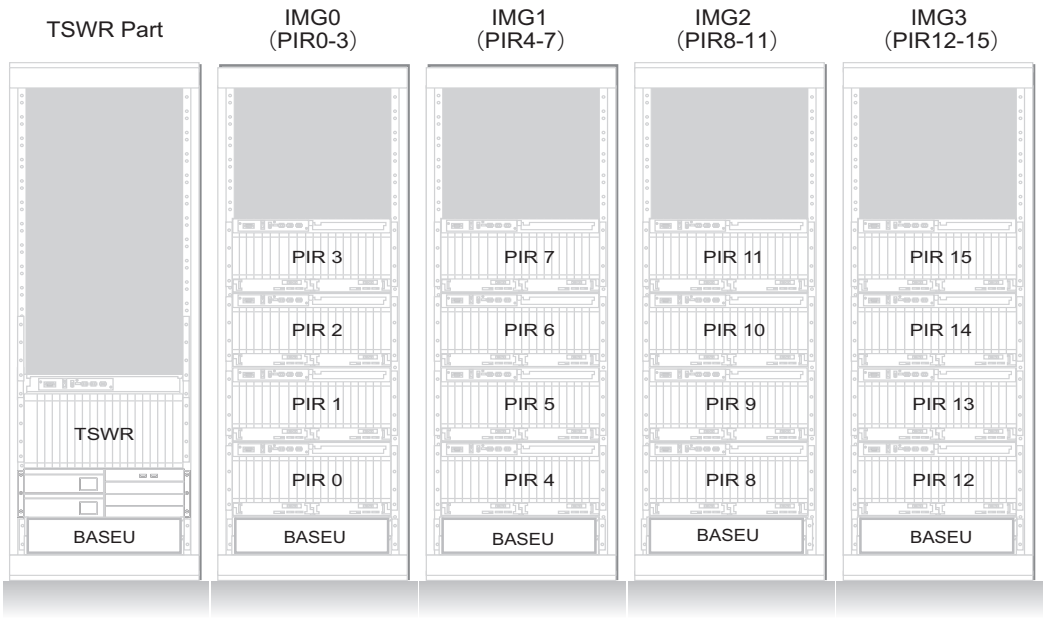


Note 4: Use the following installation cable:
AWG12, Cable length: within 250mm, Solderless terminal: R5.5-4
or
AWG14 or 2sq, Cable length: within 250mm, Solderless terminal: R2-4

Note 5: Use a screw (M4 screw on the earth plate of PIR) not in use.

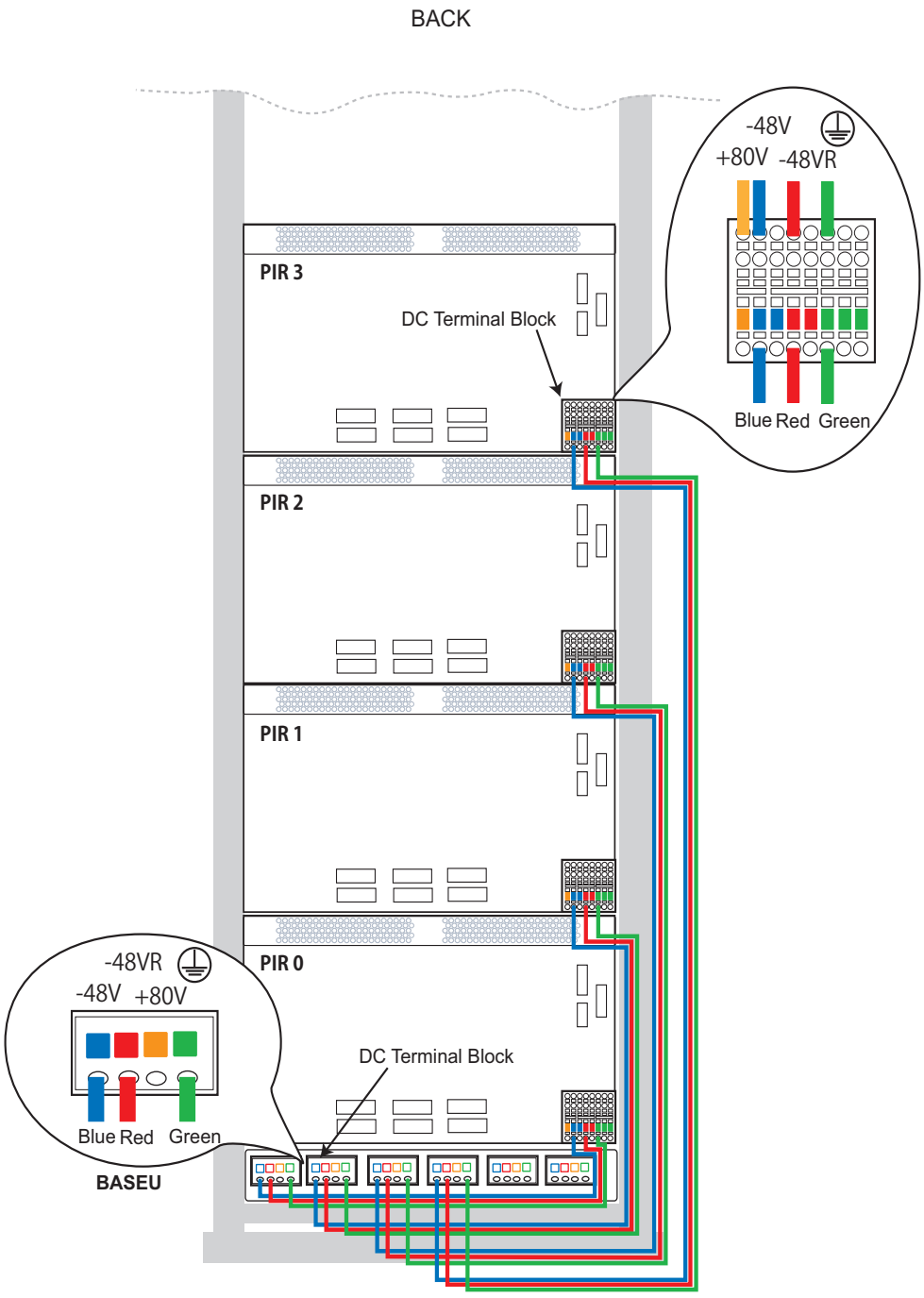
4.3.3.2 When Using TSWR

Connect the cables according to the module configuration.

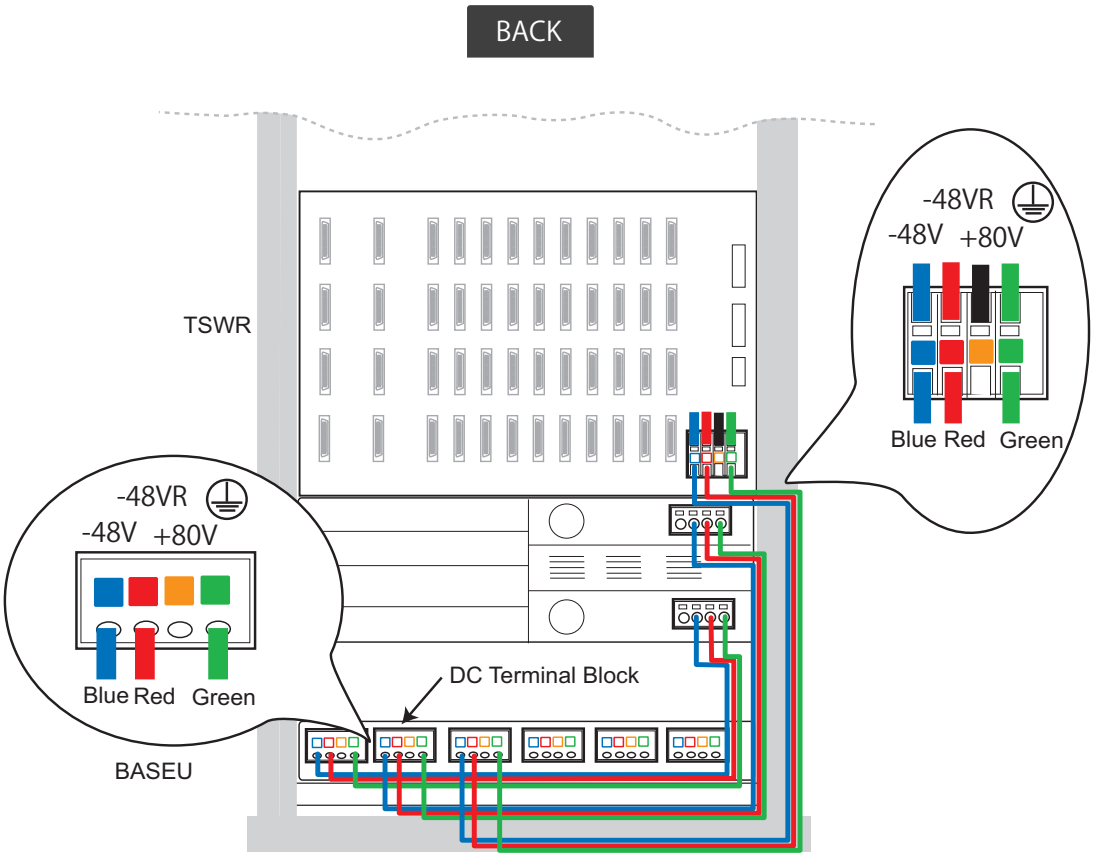


Step1: Connect power, ground, and FG cables (-48V, G, FE) between TSWR/PIR and BASEU.
**See SN1757 BBUB Installation Design in Peripheral Equipment Description (Digital/Analog Devices) for cable connection with BBU to use Message Waiting Lamp.*

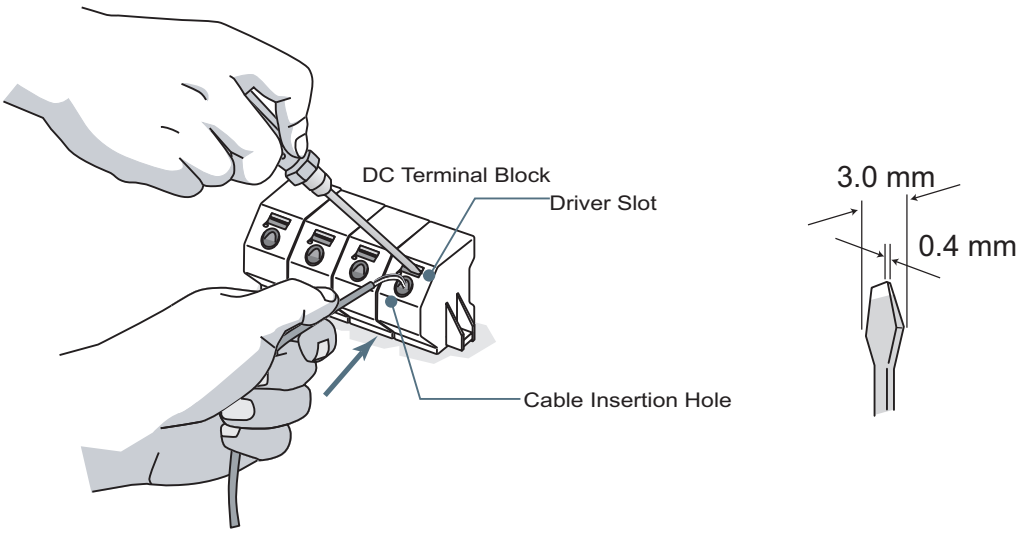
- BASEU - PIRs



- BASEU - TSWR



Use a flat-blade driver to connect power cables (AWG12, 14 or 2sq) to DC terminals.
**Be careful not to touch an electric pole with the metallic part of the driver when connecting the power cable.*

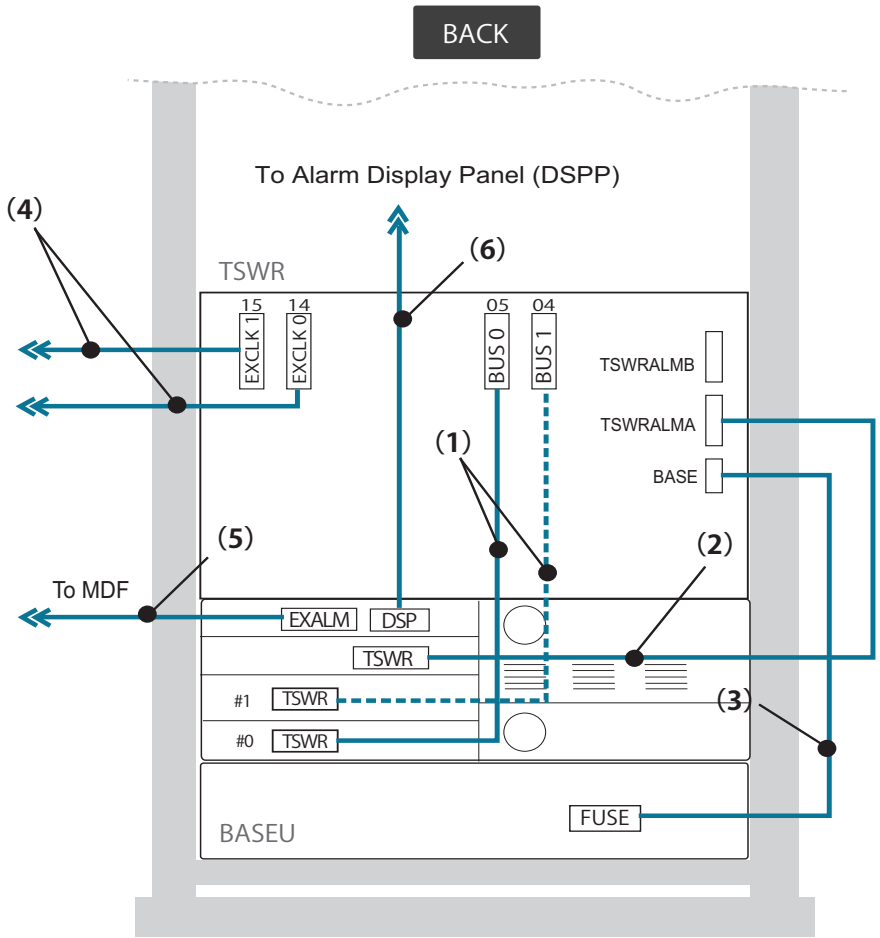


Step2: Connect BUS cables.

Note: The dotted line refers to #1 connections.

- TSWR Part Connections

BUS CABLE CONNECTIONS

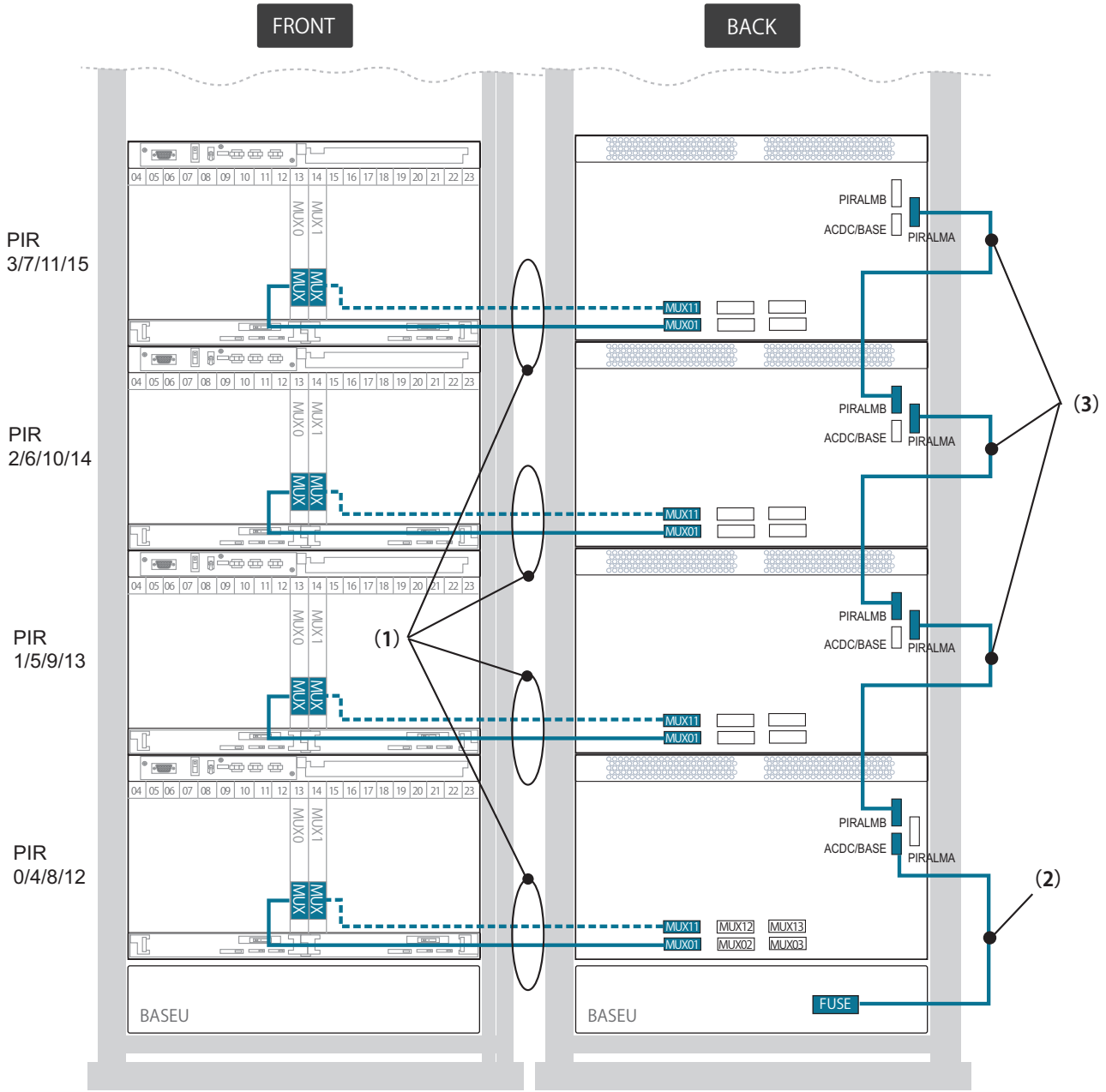


Bus Cable Connections

NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	Telephony Server (EXB-TSWR card #0)	TSWR	TSW-BOX	BUS0 (Slot05)	D37-SC50 CA-B	#0 use
	Telephony Server (EXB-TSWR card #1)	TSWR	TSW-BOX	BUS1 (Slot04)	D37-SC50 CA-B	#1 use
(2)	Telephony Server (EMA SUB-B card) **Note 1**	TSWR	TSWR	TSWRALMA	D15 ST CA(S)-A	
(3)	BASEU	FUSE	TSWR	BASE	D09 ST CA-A	
(4)	TSWR	EXCLK0 (Slot14)	MDF		D37 EXCLK CA-A	Necessary when clock synchronization based on PLO is performed Necessary when Music-On-Hold is used
		EXCLK1 (Slot15)				
(5)	Telephony Server (EMA SUB-A card)	EXALM	MDF		D25 EXALM CA-A	Necessary when External Alarm Indication Panel is used
(6)	Telephony Server (EMA SUB-A card)	DSP	Alarm Display Panel (DSPP)	J1	D15 ST-FF CA-C	Necessary when Alarm Display Panel (DSPP) is used

Note 1: The card can be damaged if it is connected to other connector. Insert the cable after a visual check.

- Common Connections per IMG

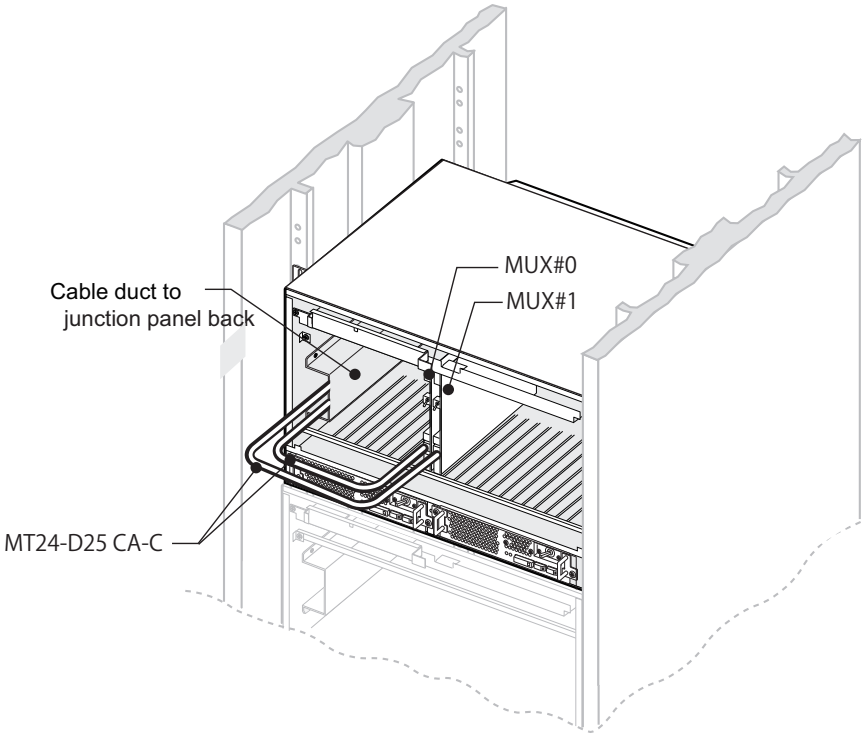


IMG 0/1/2/3

Bus Cable Connections

NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	PIR0/4/8/12 (back)	MUX01	PIR0/4/8/12 (front)	MUX (slot 13 CJ-PC00 front connector)	MT24-D25 CA-C **Note 2**	Needed when connecting to PIR4/8/12 #0 use
	PIR0/4/8/12 (back)	MUX11	PIR0/4/8/12 (front)	MUX (slot 14 CJ-PC00 front connector)		Needed when connecting to PIR4/8/12 #1 use
	PIR1/5/9/13 (back)	MUX01	PIR1/5/9/13 (front)	MUX (slot 13 CJ-PC00 front connector)		Needed when connecting to PIR5/9/13 #0 use
	PIR1/5/9/13 (back)	MUX11	PIR1/5/9/13 (front)	MUX (slot 14 CJ-PC00 front connector)		Needed when connecting to PIR5/9/13 #1 use
	PIR2/6/10/14 (back)	MUX01	PIR2/6/10/14 (front)	MUX (slot 13 CJ-PC00 front connector)		Needed when connecting to PIR6/10/14 #0 use
	PIR2/6/10/14 (back)	MUX11	PIR2/6/10/14 (front)	MUX (slot 14 CJ-PC00 front connector)		Needed when connecting to PIR6/10/14 #1 use
	PIR3/7/11/15 (back)	MUX01	PIR3/7/11/15 (front)	MUX (slot 13 CJ-PC00 front connector)		Needed when connecting to PIR7/11/15 #0 use
	PIR3/7/11/15 (back)	MUX11	PIR3/7/11/15 (front)	MUX (slot 14 CJ-PC00 front connector)		Needed when connecting to PIR7/11/15 #1 use
(2)	BASEU	FUSE	PIR0/4/8/12	ACDC/BASE	D09 ST CA-A	
(3)	PIR0/4/8/12	PIRALMB	PIR1/5/9/13	PIRALMA	D15 ST CA-A	Connect to the proper PIR
	PIR1/5/9/13	PIRALMB	PIR2/6/10/14	PIRALMA		
	PIR2/6/10/14	PIRALMB	PIR3/7/11/15	PIRALMA		

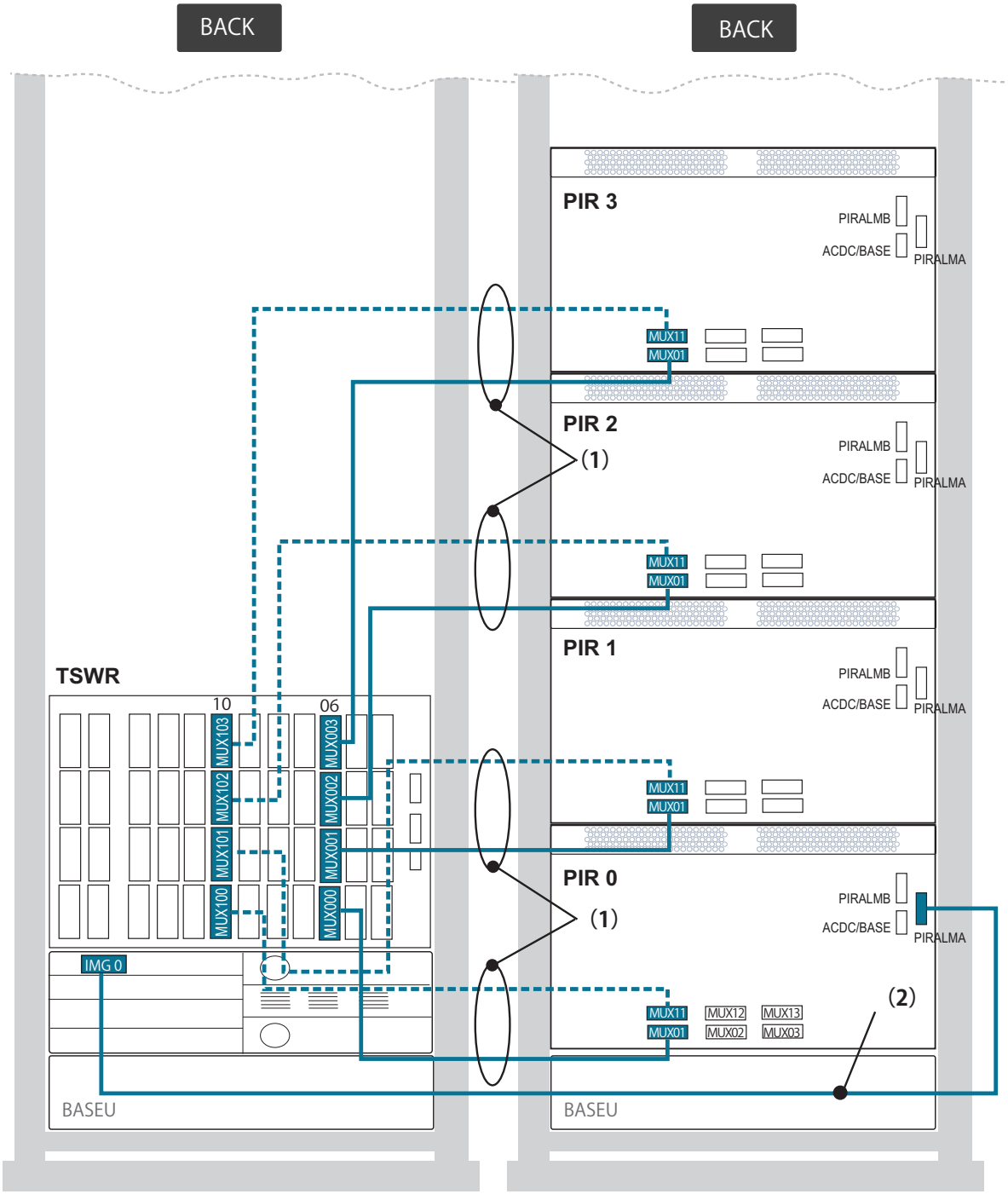
Note 2: Run the cable between the front connectors on TSW/MUX card and the MUX0x/1x connectors on the backboard through the cable duct at the bottom of PIRs to protect the cables.



Note: Refer to 4.4 How to Fix Connectors on PIR for MUX Use BUS Cable for the way to connect the cables to the junction panel on rear PIR.

Note: To avoid obstructions when inserting the cards, fix firmly the cables with a tie-wrap to the tie-down point set up at the lower part of PIR.

- TSWR - IMG0 Connections

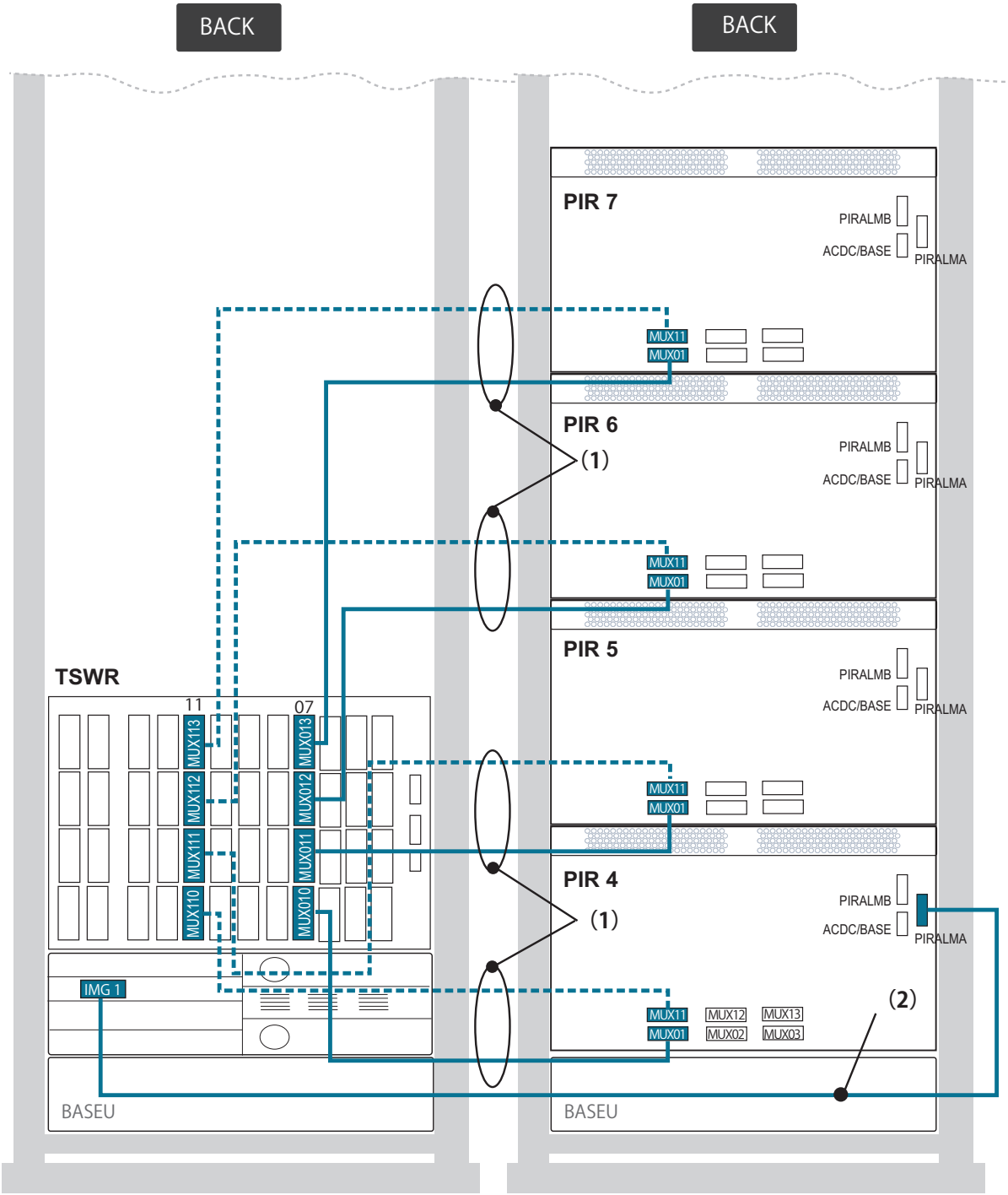


TSWR Part IMG 0

Bus Cable Connections

NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	TSWR	MUX000 (Slot06)	PIR0	MUX01	D37-D25 CA-A	#0 use
	TSWR	MUX100 (Slot10)	PIR0	MUX11		#1 use
	TSWR	MUX001 (Slot06)	PIR1	MUX01		#0 use
	TSWR	MUX101 (Slot10)	PIR1	MUX11		#1 use
	TSWR	MUX002 (Slot06)	PIR2	MUX01		#0 use
	TSWR	MUX102 (Slot10)	PIR2	MUX11		#1 use
	TSWR	MUX003 (Slot06)	PIR3	MUX01		#0 use
	TSWR	MUX103 (Slot10)	PIR3	MUX11		#1 use
(2)	Telephony Server (EMA SUB-A card)	IMG0	PIR0	PIRALMA	D15 ST-F CA-C	

- TSWR - IMG1 Connections

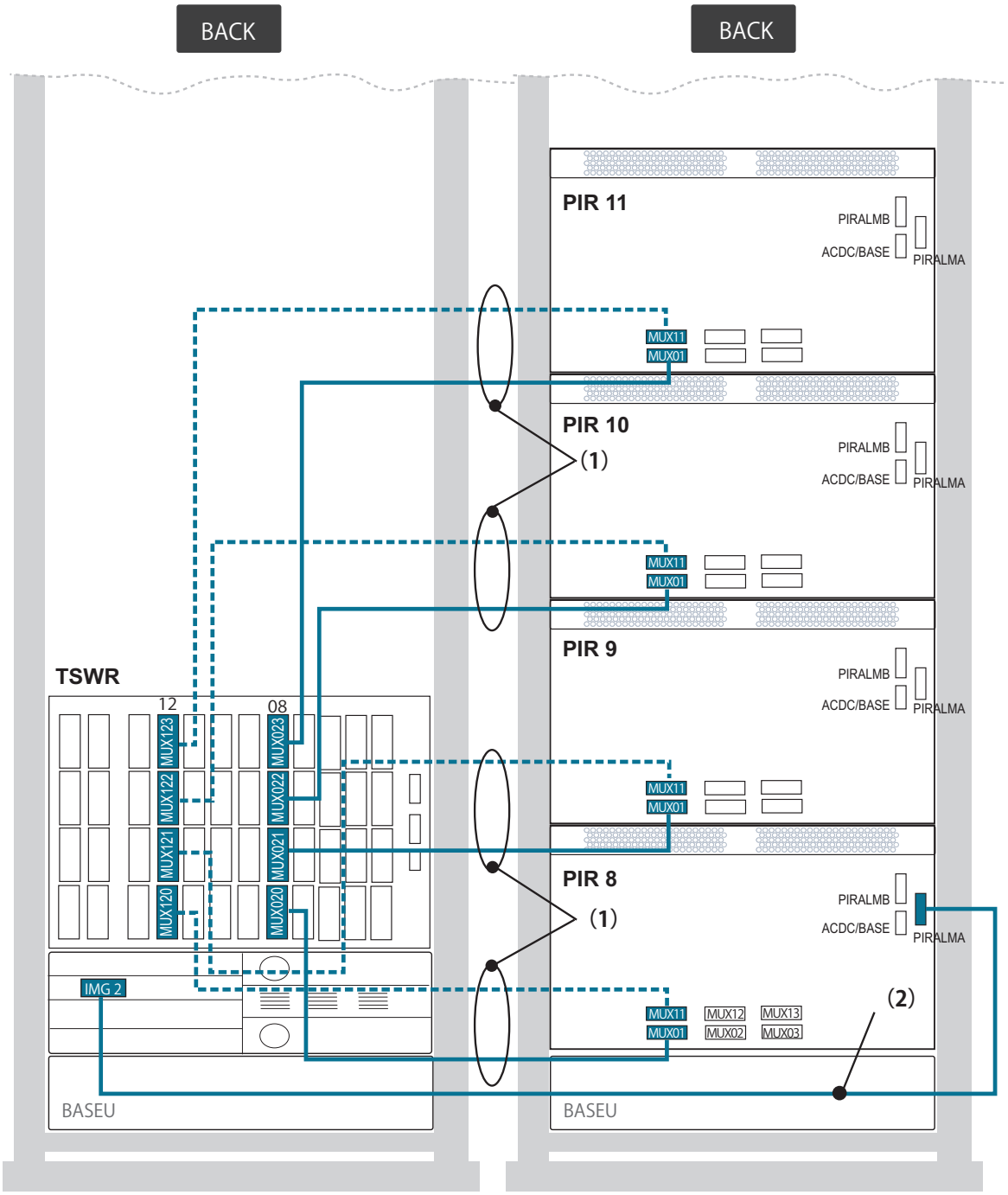


TSWR Part IMG 1

Bus Cable Connections

NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	TSWR	MUX010 (Slot07)	PIR4	MUX01	D37-D25 CA-A	Needed when connecting to PIR4 #0 use
	TSWR	MUX110 (Slot11)	PIR4	MUX11		Needed when connecting to PIR4 #1 use
	TSWR	MUX011 (Slot07)	PIR5	MUX01		Needed when connecting to PIR5 #0 use
	TSWR	MUX111 (Slot11)	PIR5	MUX11		Needed when connecting to PIR5 #1 use
	TSWR	MUX012 (Slot07)	PIR6	MUX01		Needed when connecting to PIR6 #0 use
	TSWR	MUX112 (Slot11)	PIR6	MUX11		Needed when connecting to PIR6 #1 use
	TSWR	MUX013 (Slot07)	PIR7	MUX01		Needed when connecting to PIR7 #0 use
	TSWR	MUX113 (Slot11)	PIR7	MUX11		Needed when connecting to PIR7 #1 use
(2)	Telephony Server (EMA SUB-B card)	IMG1	PIR4	PIRALMA	D15 ST-F CA-C	Needed when connecting to IMG1

- TSWR - IMG2 Connections

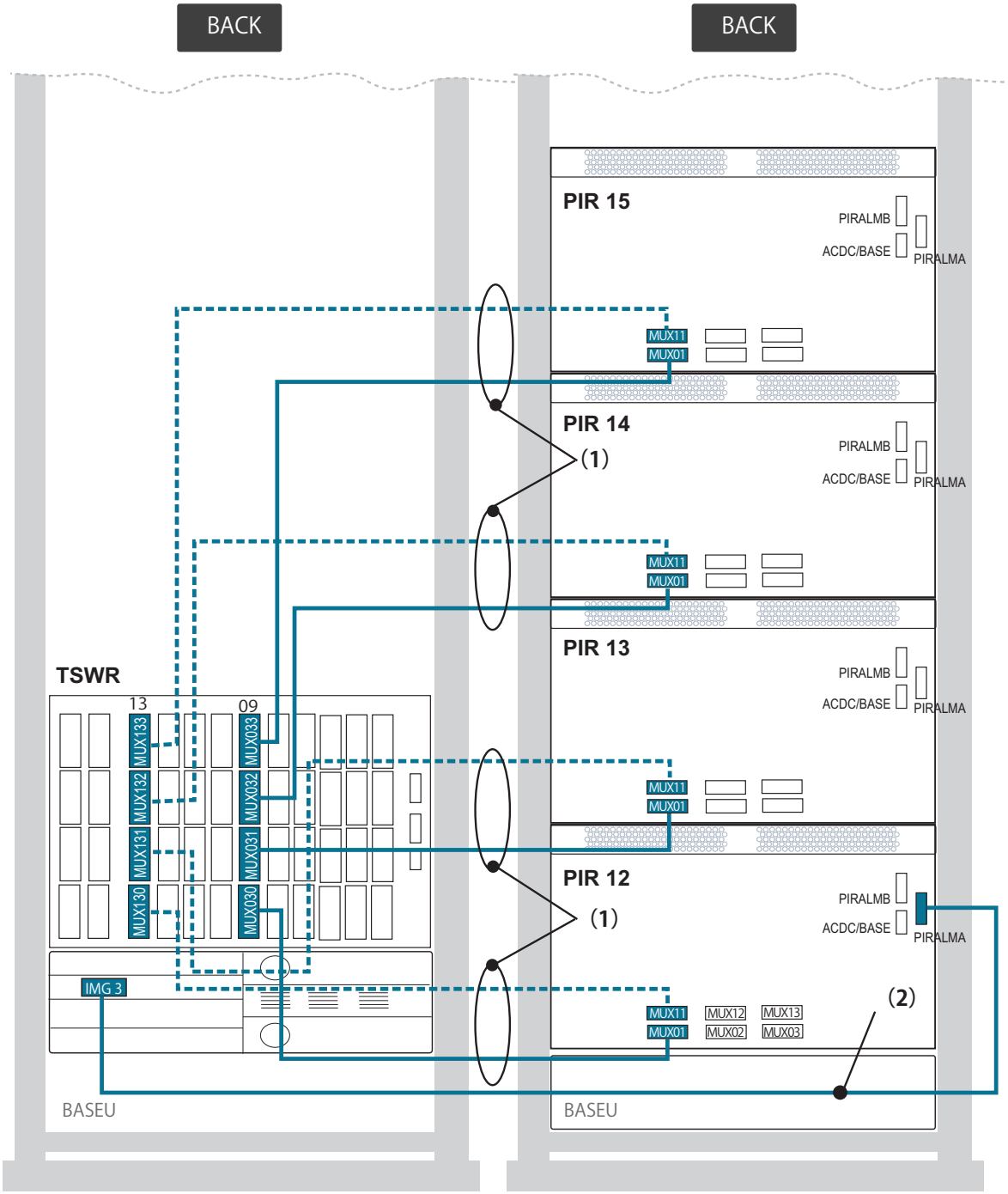


TSWR Part IMG 2

Bus Cable Connections

NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	TSWR	MUX020 (Slot08)	PIR8	MUX01	D37-D25 CA-A	Needed when connecting to PIR8 #0 use
	TSWR	MUX120 (Slot12)	PIR8	MUX11		Needed when connecting to PIR8 #1 use
	TSWR	MUX021 (Slot08)	PIR9	MUX01		Needed when connecting to PIR9 #0 use
	TSWR	MUX121 (Slot12)	PIR9	MUX11		Needed when connecting to PIR9 #1 use
	TSWR	MUX022 (Slot08)	PIR10	MUX01		Needed when connecting to PIR10 #0 use
	TSWR	MUX122 (Slot12)	PIR10	MUX11		Needed when connecting to PIR10 #1 use
	TSWR	MUX023 (Slot08)	PIR11	MUX01		Needed when connecting to PIR11 #0 use
	TSWR	MUX123 (Slot12)	PIR11	MUX11		Needed when connecting to PIR11 #1 use
(2)	Telephony Server (EMA SUB-B card)	IMG2	PIR8	PIRALMA	D15 ST-F CA-C	Needed when connecting to IMG2

- TSWR - IMG3 Connections



TSWR Part IMG 3

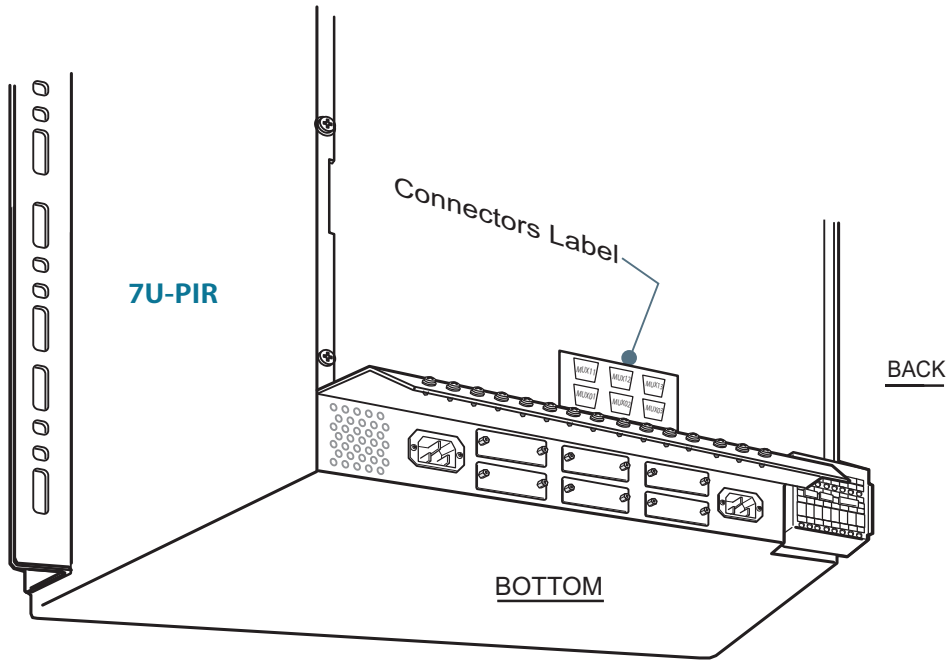
Bus Cable Connections

NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	TSWR	MUX030 (Slot09)	PIR12	MUX01	D37-D25 CA-A	Needed when connecting to PIR12 #0 use
	TSWR	MUX130 (Slot13)	PIR12	MUX11		Needed when connecting to PIR12 #1 use
	TSWR	MUX031 (Slot09)	PIR13	MUX01		Needed when connecting to PIR13 #0 use
	TSWR	MUX131 (Slot13)	PIR13	MUX11		Needed when connecting to PIR13 #1 use
	TSWR	MUX032 (Slot09)	PIR14	MUX01		Needed when connecting to PIR14 #0 use
	TSWR	MUX132 (Slot13)	PIR14	MUX11		Needed when connecting to PIR14 #1 use
	TSWR	MUX033 (Slot09)	PIR15	MUX01		Needed when connecting to PIR15 #0 use
	TSWR	MUX133 (Slot13)	PIR15	MUX11		Needed when connecting to PIR15 #1 use
(2)	Telephony Server (EMA SUB-B card)	IMG3	PIR12	PIRALMA	D15 ST-F CA-C	Needed when connecting to IMG3

4.4 How to Fix Connectors on PIR for MUX Use BUS Cable

4.4.1 Connectors Label

See the indicating label for the connectors position on the rear bottom of PIR.



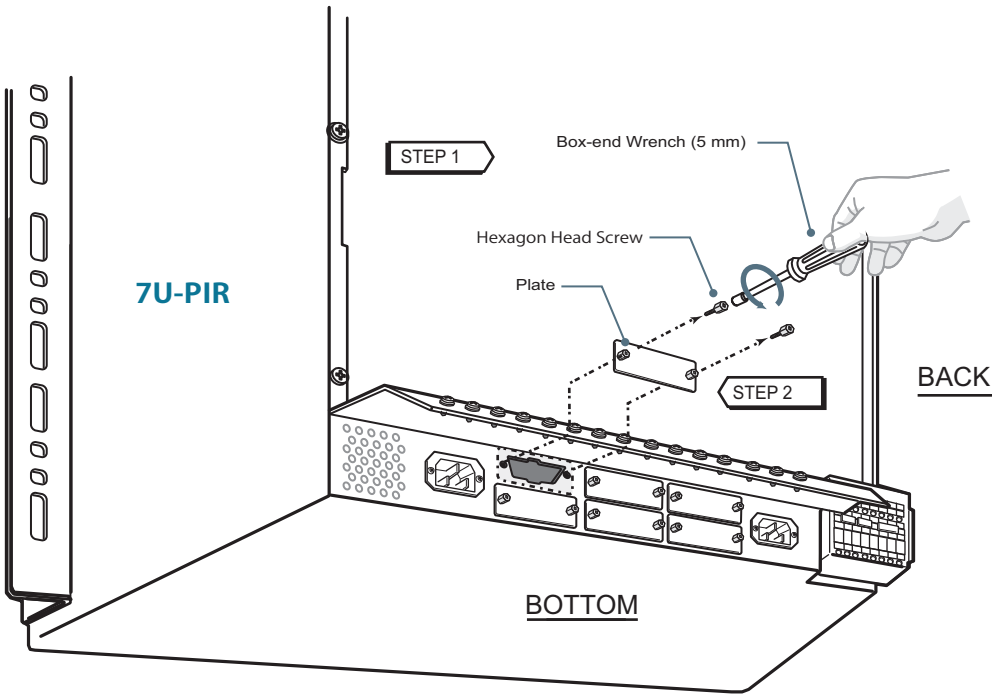
4.4.2 How to Fix BUS Connectors

We will explain the procedure to fix the connector that is used with the MUX11 cable. For other connectors follow the same procedure.

Note: Perform this cable connection before mounting the module on 19-inch rack, preventing from damaging the equipment by falling screws.

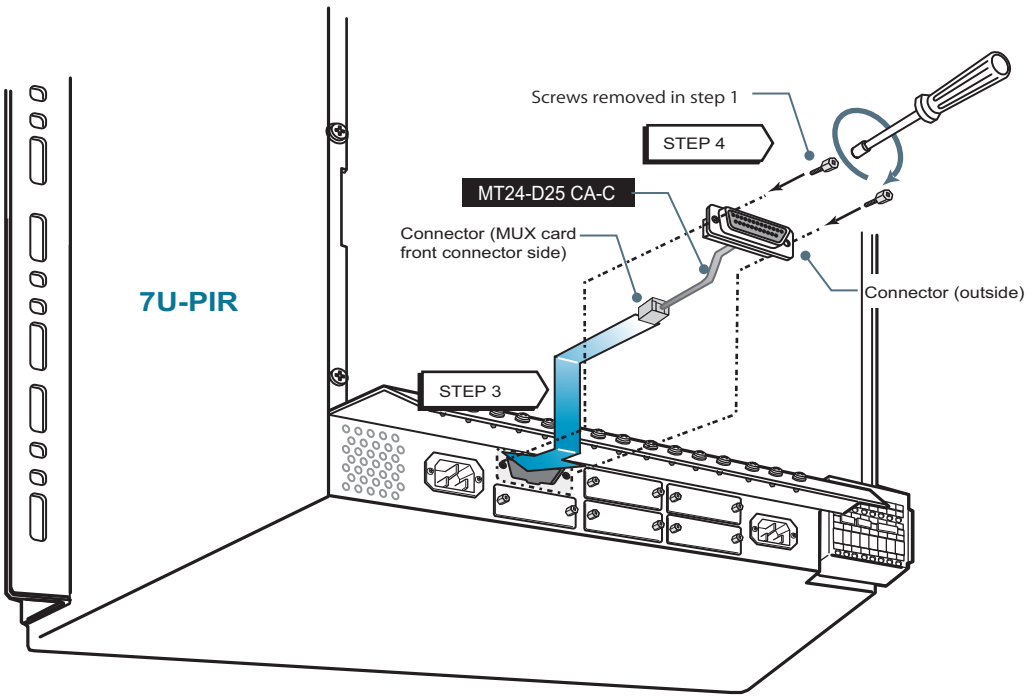
Step1: Remove the BUS connector' plate attached on the rear bottom of PIR.

Step2: Keep the unfastened hexagon head screws, which are used later in STEP 4.



Step3: Plug the MT24-D25 CA-C connector (MUX card front connector side) to the MUX card connector.

Step4: Fasten the outside connector with the hexagon head screws removed in step 1.



Step5: Install other connectors in the same way.

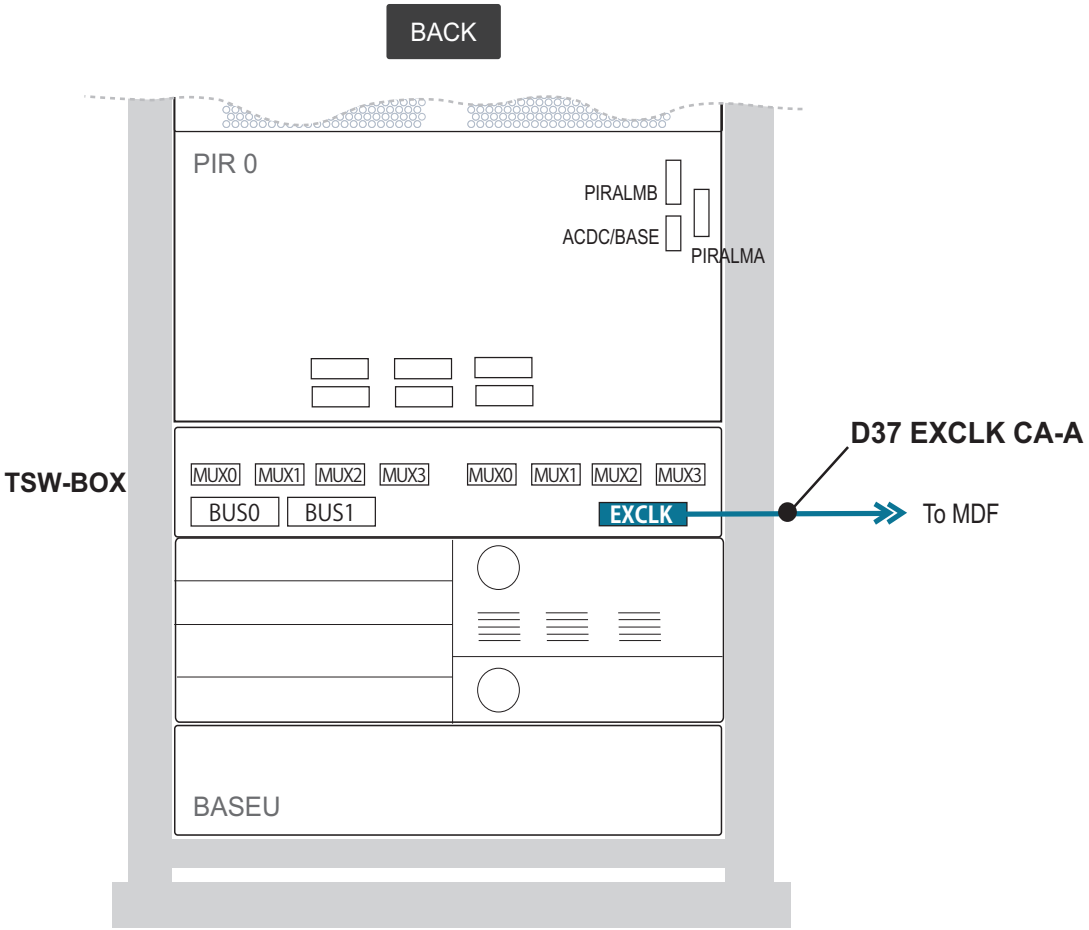
4.5 Clock Interface



Connect cables according to the PIR configuration.

4.5.1 PLO Connection for System with TSW-BOX (1-IMG/4-IMG)

PLO line uses the EXCLK connector at the back of TSW-BOX. The figure below show the PLO connection for the 1-IMG System as an example.

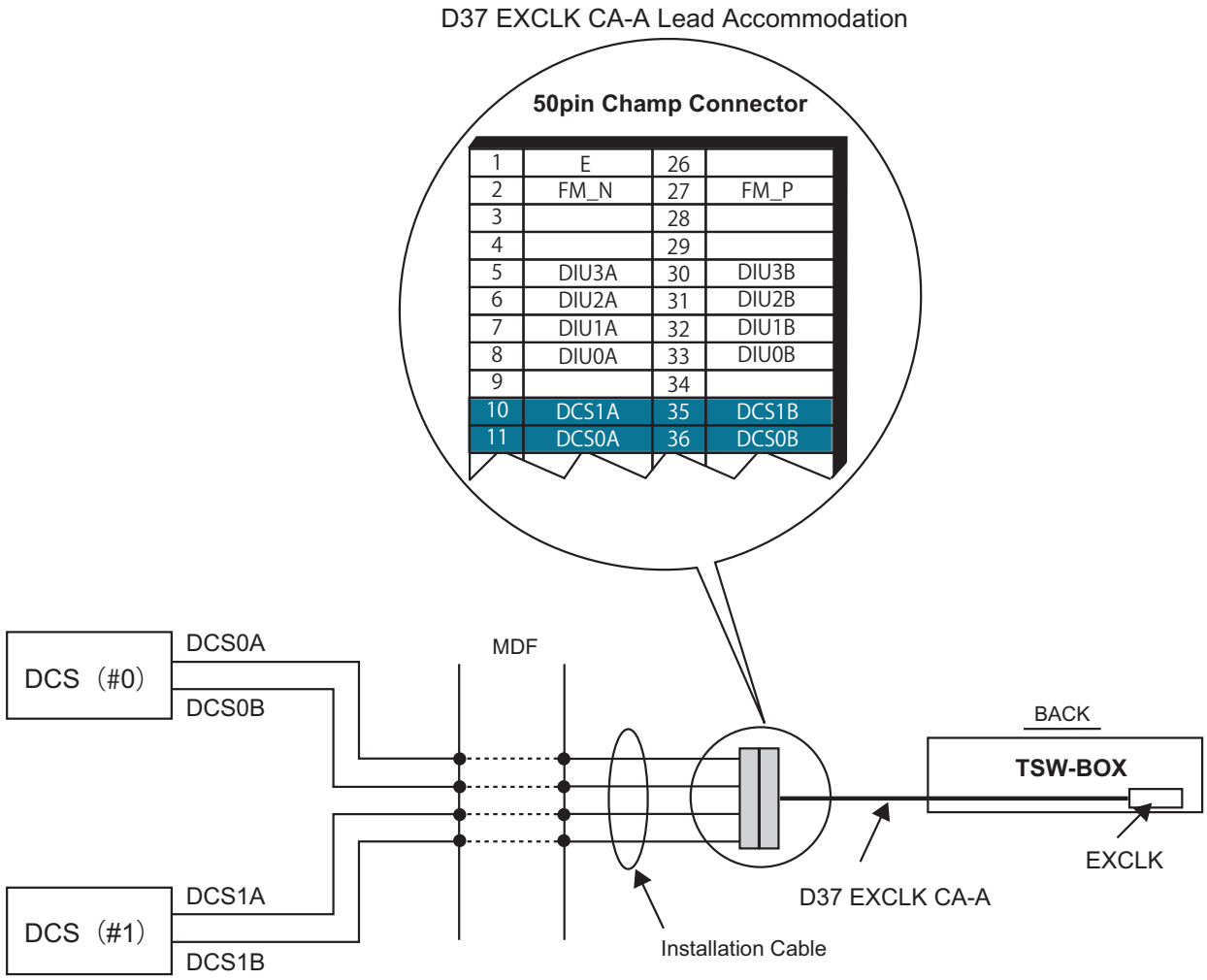


The PLO function part inside of the TSW-BOX behaves as a slave node. A system clock synchronized to a clock supplied by DCS (Digital Clock Supply) or DTI (Digital Trunk Interface) is formed.

- DCS Interface

  The DCS device and TSW-BOX connections are represented in the figure below. To correspond to a dual DCS device, TSW-BOX can make a 2 systems input from DCS.

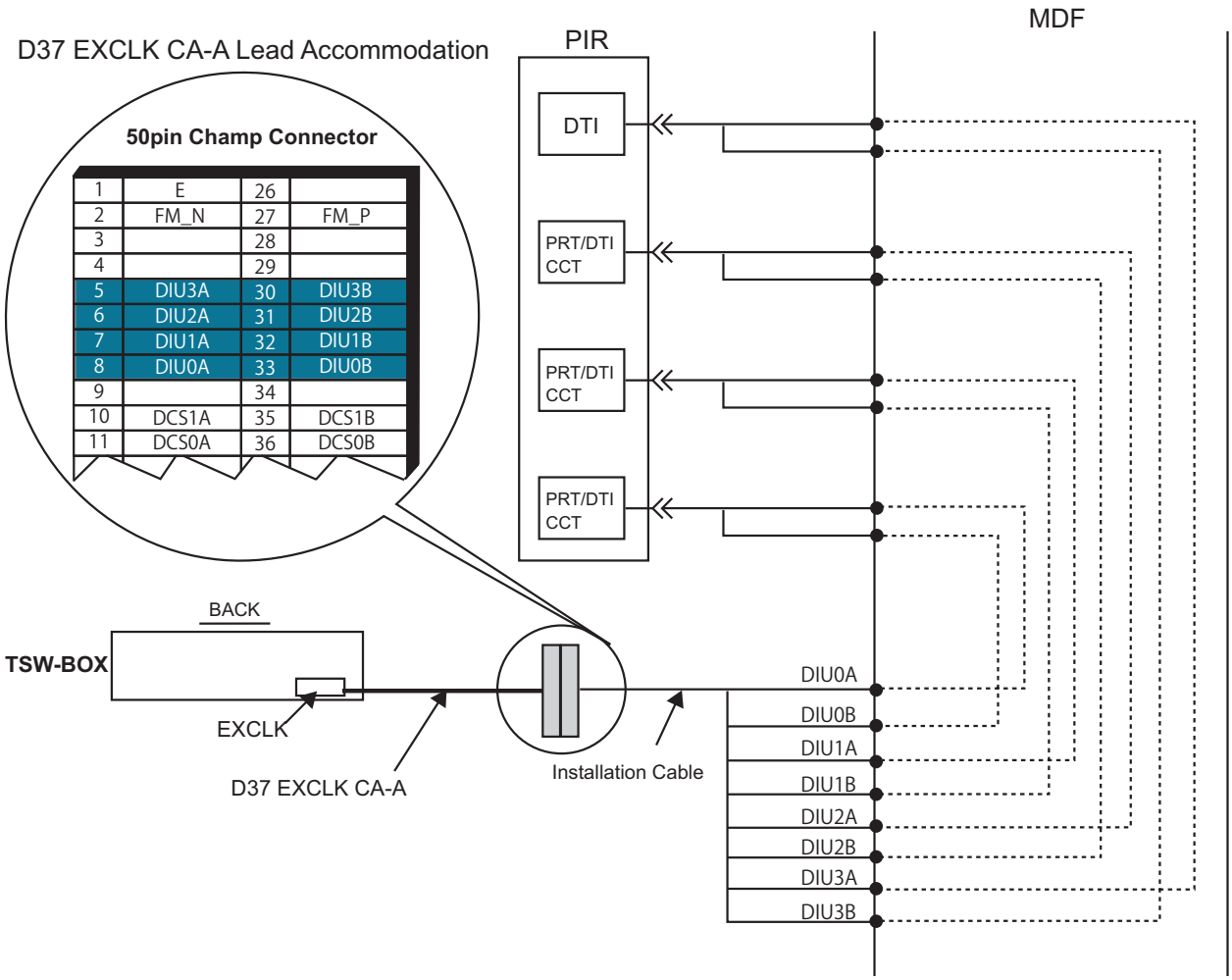
DCS Interface



- DTI interface

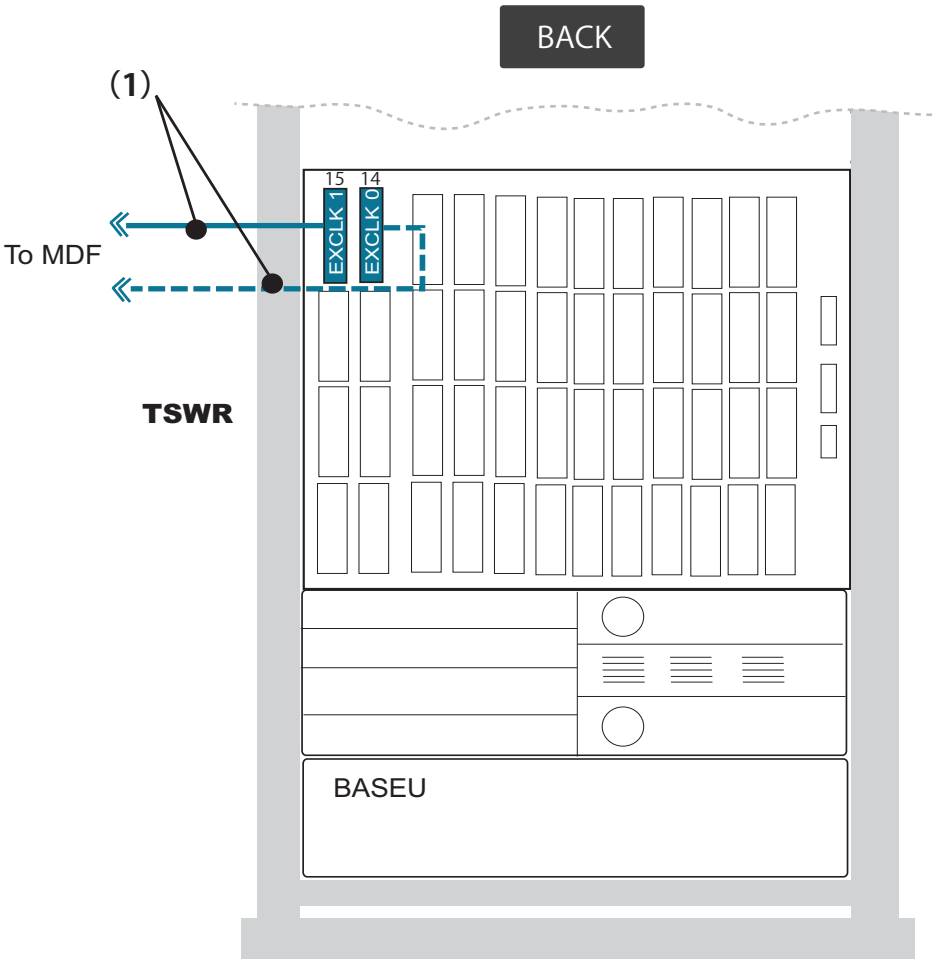
  DTI clock signal connections are represented in the figure below. Since the signal is distributed based on an internal TSW-BOX multi dropped connection, TSW-BOX can correspond to a dual TSW system.

DTI Interface



4.5.2 PLO Connection for System with TSWR (4-IMG)

PLO line uses the EXCLK0/1 connector of TSWR. For PLO connector lead accommodation figure, refer to PH-CK20 in Chapter 5 of Circuit Card Description.



TSWR Part

(1) Cable name: D37 EXCLK CA-A

4.6 External Music-On-Hold Cable Connection



This section explains the cable connections to use external Music-On-Hold feature. Announce machine/BMG or DAT card are used as sources of external Music-On-Hold.

[TSW-BOX/PLO Card Interface Conditions]

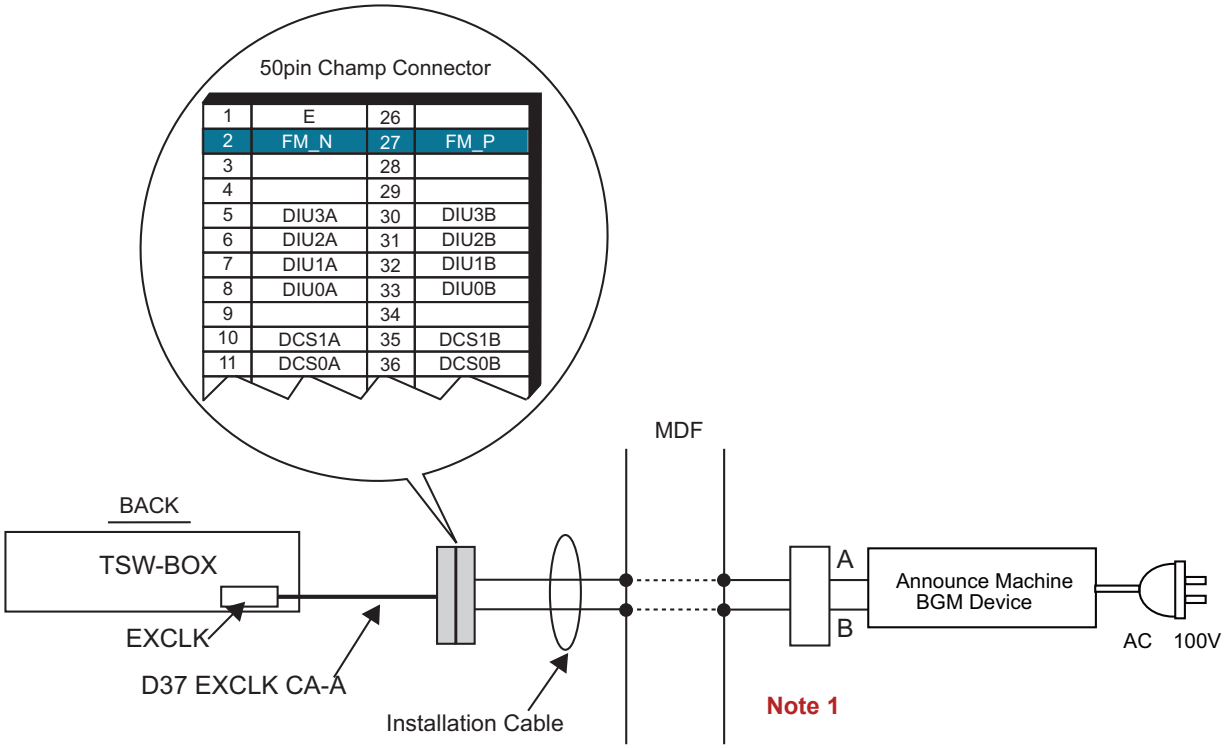
- Impedance: 8.2 Ω, 600 Ω, 47k Ω
- Input Power no more than 1/2W
- The device is in constant use state, there is no need to start or stop it.

[1] In case Announce Machine/BGM is used as source of external Music-On-Hold.

(a) TSW-BOX is used (1-IMG/4-IMG type)

EXCLK connector on TSW-BOX backboard is used for getting the sound source of an external Music-On-Hold.

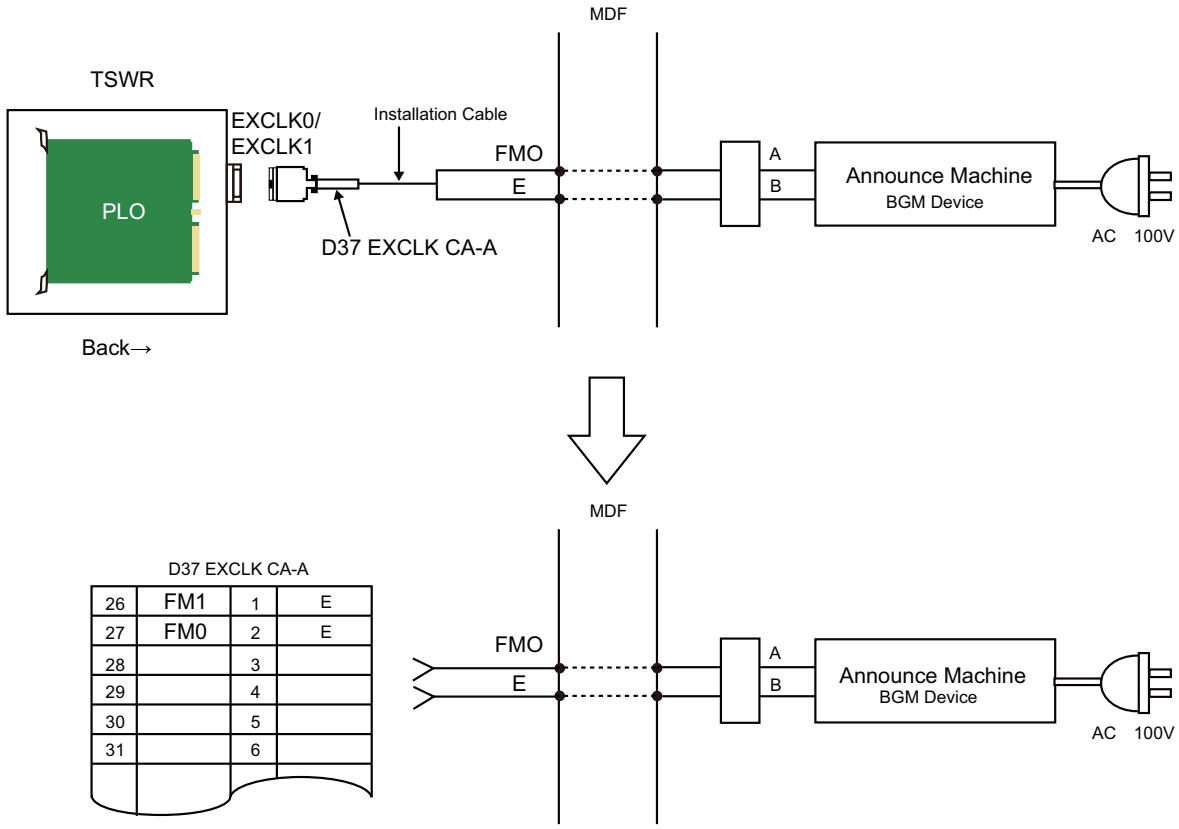
External Music-On-Hold figure (1-IMG model)



Note 1: Impedance matching requires a distributor and an amplifier in relation to levels.

(b) PH-CK20 (PLO) card accommodated in TSWR is used (4-IMG)

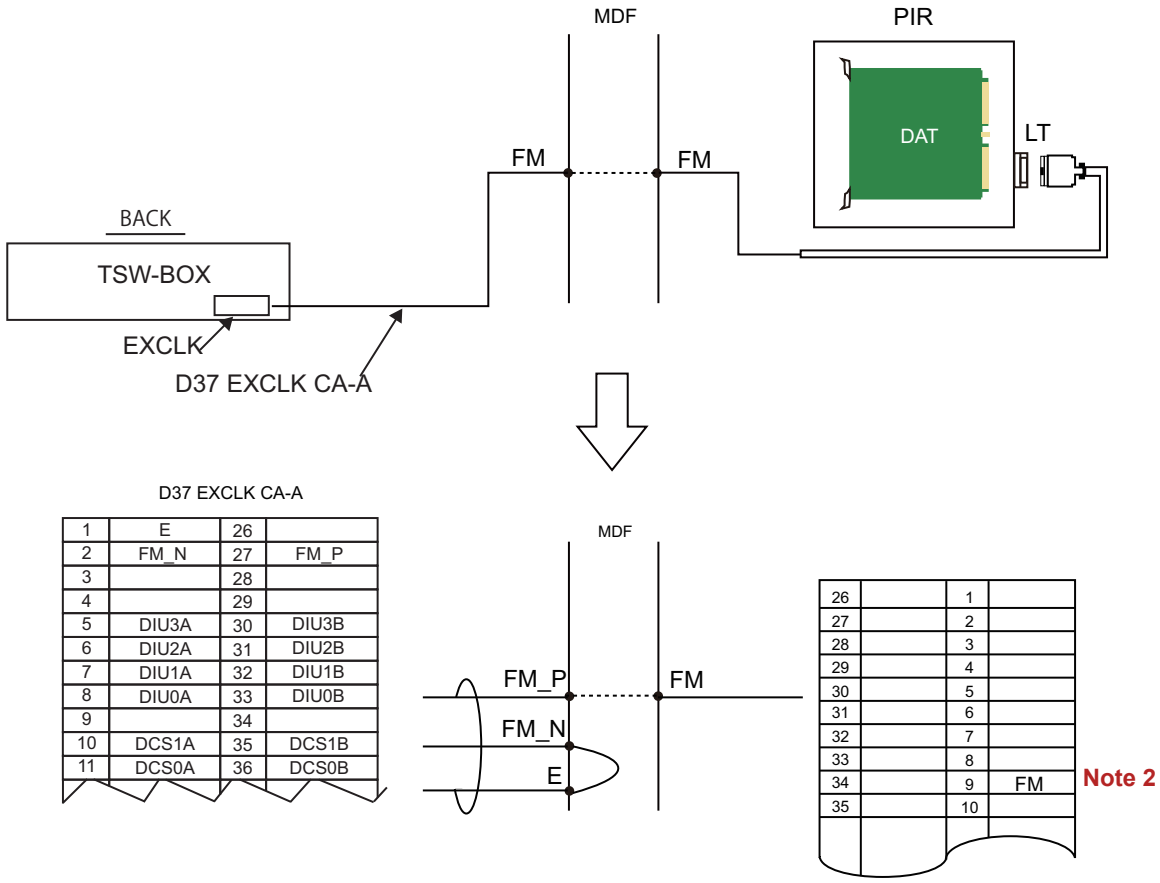
EXCLK0/1 connector on the TSWR is used for getting the sound source of external Music-On-Hold.



[2] In case DAT is used as source of external Music-On-Hold.

(a) TSW-BOX is used (1-IMG/4-IMG)

EXCLK connector on TSW-BOX backboard is used for getting the sound source of an external Music-On-Hold.



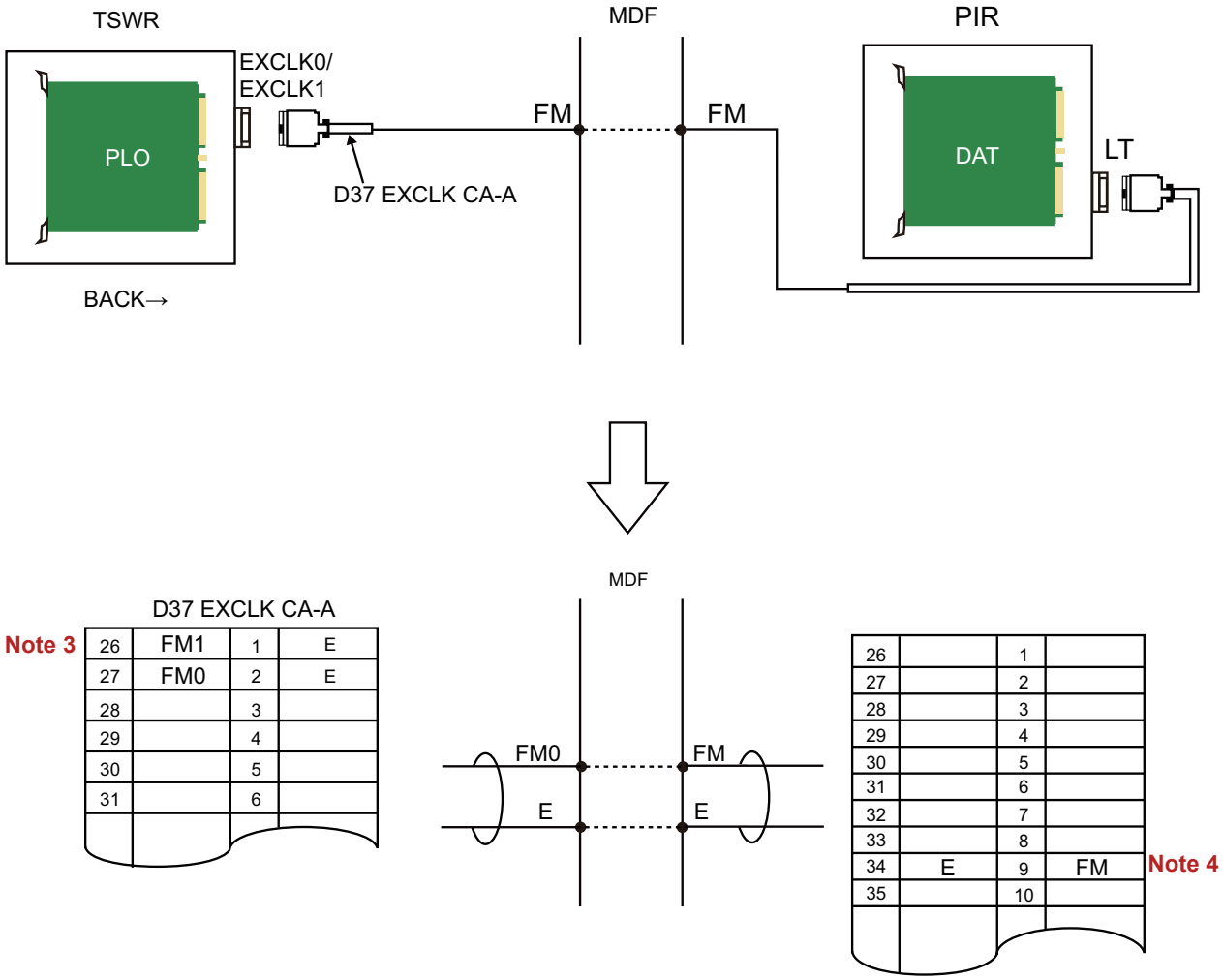
1	E	26	
2	FM_N	27	FM_P
3		28	
4		29	
5	DIU3A	30	DIU3B
6	DIU2A	31	DIU2B
7	DIU1A	32	DIU1B
8	DIU0A	33	DIU0B
9		34	
10	DCS1A	35	DCS1B
11	DCS0A	36	DCS0B

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	FM
35		10	

Note 2: FM lead accommodation may vary according to DAT card accommodation position. Refer to Circuit Card Description for a detailed explanation in each card.

(b) PH-CK20 (PLO) card accommodated in TSWR is used (4-IMG)

EXCLK0/1 connector on the TSWR is used for getting the sound source of external Music-On-Hold.



Note 3: FM1 is not used.

Note 4: FM lead accommodation may vary according to DAT card accommodation position. Refer to Circuit Card Description for a detailed explanation in each card.

CHAPTER 5
MODULES MOUNTING AND CONNECTION (7U-PIR AND 8U-PIR MIXED CONFIGURATION)

This chapter explains how to install each module in a system built up combining 7U-PIR and 8U-PIR. For a description of a system that only uses 7U-PIR, refer to CHAPTER 4 MODULES MOUNTING AND CONNECTION (7U-PIR CONFIGURATION).

Note: This installation process is done after completing the steps described in CHAPTER 2 INSTALLATION DESIGN and CHAPTER 3 SV9500 SERVER INSTALLATION - ASSEMBLING SV9500 SERVER MODULE.

1. Preparation

1.1 Equipment Location Check

(1) Environmental Requirements

- Operational Temperature Range: 0°C to 40°C (32°F to 104°F)
- Operational Humidity Range: 20% to 90% (non-condensing)
- Main Source Power:

  7U-PIR: 100 VAC / 120 VAC / 230 VAC / 240 VAC (50/60 Hz) ±10%, -48 VDC ±10%

  8U-PIR: -48 VDC ±10%

(2) Floor Conditions

Do not place SV9500 system under any of the conditions listed below, doing so can cause operational trouble, failure, or electrical shock.

- On unstable floor, unsettled and sideling board
- Locations which might be wet with water, oil, and chemicals
- Dusty environment
- Locations exposed to direct sunlight
- Locations which receive strong electric waves from other equipment
- Any heavy equipment is loaded on the rack
- Locations with poor heat dissipation or poor ventilation
- Locations with vibration

(3) Floor Space

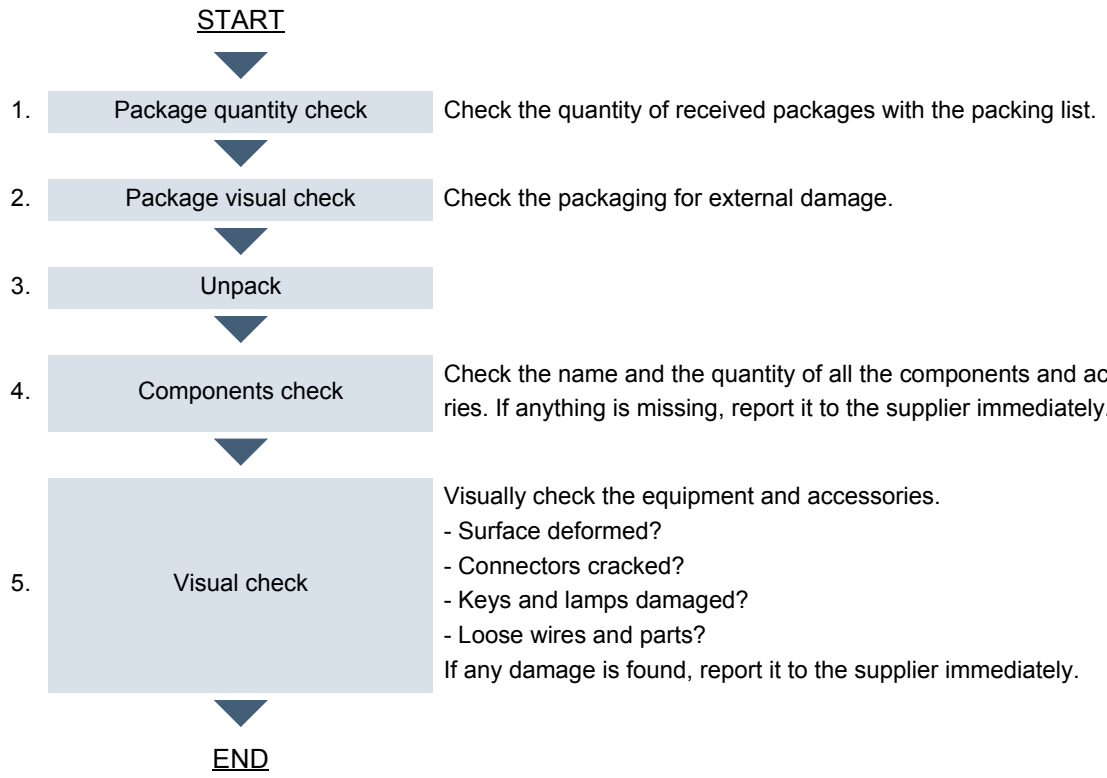
Floor space for the system equipment, such as maintenance console (PCPro), Main Distribution Frame (MDF), and the rectifier is required in addition to the main rack mounting area.

1.2 Unpacking

[Before unpacking]

- Confirm the grounding.
  - Be sure to connect the 3M® Model 8012 Portable Field Service Kit to grounding.
  - Do not unpack the packages when grounding is not available.
- Make sure to use the service kit when unpacking the package of circuit card.
- During unpacking, handle the equipment carefully not to be shocked and damaged.

[Unpacking procedure]



Make sure all the following components and accessories listed per each model below are prepared.

1.2.1 Components and Accessories of AC-Powered Model

Note: The AC-powered model is only available in 1-IMG Configuration; this model does not support 4-IMG Configuration except for North America.

- Modules:

Module Name	Quantity	REMARKS
7U-PIR	As required	Maximum 4 PIRs
8U-PIR (1U AC-DC Power Unit included)	As required	Maximum 4 PIRs
7U-PIR AC-DC Power Unit	1/7U-PIR	In case of dual power unit configuration 2/7U-PIR
TSW-BOX	1	
FANU	1/8U-PIR	Fan unit
Ferrite Core	1/1U AC-DC Power Unit	In case of dual power unit configuration 2/1U AC-DC Power Unit

- PIR/TSW-BOX mounted control cards:

CIRCUIT CARD NAME	Quantity	REMARKS
TSW (SPZ-SW25-A)	1	Time Division Switching (accommodated in TSW-BOX) 2 for dual TSW configuration
MUX (CJ-PC00)	1/7U-PIR	7U-PIR mounted card that provides interface between TSW and line/trunk 2/7U-PIR for dual configuration
MUX (PH-PC36)	1/8U-PIR	8U-PIR mounted card that provides interface between TSW and line/trunk 2/8U-PIR for dual configuration
DC-DC PWR #0 (PA-PW55-C)	1/8U-PIR	DC-DC power card for 8U-PIR use
DC-DC PWR #1 (PA-PW54-C)	1/8U-PIR	Required for dual DC-DC power for 8U-PIR use

- Cables:

CABLE NAME		Quantity	REMARKS
BUS cable between the Telephony Server and TSW-BOX	D37-SC50 CA-E	1	2 for dual configuration
Cable between MDF and TSW-BOX	D37 EXCLK CA-A	1	PLO Cable
BUS cable between TSW-BOX and PIR	D26-D25 TSW-PIR CA-A/B	1/PIR	2 for TSW dual configuration/PIR
Internal PIR cable	MT24-D25 CA-C	1/PIR	2 for TSW dual configuration/PIR
	3P PWR CA-A 3P PWR CA-B	1/PIR(8U-PIR)	PIR internal PWR cable
BUS cable between PIRs	D15 ST CA-A/B	1/PIR	ALM cable
BUS cable between the Telephony Server and 0PIR	D15 ST-F CA-A	1/PIR	ALM cable
Power cable between the Telephony Server and TSW-BOX	D09 POW CA-A	1	1 even for TSW dual configuration
Bus cable between 8U-PIR and 1U AC-DC Power Unit	PWR ALM CA-B	1/8U-PIR	PWR ALM cable
Installation cable (shielded LT cable)		Max. 12/PIR	Required for station/trunk connection from PIR LT connector to MDF

1.2.2 Components and Accessories of DC-Powered Model (1-IMG)

- Modules:

Module Name	Quantity	REMARKS
7U-PIR	As required	Maximum 4 PIRs
8U-PIR	As required	Maximum 4 PIRs
7U-PIR DC-DC Power Unit	1/7U-PIR	In case of dual power unit configuration 2/7U-PIR
TSW-BOX	1	
FANU	1/Lowest 8U-PIR in the rack	1 even if there is only 1 8U-PIR in the rack
BASEU	1/Rack	

- PIR/TSW-BOX mounted control cards:

CIRCUIT CARD NAME	Quantity	REMARKS
TSW (SPZ-SW25-A)	1	Time Division Switching (accommodated in TSW-BOX) 2 for dual TSW configuration
MUX (CJ-PC00)	1/7U-PIR	Interface between 7U-PIR mounted TSW and line/trunk card 2/PIR for dual configuration
MUX (PH-PC36)	1/8U-PIR	Interface between 8U-PIR mounted TSW and line/trunk card 2/8U-PIR for dual configuration
DC-DC PWR #0 (PA-PW55-C)	1/8U-PIR	DC-DC power card for 8U-PIR use
DC-DC PWR #1 (PA-PW54-C)	1/8U-PIR	Required for dual DC-DC power for 8U-PIR use

- Cables:

CABLE NAME		Quantity	REMARKS
BUS cable between the Telephony Server and the TSW-BOX	D37-SC50 CA-E	1	2 for dual configuration
Cable between MDF and TSW-BOX	D37 EXCLK CA-A	1	PLO Cable
BUS cable between TSW-BOX and PIR	D26-D25 TSW-PIR CA-A/B	1/PIR	2 for TSW dual configuration
Internal PIR cable	MT24-D25 CA-C	1/PIR	2 for TSW dual configuration/PIR
	3P PWR CA-A 3P PWR CA-B	1/8U-PIR	PIR internal PWR cable
BUS cable between PIRs	D15 ST CA-A/B	1/PIR	ALM cable

CABLE NAME		Quantity	REMARKS
BUS cable between the Telephony Server and 0PIR	D15 ST-F CA-A	1/PIR	ALM cable
Power cable between the Telephony Server and TSW-BOX	D09 POW CA-A	1	1 even for TSW dual configuration
Installation cable (shielded LT cable)		Max. 12/PIR	Required for station/trunk connection from PIR LT connector to MDF

1.2.3 Components and Accessories of DC-Powered Model (4-IMG)

1.2.3.1 When Using TSW-BOX

- Modules:

Module Name	Quantity	REMARKS
7U-PIR	As required	Maximum 16 PIRs
8U-PIR	As required	Maximum 16 PIRs
7U-PIR DC-DC Power Unit	1/7U-PIR	In case of dual power unit configuration 2/7U-PIR
TSW-BOX	1/System	
FANU	1/Lowest 8U-PIR in the rack	1/Lowest 8U-PIR in each rack 1 even if there is only 1 8U-PIR in the rack
BASEU	1/Rack	

- PIR/TSW-BOX mounted control cards:

CIRCUIT CARD NAME	Quantity	REMARKS
MUX (CJ-PC00)	1/7U-PIR	Interface between 7U-PIR TSW and line/trunk card 2/PIR for dual-TSW configuration
MUX (PH-PC36)	1/8U-PIR	Interface between 8U-PIR mounted TSW and line/trunk card 2 for dual-TSW configuration
TSW (SPZ-SW26-A)	1	Time Division Switching (accommodated in TSW-BOX) 2 for dual TSW configuration

- Cables:

CABLE NAME		Quantity	REMARKS
BUS cable between the Telephony Server and the TSW-BOX	D37-SC50 CA-E	1	2 for dual configuration

CABLE NAME		Quantity	REMARKS
Cable between MDF and TSW-BOX	D37 EXCLK CA-A	1	PLO cable 2 cables for dual clock configuration
BUS cable between TSW-BOX and PIR	D26-D25 TSW-PIR CA-C	1/PIR	TSW cable 2/PIR for dual-TSW configuration
Internal PIR cable	MT24-D25 CA-C	1/PIR	2/PIR for dual-TSW configuration
	3P PWR CA-A 3P PWR CA-B	1/8U-PIR	PIR internal PWR cable
BUS cable between two PIRs	D15 ST CA-A	1/PIR	ALM cable
BUS cable between the Telephony Server and PIR	D15 ST-F CA-C	1/IMG	ALM cable
Power cable between the Telephony Server and TSW-BOX	D09 POW CA-A	1	1 even for TSW dual configuration
Installation cable (shielded LT cable)		Max. 12/PIR	Required for station/trunk connection from PIR LT connector to MDF

- If any component is lacking, contact NEC maintenance personnel immediately.
- Prepare a Phillips screwdriver, a flat-blade screwdriver, and a box-end wrench (5 mm) for installation.

1.2.4 When Using TSWR

- Modules:

Module Name	Quantity	REMARKS
7U-PIR	As many as required	Maximum 16 PIRs
8U- PIR	As many as required	Maximum 16 PIRs
7U-PIR DC-DC Power Unit	1/7U-PIR	In case of dual power unit configuration 2/7U-PIR
TSWR	1/System	
FANU	1/Lowest 8U-PIR in the rack	1/Lowest 8U-PIR in each rack 1 even if there is only 1 8U-PIR in the rack
BASEU	1/Rack	

- PIR/TSWR mounted control cards:

CIRCUIT CARD NAME	Quantity	REMARKS
MUX (CJ-PC00)	1/7U-PIR	Interface between 7U-PIR TSW and line/trunk card 2/PIR for dual-TSW configuration
DC-DC PWR (PH-PW14)	1	TSWR PWR card

CIRCUIT CARD NAME	Quantity	REMARKS
MUX (PH-PC36)	1/8U-PIR	Interface between 8U-PIR mounted TSW and line/ trunk card 2 for dual-TSW configuration
TSW (PH-SW12)	1	Time Division Switching on TSWR 2/IMG for dual-TSW configuration (max. 8)
GT (PH-GT09)	1	Interface card between the Telephony Server and TSWR 2 for dual-TSW configuration
DLCK (PH-PC20/PH-PC20-B)	1	Information recollection during Attendant Console conversation 2 for dual-TSW configuration
PLO (PH-CK20)	1	System PLO 2 for dual-TSW configuration

- Cables:

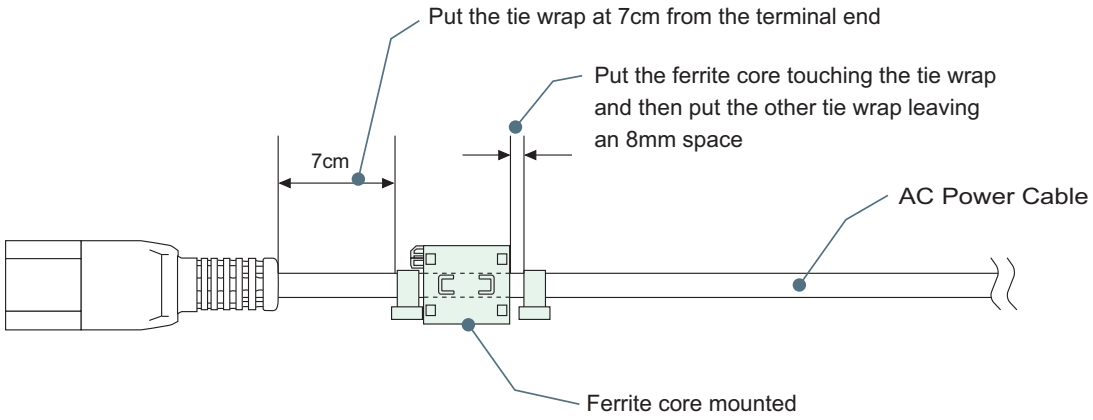
CABLE NAME		Quantity	REMARKS
BUS cable between the Telephony Server and TSWR	D37-SC50 CA-B	1	2 for Telephony Server dual configuration
Cable between MDF and TSWR	D37 EXCLK CA-A	1	PLO Cable 2 cables for dual clock configuration
Internal PIR cable	MT24-D25 CA-C	1/PIR	2/PIR for dual-TSW configuration
	3P PWR CA-A 3P PWR CA-B	1/8U-PIR	PIR internal PWR cable
BUS cable between TSWR and PIR	D37-D25 CA-A	1/PIR	TSW cable 2/PIR for dual-TSW configuration
BUS cable between PIRs	D15 ST CA-A	1/PIR	ALM cable
Power cable between the Telephony Server and TSWR	D15 ST CA(S)-A	1	ALM cable
BUS cable between the Telephony Server and PIR	D15 ST-F CA-C	1/IMG	ALM cable
Installation cable (shielded LT cable)		Max. 12/PIR	Required for station/trunk connection from PIR LT connector to MDF

- If any component is lacking, contact NEC maintenance personnel immediately.
- Prepare a Phillips screwdriver, a flat-blade screwdriver, and a box-end wrench (5 mm) for installation.

1.3 Ferrite Core Installation to AC Cable

AC power cable for 7U-PIR and 1U AC-DC Power Unit needs a ferrite core, please install it before connect the cable to each device. Regarding the AC power cable for 7U-PIR use, install the ferrite core included in SN1769 PWRMAD. As for the other AC power cables, install a ferrite core separately arranged. The figure below gives the measures for installation using an AC power cable for 7U-PIR as example.

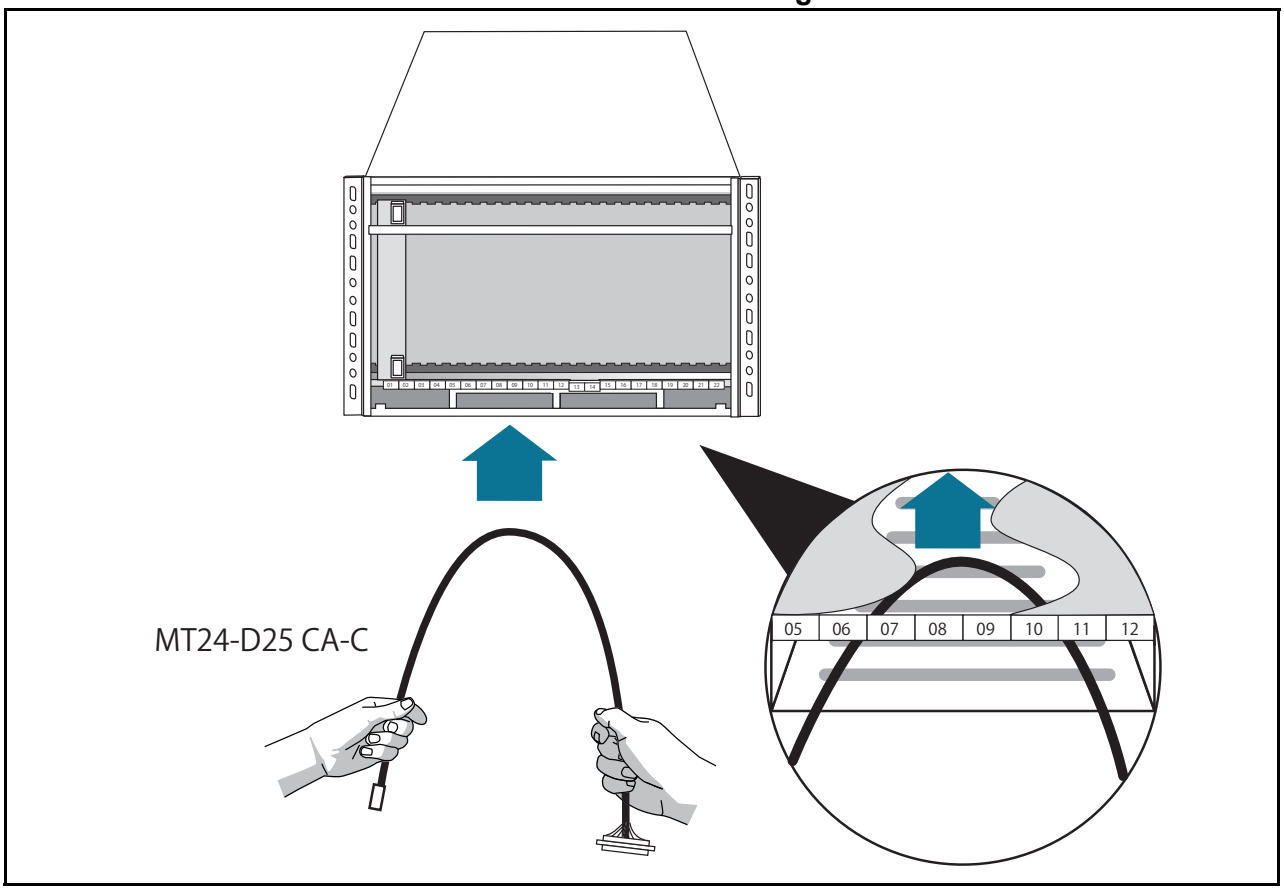
Ferrite Core Installation Position



2. Precautions in Running Cables through 8U-PIR

When you run a cable through the lower portion of 8U-PIR, a connector of the cable may get caught on a grid of 8U-PIR. To run the cable smoothly, incurvate the cable as indicated in the figure below (for the example an MT24-D25 CA-C cable is used).

How to Run Cables through PIR



3. Mounting MDF

For MDF installation refer to 2. Mounting MDF in CHAPTER 4 MODULES MOUNTING AND CONNECTION (7U-PIR CONFIGURATION).

4. Installing Modules

How to install modules and card mounting procedures are explained in this section.

4.1 Module Mounting (AC-Powered Model)

Regarding the AC type, PIR installation is performed as follows.

PIR Installation (AC Type)

START

1	Checking PIR Position	⇒Check the position of 7U-PIR, the TSW-BOX, the 1U AC-DC Power Unit (for 8U-PIR) and 8U-PIR on the 19-inch rack.
2	Mounting the Fan Unit	⇒Mount the fan unit on 8U-PIR.
3	Attach Brackets for Rack Use on the 1U AC-DC Power (for 8U-PIR) Unit	⇒Attach the brackets for rack use on the 1U AC-DC Power Unit of 8U-PIR.
4	Mounting on the 19-inch Rack	⇒Mount 7U-PIR, the TSW-BOX, AC-DC Power Unit and 8U-PIR on the 19-inch rack.
5	Mounting the Power Unit	⇒Mount 7U-PIR AC Power Unit on the power unit slot of 7U-PIR.
6	Mounting the Cards	⇒Mount cards to 7U-PIR/8U-PIR.

END

Note: The AC-powered model is only available in 1-IMG configuration; this model does not support 4-IMG Configuration except for North America.

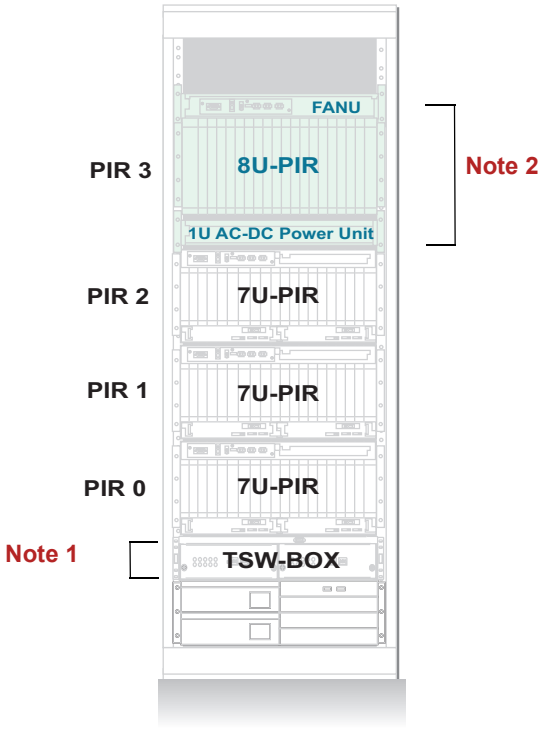
4.1.1 Checking PIR Position

Following the figure below check the positions of the Telephony Server, PIRs and the 1U AC-DC Power Unit (for 8U-PIR) on a 19-inch rack (for the example a 19-inch rack (mm-type) with a 39U capacity is used).

The installation procedure follows the figure below where three 7U-PIRs and one 8U-PIR have been installed. For other possible combinations refer to 7. 7U-PIR and 8U-PIR Mixed Configuration Patterns List.

Mounting Position on 19-inch Rack (AC Type)

4-PIR Type
(TSW-BOX x 1, 7U-PIR x 3, 8U-PIR x 1)



Note 1: TSW-BOX needs to be mounted right above the server module.

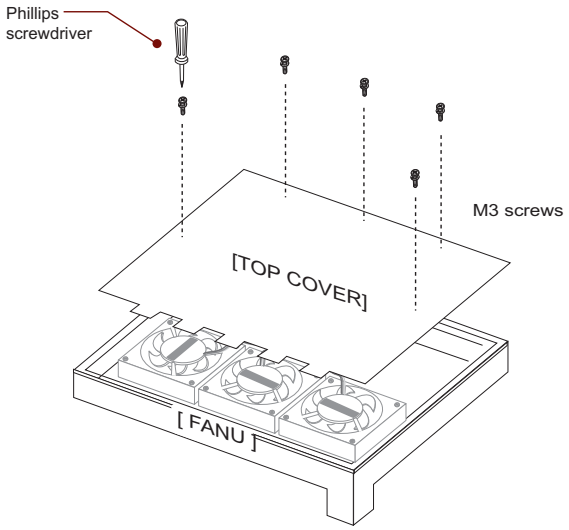
Note 2: Mount always 8U-PIR above 7U-PIRs. 8U-PIR cannot be mounted between two 7U-PIRs or below.

4.1.2 Mounting the Fan Unit

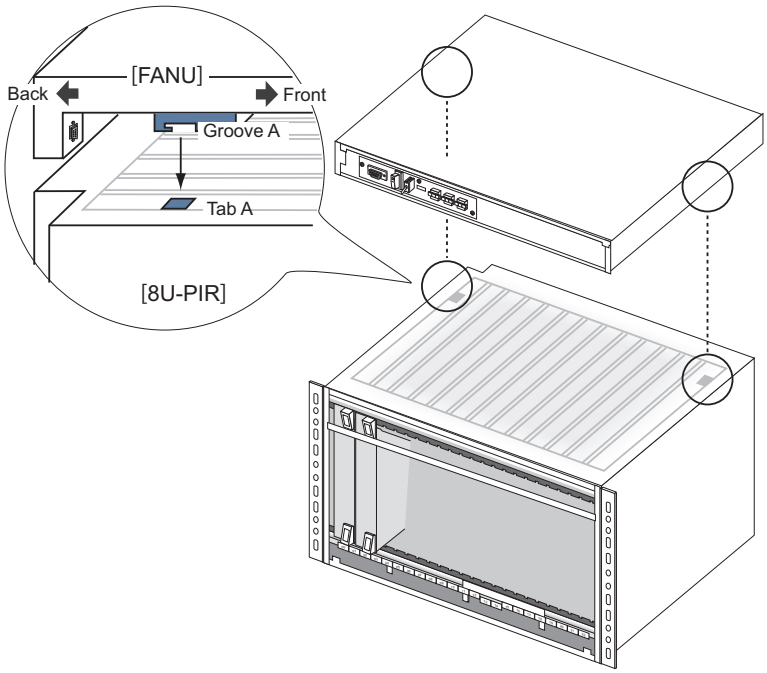
FANU is mounted on 8U-PIR.

Note: Here, "FANU" represents FANU (H) and "TOP COVER" represents TOP COVER (H).

Step1: Attach a TOP COVER onto the top of FANU, ventilating in the downward direction, and secure the cover with five screws.



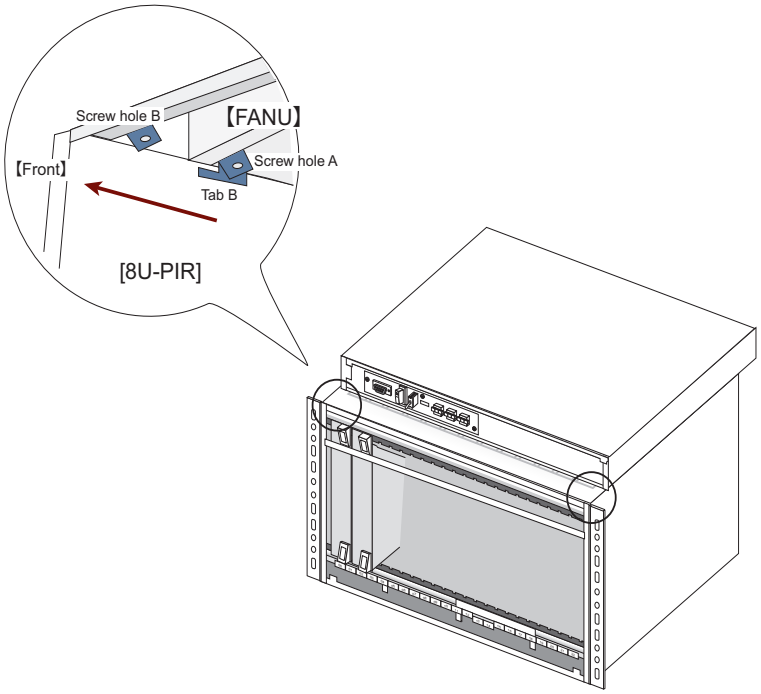
Step2: Fit the tab As of 8U-PIR into the groove As located on both sides of FANU.



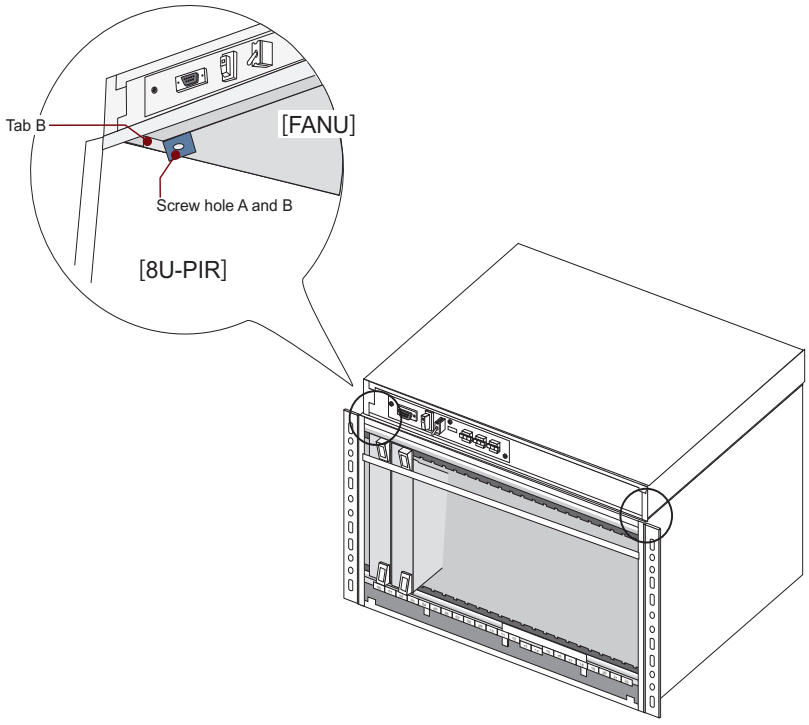
Step3: Slide FANU toward the front of 8U-PIR. Take note of the following points while mounting the FANU onto PIR.

- Place tab Bs on the front of FANU beside screw hole B on the front of 8U-PIR.
- Superimpose screw hole A on the front of FANU and screw hole B of 8U-PIR.

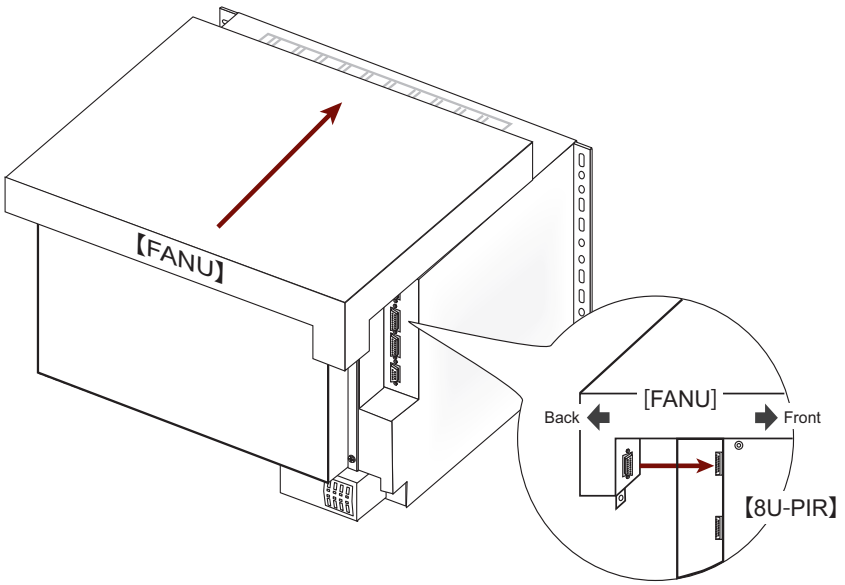
Before Mounting



After Mounting



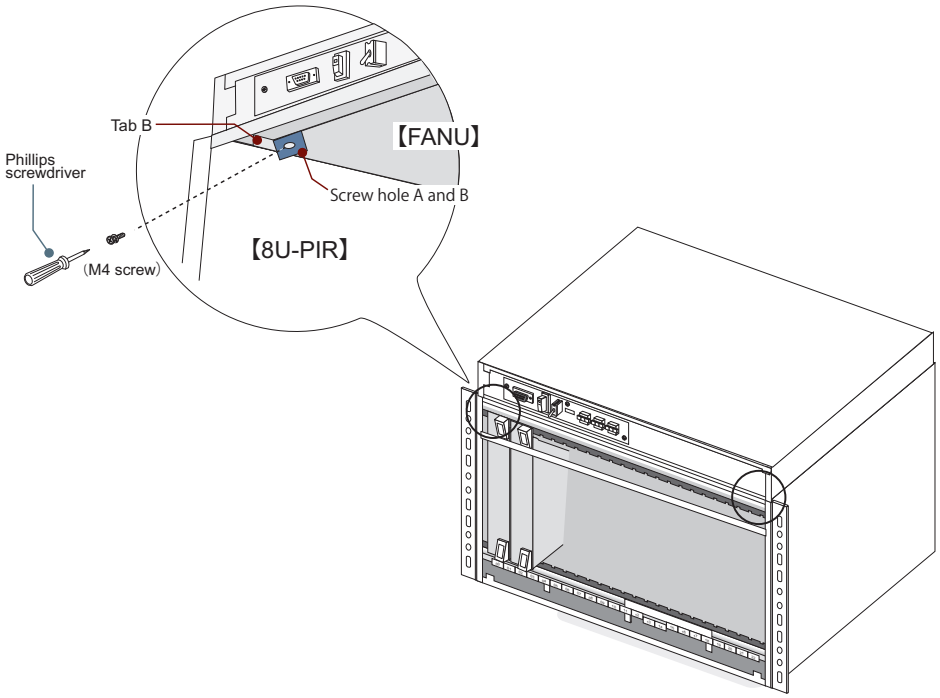
- Install the connectors of FANU into the connectors on the back of 8U-PIR.



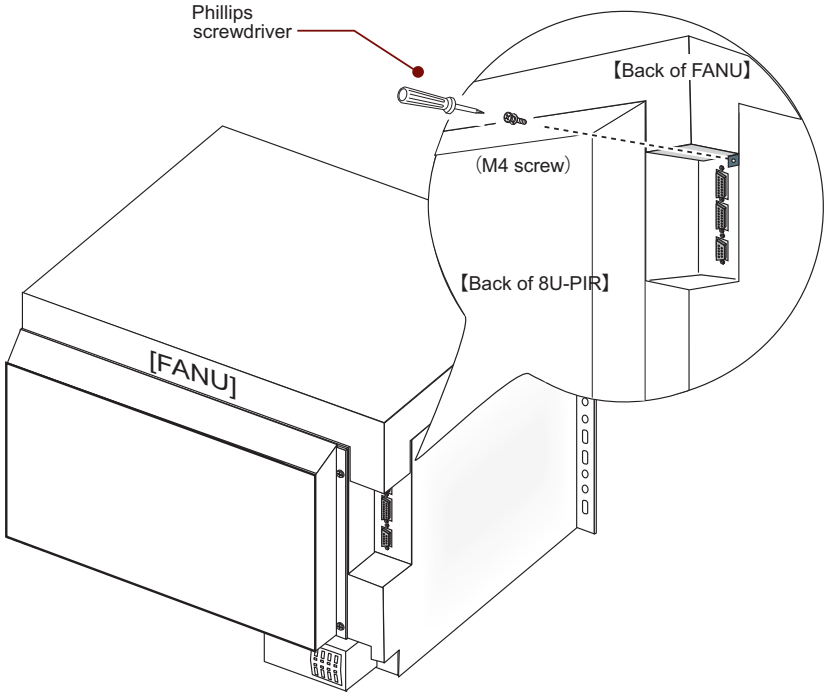
Note: If you cannot slide FANU smoothly in the direction of the arrow, check that the connectors of FANU engage with the connectors of 8U-PIR properly.

Step4: Secure FANU to 8U-PIR with two screws for the front and one screw for the back.

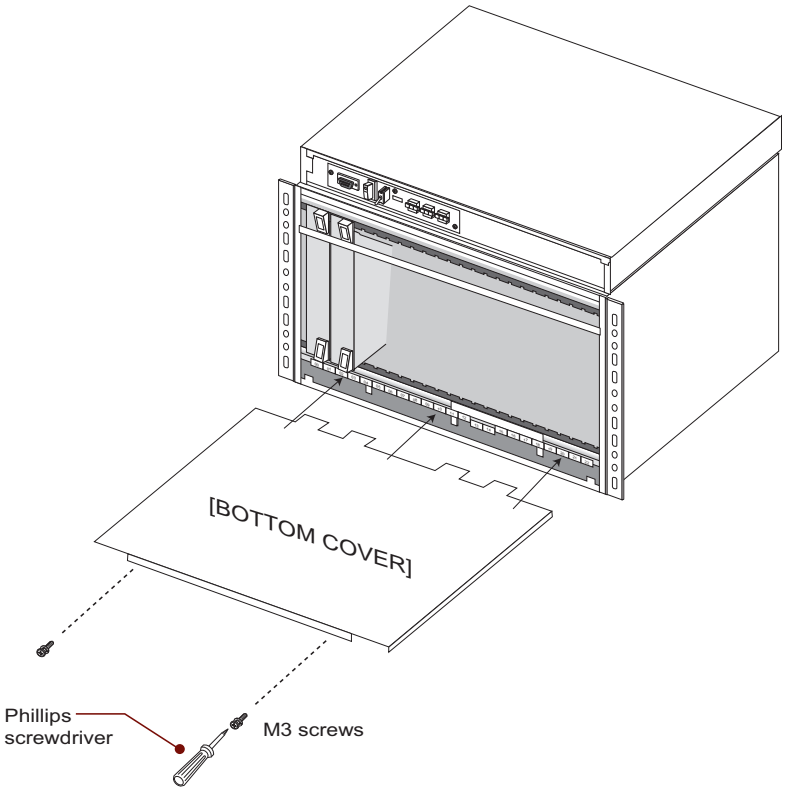
- Secure the front of FANU with two screws.



- Secure the back of FANU with one screw.

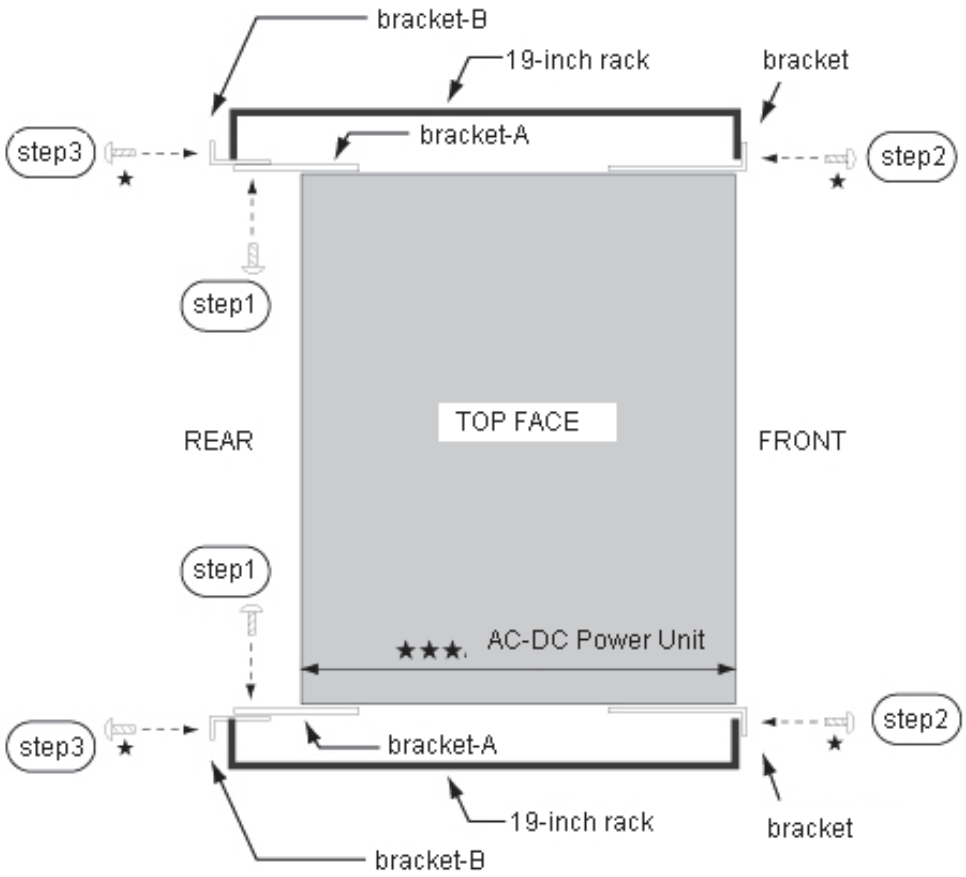


Step5: Attach a Bottom Cover to 8U-PIR and secure it with two screws.



4.1.3 Attach Brackets for Rack Use on the 1U AC-DC Power (for 8U-PIR) Unit

Follow the steps explained in the figure below for attaching the brackets.



4.1.4 Mounting on the 19-inch Rack

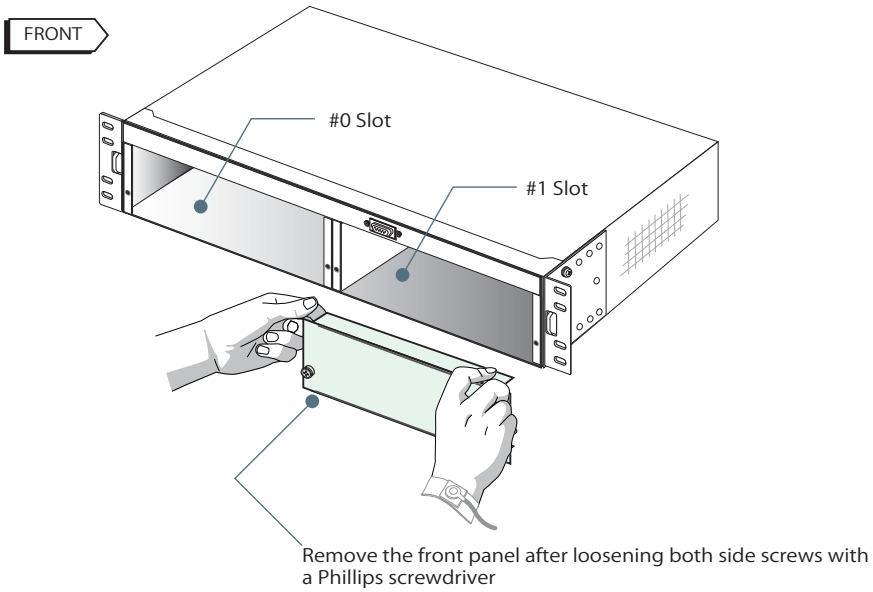
This section describes how to mount the TSW-BOX, 7U-PIR, 8U-PIR and 1U AC-DC Power Unit (for 8U-PIR) on the 19-inch rack. Take notice of the following cautions during the mounting procedure.

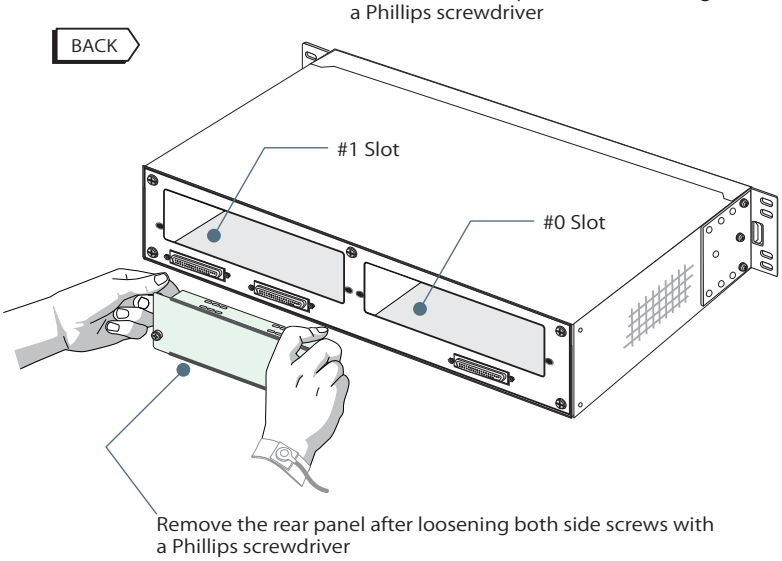
- Considering the safety, be sure to perform the installation working with two or more people.
- Mount the modules and units on the 19-inch rack from bottom to up.
- TSW-BOX needs to be mounted right above the server module.

Note: The recommended 19-inch rack has a front side and a back side. When you mount a module be careful to do it in the correct direction. Figures in this section will depict the frontal part of the rack facing to the left.

Step1: Check Circuit Card Description and set the switches of the TSW card (SPZ-SW25-A).

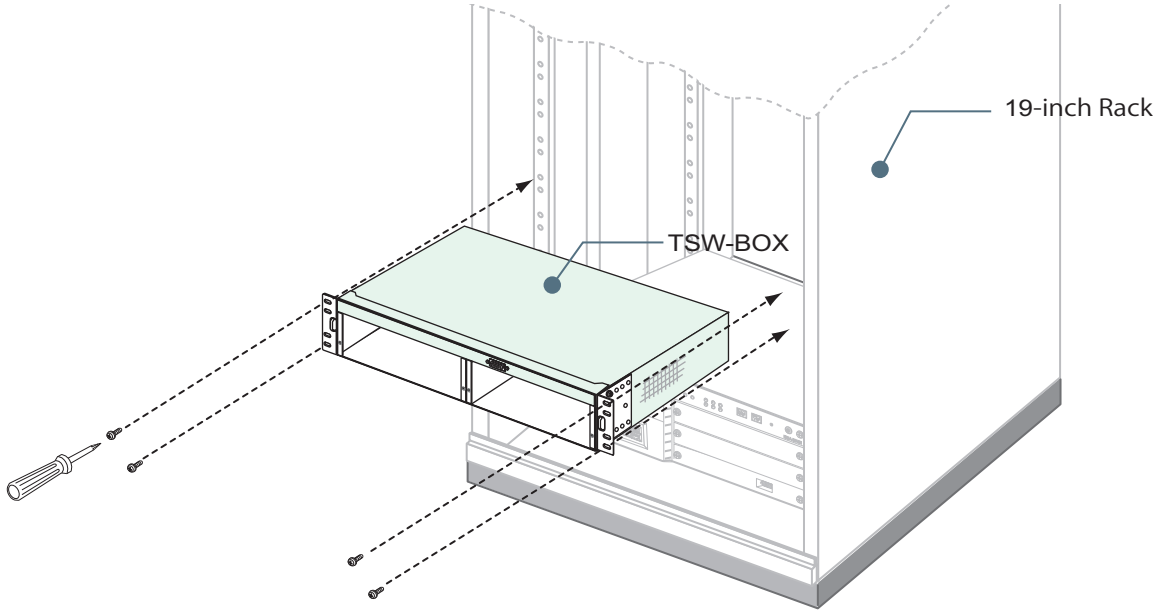
Step2: In case of a TSW dual configuration, remove the front and rear covers of the #1 slot (use a Phillips screwdriver to loosen right and left screws).



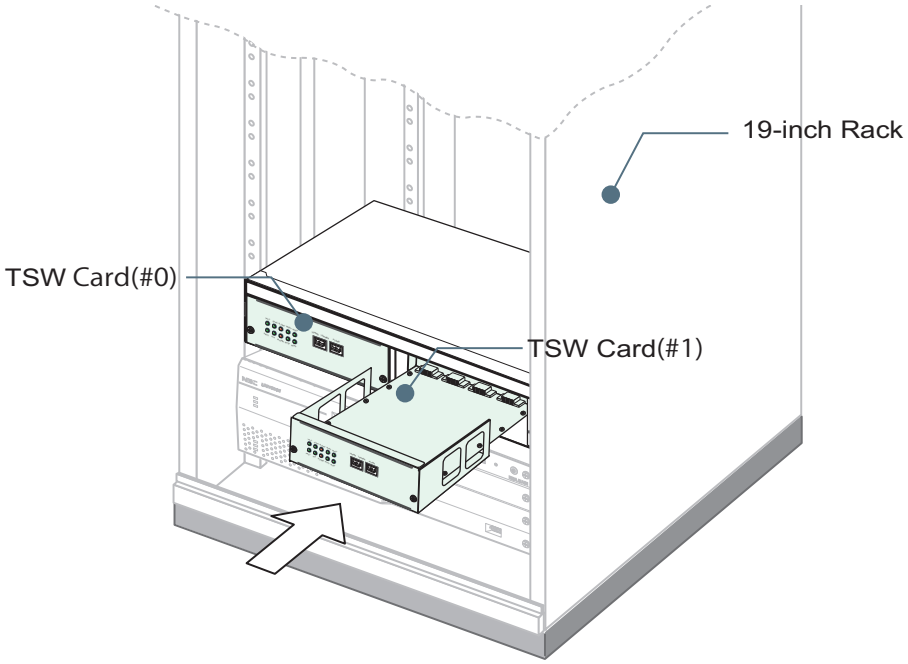


Step3: Mount the TSW-BOX on the 19-inch rack.

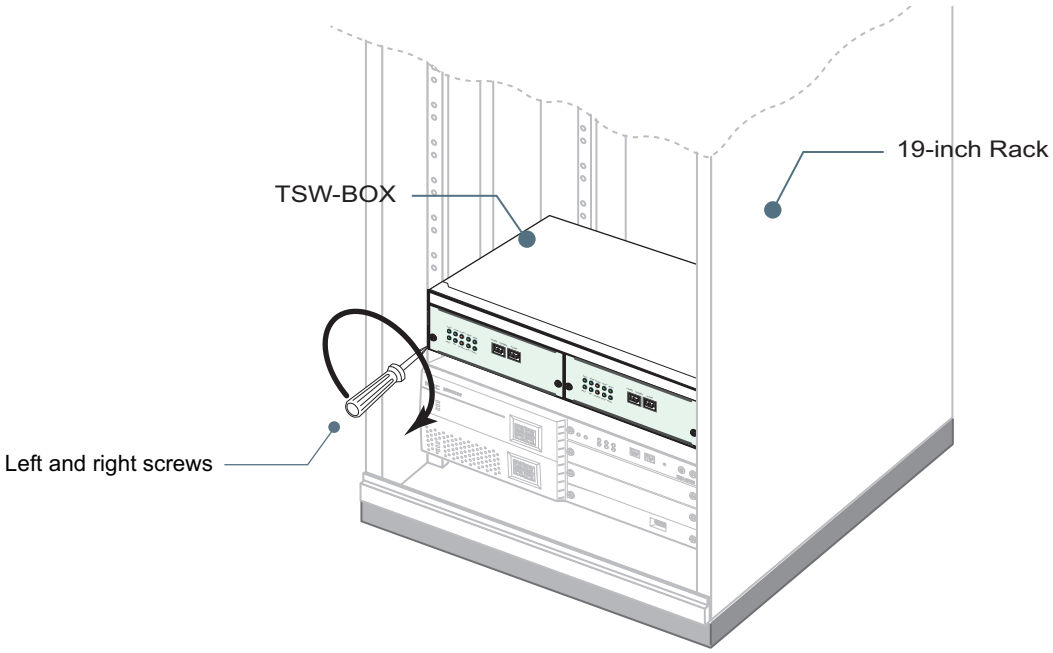
Note: Do not use an electric screwdriver. The fastening torque could be excessive and damage the screws.



Step4: Mount the TSW card (SPZ-SW25-A) in the TSW-BOX slot. The following example is for a TSW dual configuration (left: #0, right: #1).

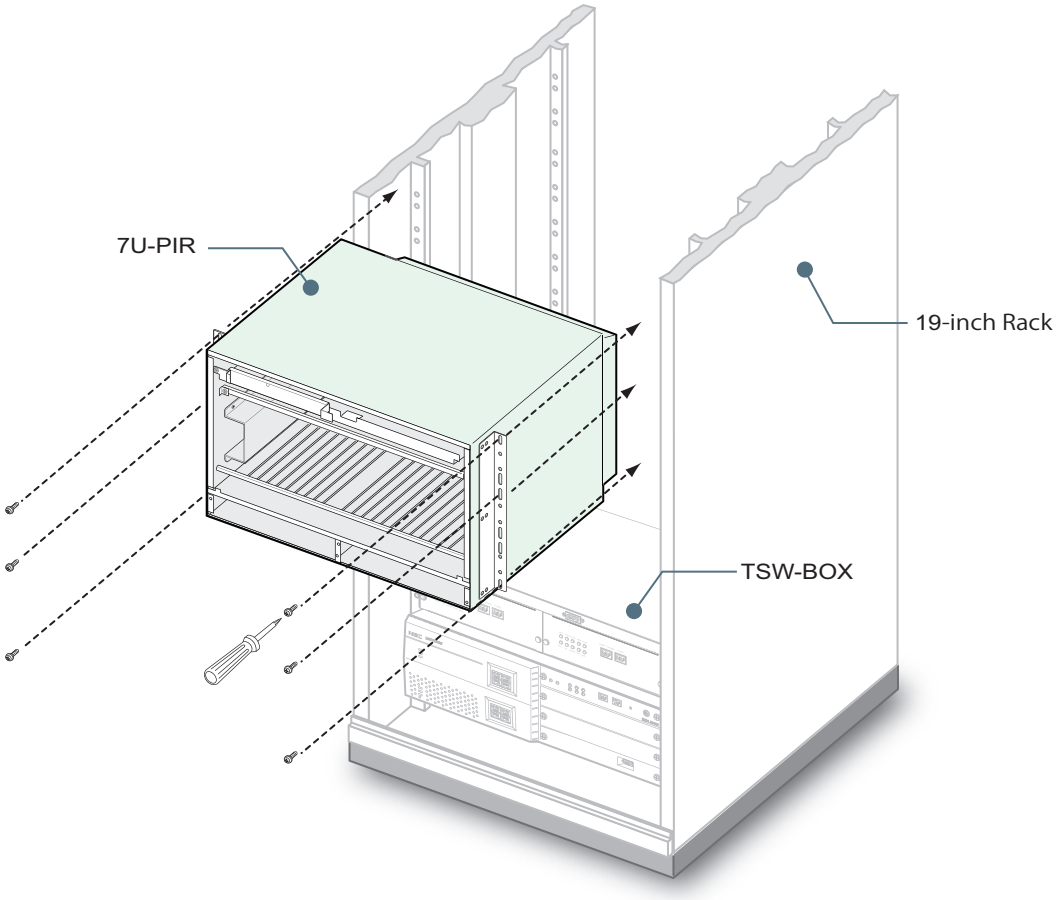


Step5: After mounting the TSW card, use a Phillips screwdriver to firmly screw right and left screws on the front side.

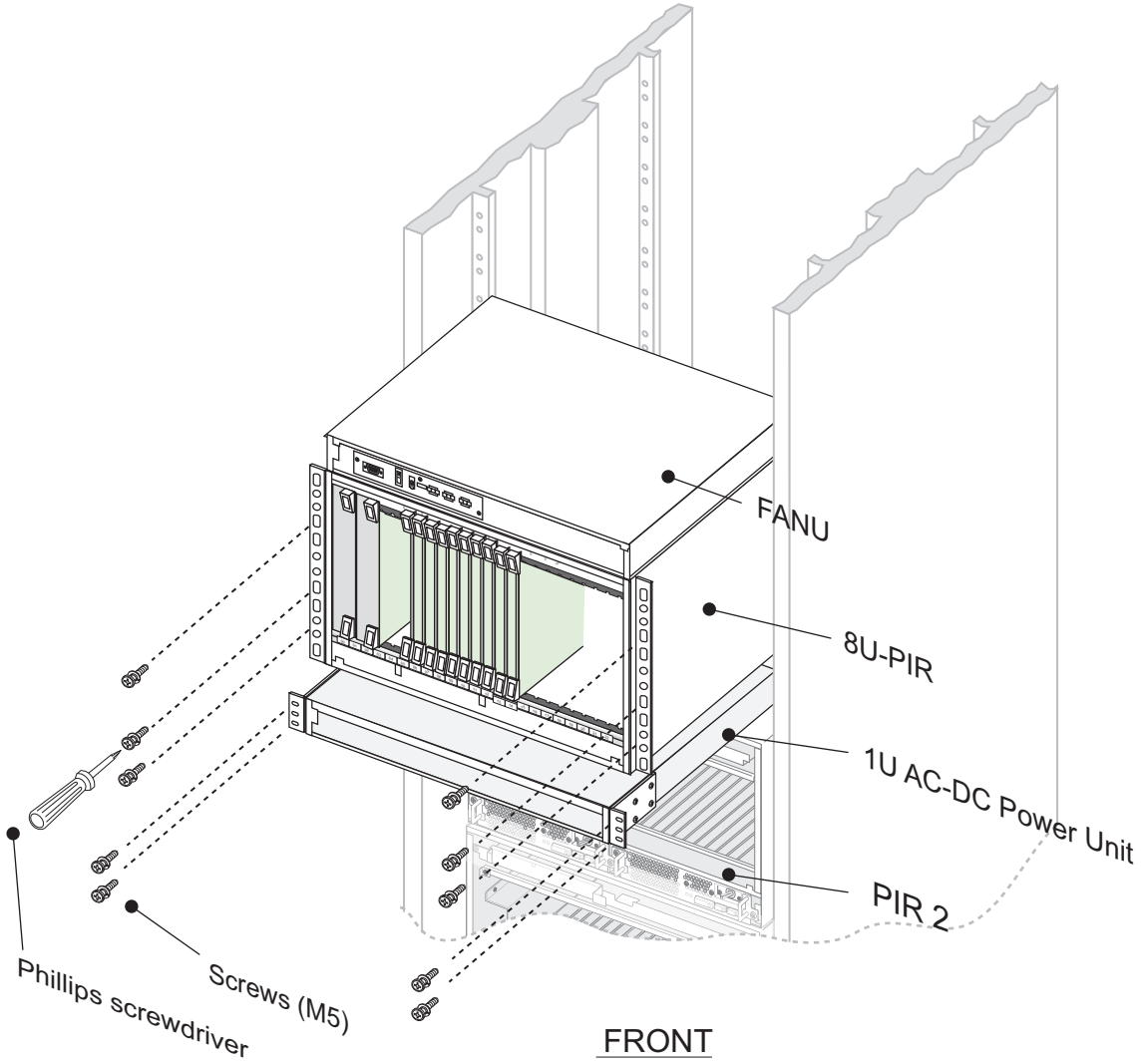


Step6: Mount 7U-PIR on the 19-inch rack (following the example given on Checking PIR Position on page 250, after PIR0 the mounting process will continue with PIR1 and PIR2).

7U-PIR Mounting



Step7: After installing all 7U-PIRs, mount on the 19-inch rack the 1U AC-DC Power Unit and the 8U-PIR (according to the example given on Checking PIR Position on page 250, it would be installed on PIR3).



Note: Mount always 8U-PIR above 7U-PIRs. 8U-PIR cannot be mounted between two 7U-PIRs or below.

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

4.1.5 Mounting the Power Unit

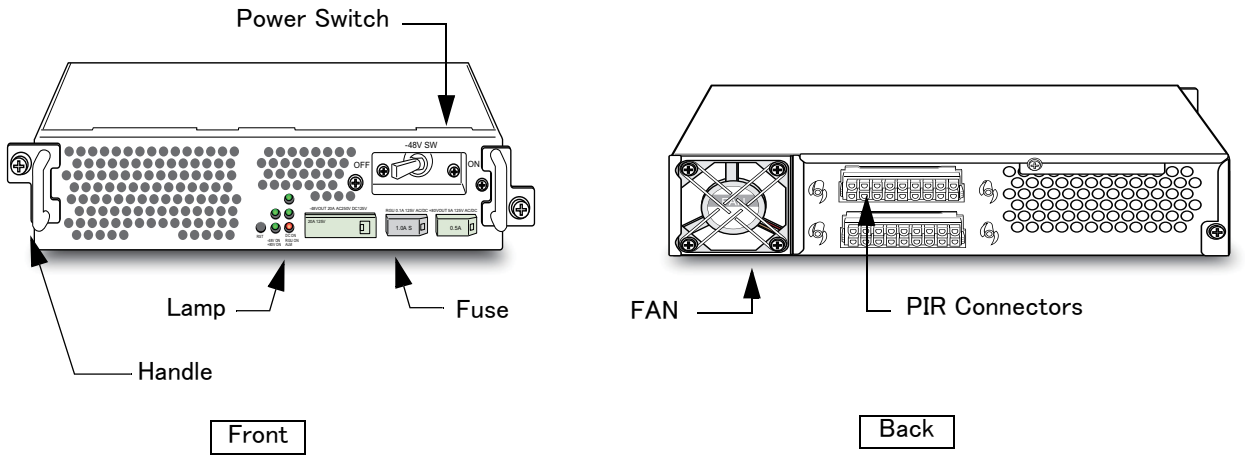
This section describes how to mount 7U-PIR AC Power Unit to the power unit slot in the lower part of the 7U-PIR.

CAUTION

When you mount or remove a power unit, take the following precautions.

- Only touch the handles. Specially, when removing the unit after it has been used, upper and lower parts can be very hot and cause a burning, therefore do not touch those parts of the unit.
- Make sure that the power switch on the front panel is set to OFF before any operation.

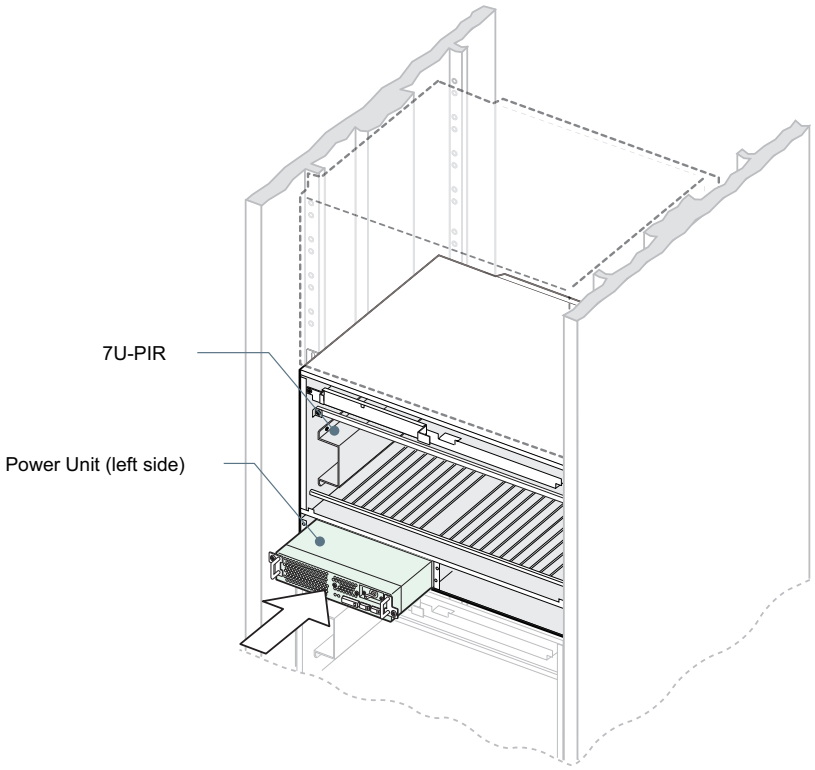
Power Unit



Step1: Mount 7U-PIR AC Power Unit on the power unit slot in the lower part of 7U-PIR following the illustrations below.

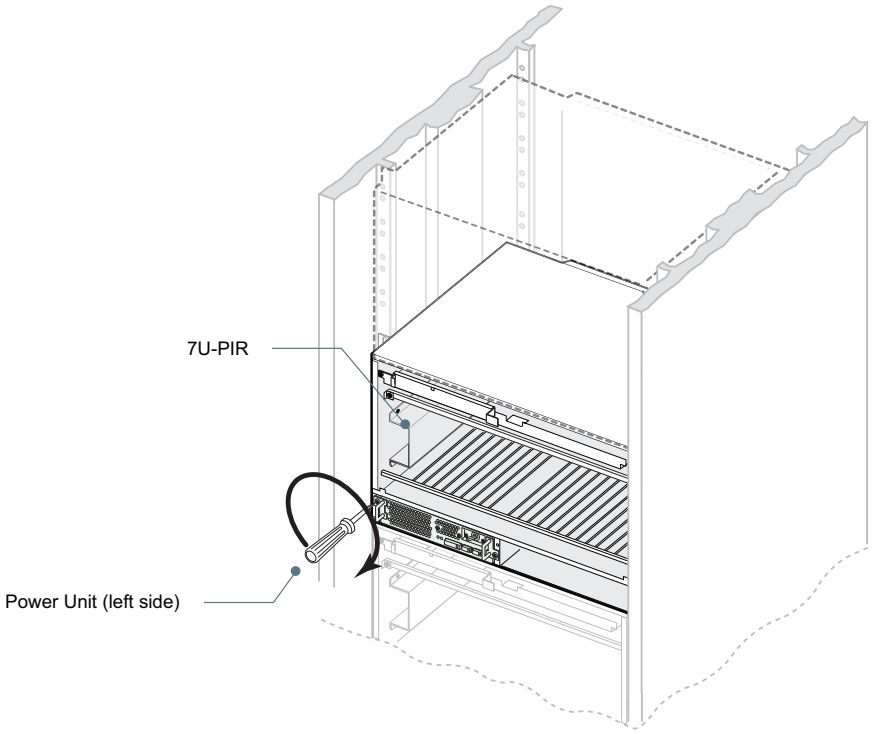
- On the lower part of 7U-PIR there are two mounting slots for power units (dual configuration). The left slot is for #0 and the right for #1. In case of a single configuration, use the left slot (#0) for the power unit mounting.
- Mount the connector on the back of the power unit to the 7U-PIR connector.

Note: If you cannot mount the unit smoothly, check again that the 7U-PIR connector and the power unit connector are meshing.

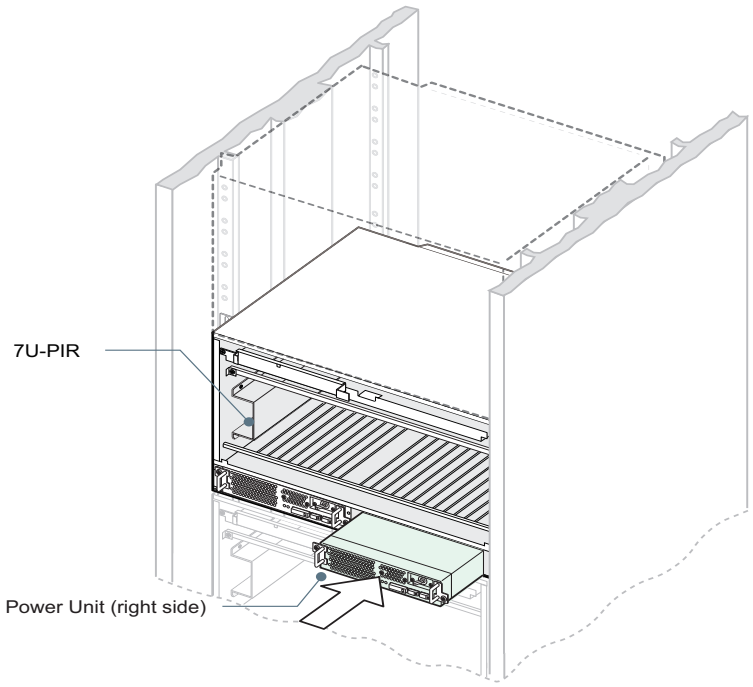


Step2: After mounting the power unit, use a Phillips screwdriver to firmly screw right and left screws on the front side.

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



Step3: In case of a dual configuration, mount the other power unit in the right slot (#1) using the same operation as with the left power unit.



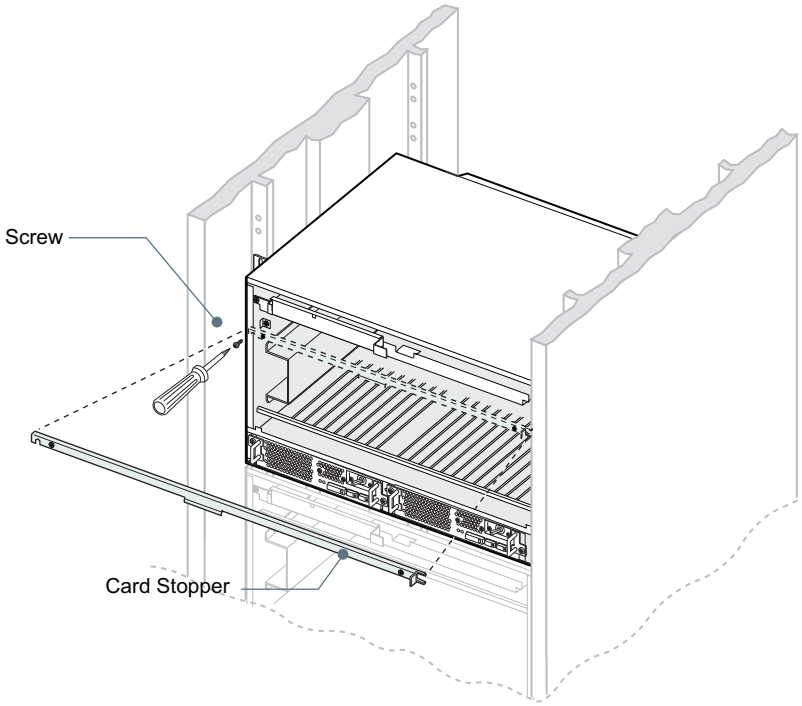
4.1.6 Mounting the Cards

This section describes how to mount cards to 7U-PIR/8U-PIR. When inserting the cards, 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 on Chapter 2 of System Description manual.
- After removing a card, wait at least 10 seconds to mount it again.

Step1: Use a Phillips screwdriver to remove the front card stopper of the 7U-PIR/8U-PIR. Be careful not to lose the screws. The stopper serves as a measure against earthquakes (with a earthquake-resistance strength of 1.1G), therefore do not forget to install it again after mounting the cards.

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

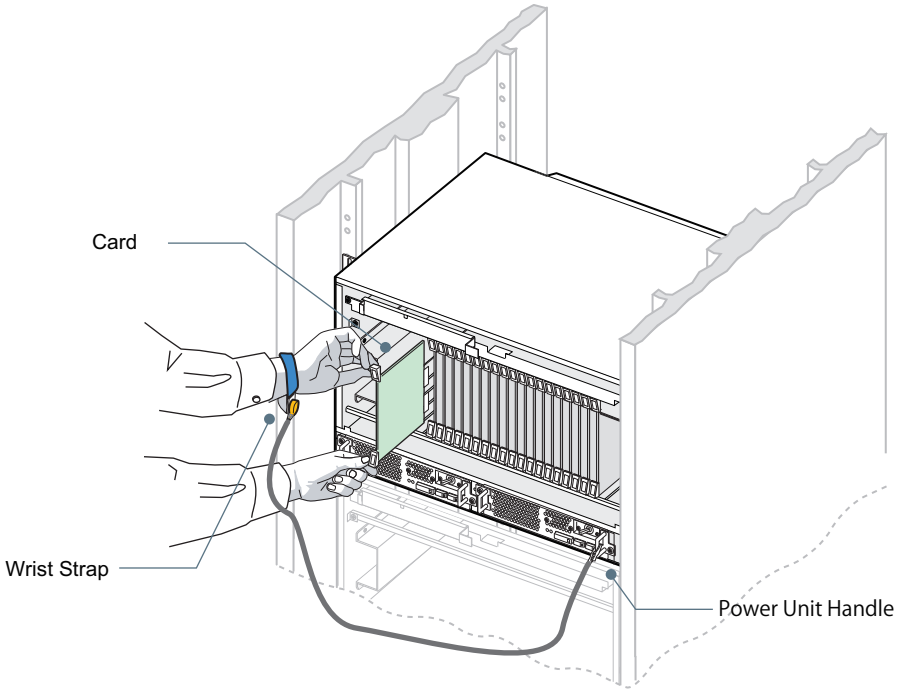


Step2: Check the mounting position per each card. Consult the figure for the front composition of PIR and check that the slot numbers and card label colors are matching.

Step3: Consult Circuit Card Description and set the hard switches for each card.

Note: The setting can be done only for hard switches. As for soft switches of 7U-PIR cards, after power activation, set them using PCPro (CPSW command) or a serial console.

Step4: The cards are inserted to the appropriate slot. First, accommodate the upper and lower part of the card to the rails and press to insert it. Stop the insertion 5 centimeters before reaching the back side, if there is not any problem, continue until the back and check that the connector is firmly connected to the backboard.

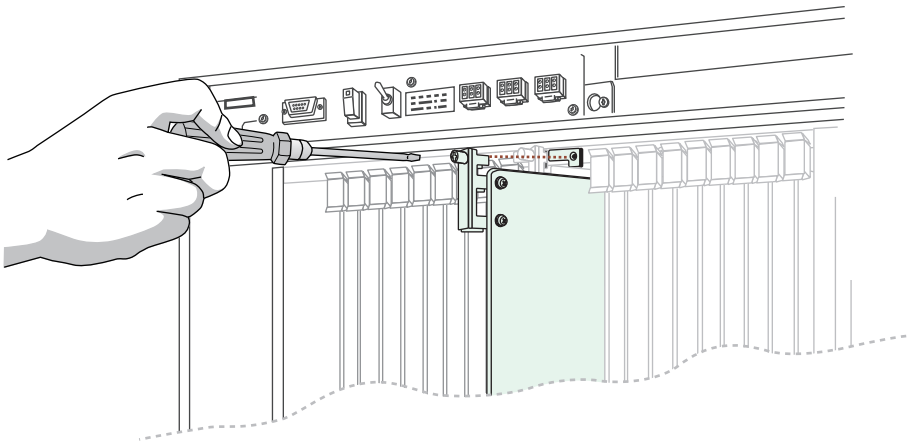


Note: Without a proper frame grounding to the 19-inch rack, even when a wrist strap is connected, static electricity cannot be released and it may cause equipment failure. In that case, connect the wrist strap to another part that is properly grounded. Also, even if the frame grounding is proper, if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

[CJ-PC00 (MUX) Card]

The CJ-PC00 (MUX) card includes in its upper part a front plate for clasping. Use the driver to firmly fix it to PIR.

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



Step5: After mounting all the cards, put again the card stopper with the screws.

4.2 Module Mounting (DC-Powered Model (1-IMG))

Regarding the DC (1-IMG) type, PIR installation is performed as follows.

PIR Installation (DC (1-IMG) Type)

START

1	Checking PIR Position	⇒Check the position of the TSW-BOX, 7U-PIR and 8U-PIR on the 19-inch rack.
2	Mounting the Fan Unit	⇒Mount the fan unit on 8U-PIR.
3	Attach TOP COVER	⇒Attach the TOP COVER to 8U-PIR.
4	Mounting on the 19-inch Rack	⇒Mount the TSW-BOX, 7U-PIR and 8U-PIR on the 19-inch rack.
5	Mounting the Power Unit	⇒Mount 7U-PIR DC-DC Power Unit on the power unit slot of 7U-PIR.
6	Mounting the Cards	⇒Mount cards to 7U-PIR/8U-PIR.

END

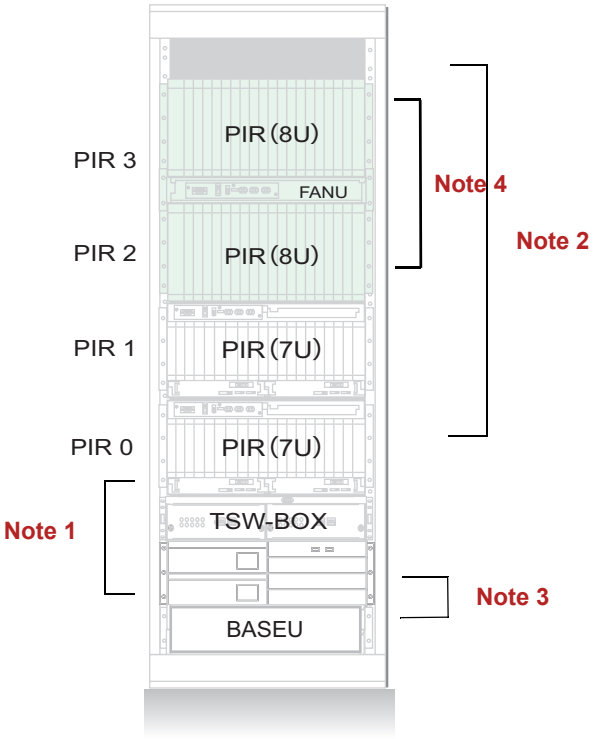
4.2.1 Checking PIR Position

Following the figure below check the positions of the Telephony Server, PIRs and the TSW-BOX on a 19-inch rack (for the example a 19-inch rack (mm-type) with a 39U capacity is used).

The installation procedure follows the figure below where 2 7U-PIRs and 2 8U-PIRs have been installed. For other possible combinations refer to 7. 7U-PIR and 8U-PIR Mixed Configuration Patterns List.

Mounting Position on 19-inch Rack (DC (1-IMG)Type)

4-PIR Type
(TSW-BOX x 1, 7U-PIR x 2, 8U-PIR x 2)



Note 1: TSW-BOX needs to be mounted right above the server module.

Note 2: Do not let open spaces between the modules.

Note 3: When you decide the position of the modules take into consideration that the fuse alarm cable from the BASEU to each module has a length of 1 meter.

Note 4: Mount always 8U-PIRs above 7U-PIRs. 8U-PIR cannot be mounted between two 7U-PIRs or below.

4.2.2 Mounting the Fan Unit

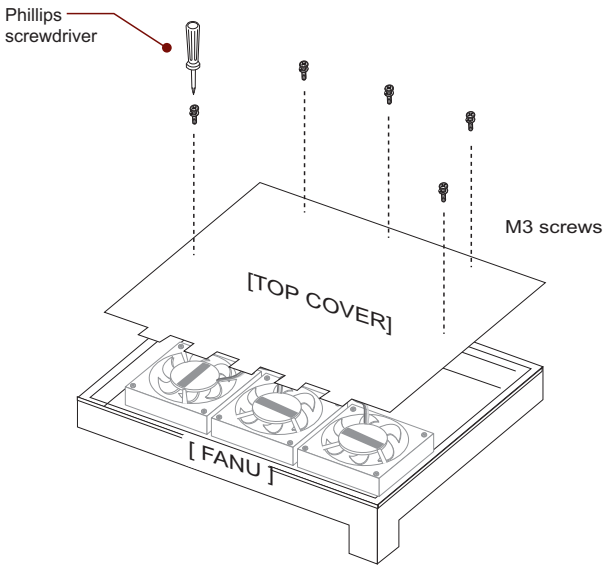
FANU is mounted on 8U-PIR.

Note: Here, "FANU" represents FANU (H) and "TOP COVER" represents TOP COVER (H).

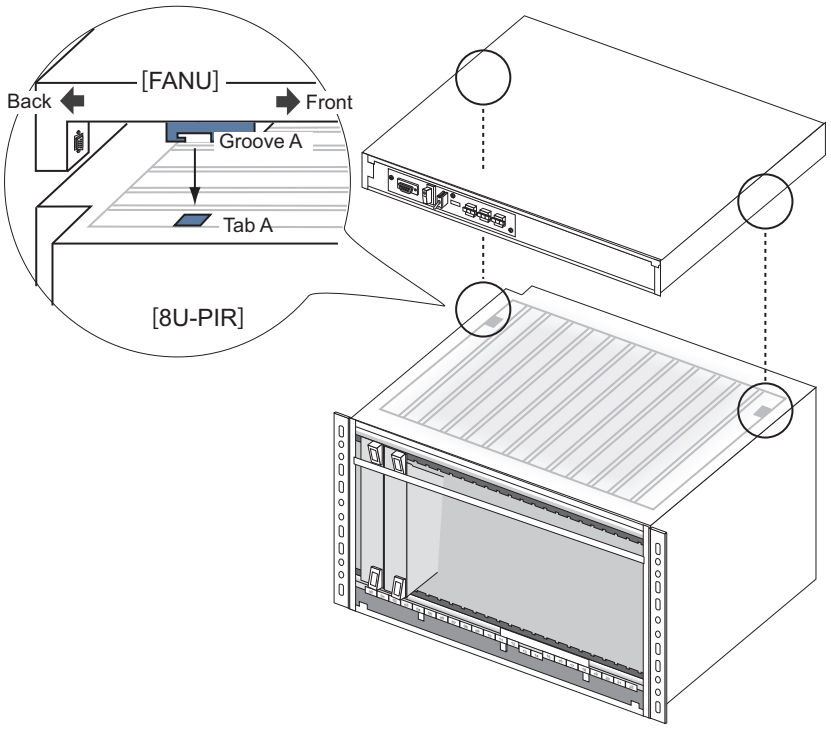
[IN CASE OF ONLY ONE 8U-PIR MOUNTED]

Step1: Attach a TOP COVER, onto the top of FANU, ventilating in the downward direction, and secure the cover with five screws.

Note: One TOP COVER (H) will remain unused.



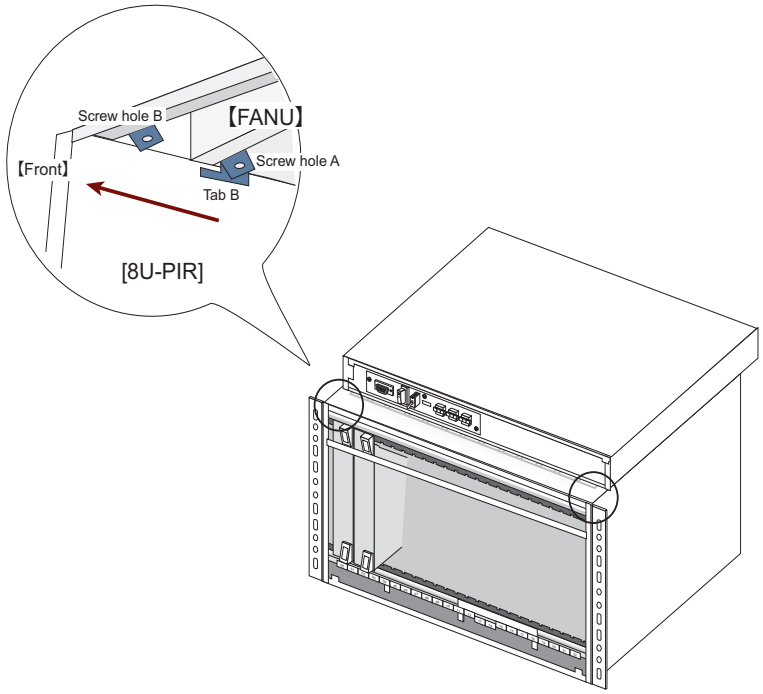
Step2: Fit the tab As of 8U-PIR into the groove A located on both sides of FANU.



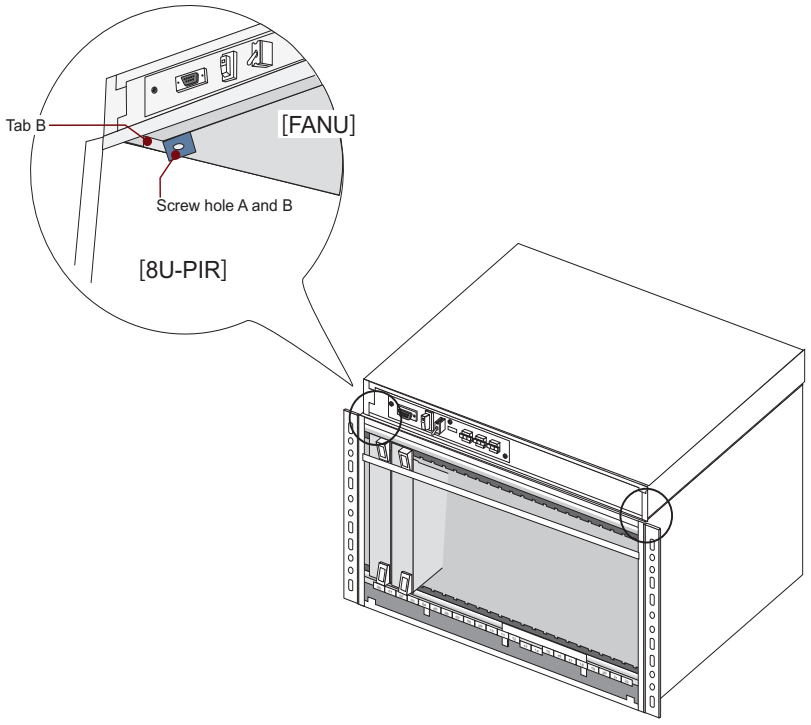
Step3: Slide FANU toward the front of 8U-PIR. Take note of the following points while mounting the FANU onto the 8U-PIR.

- Place tab Bs on the front of FANU beside screw hole B on the front of 8U-PIR.
- Superimpose screw hole A on the front of FANU and screw hole B of 8U-PIR.

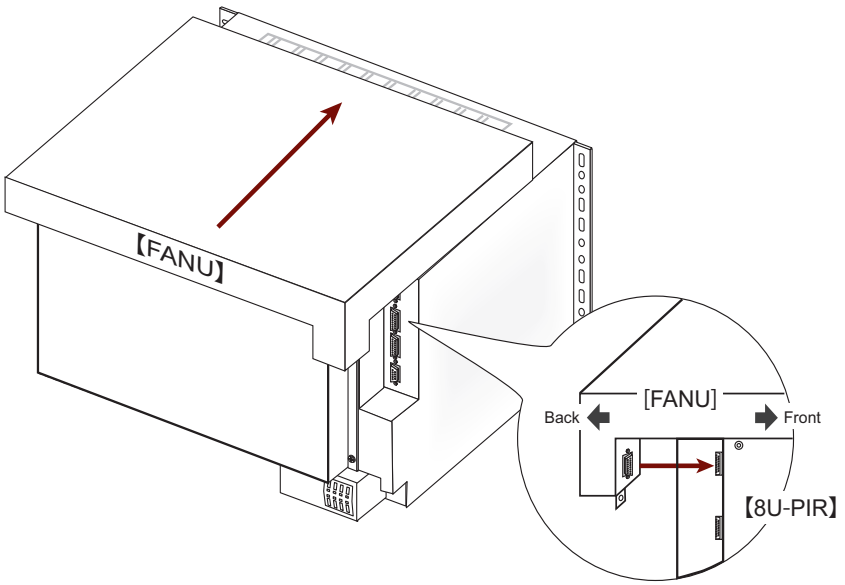
Before Mounting



After Mounting



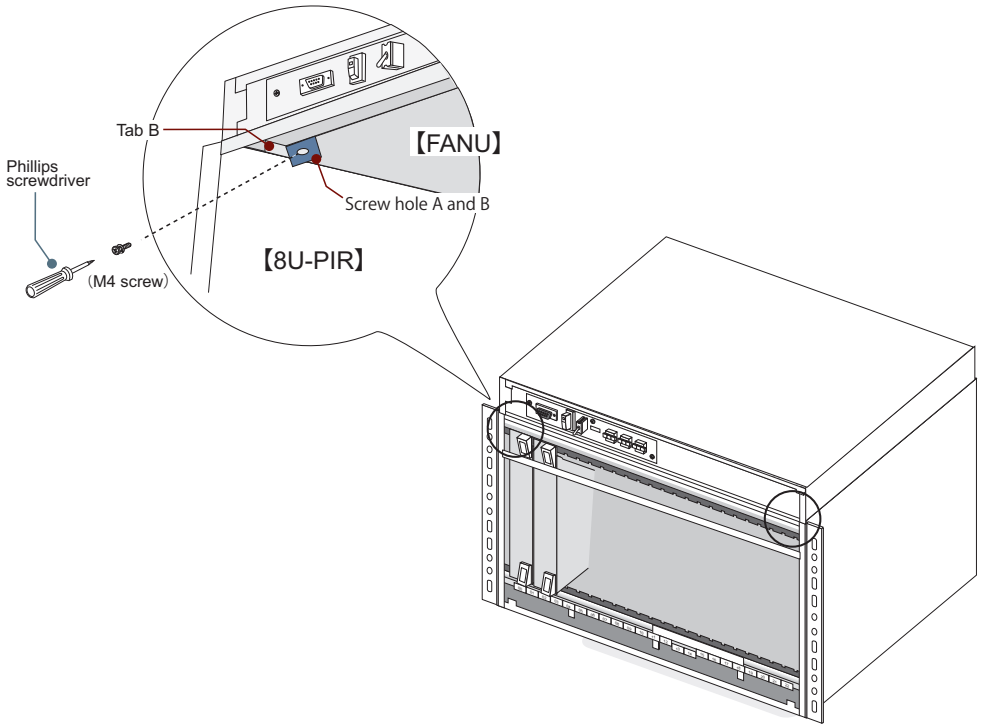
- Install the connectors of FANU into the connectors on the back of 8U-PIR.



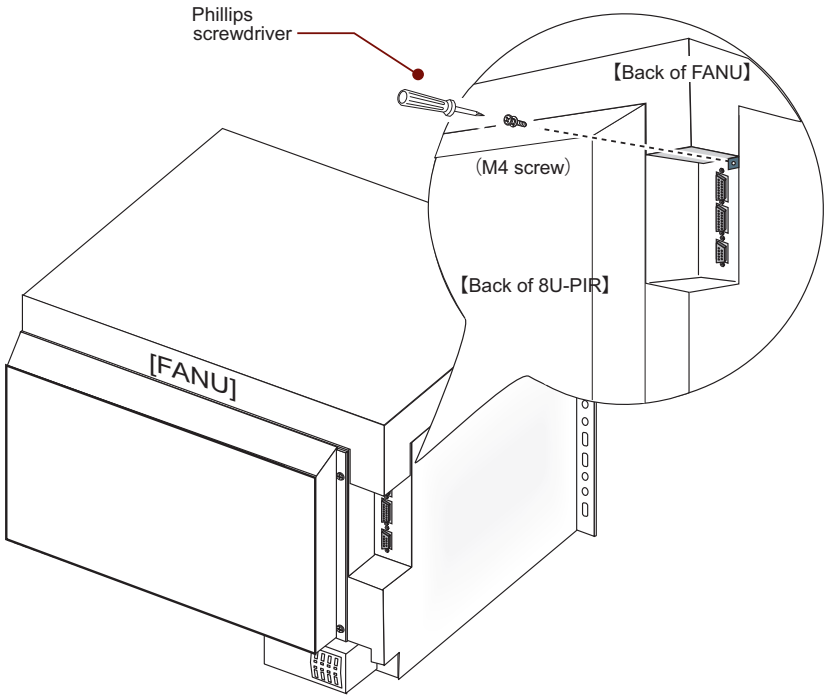
Note: If you cannot slide FANU smoothly in the direction of the arrow, check that the connectors of FANU engage with the connectors of 8U-PIR properly.

Step4: Secure FANU to 8U-PIR with two screws for the front and one screw for the back.

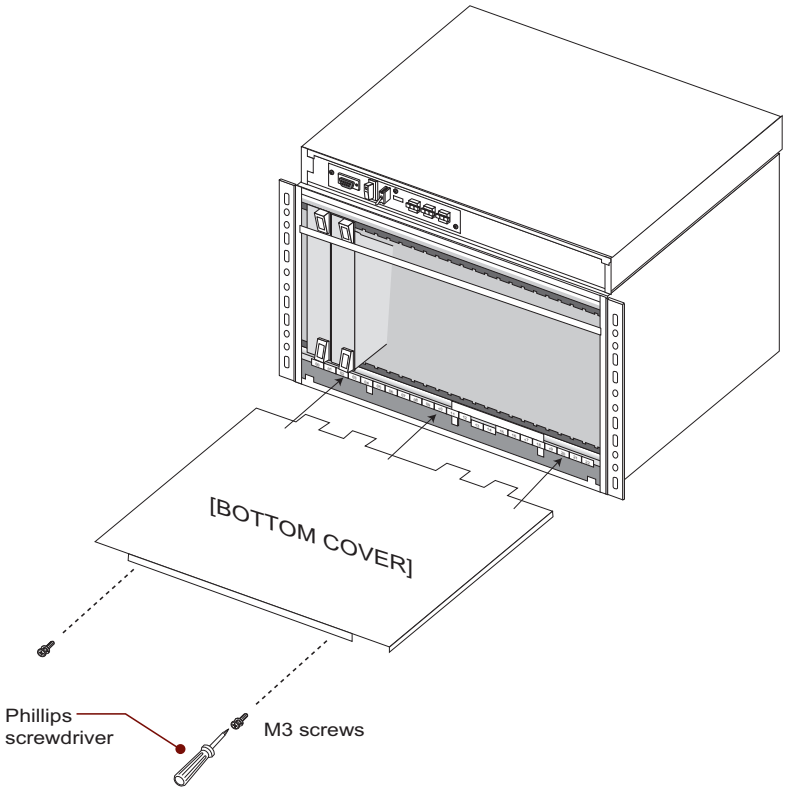
- Secure the front of FANU with two screws.



- Secure the back of FANU with one screw.

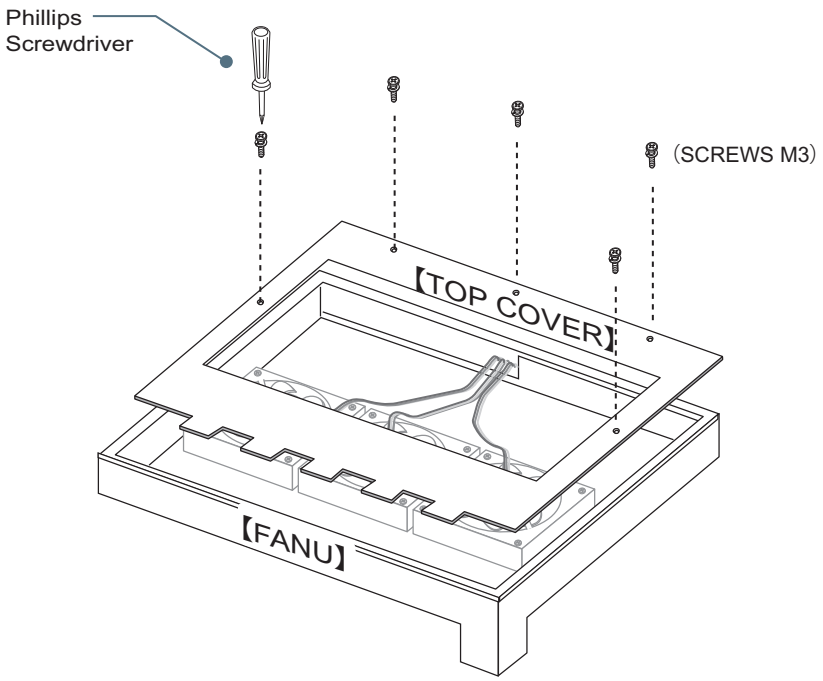


Step5: Attach a Bottom Cover to 8U-PIR and secure it with two screws.

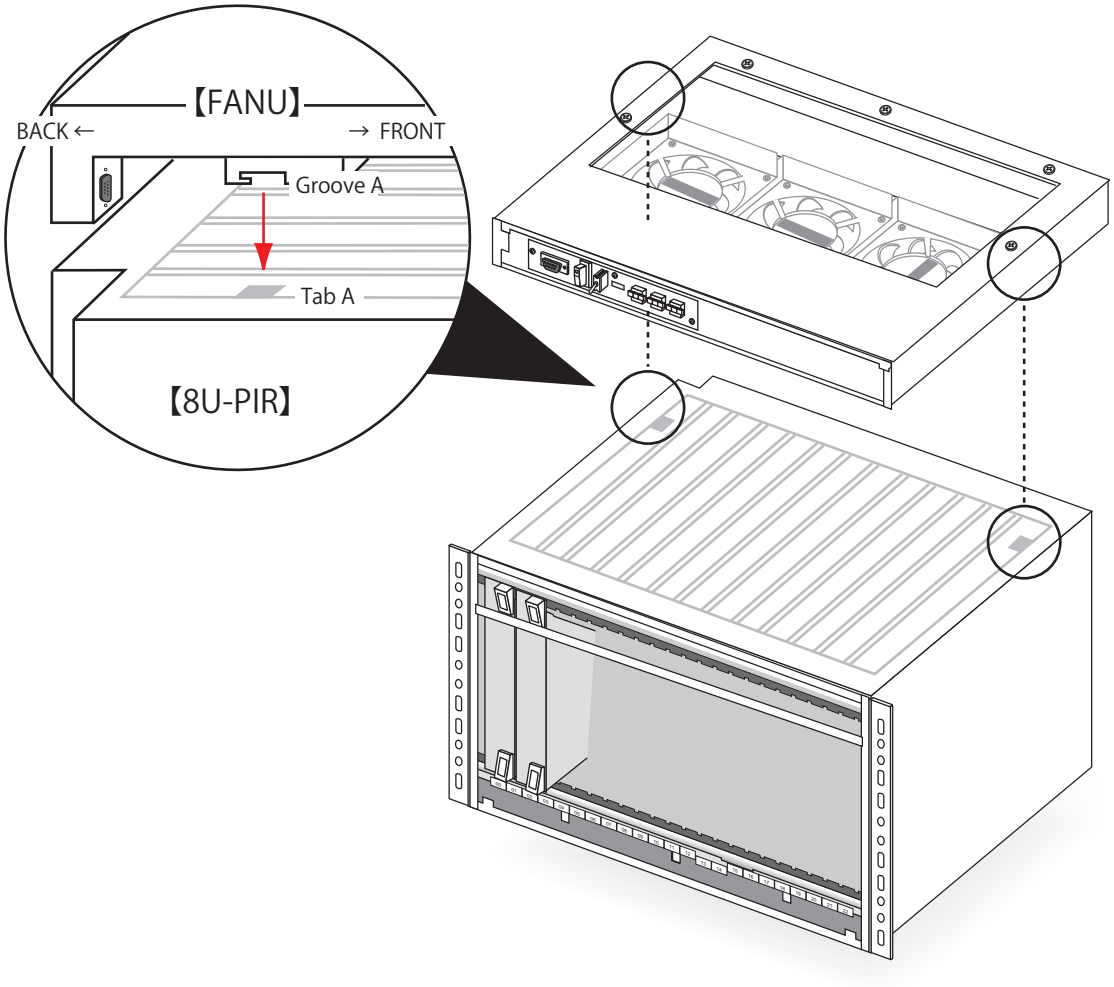


[IN CASE OF TWO OR MORE 8U-PIRs MOUNTED]

Step1: The FANU must be installed in the lowest 8U-PIR (in the example in Checking PIR Position on page 271, that would be PIR2). First, Attach a TOP COVER, onto the top of FANU, ventilating in the downward direction, and secure the cover with five screws.



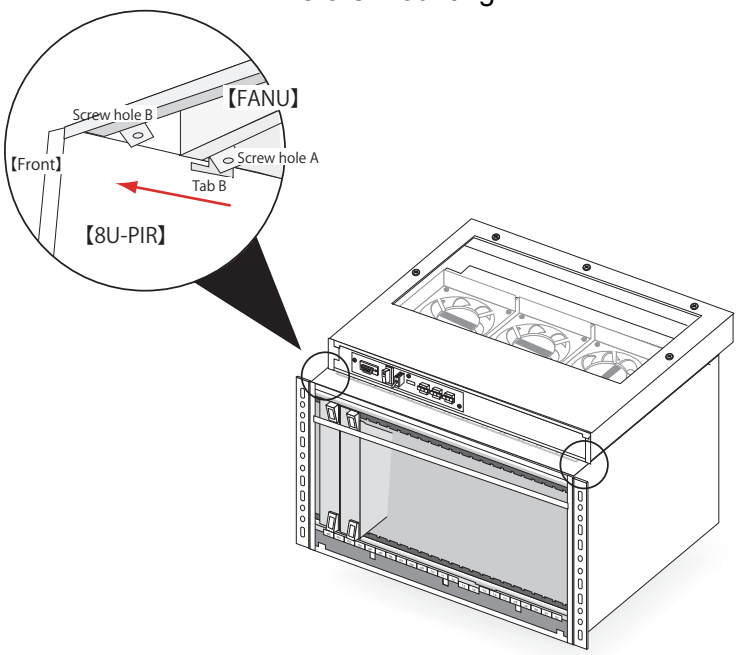
Step2: Fit the tab A of 8U-PIR into the groove A located on both sides of FANU.



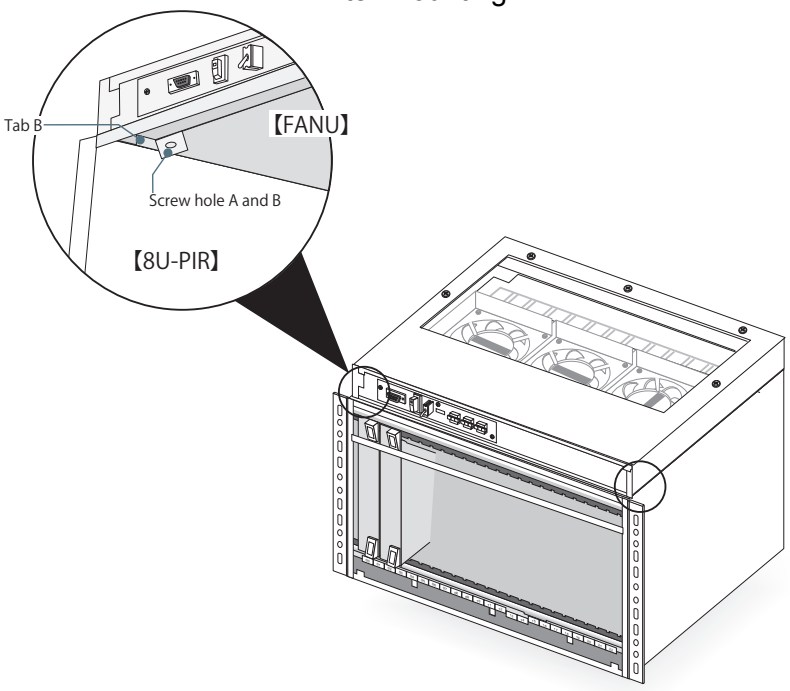
Step3: Slide FANU toward the front of 8U-PIR. Take note of the following points while mounting the FANU onto PIR.

- Place tab Bs on the front of FANU beside screw hole B on the front of 8U-PIR.
- Superimpose screw hole A on the front of FANU and screw hole B of 8U-PIR.

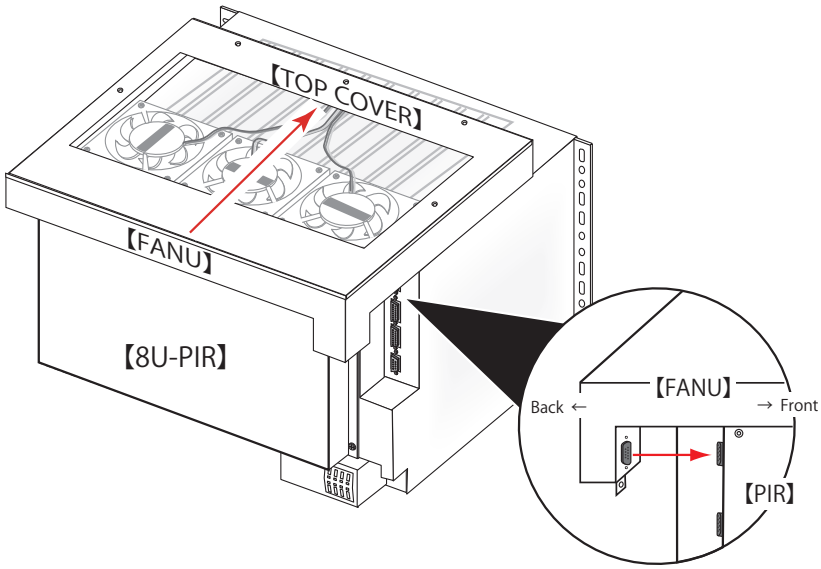
Before Mounting



After Mounting



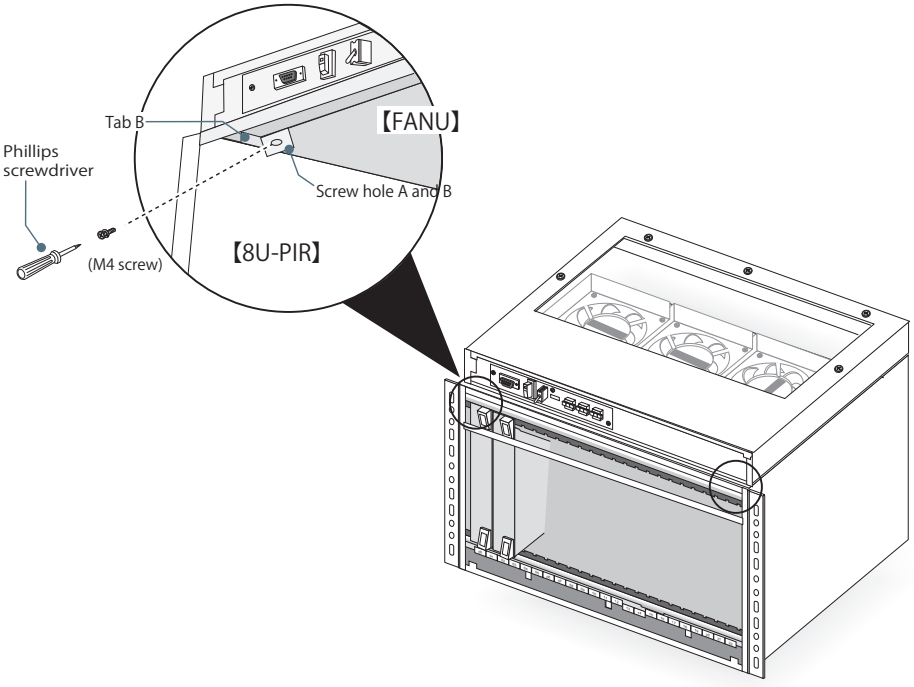
- Install the connectors of FANU into the connectors on the back of 8U-PIR.



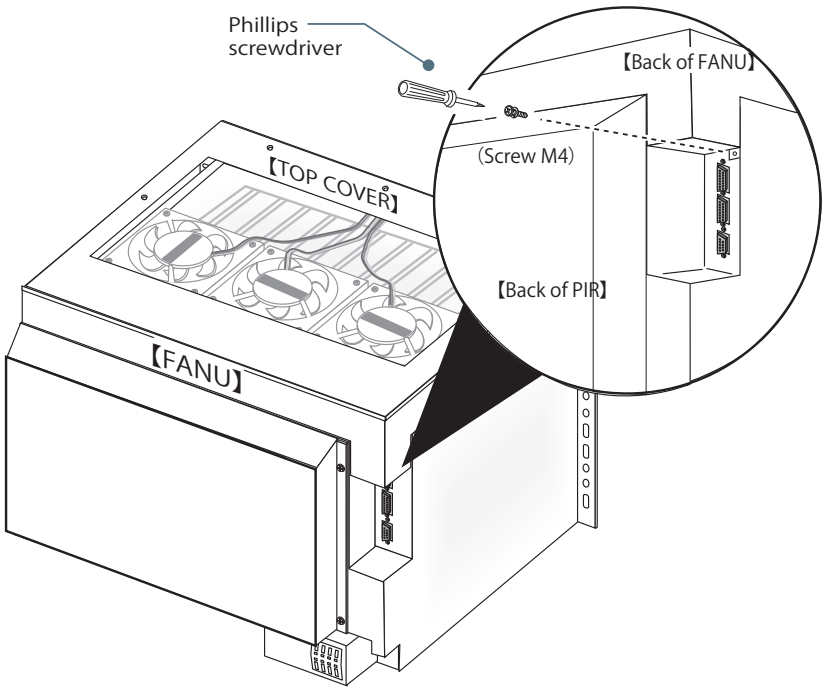
Note: If you cannot slide FANU smoothly in the direction of the arrow, check that the connectors of FANU engage with the connectors of 8U-PIR properly.

Step4: Secure FANU to 8U-PIR with two screws for the front and one screw for the back.

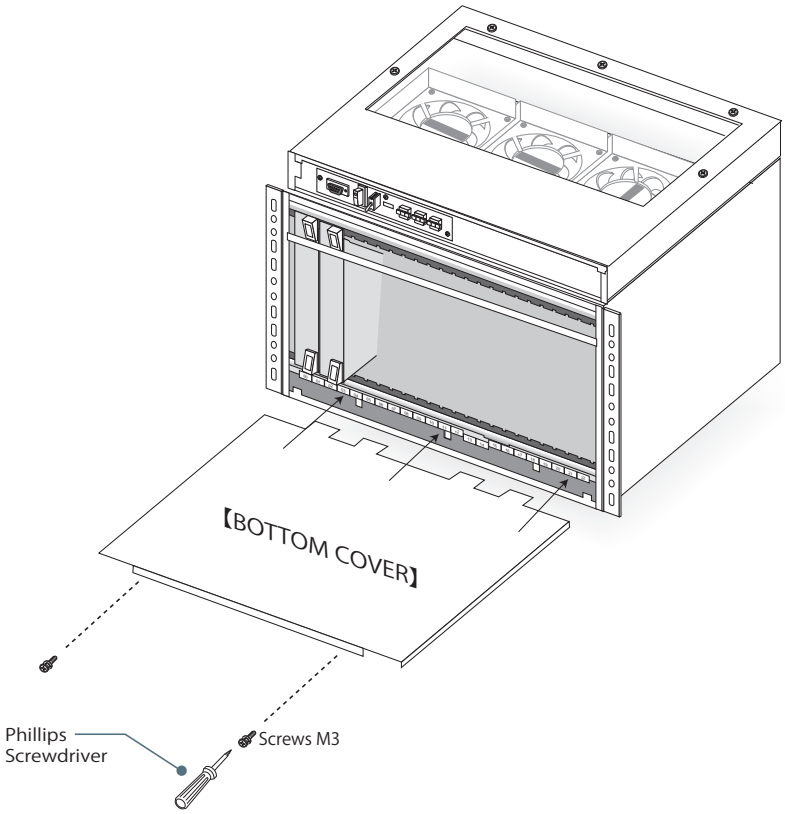
- Secure the front of FANU with two screws.



- Secure the back of FANU with one screw.



Step5: Attach a Bottom Cover to 8U-PIR and secure it with two screws.

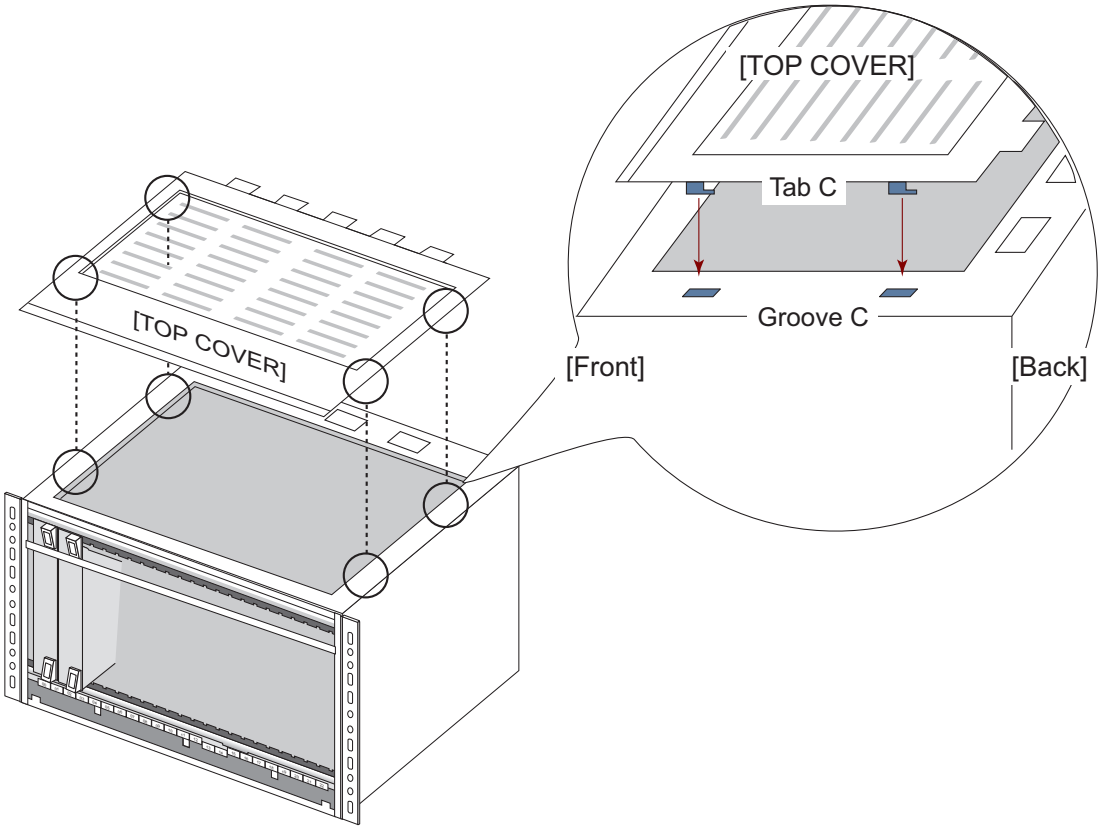


4.2.3 Attach TOP COVER

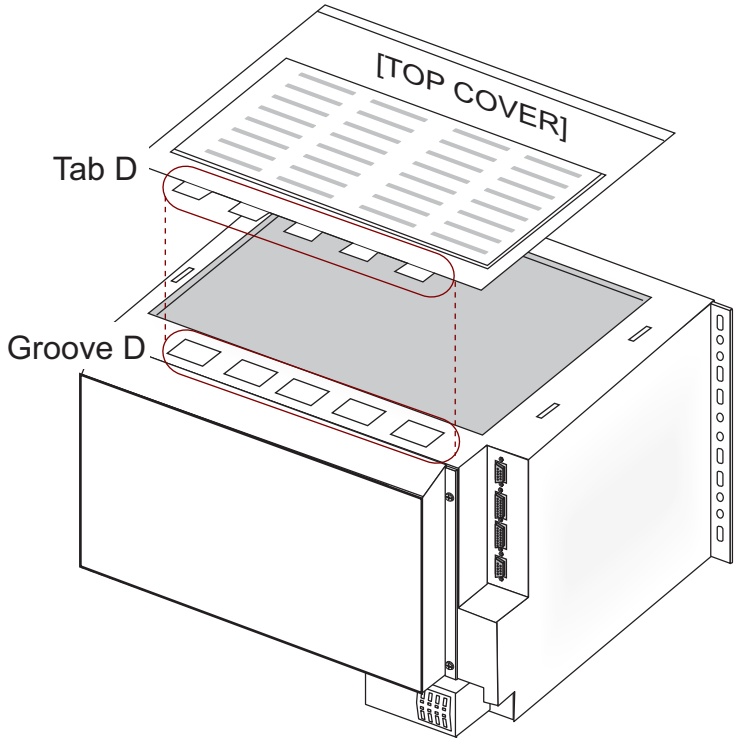
** A TOP COVER (V) is attached on the FANU of the bottom-mounted 8U-PIR (in the example given on Checking PIR Position on page 271, that would be PIR2) and a mesh cover on the top-mounted 8U-PIR (in the example given on Checking PIR Position on page 271, PIR3). No TOP COVERs are needed for the middle-mounted 8U-PIRs.*

Step1: Fit tabs of the TOP COVER into the grooves of the 8U-PIR.

- Fit the tab C of the TOP COVER into the groove C of the 8U-PIR.

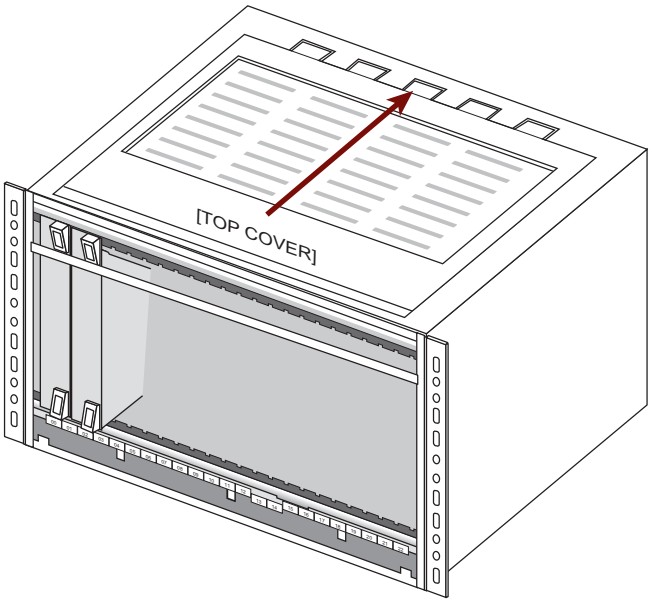


- Fit the tab D into the groove D of 8U-PIR while adjusting the positions of the tabs located on both sides of TOP COVER.

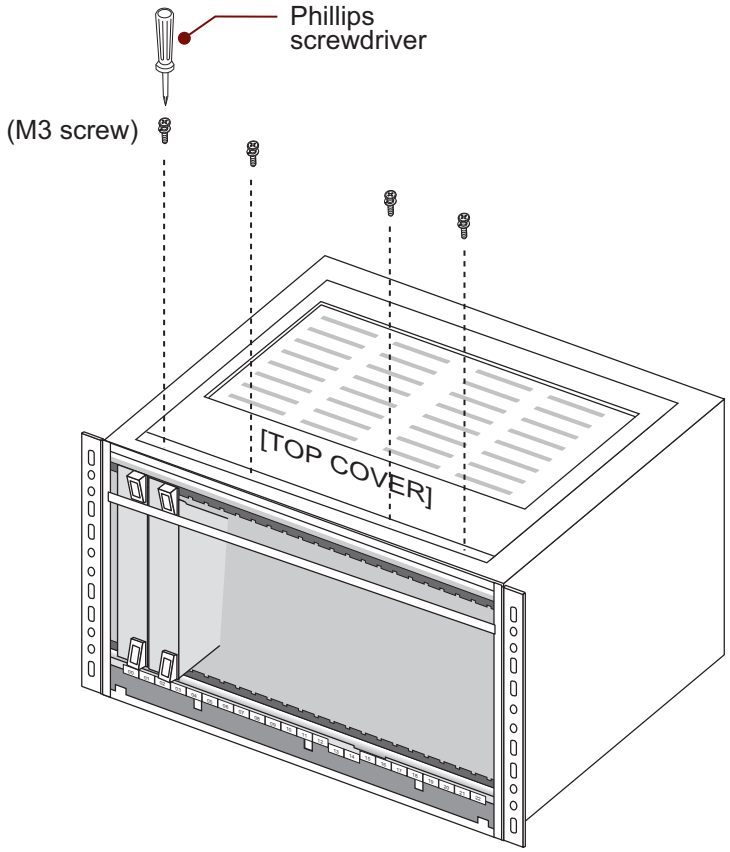


Note: When you attach TOP COVER/BOTTOM COVER to PIRs, consider the positions of each tab and groove.

Step2: Slide TOP COVER to attach it onto 8U-PIR.



Step3: After attaching TOP COVER onto 8U-PIR, secure it with four screws.



4.2.4 Mounting on the 19-inch Rack

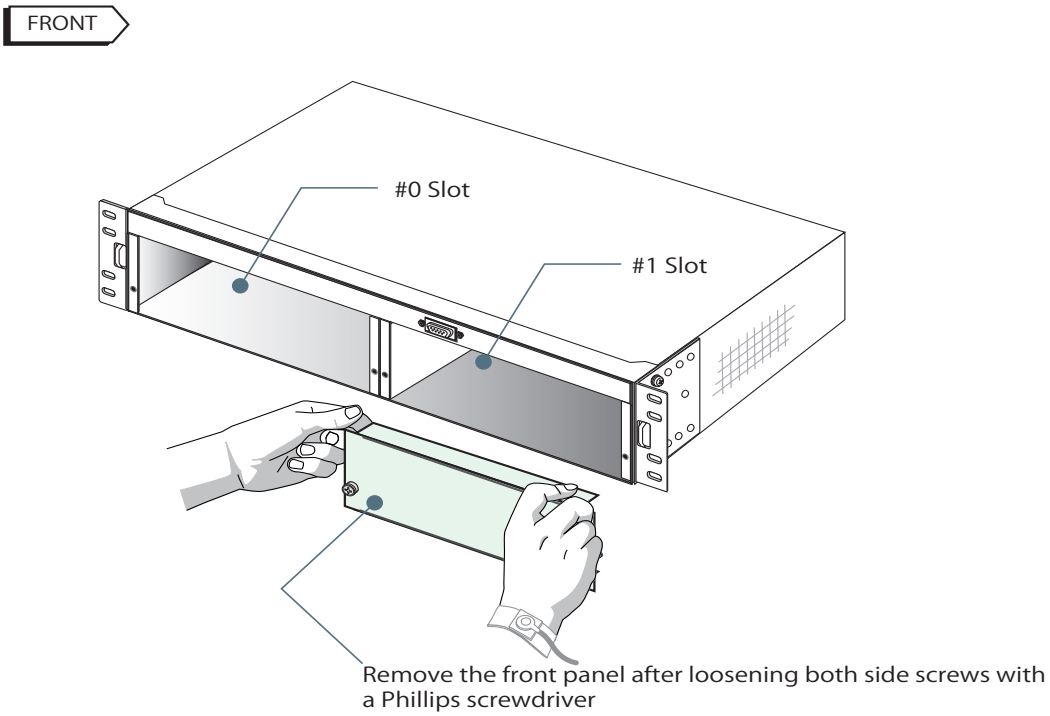
This section describes how to mount the TSW-BOX, 7U-PIR and 8U-PIR on the 19-inch Rack. Take notice of the following cautions during the mounting procedure.

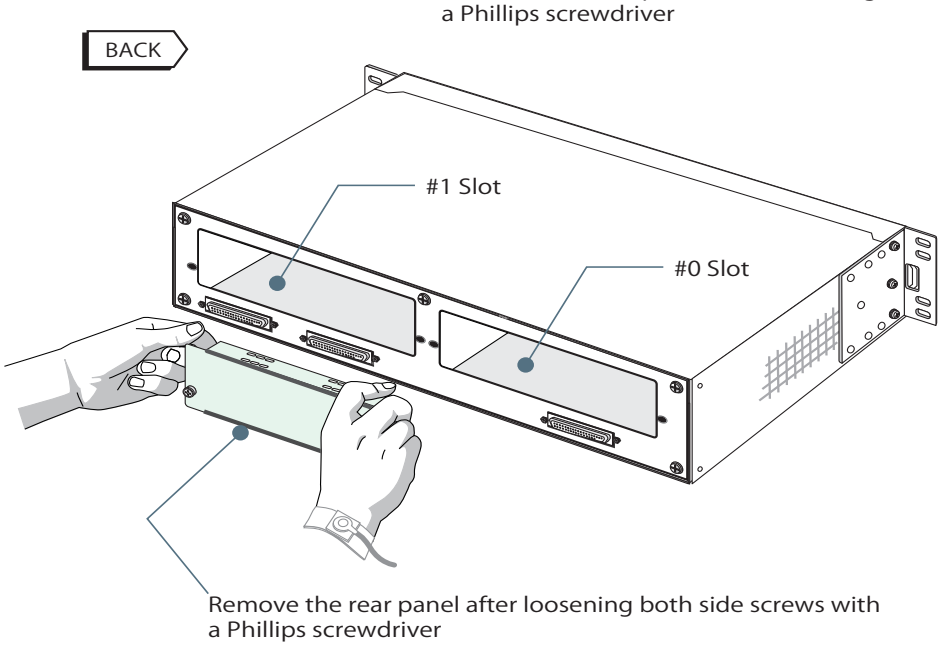
- Considering the safety, be sure to perform the installation working with two or more people.
- Mount the modules and units on the 19-inch rack from bottom to up.
- TSW-BOX needs to be mounted right above the server module.

Note: The recommended 19-inch rack has a front side and a back side. When you mount a module be careful to do it in the correct direction. Figures in this section will depict the frontal part of the rack facing to the left.

Step1: Check Circuit Card Description and set the switches of the TSW card (SPZ-SW25-A).

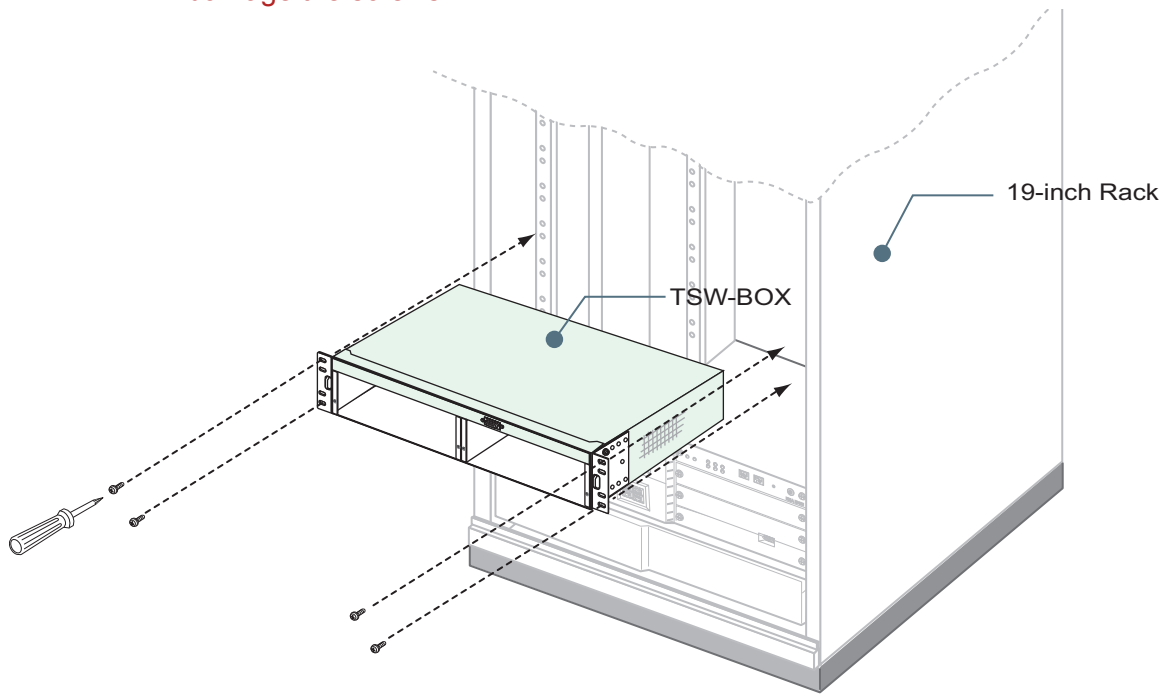
Step2: In case of a TSW dual configuration, remove the front and rear covers of the #1 slot (use a Phillips screwdriver to loosen right and left screws).



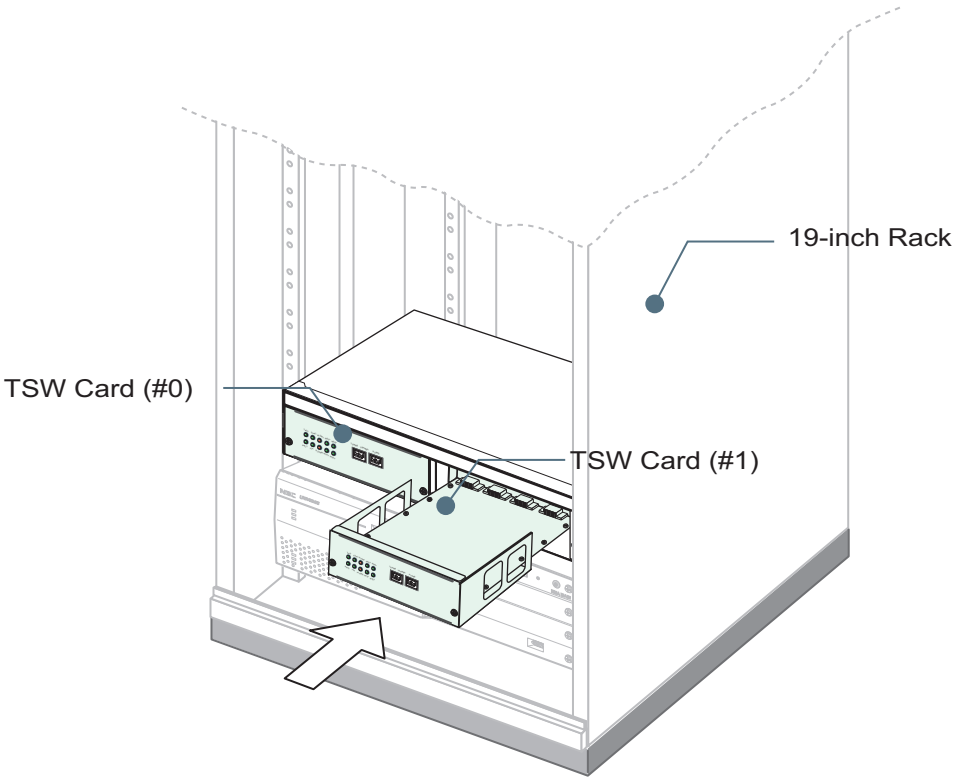


Step3: Mount the TSW-BOX on the 19-inch Rack.

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

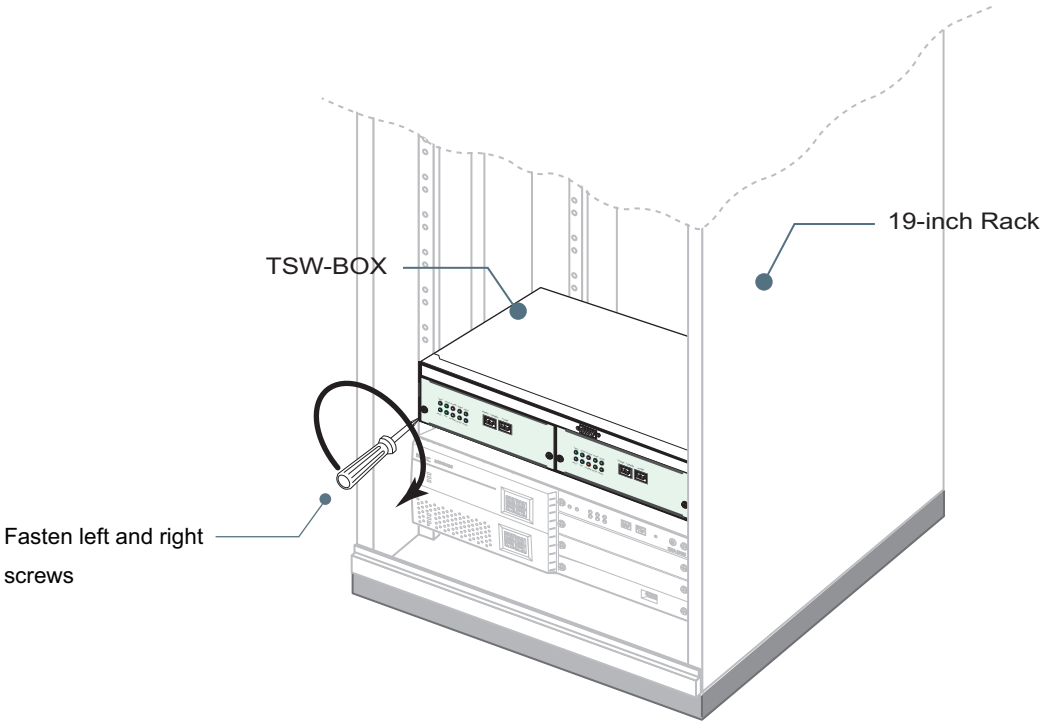


Step4: Mount the TSW card (SPZ-SW25-A) in the TSW-BOX slot. The following example is for a TSW dual configuration (left: #0, right: #1).



Step5: After mounting the TSW card, use a Phillips screwdriver to firmly screw right and left screws on the front side.

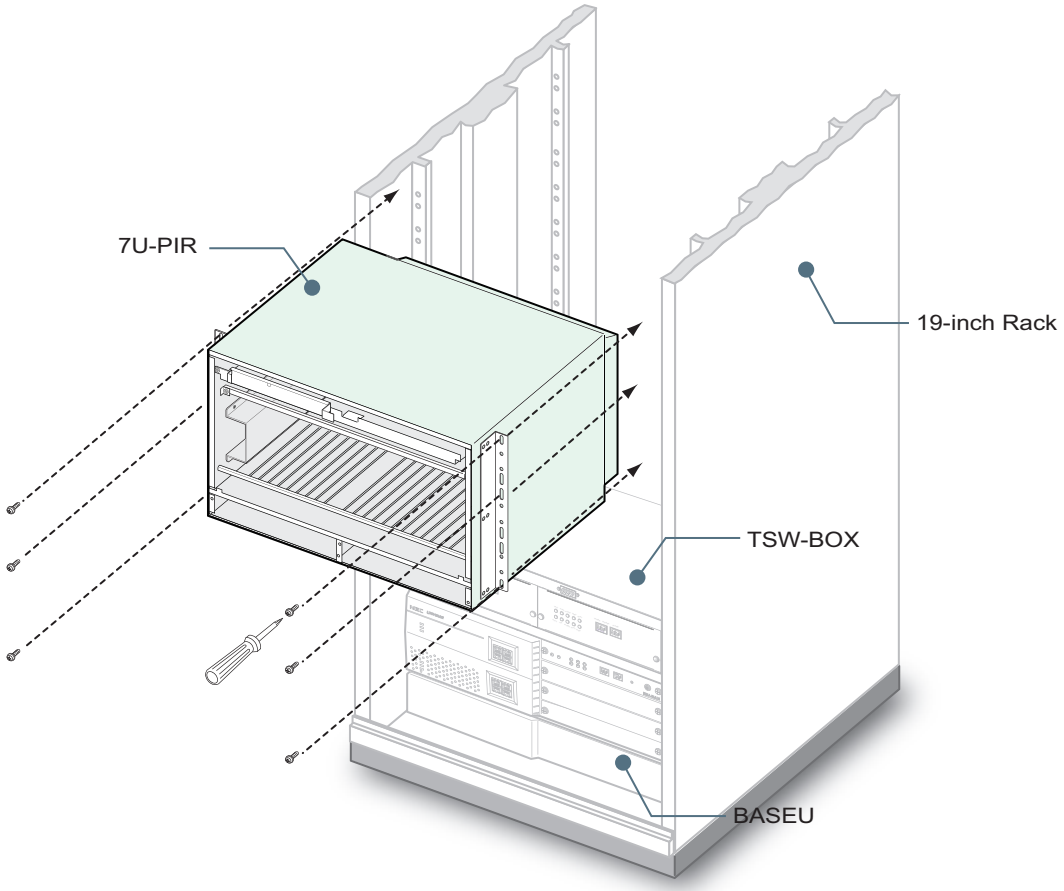
Note: Do not use an electric screwdriver. The fastening torque could be excessive and damage the screws.



Step6: Mount 7U-PIR on the 19-inch Rack (following the example given on Checking PIR Position on page 271, the mounting process will be done for PIR0 and PIR1).

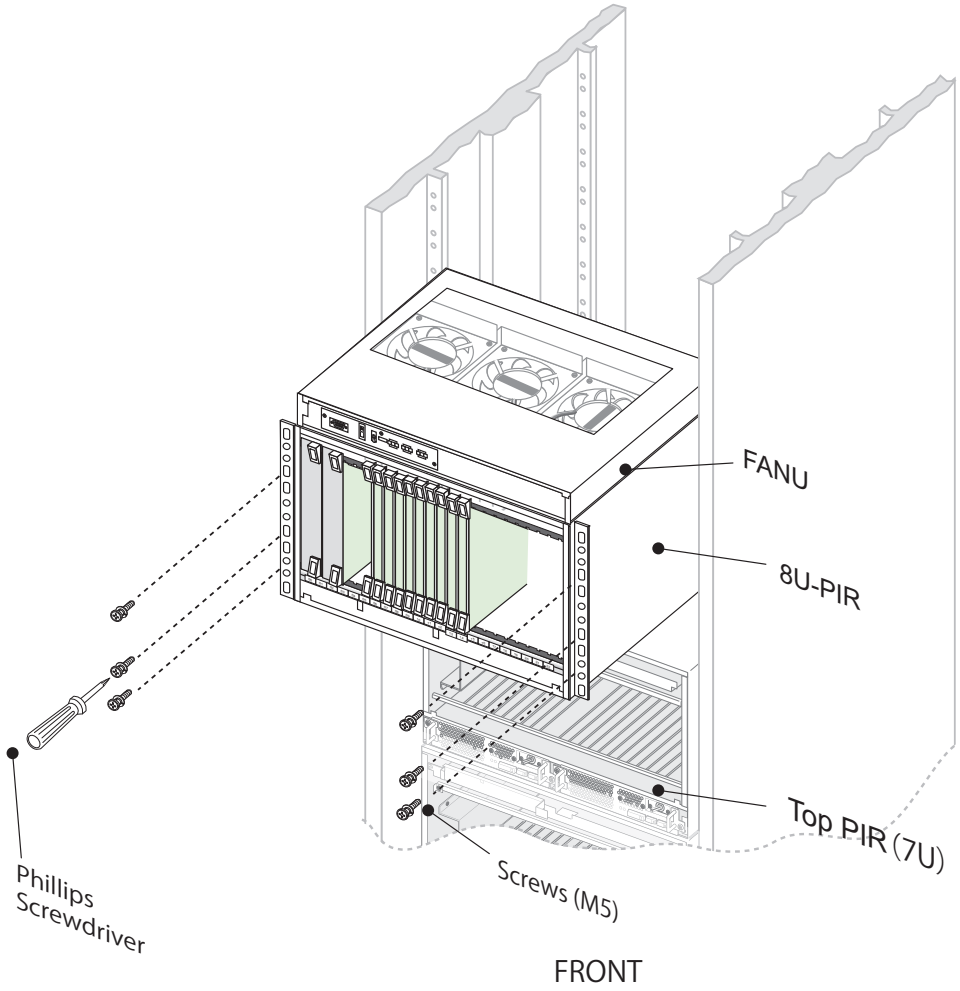
Note: Do not use an electric screwdriver. The fastening torque could be excessive and damage the screws.

7U-PIR Mounting



Step7: After installing all 7U-PIRs, mount on the 19-inch Rack U8-PIRs (according to the example given on Checking PIR Position on page 271, they would be installed on PIR2 and PIR3).

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



Note: Mount always 8U-PIR above 7U-PIRs. 8U-PIR cannot be mounted between two 7U-PIRs or below.

4.2.5 Mounting the Power Unit

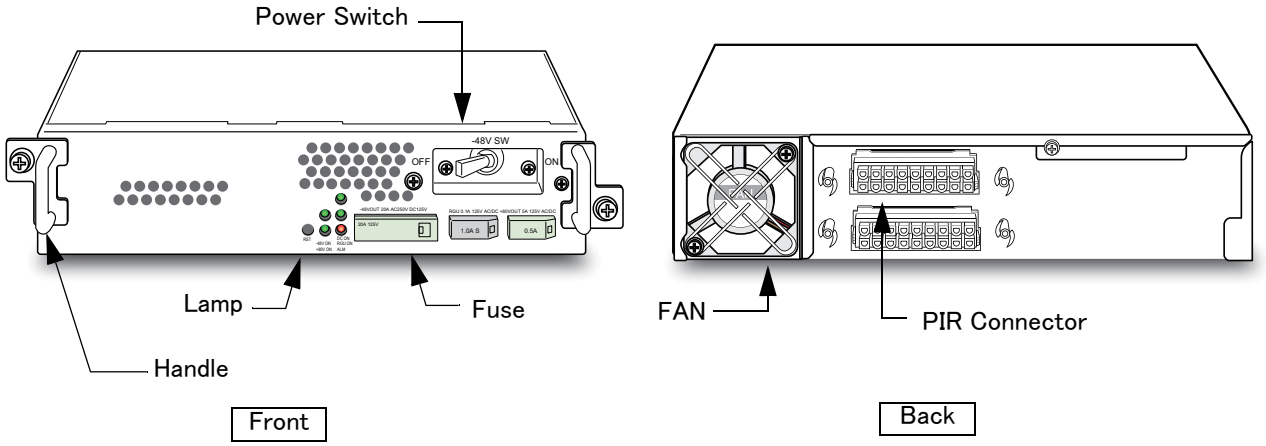
This section describes how to mount 7U-PIR DC-DC Power Unit to the power unit slot in the lower part of the 7U-PIR.

CAUTION

When you mount or remove a power unit, take the following precautions.

- Only touch the handles. Specially, when removing the unit after it has been used, upper and lower parts can be very hot and cause a burning, therefore do not touch those parts of the unit.
- Make sure that the power switch on the front panel is set to OFF before any operation.

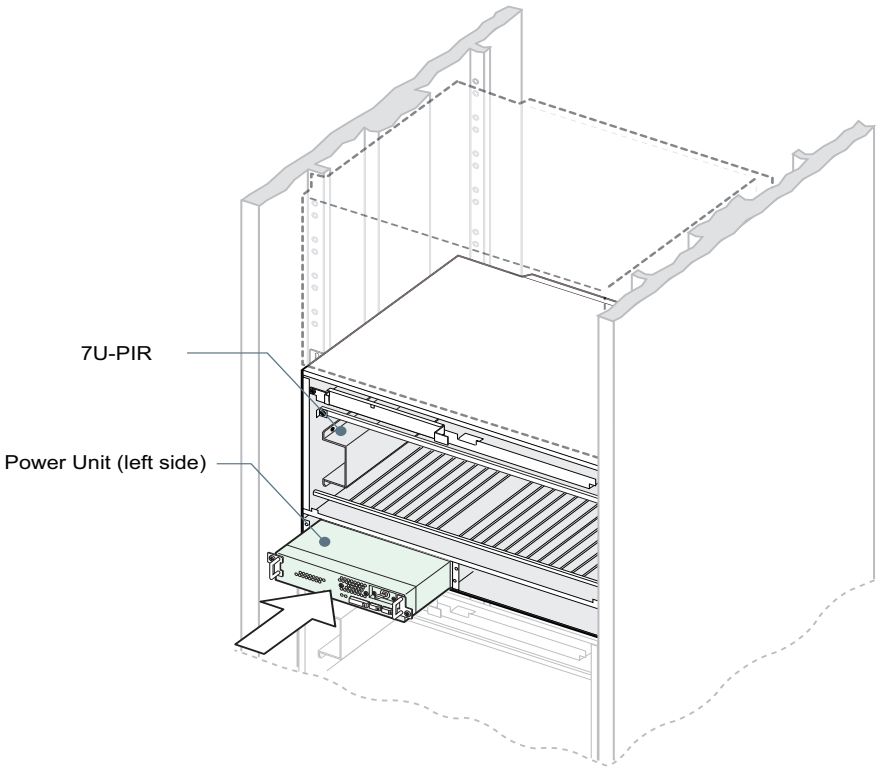
Power Unit



Step1: Insert 7U-PIR DC-DC Power Unit on the power unit slot in the lower part of 7U-PIR following the illustrations below.

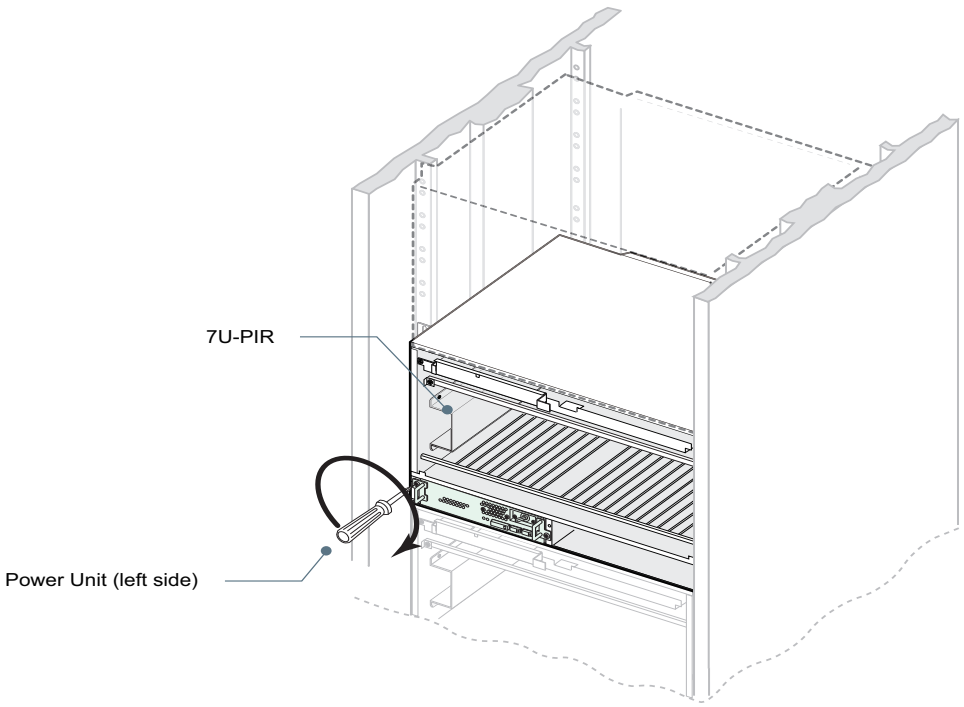
- On the lower part of 7U-PIR there are two mounting slots for power units (dual configuration). The left slot is for #0 and the right for #1. In case of a single configuration, use the left slot (#0) for the power unit mounting.
- Mount the connector on the back of the power unit to 7U-PIR connector.

Note: If you cannot mount the unit smoothly, check again that the 7U-PIR connector and the power unit connector are meshing.

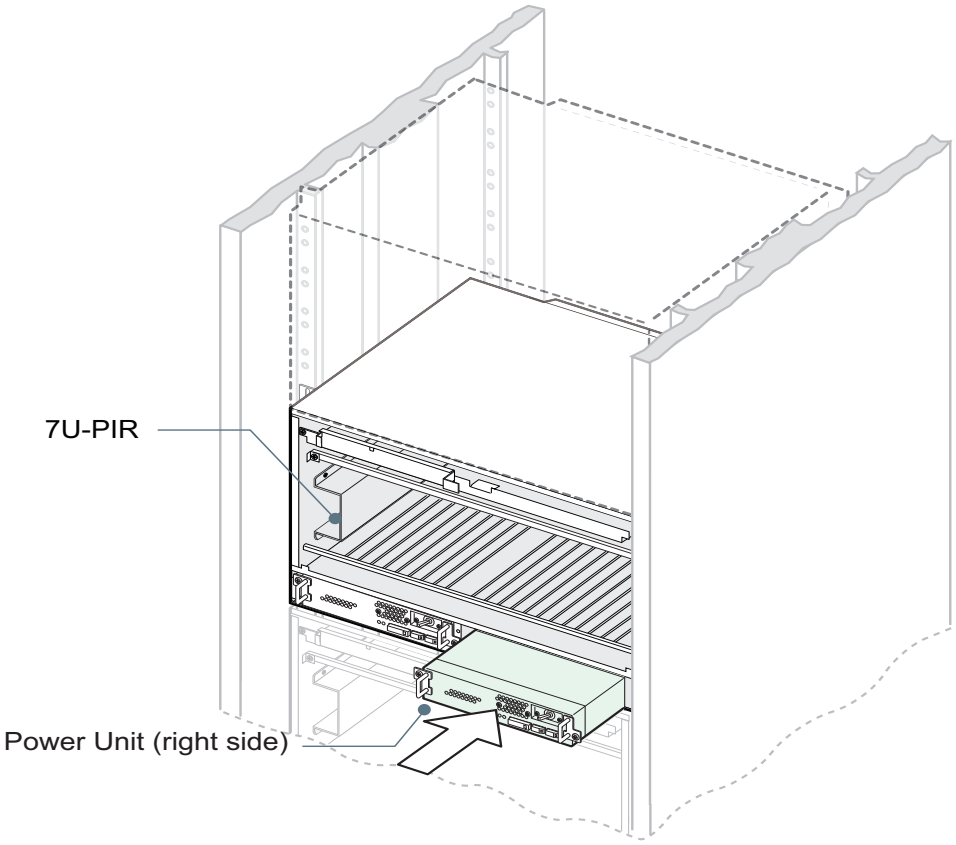


Step2: After mounting the power unit, use a Phillips screwdriver to firmly screw right and left screws on the front side.

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



Step3: In case of a dual configuration, mount the other power unit in the right slot (#1) using the same operation as with the left power unit.



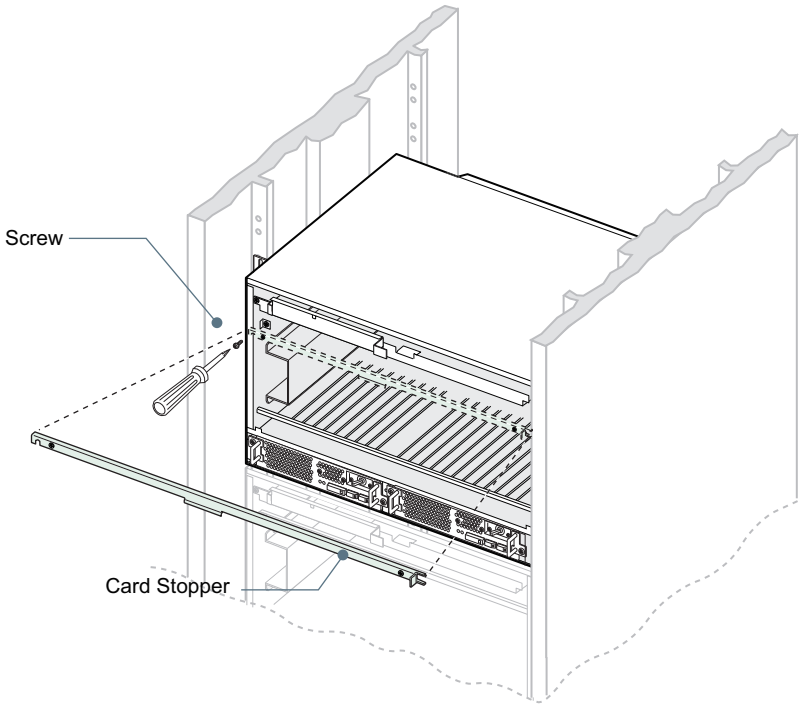
4.2.6 Mounting the Cards

This section describes how to mount cards to 7U-PIR/8U-PIR. When inserting the cards, 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 on Chapter 2 of System Description manual.
- After removing a card, wait at least 10 seconds to mount it again.

* Use a Phillips screwdriver to remove the front card stopper of the 7U-PIR/8U-PIR. Be careful not to lose the screws. The stopper serves as a measure against earthquakes (with a earthquake-resistance strength of 1.1G), therefore do not forget to install it again after mounting the cards.

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



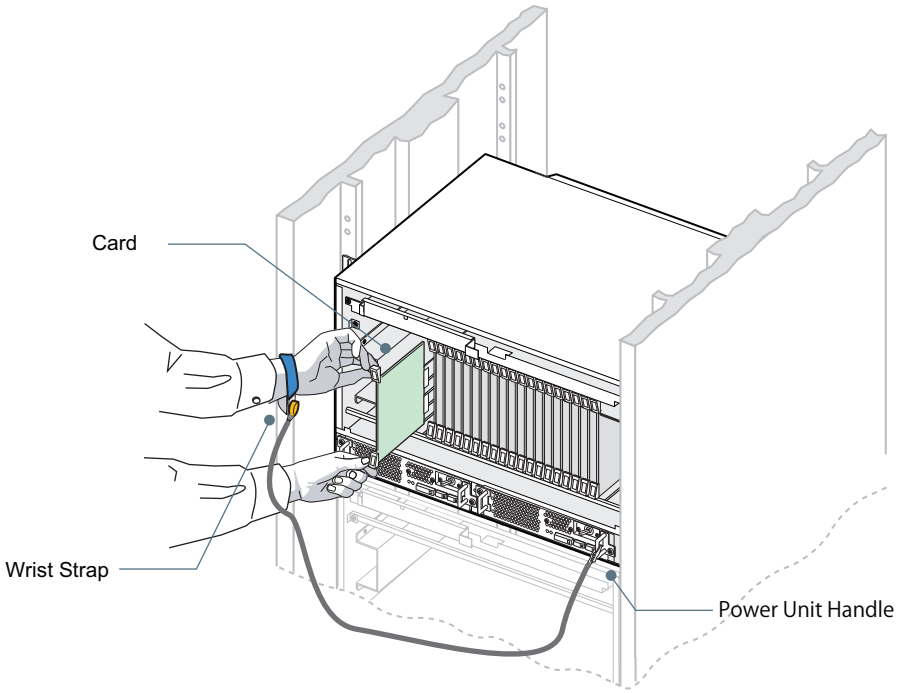
Step1: Put a little of isopropyl alcohol in a gauze and wipe both side connectors. Make sure there is no dust or fluff.

Step2: Check the mounting position per each card. Consult the figure for the front composition of PIR and check that the slot numbers and card label colors are matching.

Step3: Consult Circuit Card Description and set the hard switches for each card.

Note: The setting can be done only for hard switches. As for soft switches of 7U-PIR cards, after power activation, set them using PCPro (CPSW command) or a serial console.

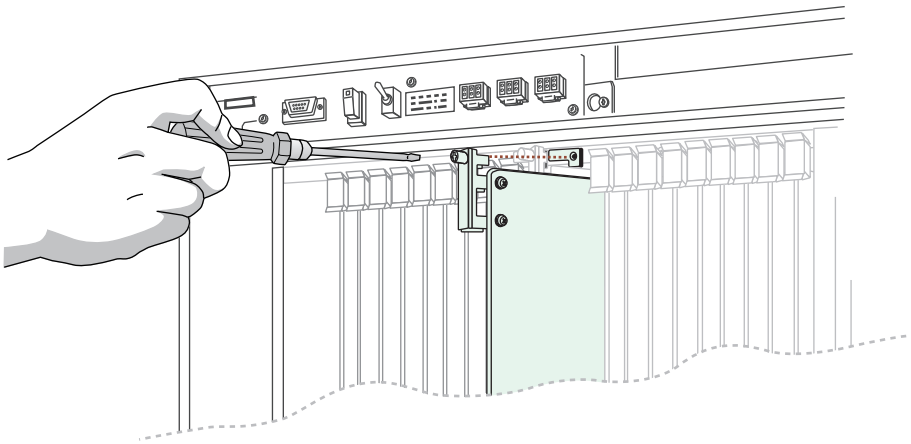
Step4: The cards are inserted to the appropriate slot. First, accommodate the upper and lower part of the card to the rails and press to insert it. Stop the insertion 5 centimeters before reaching the back side, if there is not any problem, continue until the back and check that the connector is firmly connected to the back board (the following example uses 7U-PIR).



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, there may be a scape of static electricity.

[CJ-PC00 (MUX) Card]

The CJ-PC00 (MUX) card includes in its upper part a front plate for clasping. Use the driver to firmly fix it to 7U-PIR.



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

Step5: After mounting all the cards, put again the card stopper with the screws.

4.3 Module Mounting (DC-Powered Model (4-IMG))

Regarding the DC (4-IMG) type, PIR installation is performed as follows.

PIR Installation (DC 4-IMG Type with TSW-BOX)

Start

1	Checking PIR Position (When Using TSW-BOX)	⇒Check the position of the TSW-BOX, 7U-PIR and 8U-PIR on the 19-inch rack.
2	Mounting the Fan Unit	⇒Mount the fan unit on 8U-PIR.
3	Attach TOP COVER	⇒Attach the TOP COVER on 8U-PIR
4	Mounting on the 19-inch Rack (Mounting TSW-BOX, Mounting 7U-PIR/8U-PIR)	⇒Mount the TSW-BOX, 7U-PIR and 8U-PIR on the 19-inch Rack.
5	Mounting the Power Unit	⇒Mount 7U-PIR DC-DC Power Unit on the power unit slot of 7U-PIR.
6	Mounting the Cards	⇒Mount cards to 7U-PIR/8U-PIR.

Finish

PIR Installation (DC 4-IMG Type with TSWR)

Start

1	Checking PIR Position (When Using TSWR)	⇒Check the position of the TSWR, 7U-PIR and 8U-PIR on the 19-inch rack.
2	Mounting the Fan Unit	⇒Mount the fan unit on 8U-PIR.
3	Attach TOP COVER	⇒Attach the TOP COVER on 8U-PIR
4	Mounting on the 19-inch Rack (Mounting TSWR, Mounting 7U-PIR/8U-PIR)	⇒Mount the TSWR, 7U-PIR and 8U-PIR on the 19-inch Rack.
5	Mounting the Power Unit	⇒Mount 7U-PIR DC-DC Power Unit on the power unit slot of 7U-PIR.
6	Mounting the Cards	⇒Mount cards to 7U-PIR/8U-PIR.

Finish

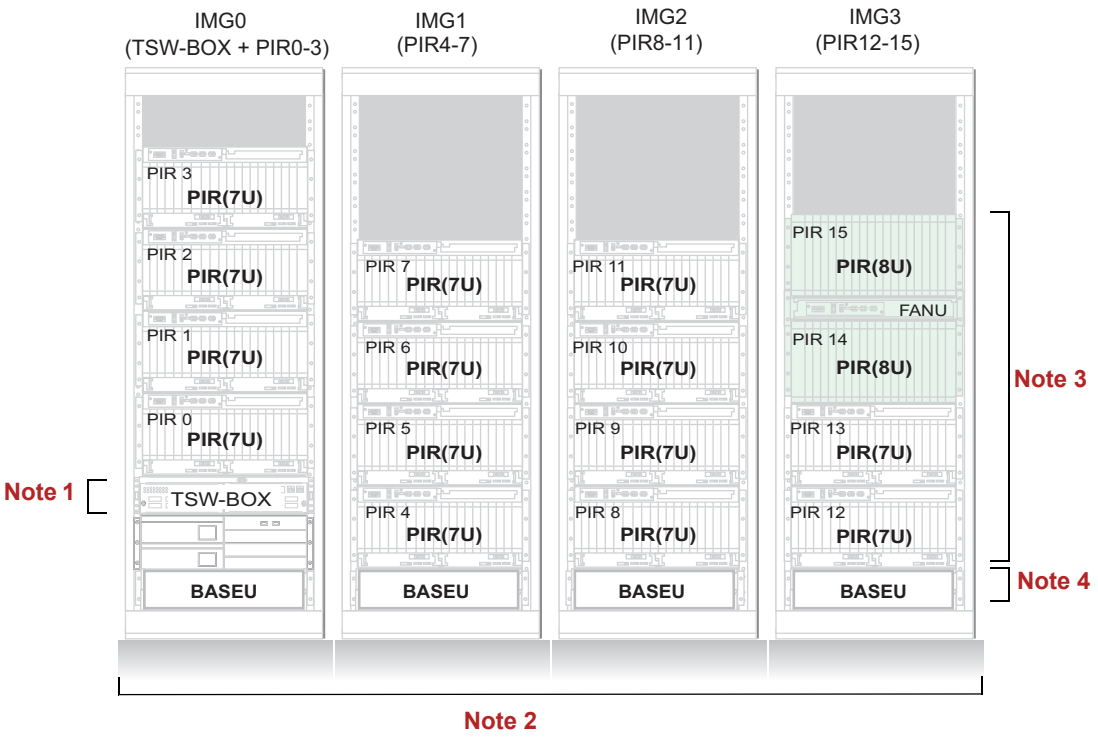
4.3.1 Checking PIR Position

4.3.1.1 When Using TSW-BOX

Following the figure below check the positions of the Telephony Server, PIRs and the TSW-BOX on a 19-inch rack (for the example a 19-inch rack (mm-type) with a 39U capacity is used).

The installation procedure follows the figure below where 14 7U-PIRs and 2 8U-PIRs have been installed. For other possible combinations refer to 7. 7U-PIR and 8U-PIR Mixed Configuration Patterns List.

Mounting Position on 19-inch Rack (DC 4-IMG Type with TSW-BOX)



Note 1: TSW-BOX needs to be mounted right above the server module.

Note 2: PIRs on the DC (4-IMG) type are divided and mounted in IMG0, 1, 2, 3 with each IMG being a 19-inch Rack.

Note 3: Do not let open spaces between the modules.

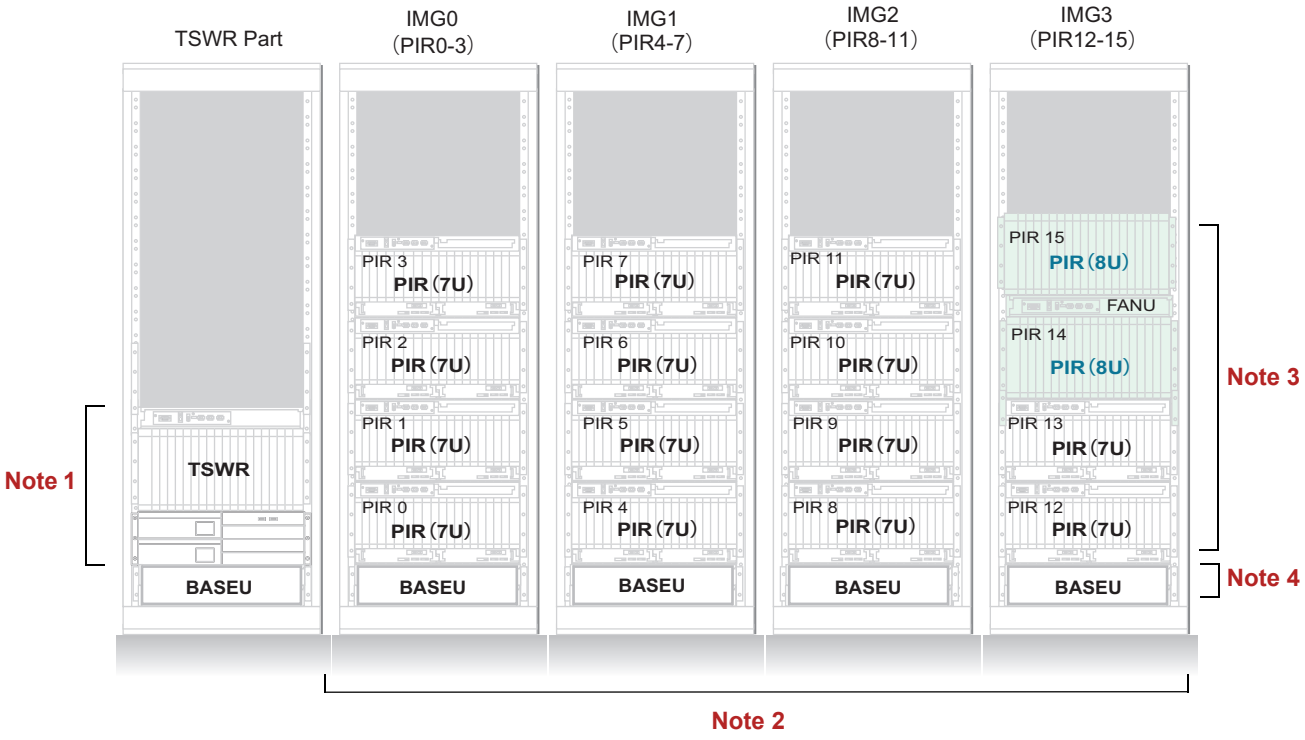
Note 4: When you decide the position of the modules take into consideration that the fuse alarm cables from the BASEU to each module (PIR/TSW-BOX) have a length of 1 meter.

4.3.1.2 When Using TSWR

Following the figure below check the positions of the Telephony Server, PIRs and the TSWR on a 19-inch rack (for the example a 19-inch rack (mm-type) with a 39U capacity is used).

The installation procedure follows the figure below where 14 7U-PIRs and 2 8U-PIRs have been installed. For other possible combinations refer to 7. 7U-PIR and 8U-PIR Mixed Configuration Patterns List.

Mounting Position on 19-inch Rack (DC 4-IMG Type with TSWR)



Note 1: TSWR needs to be mounted right above the server module.

Note 2: PIRs on the DC (4-IMG) type are divided and mounted in IMG0, 1, 2, 3 with each IMG being a 19-inch Rack.

Note 3: Do not let open spaces between the modules.

Note 4: When you decide the position of the modules take into consideration that the fuse alarm cables from the BASEU to each module (PIR/TSWR) have a length of 1 meter.

4.3.2 Mounting the Fan Unit

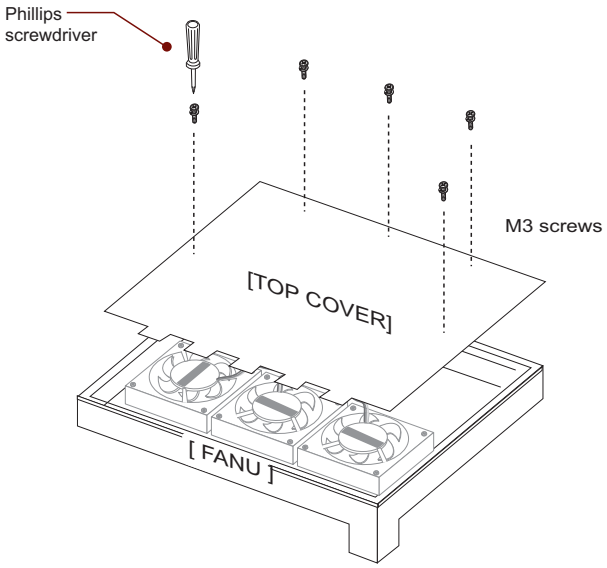
FANU is mounted on 8U-PIR.

Note: Here, "FANU" represents FANU (H) and "TOP COVER" represents TOP COVER (H).

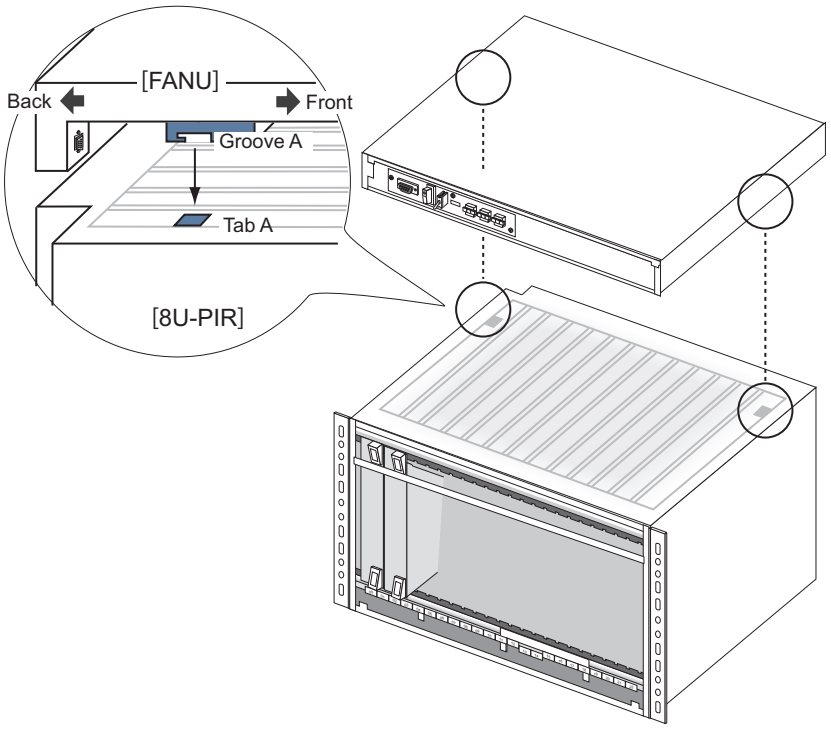
[IN CASE OF ONLY ONE 8U-PIR MOUNTED]

Step1: Attach a TOP COVER, onto the top of FANU, ventilating in the downward direction, and secure the cover with five screws.

Note: One TOP COVER (H) will remain unused.



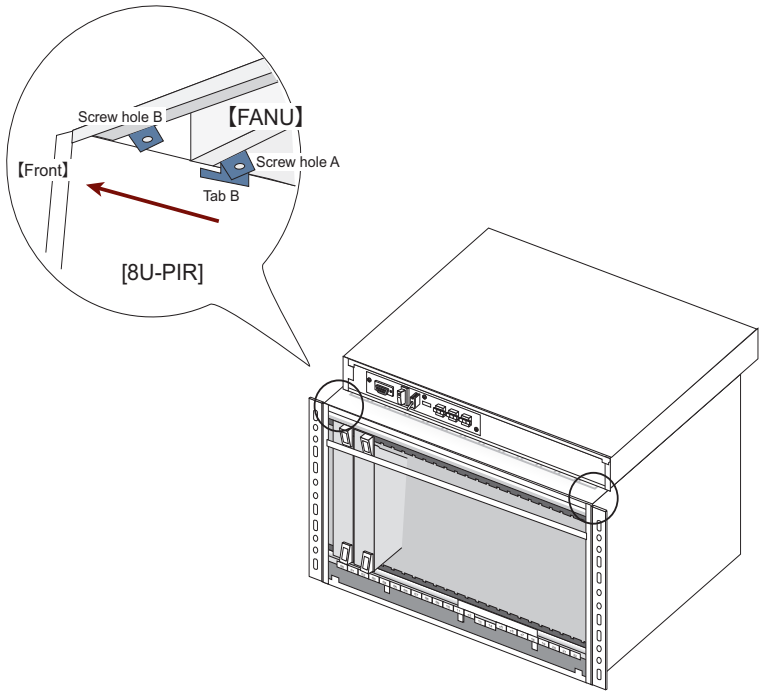
Step2: Fit the tab A of 8U-PIR into the groove As located on both sides of FANU.



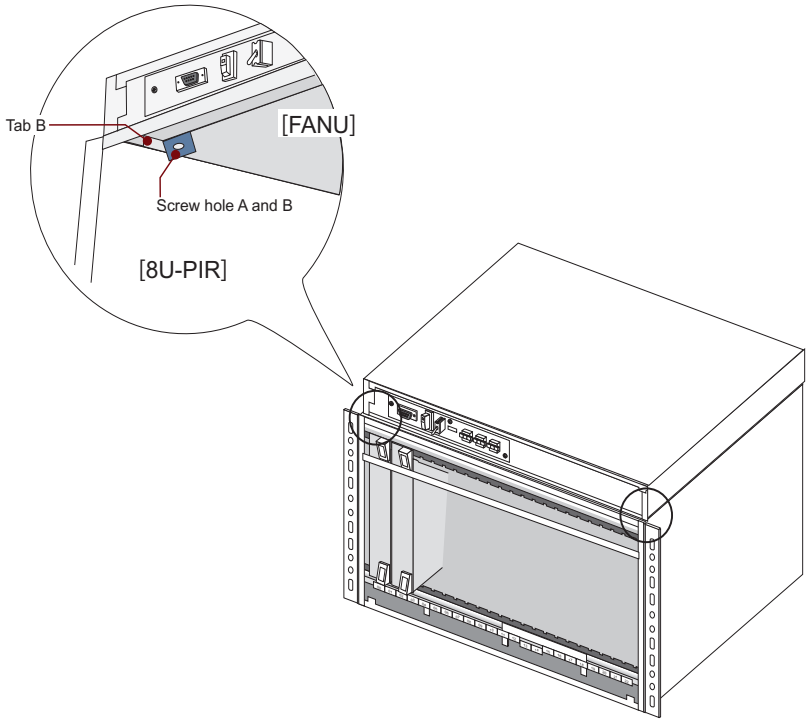
Step3: Slide FANU toward the front of 8U-PIR. Take note of the following points while mounting the FANU onto the 8U-PIR.

- Place tab Bs on the front of FANU beside screw hole B on the front of 8U-PIR.
- Superimpose screw hole A on the front of FANU and screw hole B of 8U-PIR.

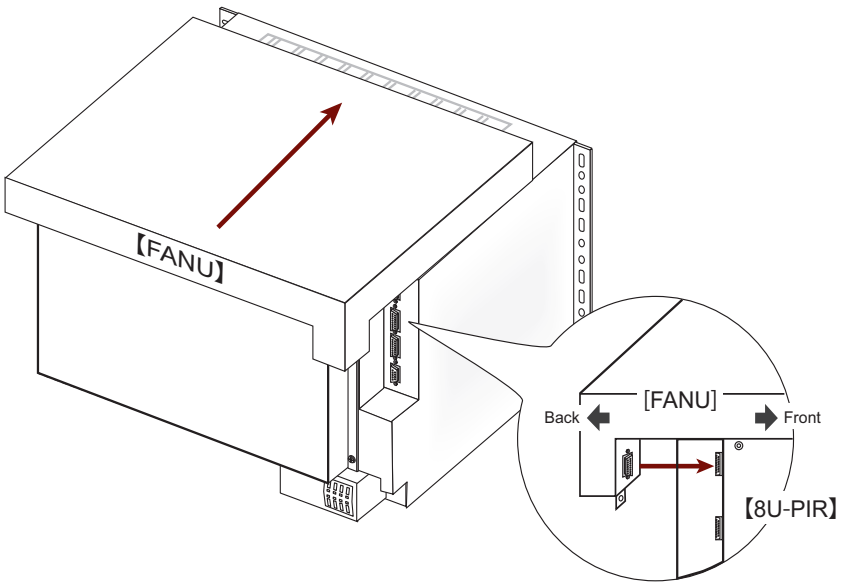
Before Mounting



After Mounting



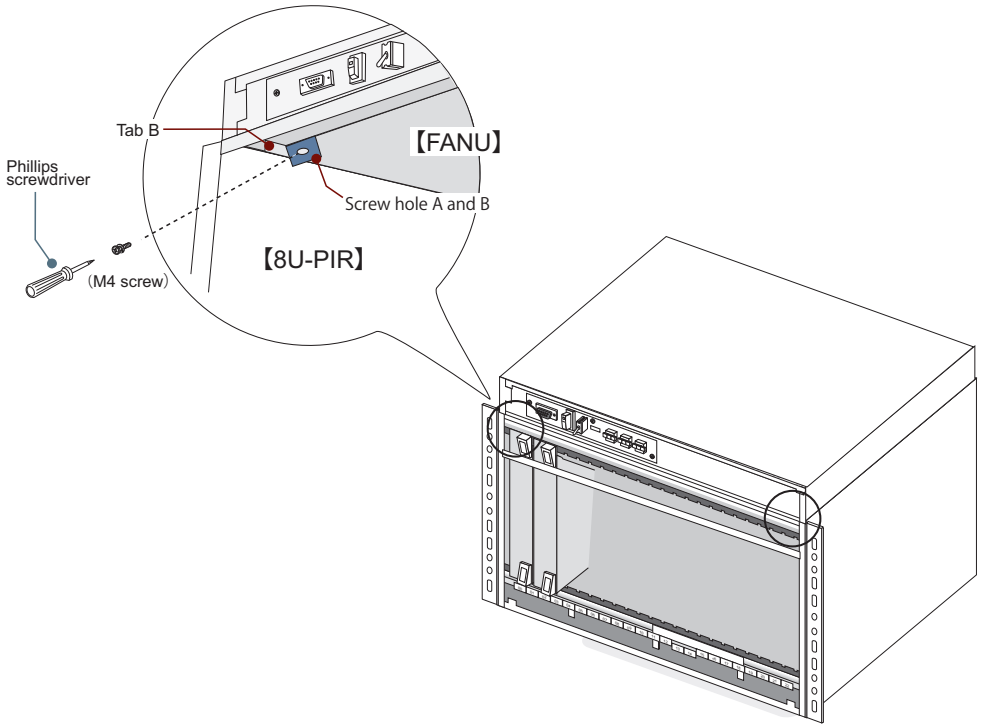
- Install the connectors of FANU into the connectors on the back of 8U-PIR.



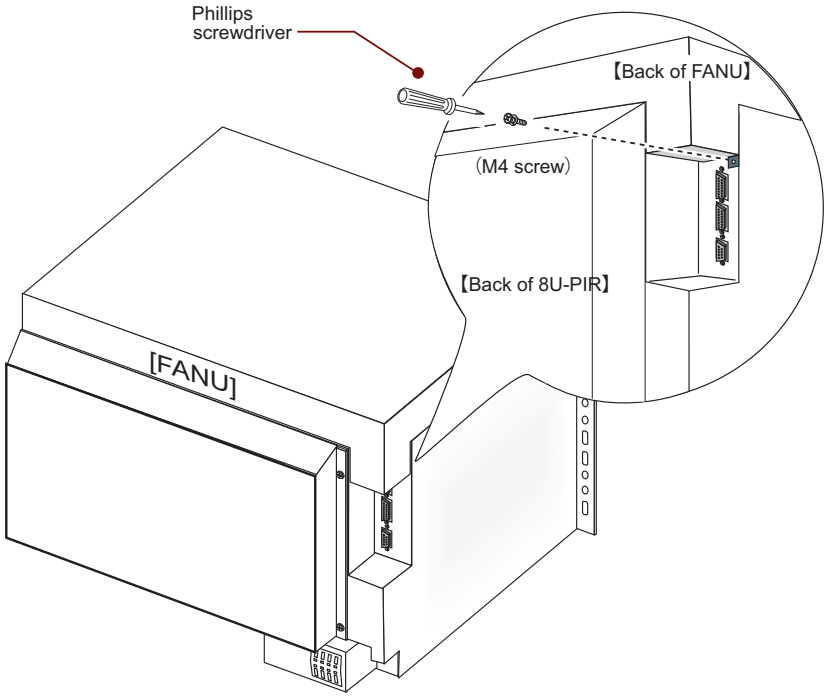
Note: If you cannot slide FANU smoothly in the direction of the arrow, check that the connectors of FANU engage with the connectors of 8U-PIR properly.

Step4: Secure FANU to 8U-PIR with two screws for the front and one screw for the back.

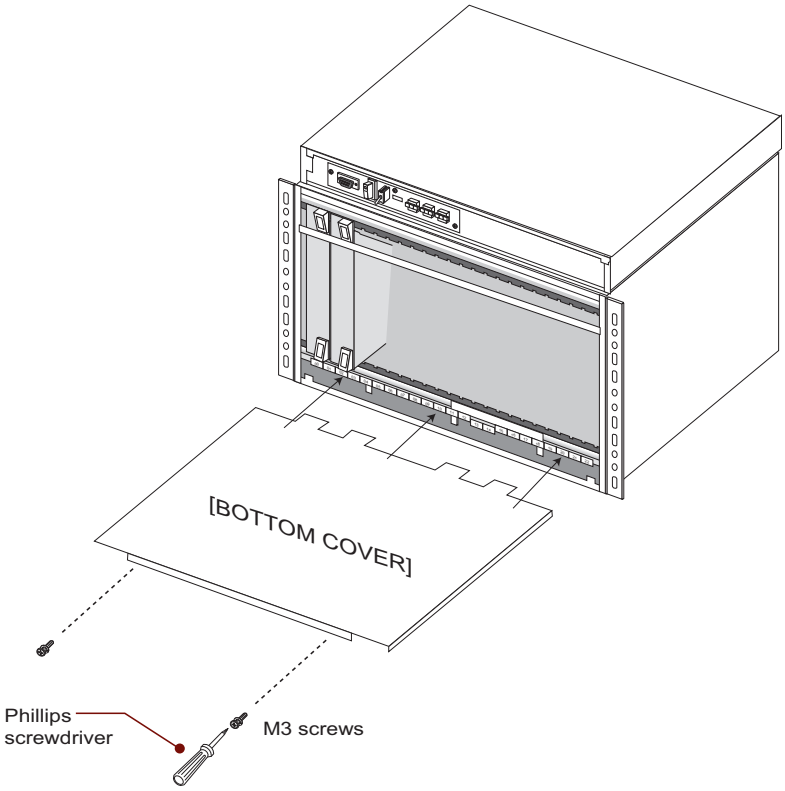
- Secure the front of FANU with two screws.



- Secure the back of FANU with one screw.

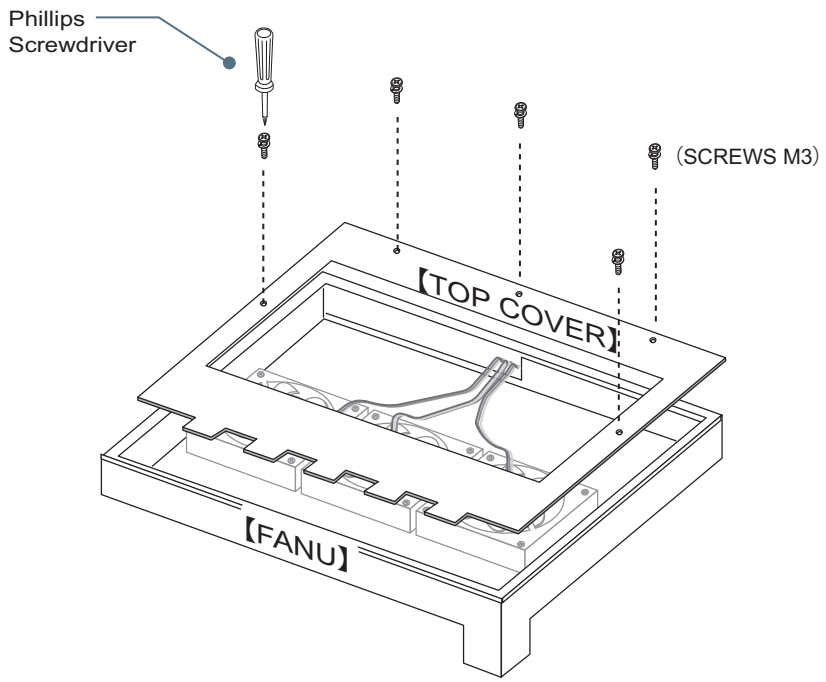


Step5: Attach a Bottom Cover to 8U-PIR and secure it with two screws.

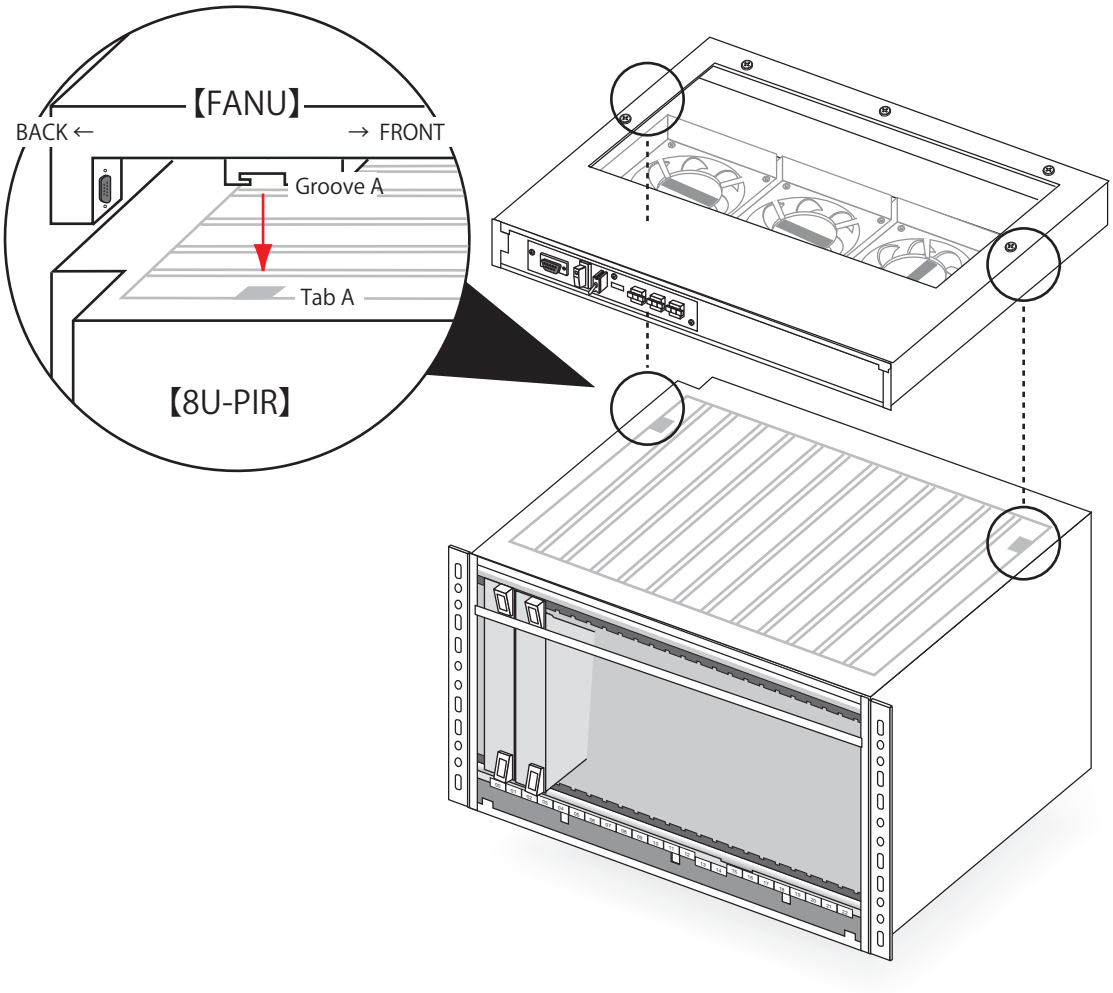


[IN CASE OF TWO OR MORE 8U-PIRs MOUNTED]

Step1: The FANU must be installed in the lowest 8U-PIR (in Checking PIR Position on page 302, that would be PIR14). First, attach a TOP COVER, onto the top of FANU, ventilating in the downward direction, and secure the cover with five screws.



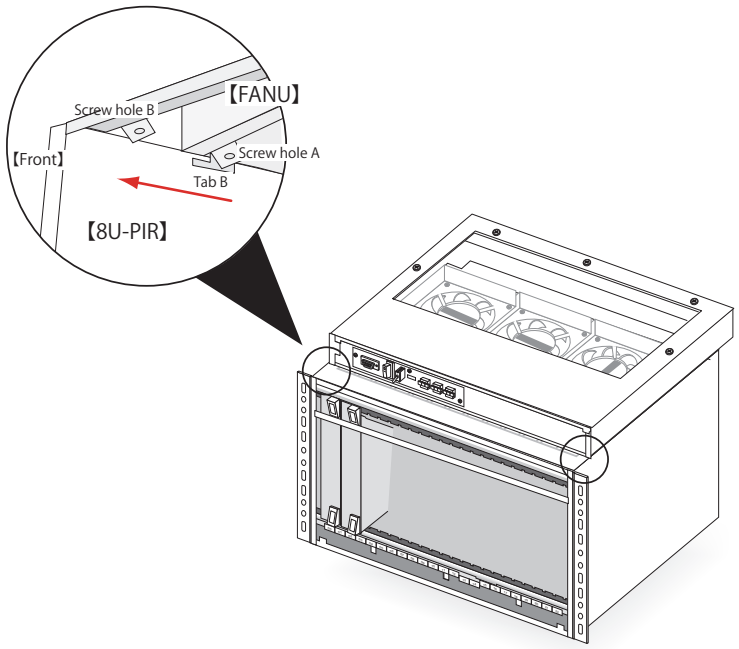
Step2: Fit the tab A of 8U-PIR into the groove A located on both sides of FANU.



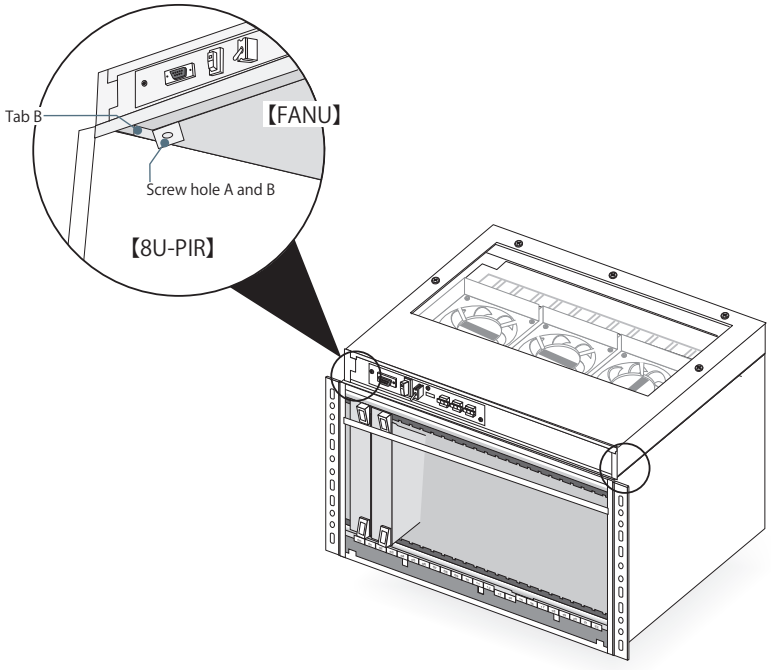
Step3: Slide FANU toward the front of 8U-PIR. Take note of the following points while mounting the FANU onto PIR.

- Place tab Bs on the front of FANU beside screw hole B on the front of 8U-PIR.
- Superimpose screw hole A on the front of FANU and screw hole B of 8U-PIR.

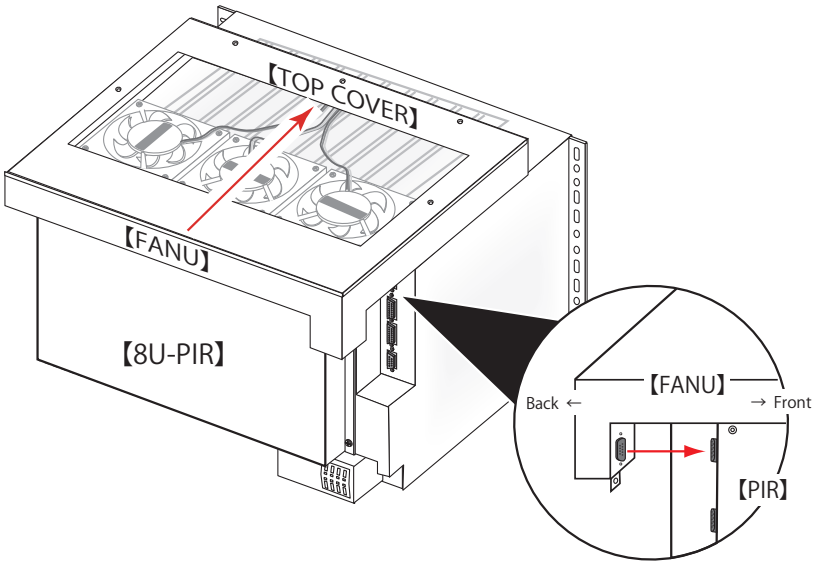
Before Mounting



After Mounting



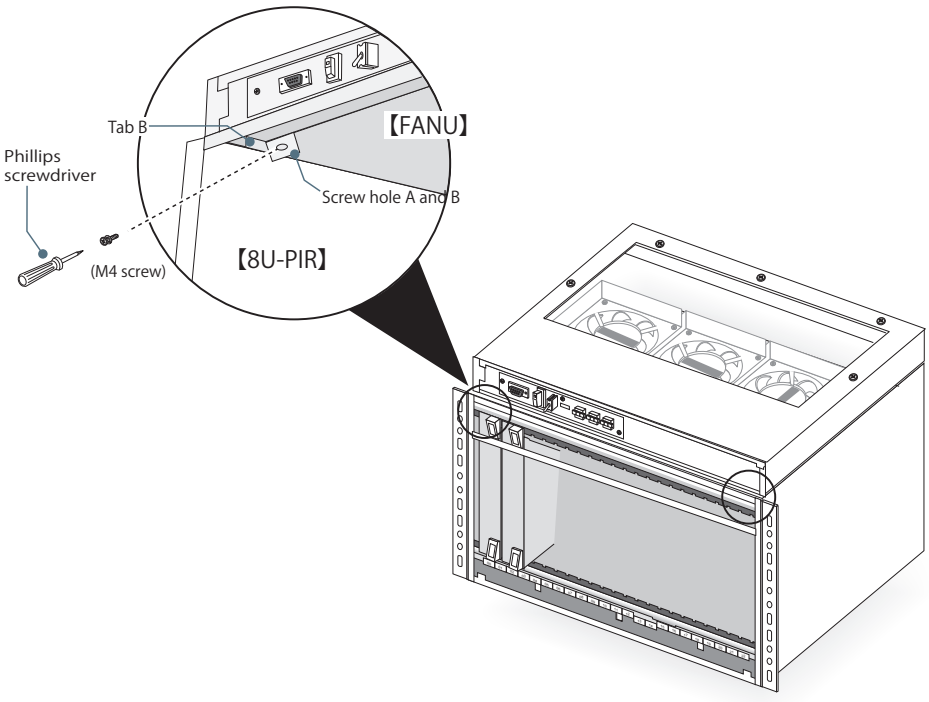
- Install the connectors of FANU into the connectors on the back of 8U-PIR.



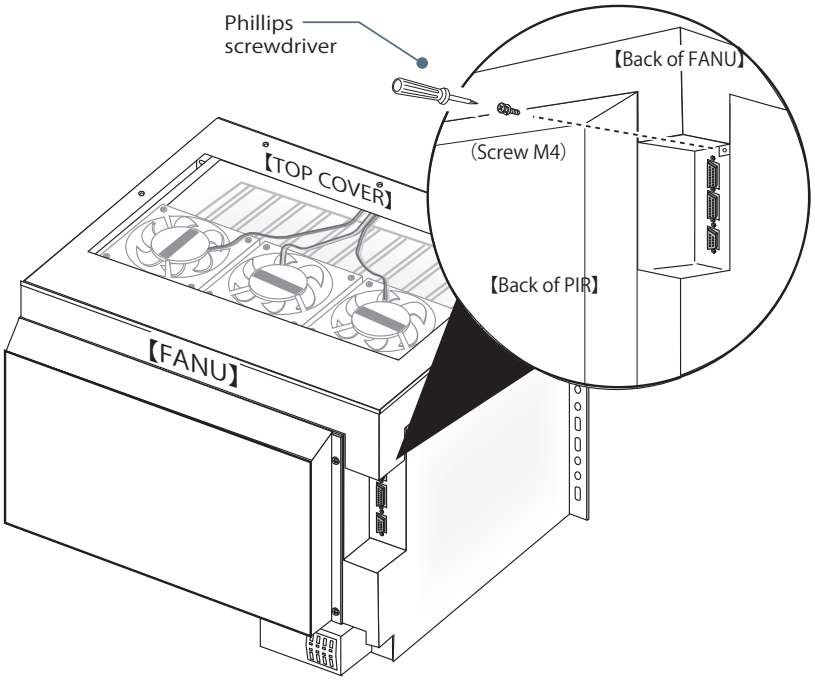
Note: If you cannot slide FANU smoothly in the direction of the arrow, check that the connectors of FANU engage with the connectors of 8U-PIR properly.

Step4: Secure FANU to 8U-PIR with two screws for the front and one screw for the back.

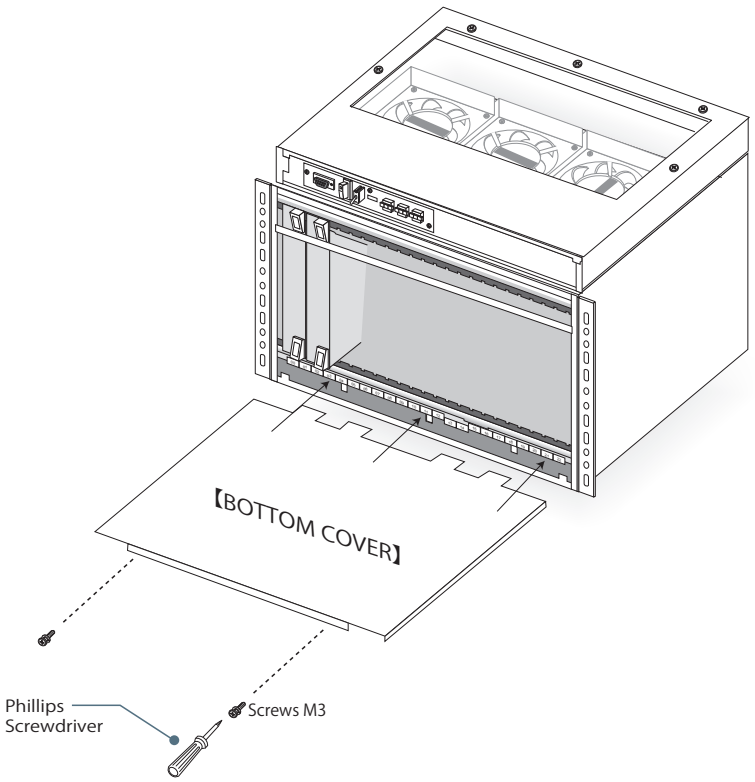
- Secure the front of FANU with two screws.



- Secure the back of FANU with one screw.



Step5: Attach a Bottom Cover to 8U-PIR and secure it with two screws.

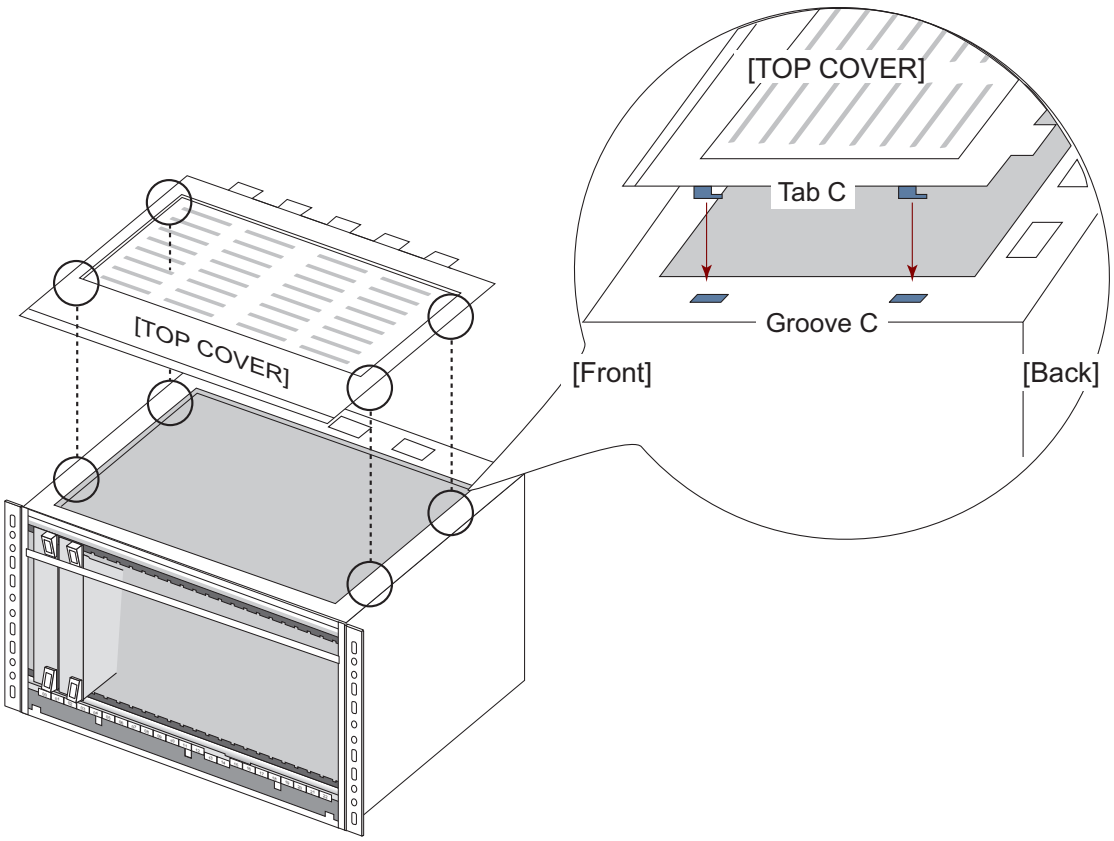


4.3.3 Attach TOP COVER

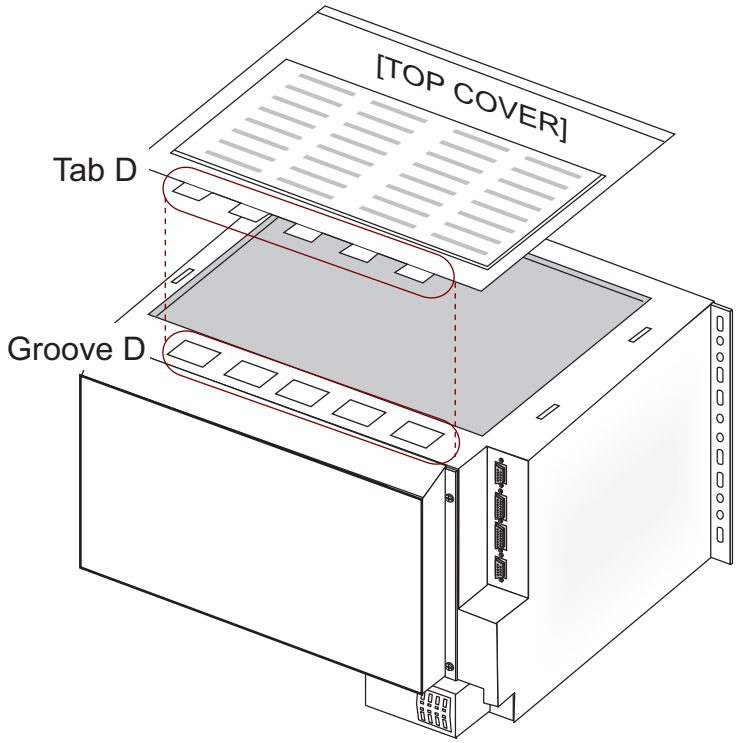
** A TOP COVER (V) is attached on the FANU of the bottom-mounted 8U-PIR (in the example given on Checking PIR Position on page 302, PIR14) and a mesh cover on the top-mounted 8U-PIR (in the example given on Checking PIR Position on page 302, PIR15). No TOP COVERs are needed for the middle-mounted 8U-PIRs.*

Step1: Fit tabs of the TOP COVER into the grooves of the 8U-PIR.

- Fit the tab C of the TOP COVER into the groove C of the 8U-PIR.

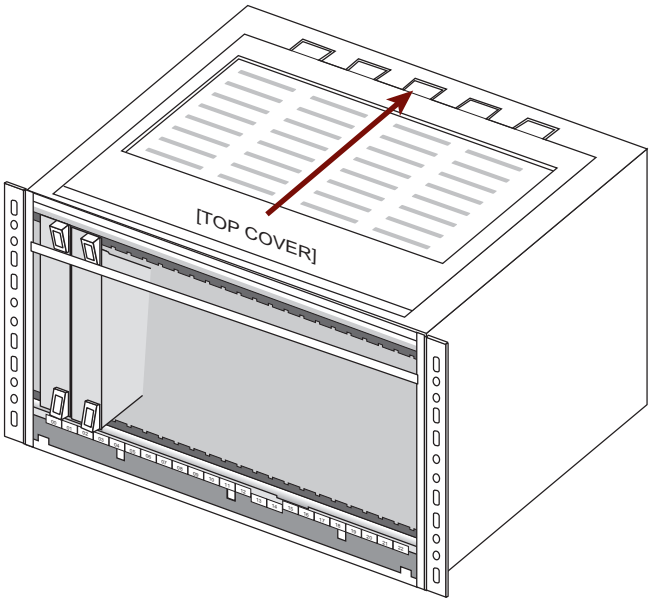


Step2: Fit the tab D into the groove D of 8U-PIR while adjusting the positions of the tabs located on both sides of TOP COVER.

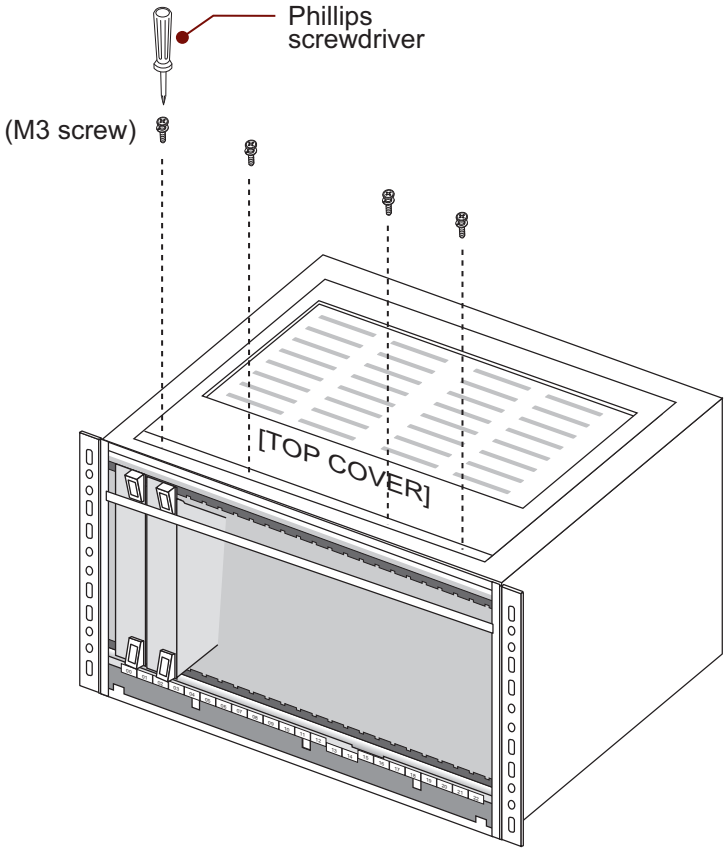


Note: When you attach TOP COVER/BOTTOM COVER to PIRs, consider the positions of each tab and groove.

Step3: Slide TOP COVER to attach it onto 8U-PIR.



Step4: After attaching TOP COVER onto 8U-PIR, secure it with four screws.



4.3.4 Mounting on the 19-inch Rack

Mount the TSW-BOX/TSWR/7U-PIR/8U-PIR on the 19-inch Rack following the figure below.

Note: The recommended 19-inch rack has a front side and a back side. When you mount a module be careful to do it in the correct direction. Figures in this section will depict the frontal part of the rack facing to the left.

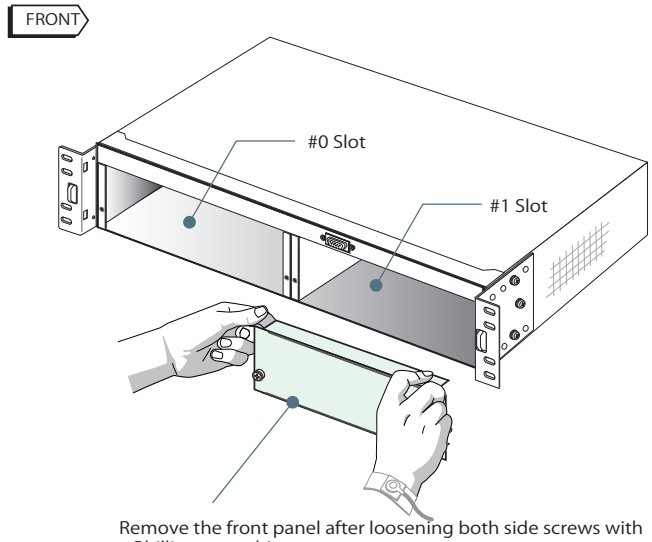
Note: Do not use an electric screwdriver. The fastening torque could be excessive and damage the screws.

4.3.4.1 Mounting TSW-BOX

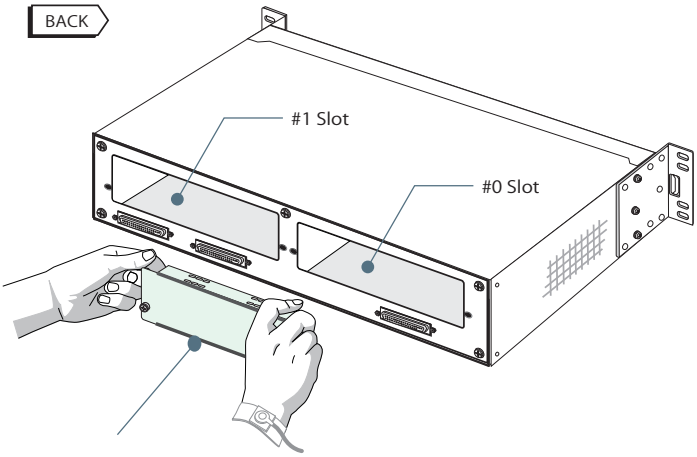
Follow the steps below to mount the TSW-BOX.

Step1: Set the switches on the TSW card (SPZ-SW26-A) by referring to Circuit Card Description.

Step2: For TSW dual configuration, remove the blank panels (for front and rear) of slot #1. Loosen the both side screws on the panel with a Phillips screwdriver.



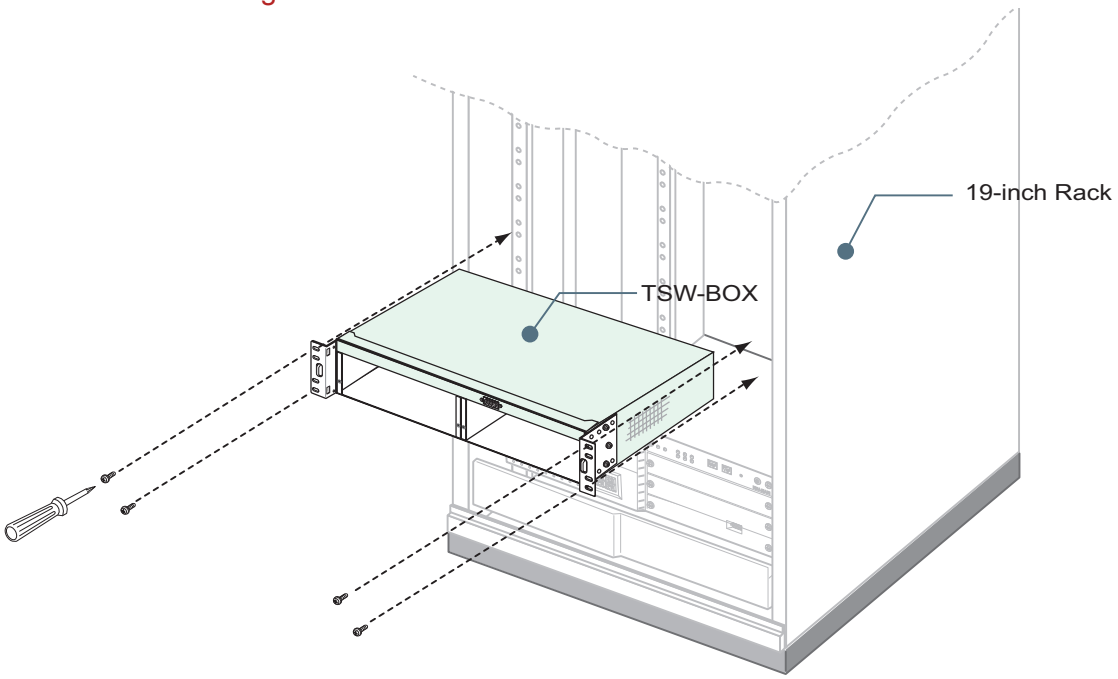
Remove the front panel after loosening both side screws with a Phillips screwdriver



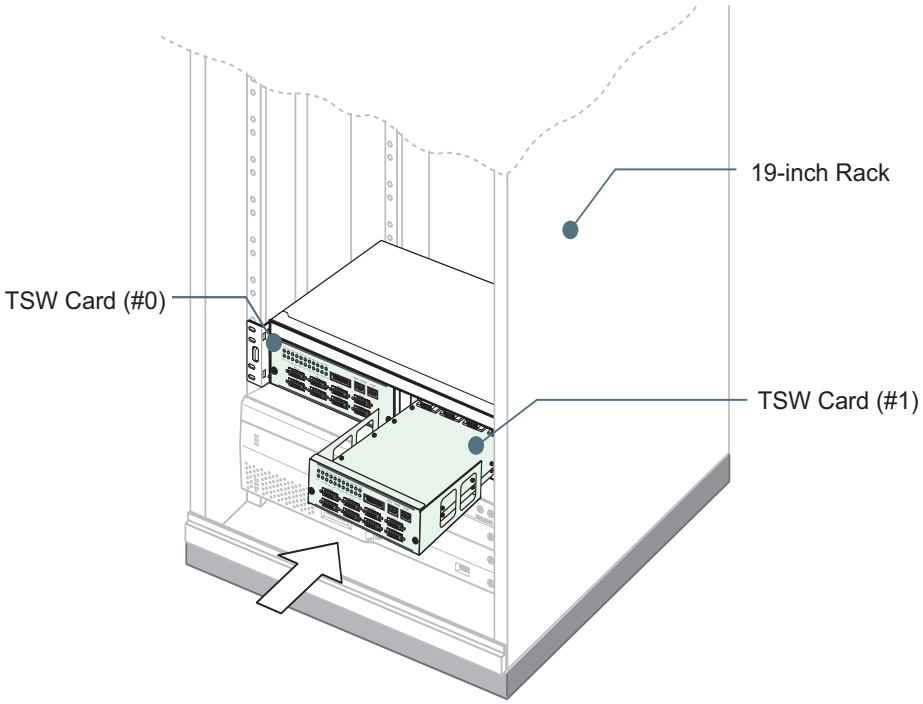
Remove the rear panel after loosening both side screws with a Phillips screwdriver

Step3: Mount the TSW-BOX on the 19-inch Rack.

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

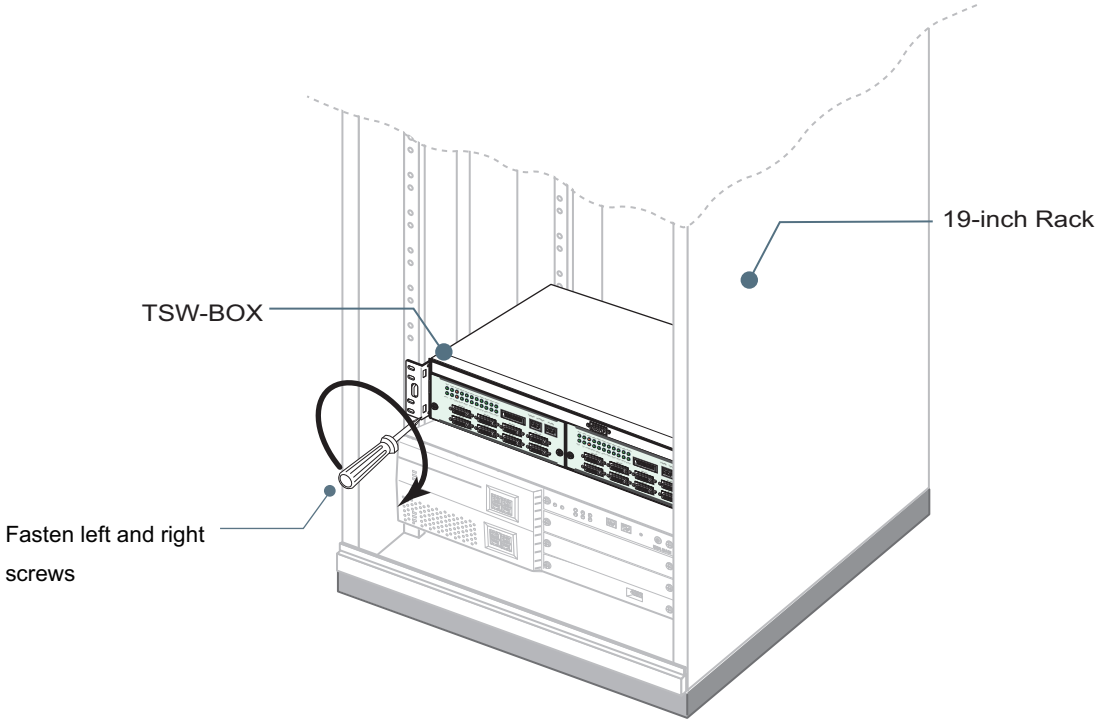


Step4: Mount the TSW card (SPZ-SW26-A) in the TSW-BOX slot. The following example is for a TSW dual configuration (left: #0, right: #1).



Step5: After mounting the TSW card, use a Phillips screwdriver to firmly screw right and left screws on the front side.

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

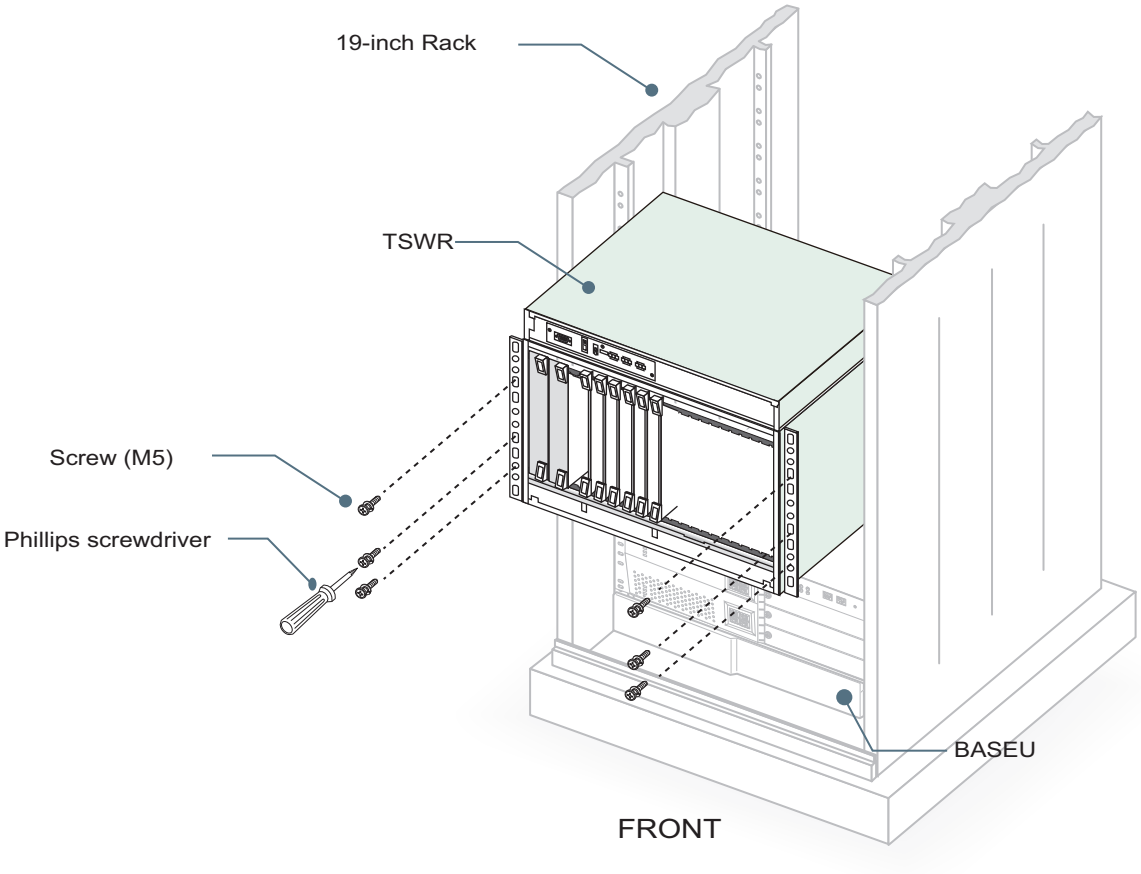


4.3.4.2 Mounting TSWR

Follow the steps below to mount the TSWR.

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

TSWR Installation

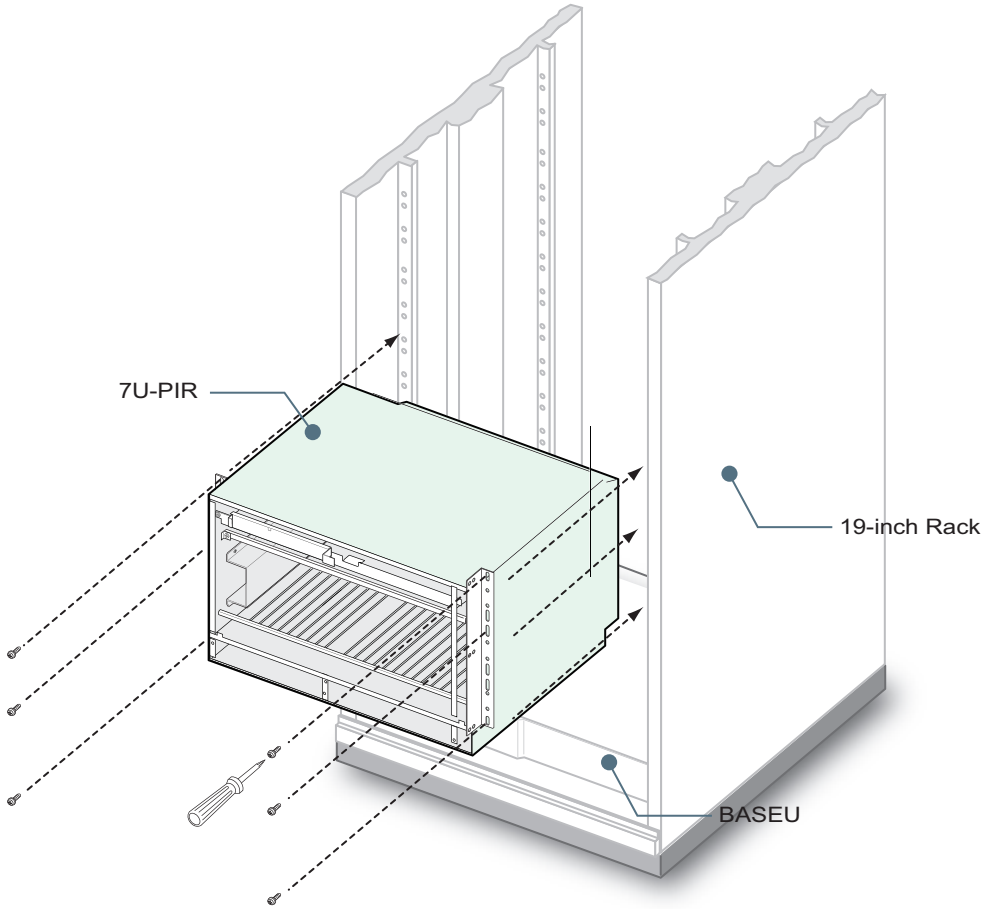


4.3.4.3 Mounting 7U-PIR/8U-PIR

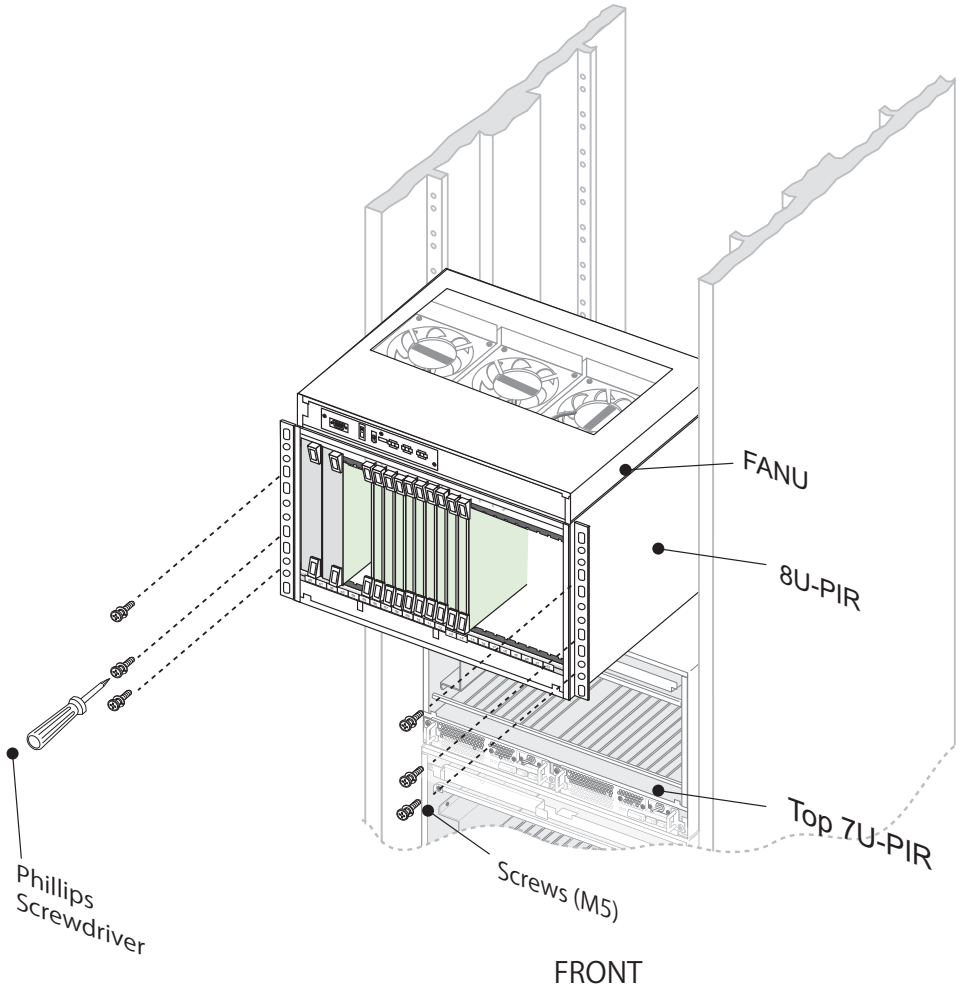
Follow the steps below to mount the 7U-PIR/8U-PIR.

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

7U-PIR Installation



8U-PIR Installation.



Note: Mount always 7U-PIRs before 8U-PIRs. Do not mount 8U-PIRs below or between 7U-PIRs. For example, in a 4-IMG model at full capacity mount the 7U-PIRs on PIR0 to 13 and 8U-PIRs on PIR14 and PIR15.

4.3.5 Mounting the Power Unit

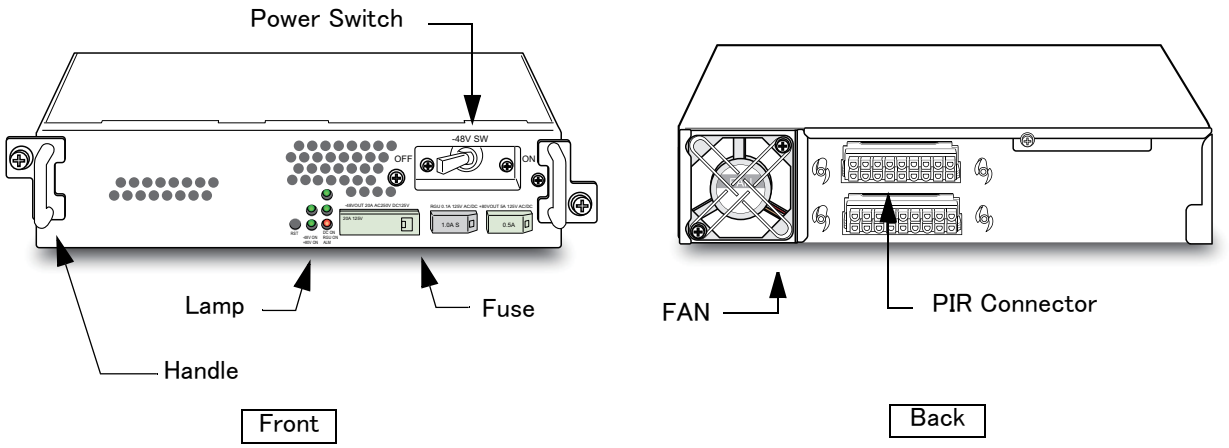
This section describes how to mount 7U-PIR DC-DC Power Unit to the power unit slot in the lower part of the 7U-PIR.

CAUTION

When you mount or remove a power unit, take the following precautions.

- Only touch the handles. Specially, when removing the unit after it has been used, upper and lower parts can be very hot and cause a burning, therefore do not touch those parts of the unit.
- Make sure that the power switch on the front panel is set to OFF before any operation.

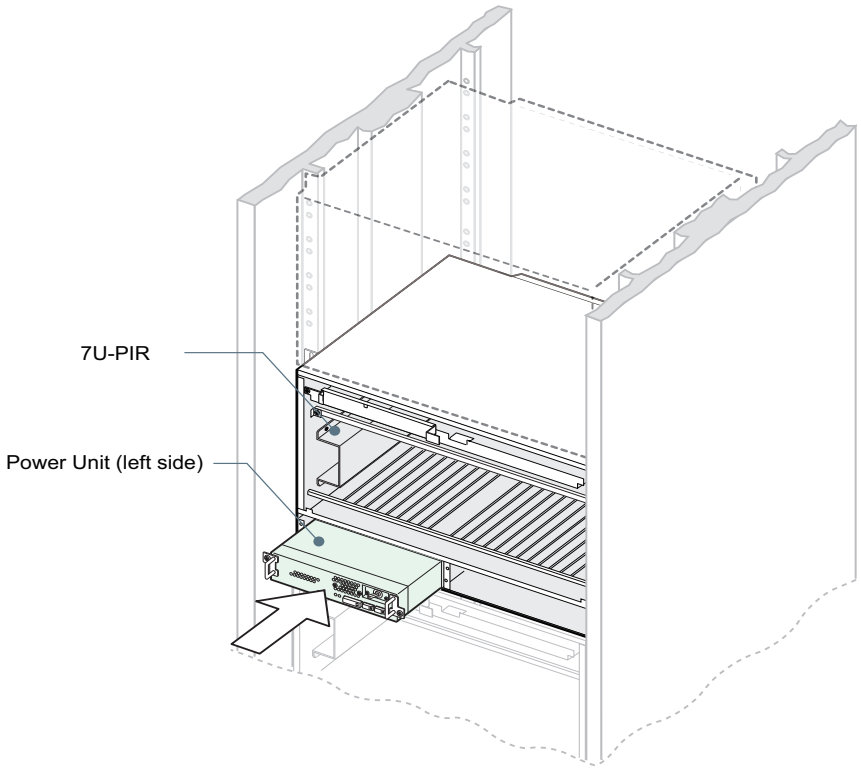
Power Unit



Step1: Insert 7U-PIR DC-DC Power Unit on the power unit slot in the lower part of 7U-PIR following the illustrations below.

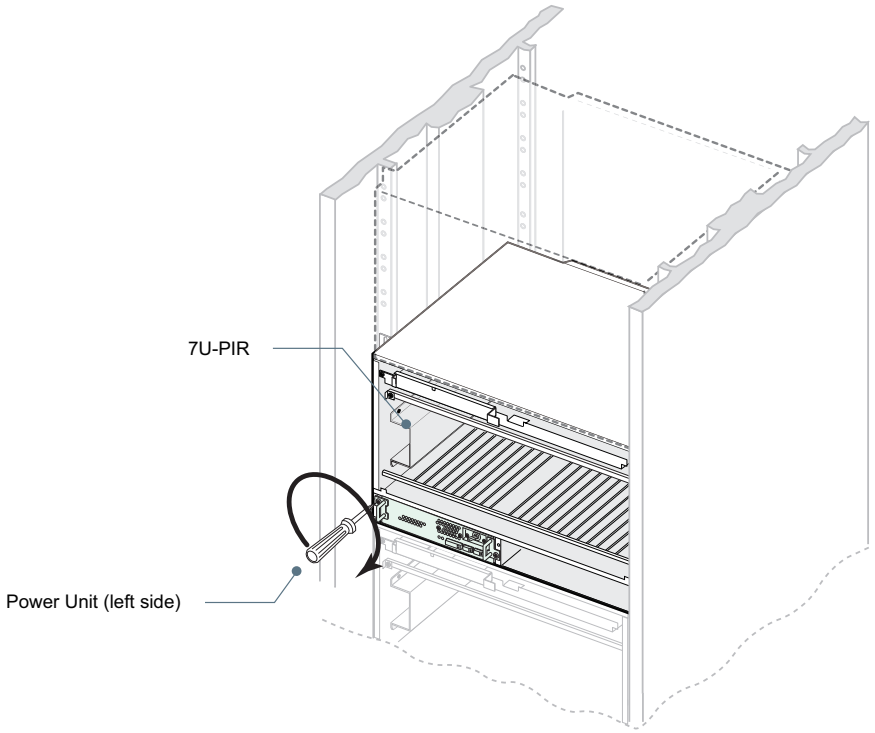
- On the lower part of 7U-PIR there are two mounting slots for power units (dual configuration). The left slot is for #0 and the right for #1. In case of a single configuration, use the left slot (#0) for the power unit mounting.
- Mount the connector on the back of the power unit to the 7U-PIR connector.

Note: If you cannot mount the unit smoothly, check again that the 7U-PIR connector and the power unit connector are meshing.

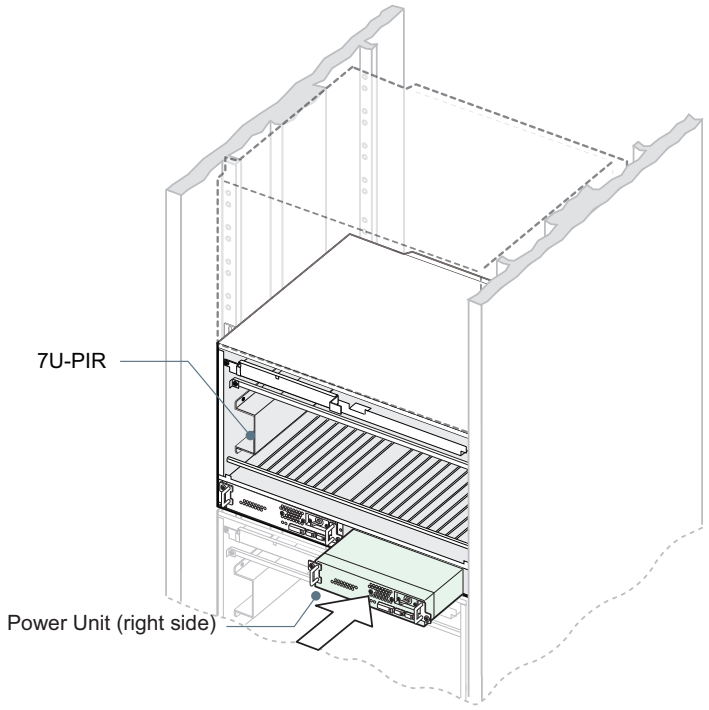


Step2: After mounting the power unit, use a Phillips screwdriver to firmly screw right and left screws on the front side

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



Step3: In case of a dual configuration, mount the other power unit in the right slot (#1) using the same operation as with the left power unit.



4.3.6 Mounting the Cards

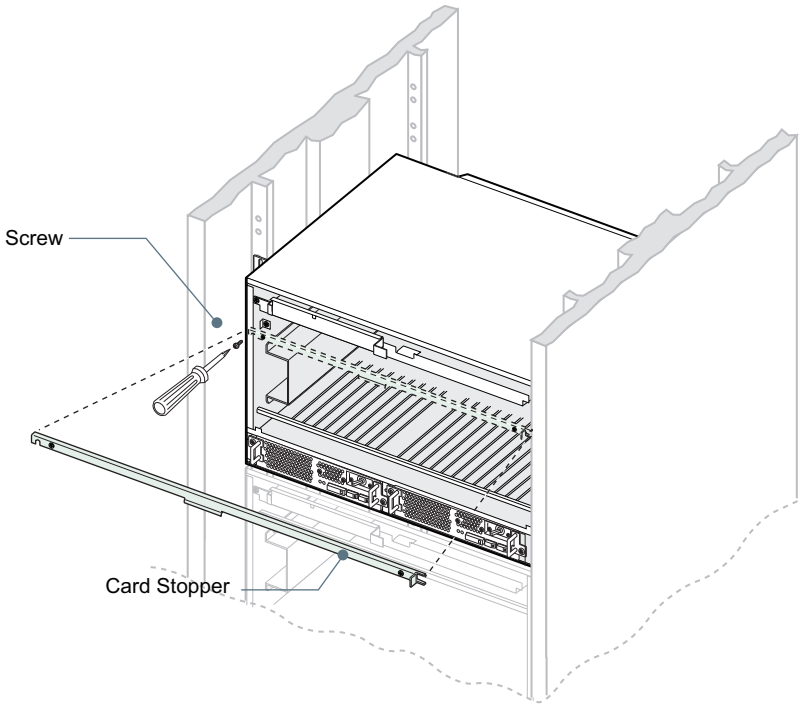
This section describes how to mount cards to 7U-PIR/8U-PIR. When inserting the cards, take the following precautions.

- 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 on Chapter 2 of System Description manual.
- After removing a card, wait at least 10 seconds to mount it again.

Step1: Use a Phillips screwdriver to remove the front card stopper of the 7U-PIR/8U-PIR. Be careful not to lose the screws. The stopper serves as a measure against earthquakes (with a earthquake-resistance strength of 1.1G), therefore do not forget to install it again after mounting the cards.

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

We will use 7U-PIR for the example.



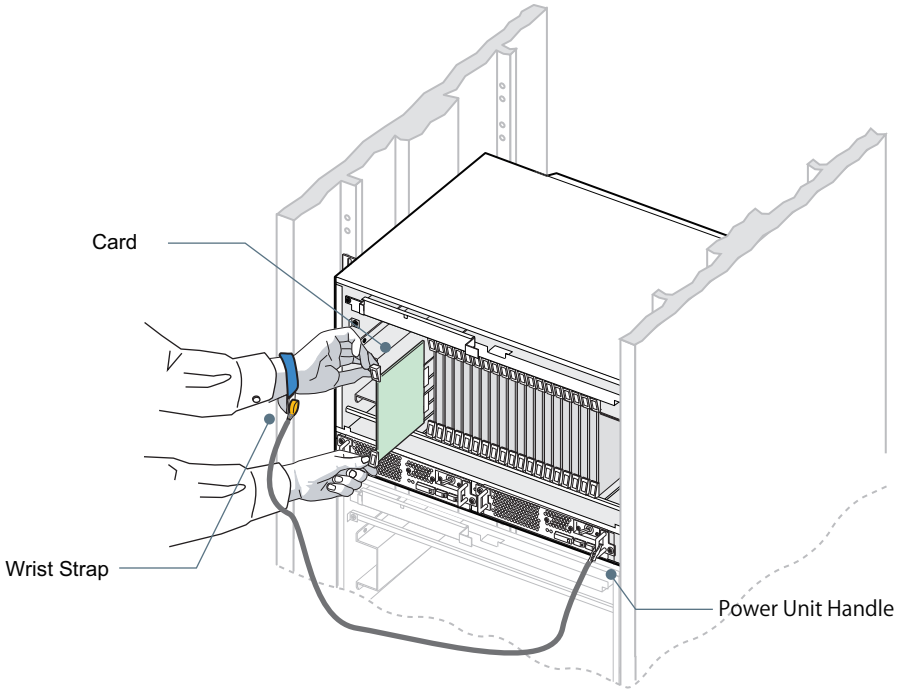
Step2: Put a little of isopropyl alcohol in a gauze and wipe both side connectors. Make sure there is no dust or fluff.

Step3: Check the mounting position per each card. Consult the figure for the front composition of PIR and check that the slot numbers and card label colors are matching.

Step4: Consult Circuit Card Description and set the hard switches for each card.

Note: The setting can be done only for hard switches. As for soft switches of 7U-PIR cards, after power activation, set them using PCPro (CPSW command) or a serial console.

Step5: The cards are inserted to the appropriate slot. First, accommodate the upper and lower part of the card to the rails and press to insert it. Stop the insertion 5 centimeters before reaching the back side, if there is not any problem, continue until the back and check that the connector is firmly connected to the back board (the following example uses 7U-PIR).

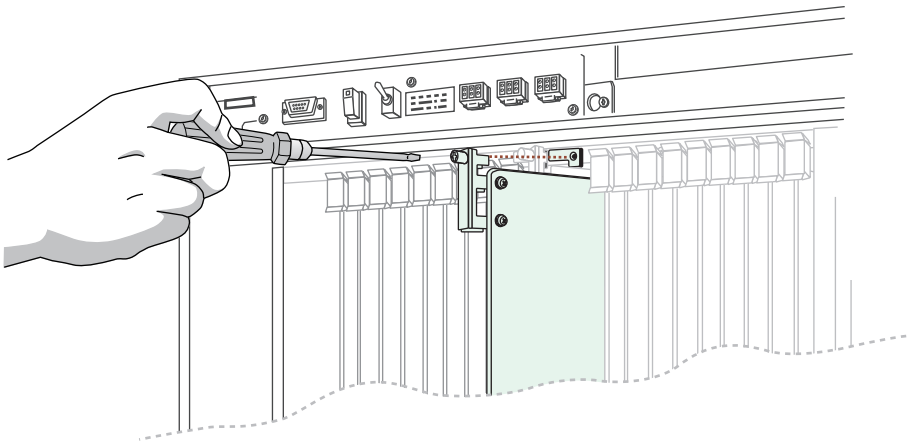


Note: Without a proper frame grounding to the 19-inch rack, even when a wrist strap is connected, static electricity cannot be released and it may cause equipment failure. In that case, connect the wrist strap to another part that is properly grounded. Also, even if the frame grounding is proper, if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

[CJ-PC00 (MUX) Card]

The CJ-PC00 (MUX) card includes in its upper part a front plate for clasping. Use the driver to firmly fix it to PIR.

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



Step6: After mounting all the cards, put again the card stopper with the screws.

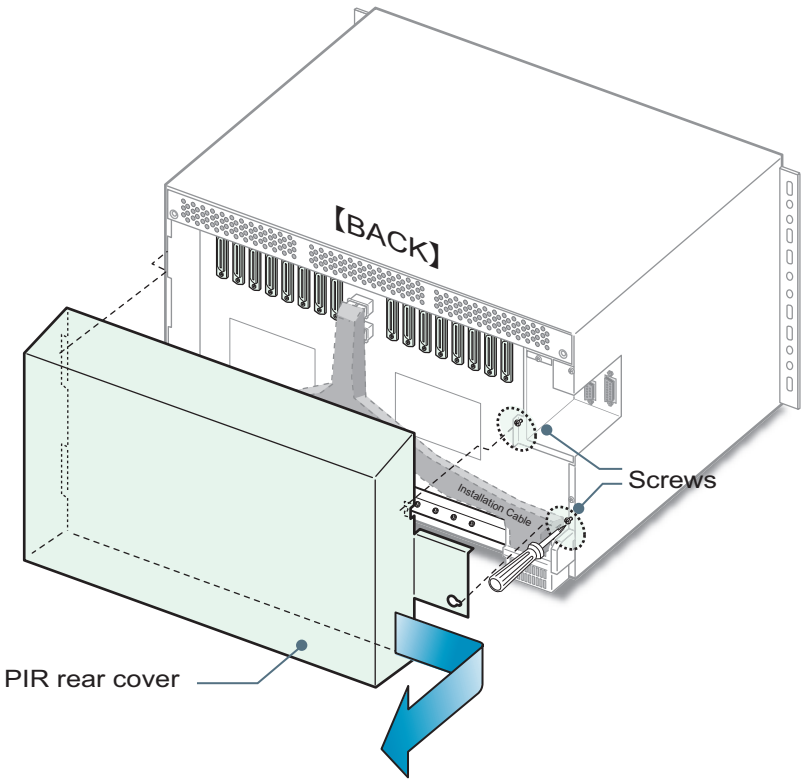
5. Cable Connections

5.1 PIR Back LT Connectors to MDF Cable Connection

This section explains how to connect the installation cable from the LT connector on the backboard of PIR to MDF. MDF is required to connect stations and trunk lines.

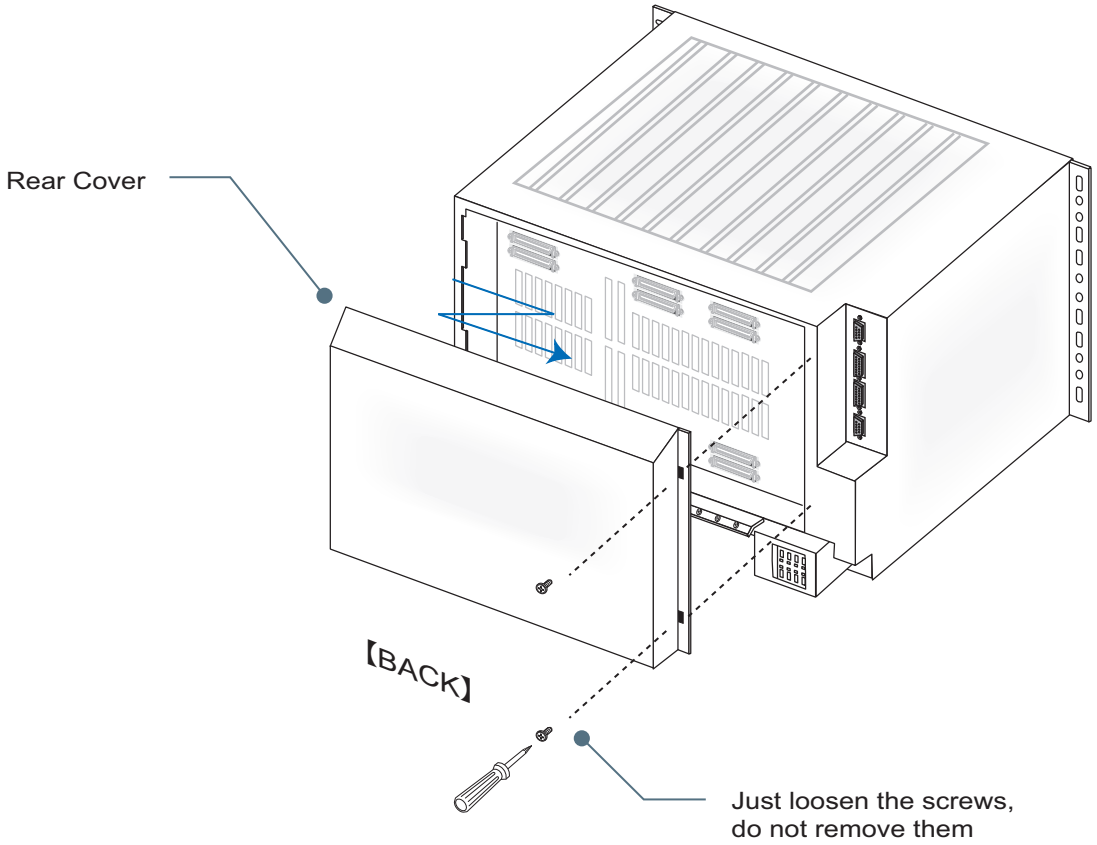
Step1: Remove the rear cover from PIR. Loosen the screws, and slide the cover to remove.

7U-PIR Rear Cover Removal Procedure



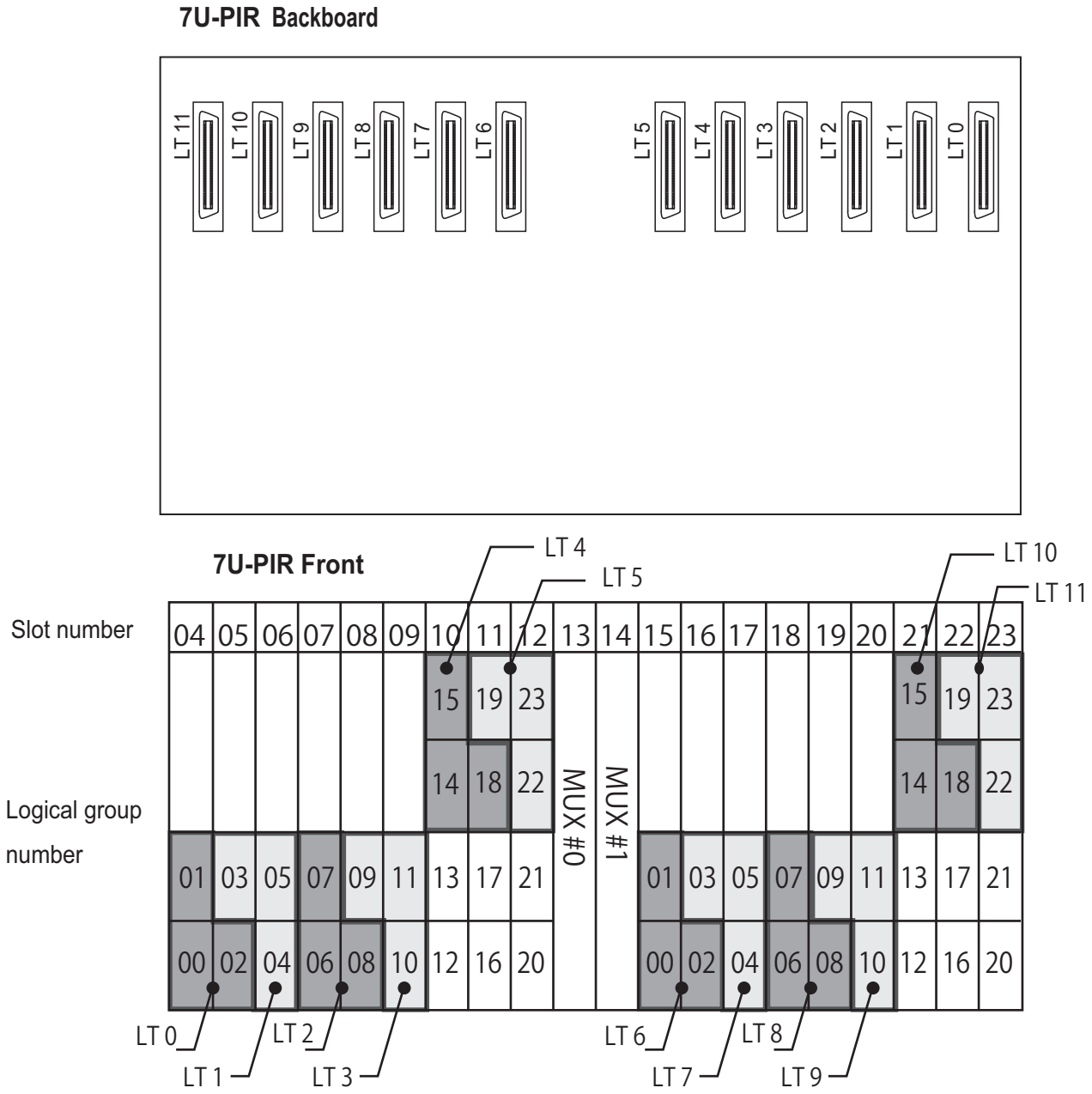
Note: To avoid losing the screws it is possible to remove the cover after just loosening such screws. Loosen the screws no more than needed.

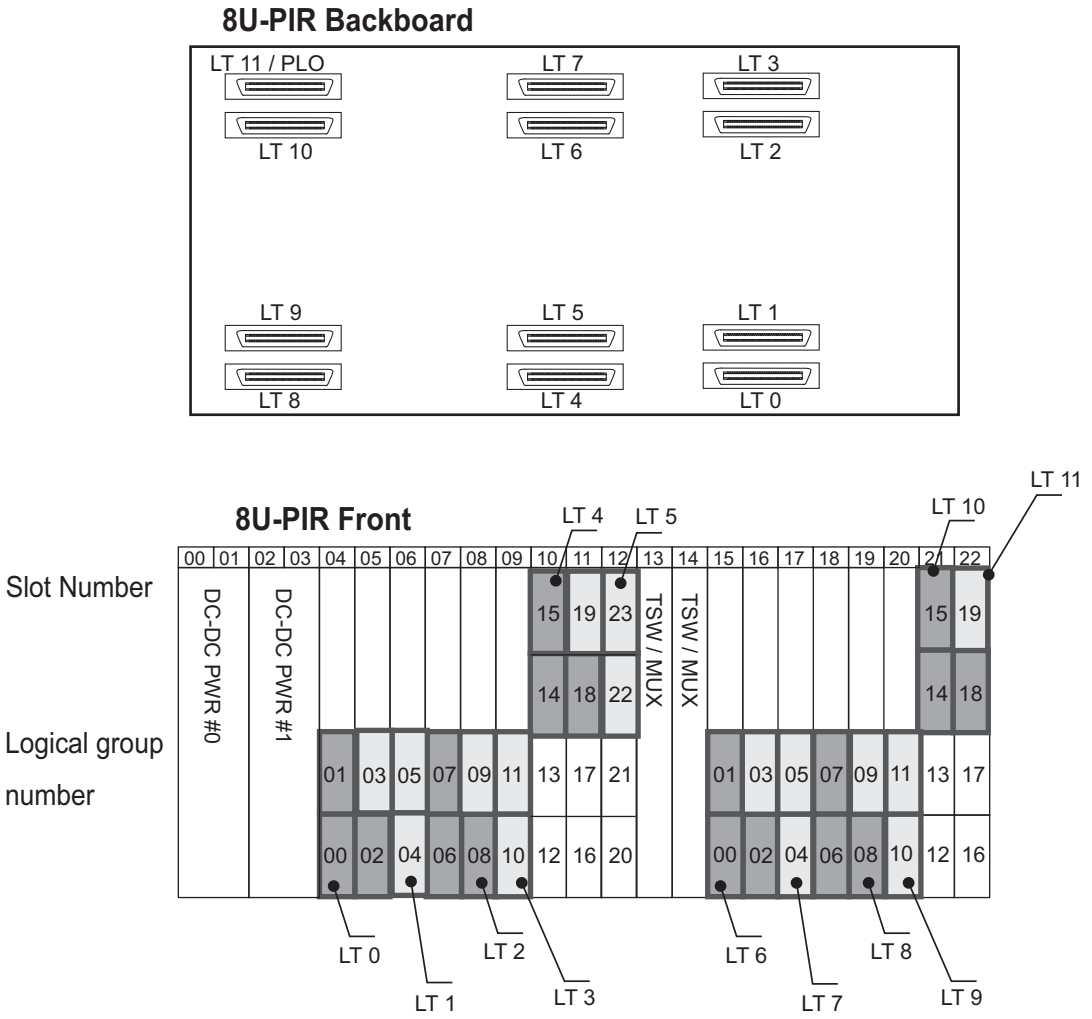
8U-PIR Rear Cover Removal Procedure



Step2: Check the location of LT connectors that have mounted a line/trunk card on the PIR backboard. The figure below shows the correspondence of LT connectors with the circuit card mounting slots.

LT Connectors Slot Correspondence

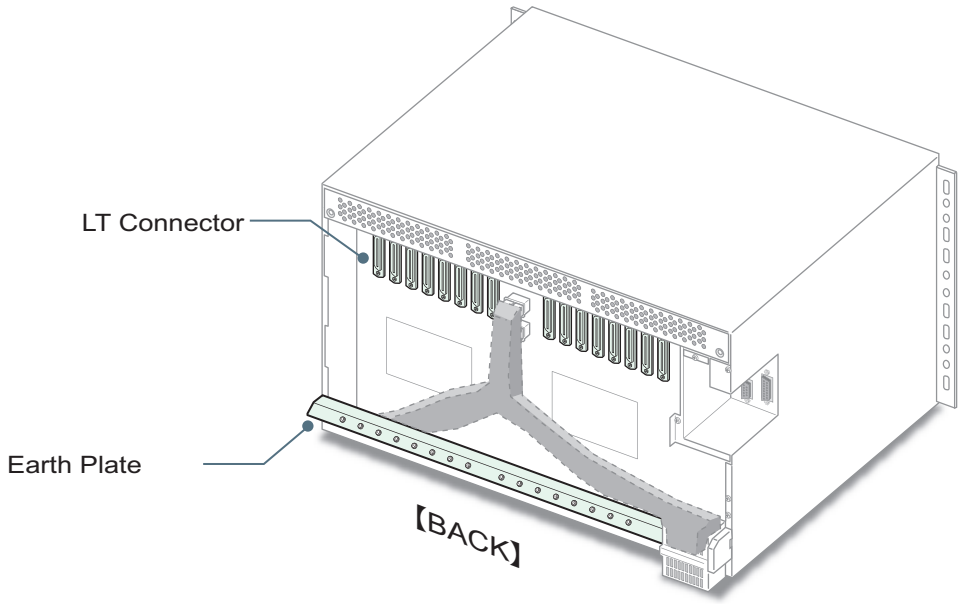




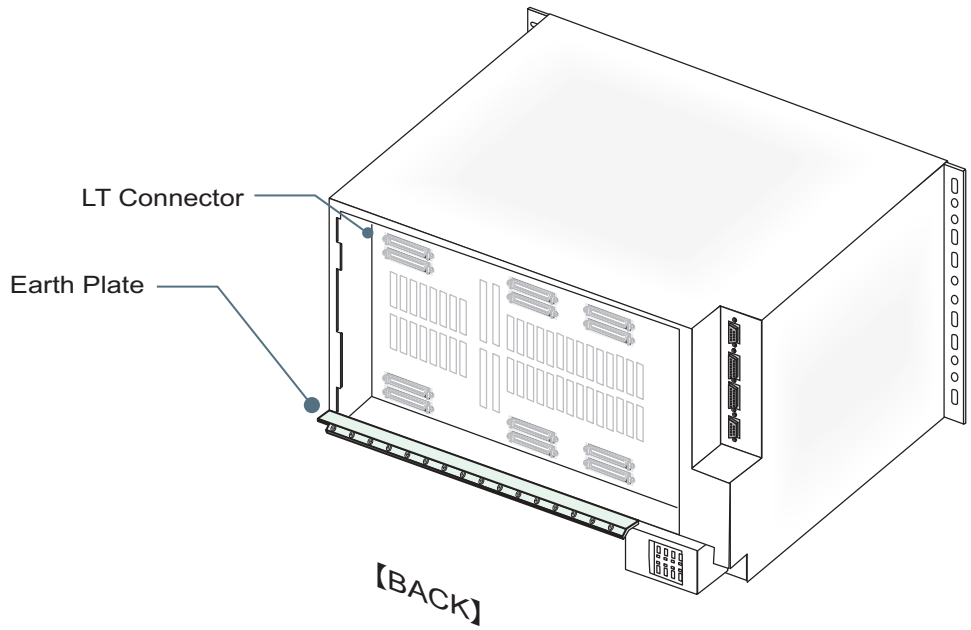
Step3: Connect the installation cable to the appropriate LT connector.

Step4: Secure the installation cable to the earth plate on the back bottom of each PIR.
Put the cables from PIR module together on the earth plate with clamps, and then connect to MDF for outside routing.

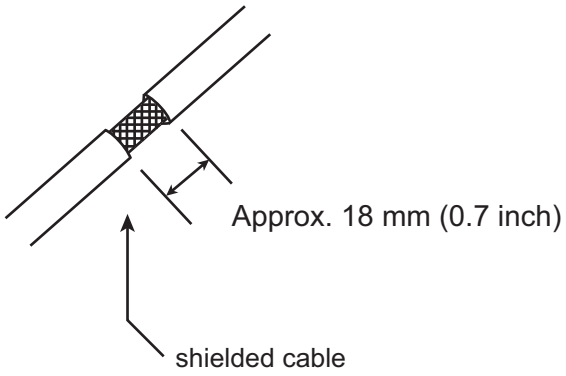
7U-PIR Earth Plate Position



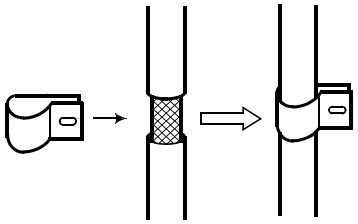
8U-PIR Earth Plate Position



Step5: Peel off the cable cover approximately 18 mm (0.7 inch) adapting to the tie-up position of the earth plate for frame grounding.

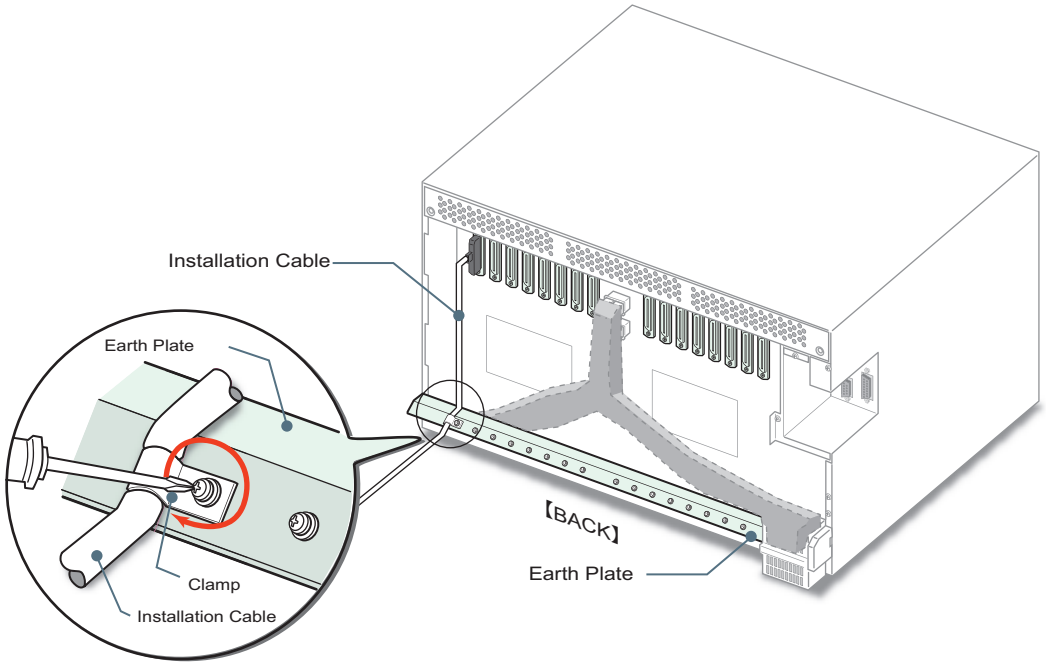


Step6: Wind the clamp around the cables.



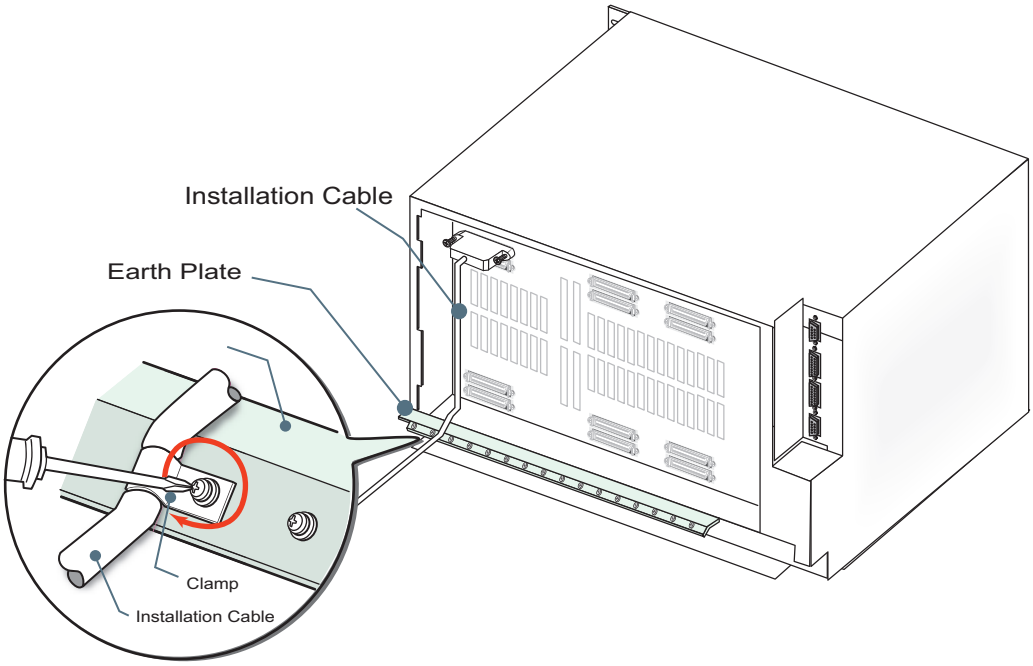
Step7: Tie up the clamped cable to the earth plate.

FOR 7U-PIR



Note: Fix the clamps to the earth plate in the same direction, if you do not do it, they could interfere each other and make impossible the fixing.

FOR 8U-PIR

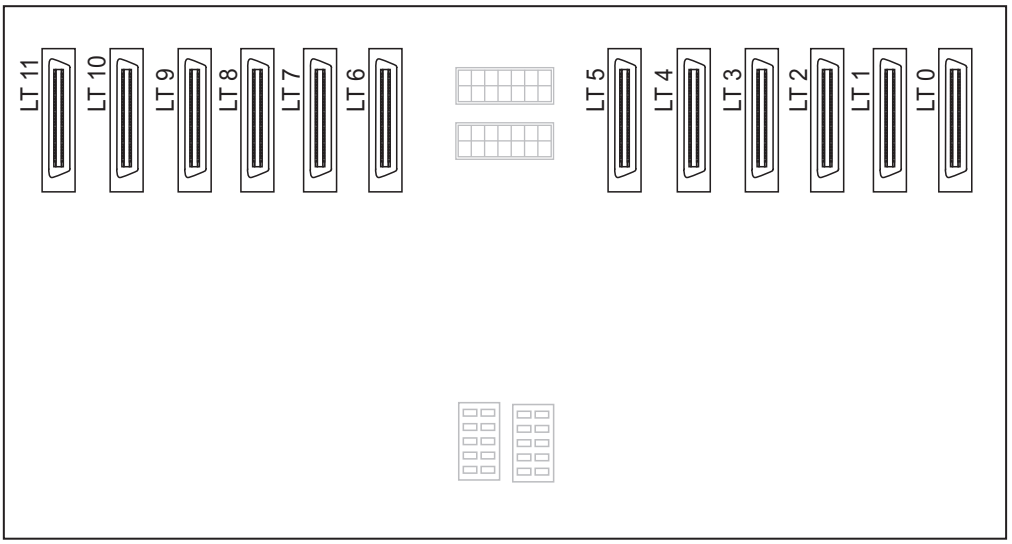


5.2 PIR and TSWR Backboard Connectors

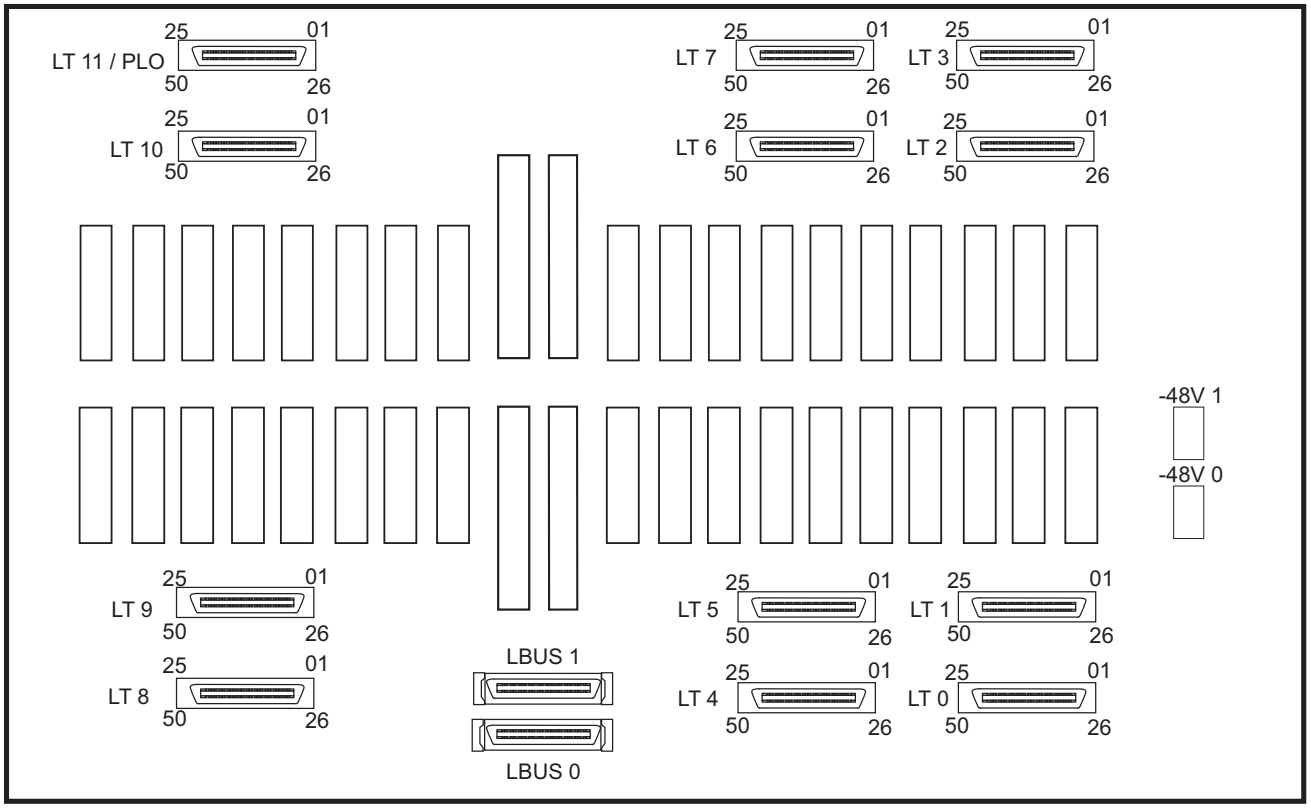
PIR and TSWR backboards are explained in the figure below.

Note: As for the TSW-BOX, see SPZ-SW25-A/SPZ-SW26-A in Circuit Card Description.

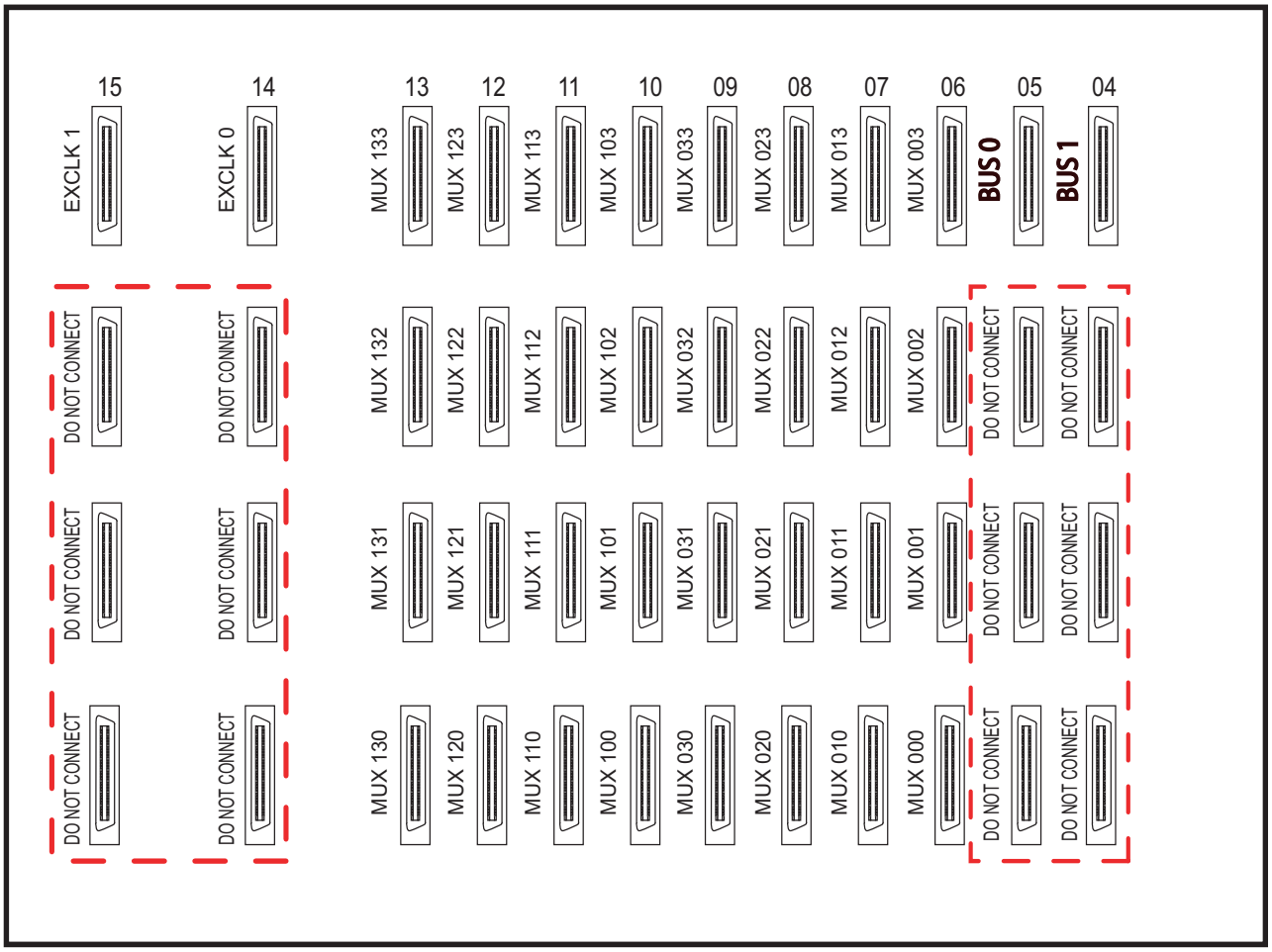
Connectors on 7U-PIR Backboard



Connectors on 8U-PIR Backboard



Connectors on TSWR Backboard



The use of the connectors inside the red dot line is prohibited

5.3 Internal and Inter-Frame Cable Connection

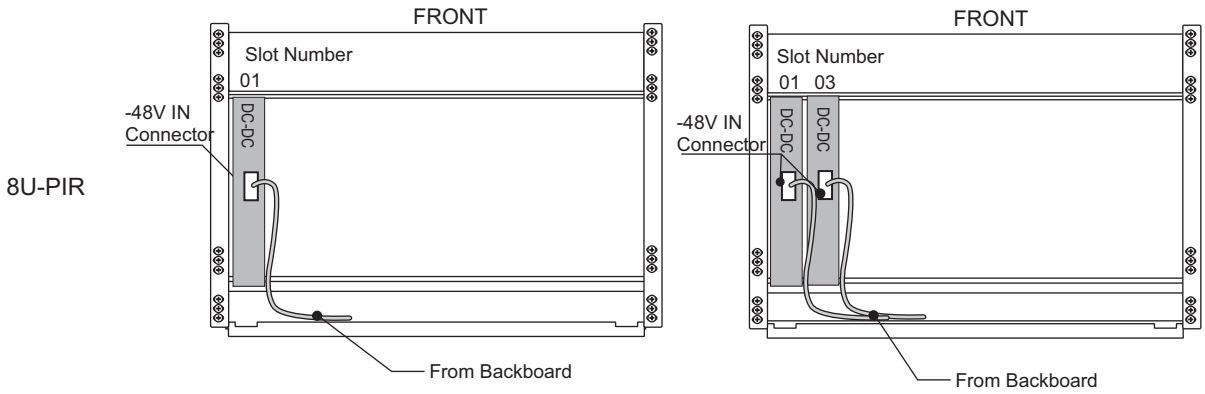
This section explains the internal and inter-frame cable connections. Connect the cables according to the system configuration.

CAUTION

The operations described hereinafter must be performed after checking that all the power switches are set to OFF. If any of the switches of the modules is set to ON when performing any operation, that can be the reason for equipment damage, fire or electrocution.

5.3.1 Common Connections of AC Type and DC Type

In case of 8U-PIR use, connect to PWR card (DC-DC) the cable from the connector "-48V0" that is in the back-board. For a dual configuration of power cards, connect the cable from the connector "-41V0" to the second card. This is common per each PIR.



Note: When passing cables be careful as explained in Precautions in Running Cables through 8U-PIR.

5.3.2 Cable Connection for AC-Powered Model

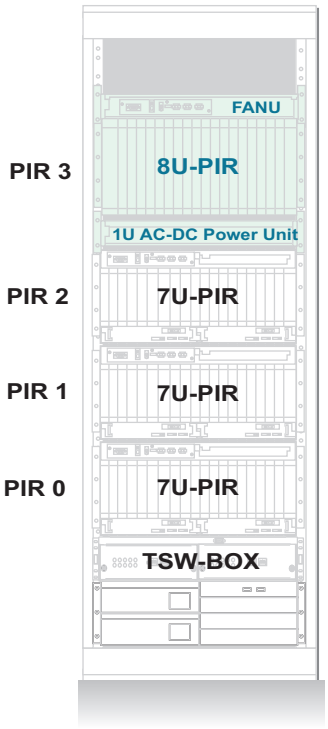


Note: The AC-powered model is only available in 1-IMG Configuration; this model does not support 4-IMG Configuration except for North America.

Connect the cables according to the module configuration. We will explain the connections using the figure below (three 7U-PIRs and one 8U-PIR). For other configurations refer to 7. 7U-PIR and 8U-PIR Mixed Configuration Patterns List.

19-inch Rack Mounting (AC Type)

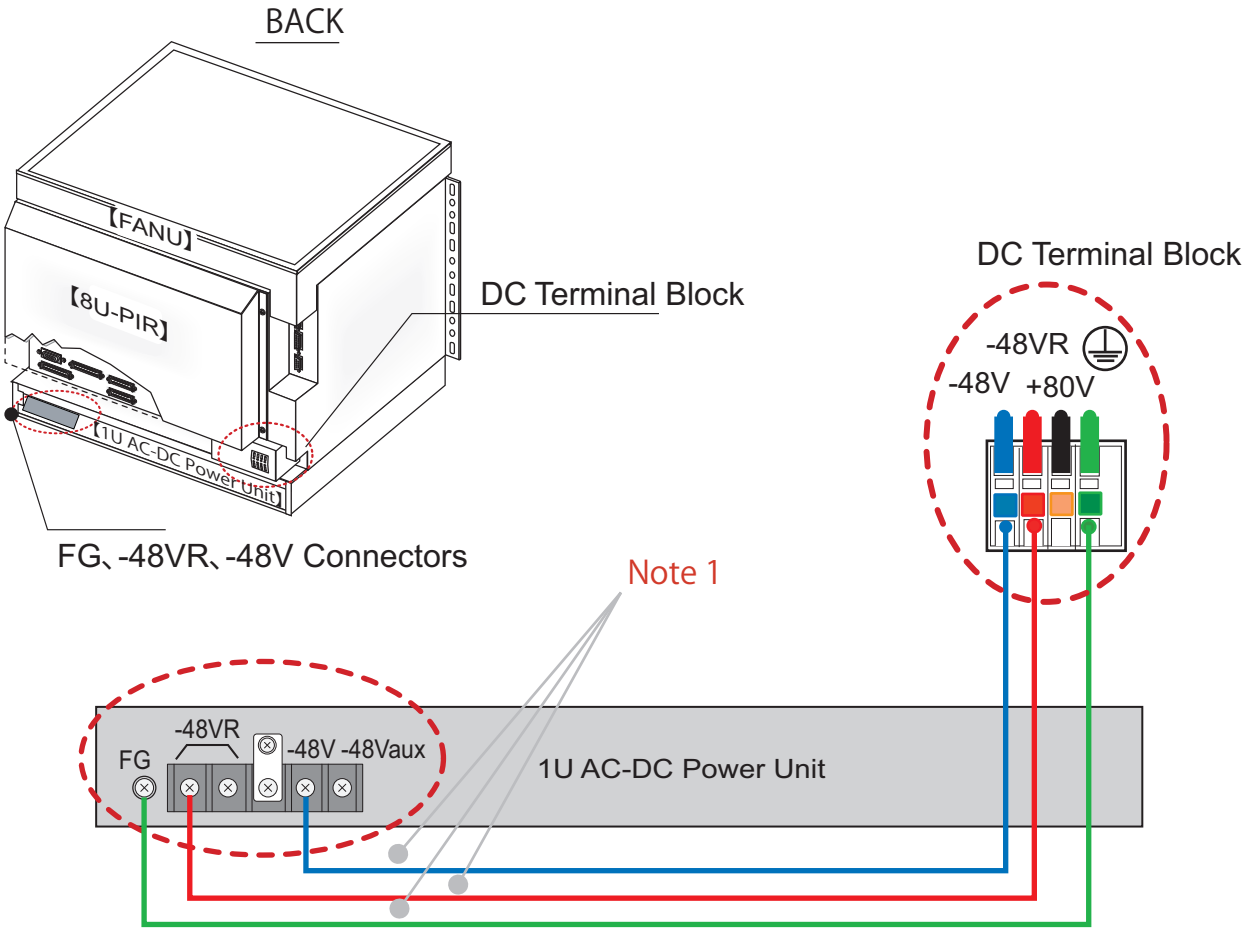
4-PIR Type
（TSW-BOX x 1, 7U-PIR x 3, 8U-PIRx 1）



Step1: Connect -48V, -48VR and FG between the 1U AC-DC Power Unit and the 8U-PIR. The following picture explains the connections when message waiting function is not used (in that case a booster battery unit is not needed). For an explanation in case message waiting function is used see SN1757 BBUB Installation Design in Peripheral Equipment Description (Digital/Analog Devices).

- -48V, -48VR and FG connections between the 1U AC-DC Power Unit and the 8U-PIR
- -48V connection between the 1U AC-DC Power Unit and BBU
- +80V connection between 7U-PIR/8U-PIR and BBU

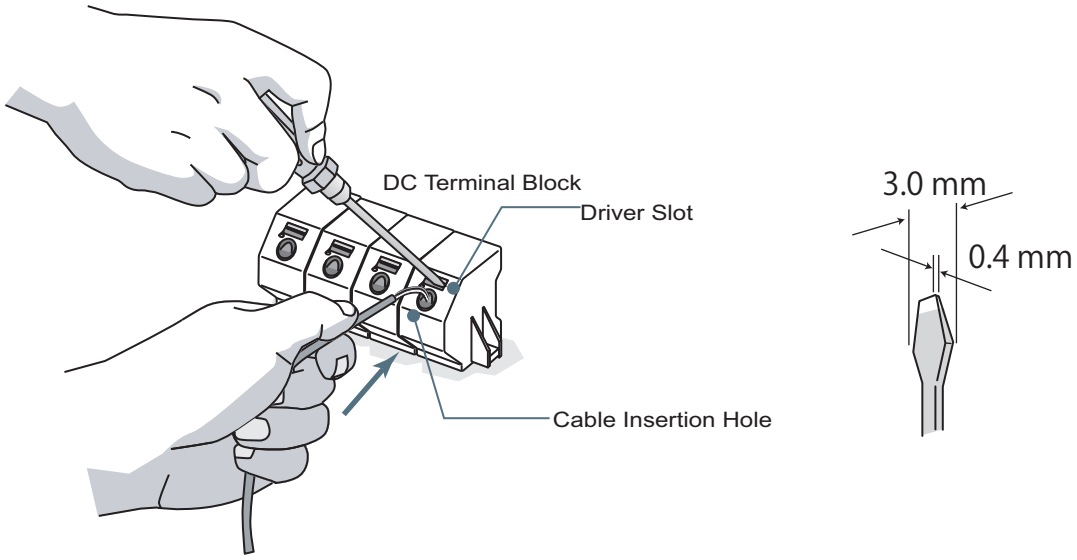
-48V, -48VR and FG Connections (Message Waiting Function is not Used)



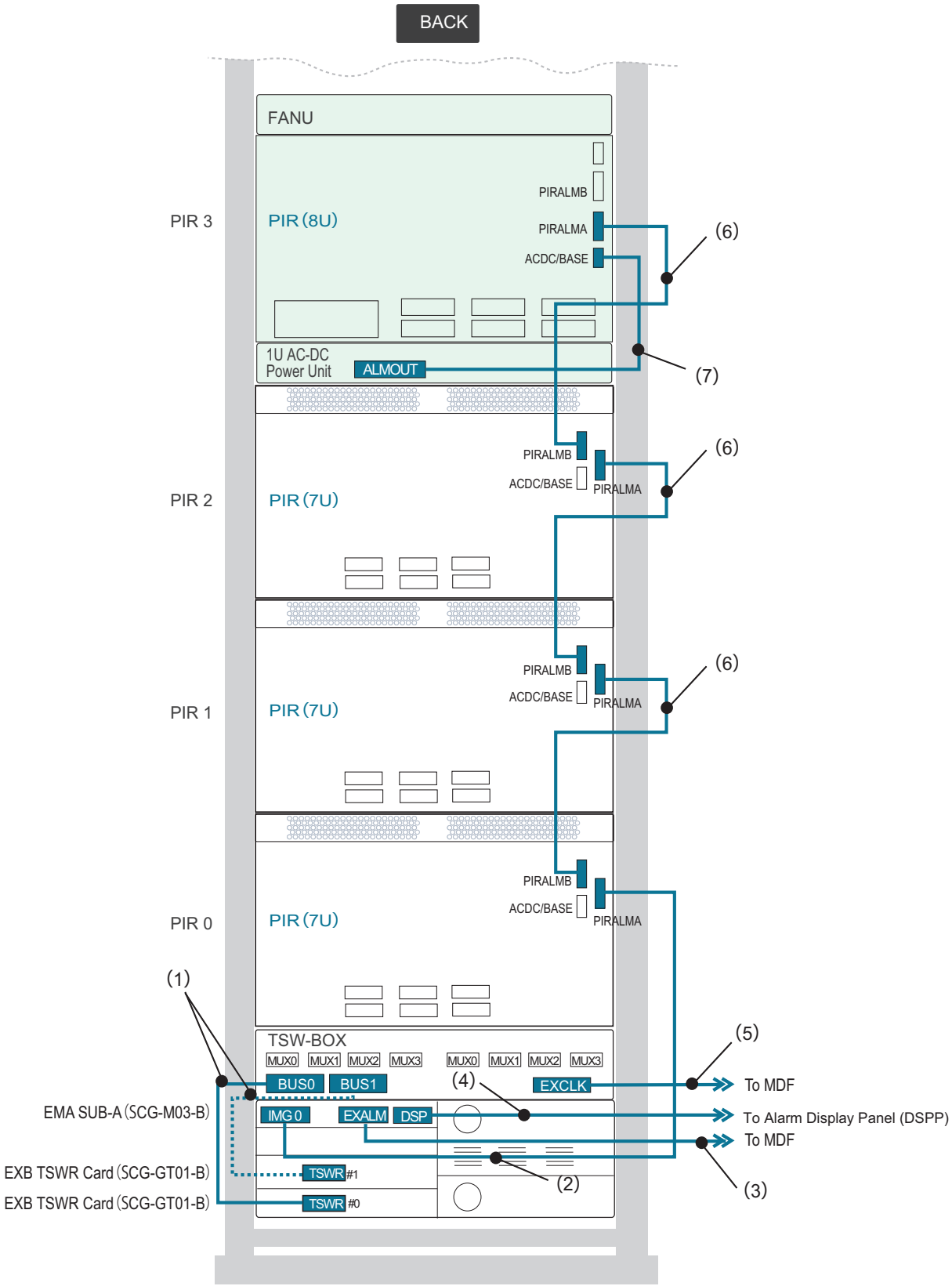
Note 1: Use the following installation cables:
- Installation cable: AWG12
- Crimp-type terminal: R3.5-5

or
- Installation cable: AWG14 or 2sq
- Crimp-type terminal: R2-5

Use a flat-blade driver to connect power cables (AWG12, 14 or 2sq) to DC terminals.
**Be careful not to touch an electric pole with the metallic part of the driver when connecting the power cable.*

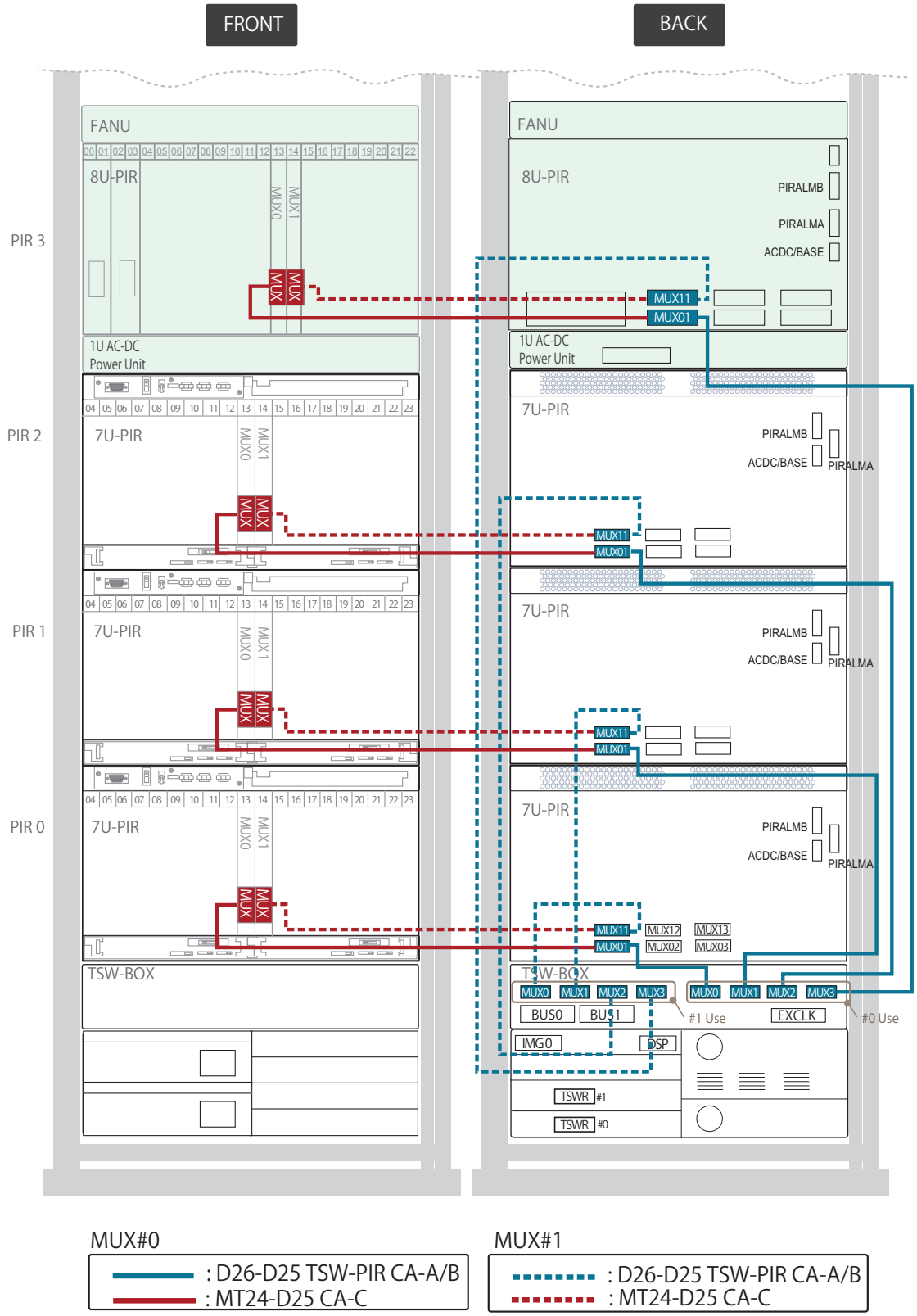


Step2: Connect the BUS cable.



NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	Telephony Server (EXB-TSWR card #0)	TSWR	TSW-BOX	BUS0	D37-SC50 CA-E	-
	Telephony Server (EXB-TSWR card #0)	TSWR	TSW-BOX	BUS1	D37-SC50 CA-E	-
(2)	Telephony Server (EMA SUB-A card)	IMG0	PIR0	PIRALMA	D15 ST-F CA-A	-
(3)	Telephony Server (EMA SUB-A card)	EXALM	MDF		D25 EXALM CA-A	Necessary when External Alarm Indication Panel is used
(4)	Telephony Server (EMA SUB-A card)	DSP	Alarm Display Panel (DSPP)	J1	D15 ST-FF CA-C	Necessary when Alarm Display Panel (DSPP) is used
(5)	TSW-BOX	EXCLK	MDF		D37 EXCLK CA-A	Necessary when clock synchronization is performed Necessary when Music-On-Hold is used
(6)	PIR0	PIRALMB	PIR1	PIRALMA	D15 ST CA-A/B	Necessary when PIR1 mounted
	PIR1	PIRALMB	PIR2	PIRALMA		Necessary when PIR2 mounted
	PIR2	PIRALMB	PIR3	PIRALMA		Necessary when PIR3 mounted
(7)	8U-PIR 1U AC-DC Power Unit	ALM OUT	8U-PIR	AC-DC BASE	PWR ALM CAB	Connected to PIRs that correspond to 8U-PIR

Step3: Connect BUS cables between TSW and MUX.



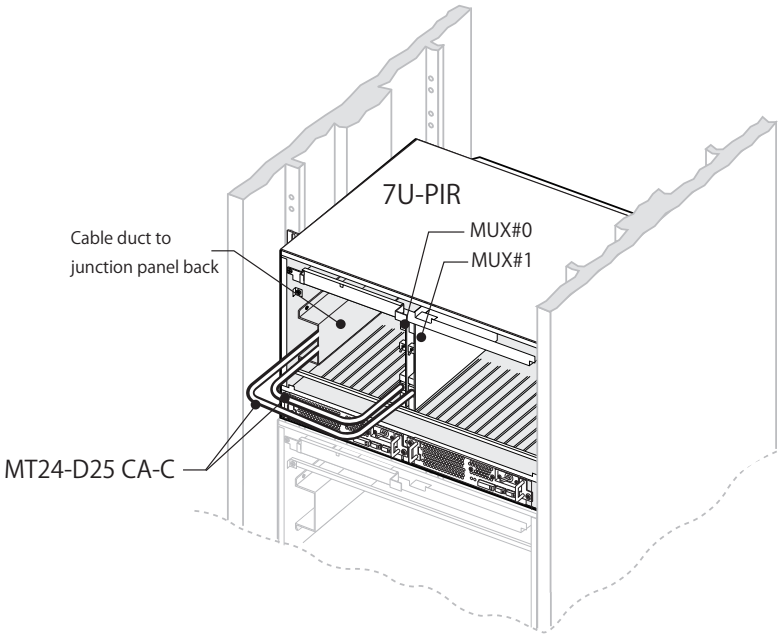
FROM			TO		CABLE NAME	REMARKS
UNIT/MODULE		CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
TSW-BOX (Back)	TSW 0#	MUX0	PIR0 (Back)	MUX01	D26-D25 TSW-PIR CA-A/B	#0 use
		MUX1	PIR1 (Back)			#0 use Necessary when PIR1 mounted
		MUX2	PIR2 (Back)			#0 use Necessary when PIR2 mounted
		MUX3	PIR3 (Back)			#0 use Necessary when PIR3 mounted
	TSW 1#	MUX0	PIR0 (Back)	MUX02		#1 use
		MUX1	PIR1 (Back)			#1 use Necessary when PIR1 mounted
		MUX2	PIR2 (Back)			#1 use Necessary when PIR2 mounted
		MUX3	PIR3 (Back)			#1 use Necessary when PIR3 mounted

FROM		TO		CABLE NAME	REMARKS
UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
PIR0 (Back)	MUX01	PIR0 (Front)	MUX (Slot 13 CJ-PC00 front connector) **Note 2**	MT24-D25 CA-C **Note 4** **Note 5**	#0 use
PIR1 (Back)		PIR1 (Front)			#0 use Necessary when PIR1 mounted
PIR2 (Back)		PIR2 (Front)			#0 use Necessary when PIR2 mounted
PIR3 (Back)		PIR3 (Front)	MUX (Slot 13 PH-PC36 front connector) **Note 3**		#0 use Necessary when PIR3 mounted
PIR0 (Back)	MUX11	PIR0 (Front)	MUX (Slot 14 CJ-PC00 front connector) **Note 2**		#1 use
PIR1 (Back)		PIR1 (Front)			#1 use Necessary when PIR1 mounted
PIR2 (Back)		PIR2 (Front)			#1 use Necessary when PIR2 mounted
PIR3 (Back)		PIR3 (Front)	MUX (Slot 13 PH-PC36 front connector) **Note 3**		#1 use Necessary when PIR3 mounted

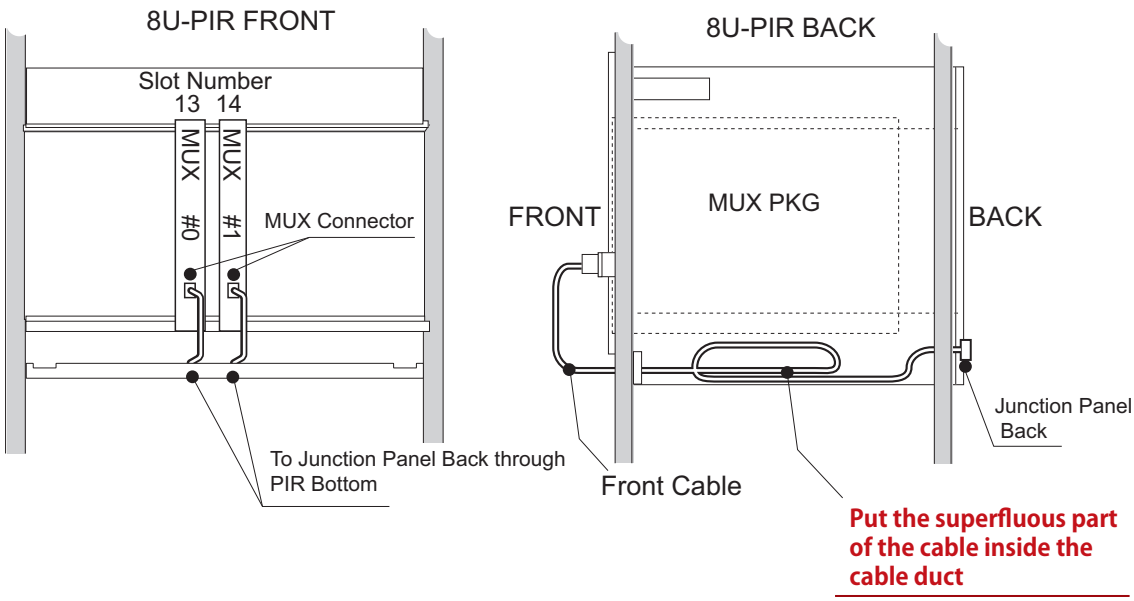
Note 2: For 7U-PIR, CJ-PC00 is used as MUX card.

Note 3: For 8U-PIR, PH-PC36 is used as MUX card.

Note 4: For 7U-PIR, run the cables (such as BUS cables between the front connectors on TSW/MUX card and the MUX0x/1x connectors on backboard) from front to back through the cable duct at the bottom of each PIR to protect the cables. To avoid obstructions when inserting the cards, fix firmly the cables with a tie-wrap to the tie-down point set up at the lower part of PIR.

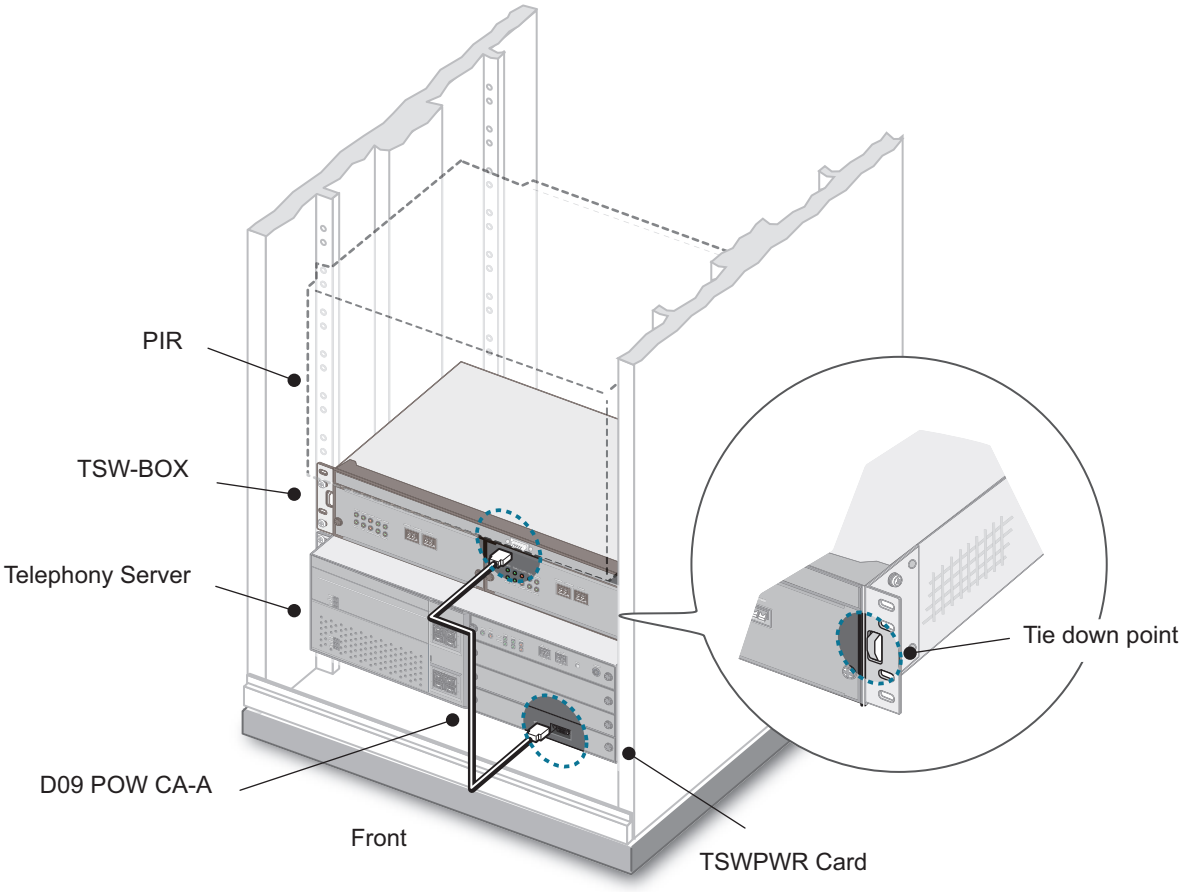


Note 5: For 8U-PIR, run the cables (such as BUS cables between the front connectors on TSW/MUX card and the MUX0x/1x connectors on backboard) from front to back through the cable duct at the bottom of each PIR to protect the cables. Be careful as explained in 2. Precautions in Running Cables through 8U-PIR.



Note: Refer to 5.4 How to Install Connectors on PIR for MUX Use BUS Cable for the way to connect the cables to junction panel on back side of PIR.

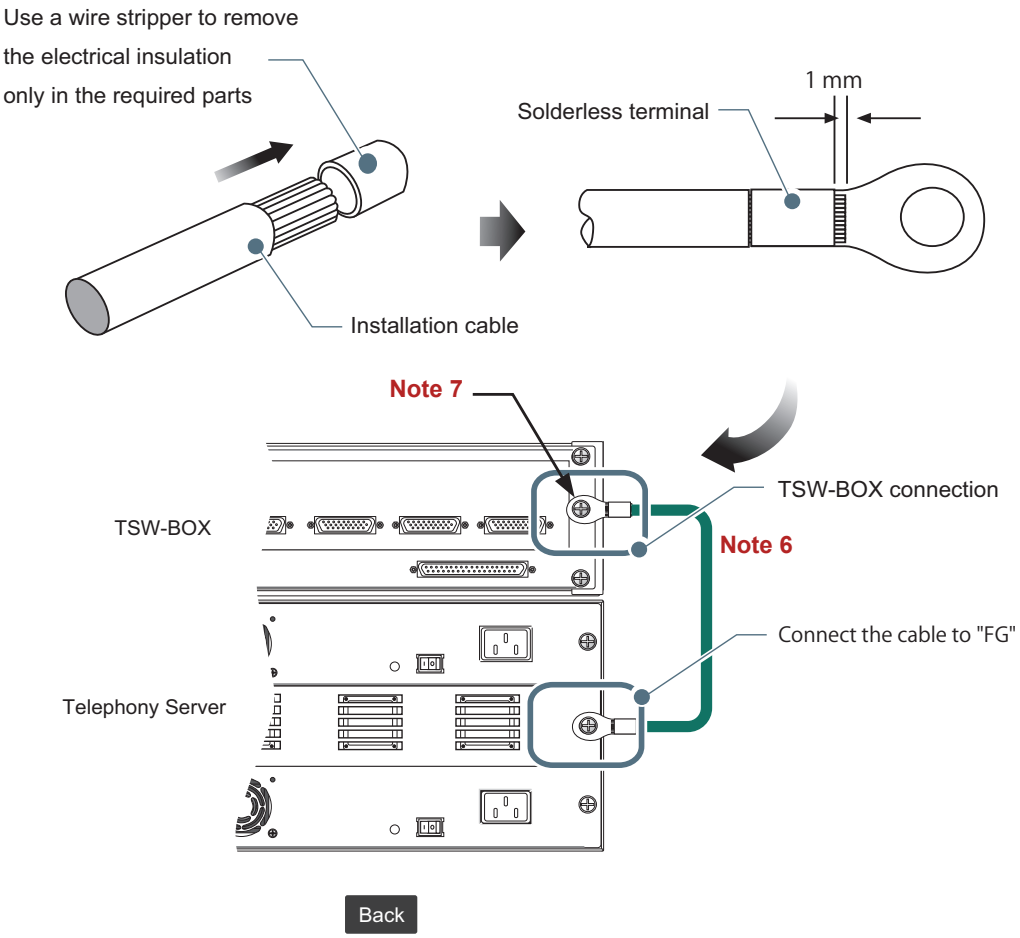
Step4: Connect the external power cable of the TSW-BOX. Power is fed through the TSWPWR card (SCA-M01-A) installed on the Telephony Server.



Note: Secure the cables with a tie wrap to the tie down point on the rack mount bracket of the TSW-BOX so as not to interfere with installation or removal of the cards.

FROM		TO		CABLE NAME
UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME	
Telephony Server (TSWPWR card)	TSWPWR	TSW-BOX	PWR	D09 POW CA-A

Step5: Connect FG cable between TSW-BOX and Telephony Server as shown the figure below.



Note 6: Use the following installation cable:
AWG12, Cable length: within 250mm, Solderless terminal: R5.5-4
or
AWG14 or 2sq, Cable length: within 250mm, Solderless terminal: R2-4

Note 7: Use a screw (M4 screw on the earth plate of PIR) not in use.

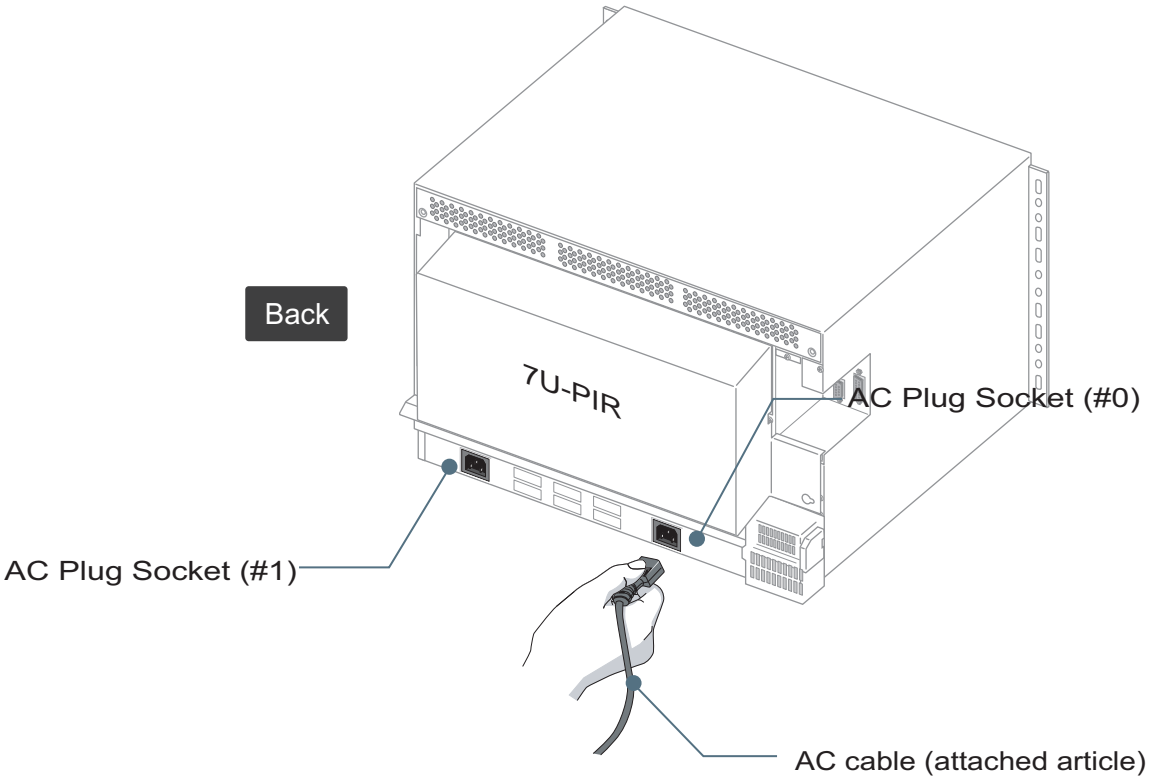
Step6: Connect the AC power cable.

Take the following precautions for power supply and protective grounding.

- Use a three-pole AC power cable.
- According to the system configuration, connect the AC power cable to a power source that can supply enough power to the Telephony Server and PIRs.
- Connect all the AC power cables from the server and AC-DC Power Units to one AC tap, for securing protective common grounding.
- Extract Type1 grounding (below 10Ω) for the AC tap.
- AC tap or power supply unit connected to power distribution board needs to be prepared by the user.

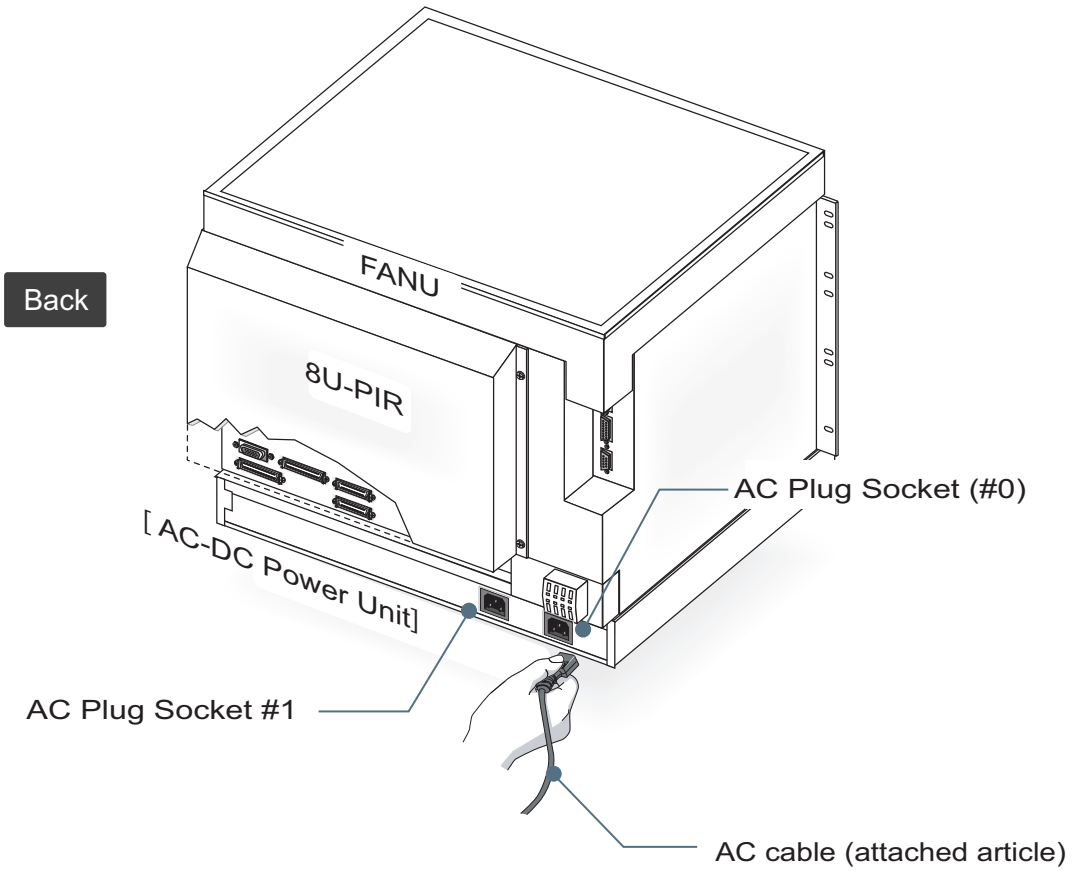
Step7: First plug the AC power cable to the Telephony Server (refer to 6. Cable Connection to the Telephony Server in CHAPTER 3 SV9500 SERVER INSTALLATION - ASSEMBLING SV9500 SERVER MODULE).

Step8: Plug the AC power cable to the 7U-PIR AC power inlet on the rear panel of the AC-DC Power Unit.



Note: Use the attached ferrite core with the AC power cable. Refer to 1.3 Ferrite Core Installation to AC Cable.

Step9: Plug the AC power cable to the 8U-PIR AC power inlet on the rear panel of the AC-DC Power Unit.



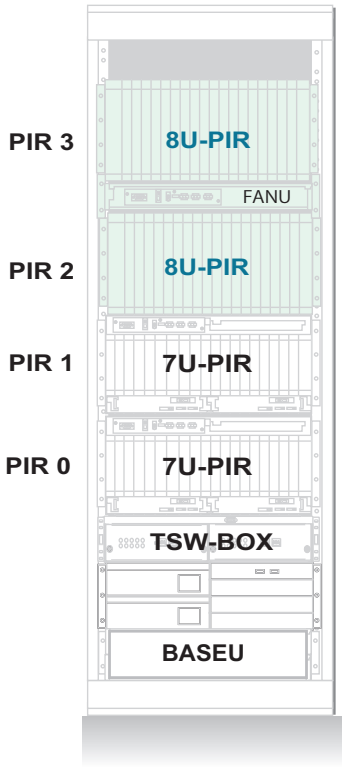
Note: Use the attached ferrite core with the AC power cable. Refer to 1.3 Ferrite Core Installation to AC Cable.

5.3.3 Cable Connection for DC-Powered Model (1-IMG Configuration)

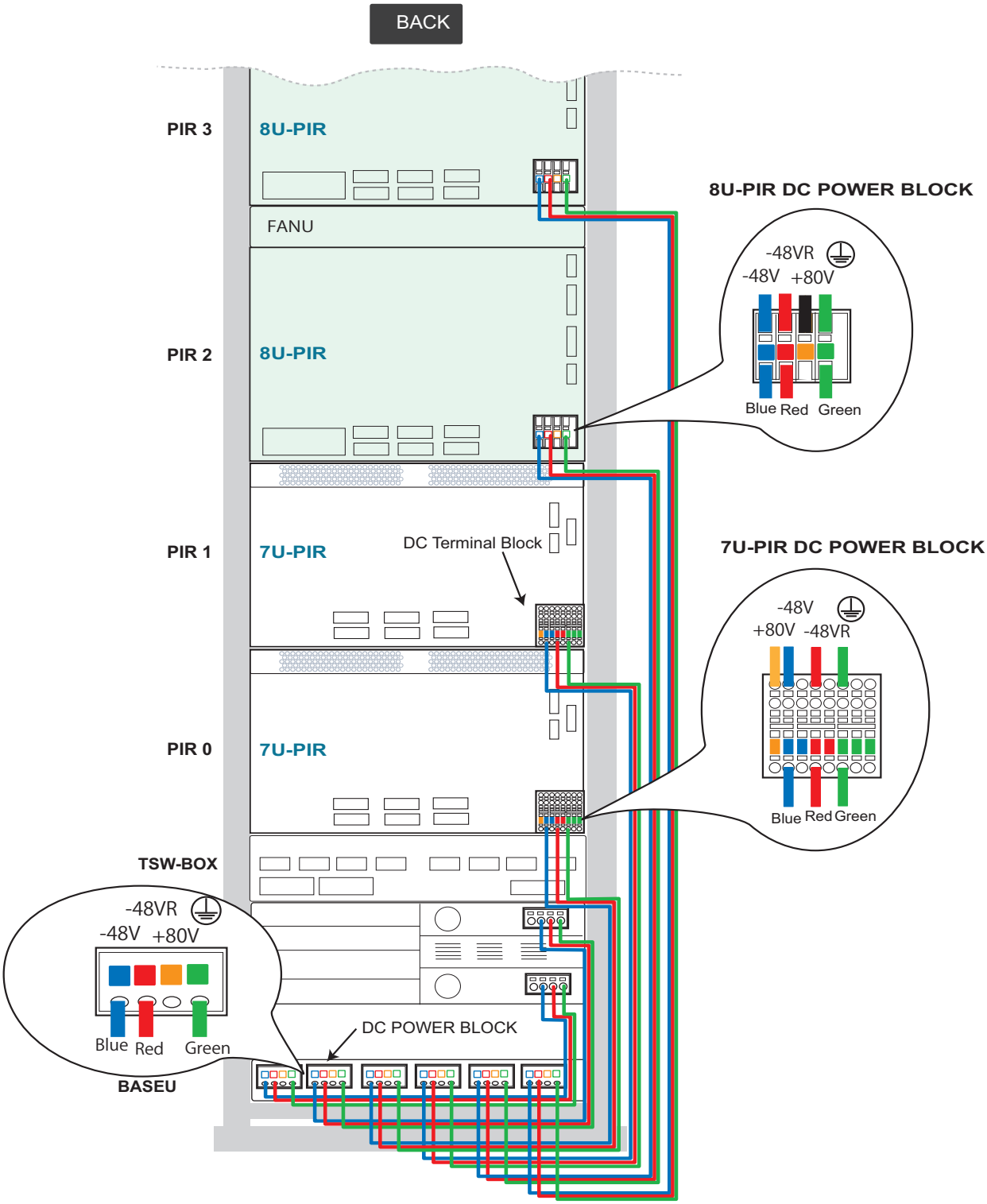


Connect the cables according to the module configuration. We will explain the connections using the figure below (2 7U-PIRs and 2 8U-PIRs). For other configurations refer to 7. 7U-PIR and 8U-PIR Mixed Configuration Patterns List.

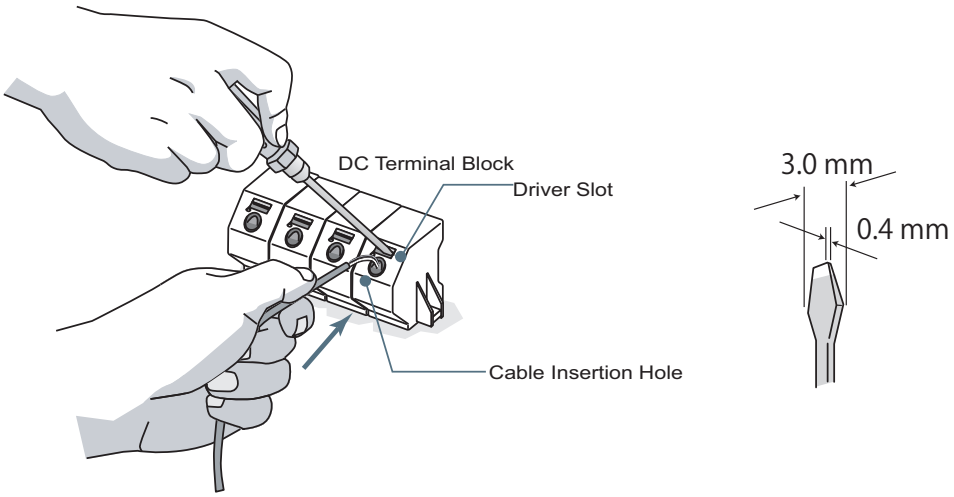
(7U-PIR x 2, 8U-PIR x 2)



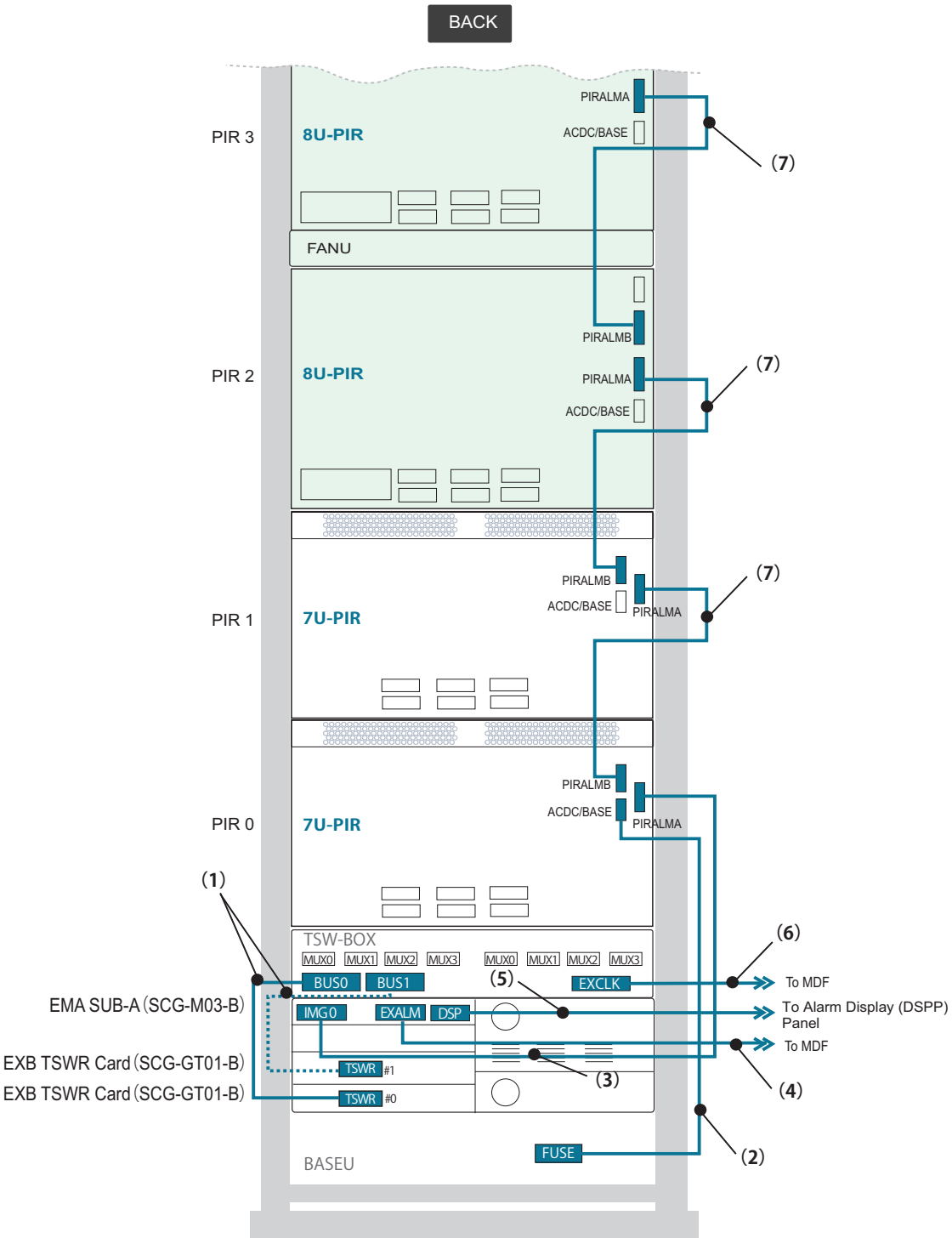
Step1: Connect power, ground, and FG cables (-48V, G, FE) between PIR and BASEU.
**see SN1757 BBUB Installation Design in Peripheral Equipment Description (Digital/Analog Devices) for cable connection with BBU to use Message Waiting Lamp.*



Use a flat-blade driver to connect power cables (AWG12, 14 or 2sq) to DC terminals.
**Be careful not to touch an electric pole with the metallic part of the driver when connecting the power cable.*

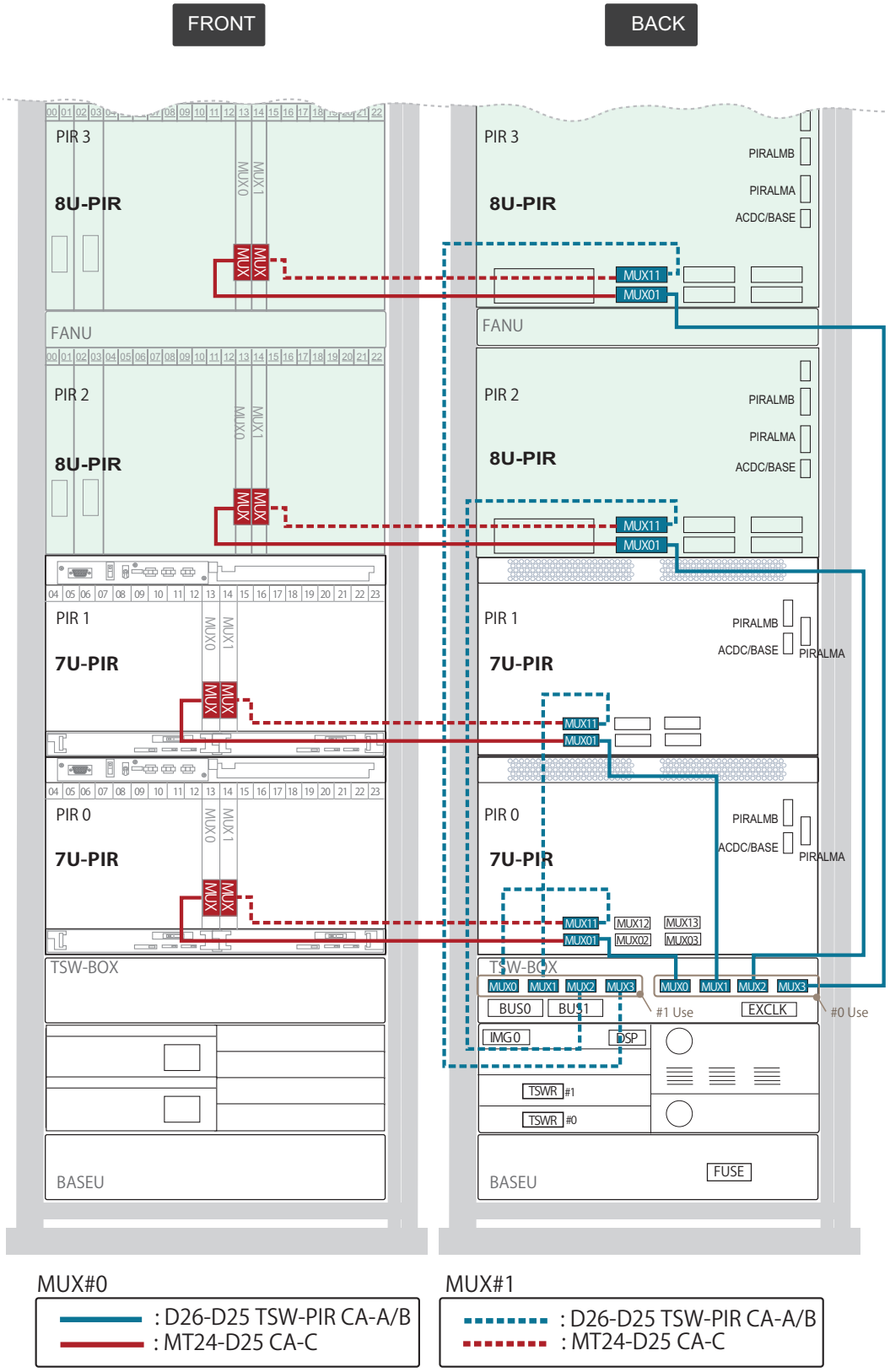


Step2: Connect BUS cables.



NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	Telephony Server (EXB-TSWR card #0)	TSWR	TSW-BOX	BUS0	D37-SC50 CA-E	-
	Telephony Server (EXB-TSWR card #0)	TSWR	TSW-BOX	BUS1	D37-SC50 CA-E	-
(2)	BASEU	FUSE	PIR	BASE	D09 ST CA-A	Connect to PIR0
(3)	Telephony Server (EMA SUB-A card)	IMG0	PIR0	PIRALMA	D15 ST-F CA-A	-
(4)	Telephony Server (EMA SUB-A card)	EXALM	MDF		D25 EXALM CA-A	Necessary when External Alarm Indication Panel is used
(5)	Telephony Server (EMA SUB-A card)	DSP	Alarm Dis-play Panel (DSPP)	J1	D15 ST-FF CA-C	Necessary when Alarm Display Panel (DSPP) is used
(6)	TSW-BOX	EXCLK	MDF		D37 EXCLK CA-A	Necessary when clock synchronization is performed Necessary when Music-On-Hold is used
(7)	PIR0	PIRALMB	PIR1	PIRALMA	D15 ST CA-A/B	Necessary when PIR1 is mounted
	PIR1	PIRALMB	PIR2	PIRALMA	D15 ST CA-A/B	Necessary when PIR2 is mounted
	PIR2	PIRALMB	PIR3	PIRALMA	D15 ST CA-A/B	Necessary when PIR3 is mounted

Step3: Connect BUS cables between TSW and MUX.

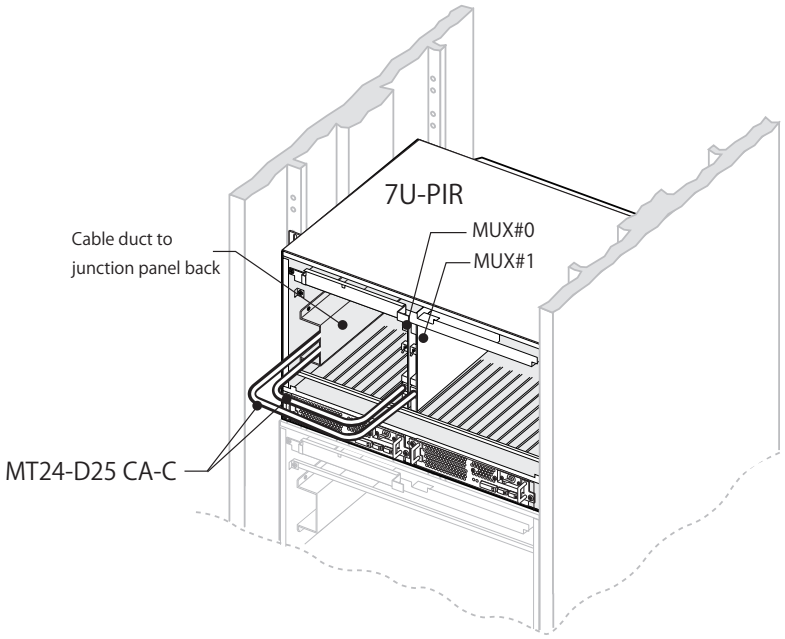


FROM			TO		CABLE NAME	REMARKS
UNIT/MODULE		CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
TSW-BOX (Back)	TSW 0#	MUX0	PIR0 (Back)	MUX01	D26-D25 TSW-PIR CA-A/B	#0 use
		MUX1	PIR1 (Back)			#0 use Necessary when PIR1 mounted
		MUX2	PIR2 (Back)			#0 use Necessary when PIR2 mounted
		MUX3	PIR3 (Back)			#0 use Necessary when PIR3 mounted
	TSW 1#	MUX0	PIR0 (Back)	MUX11		#1 use
		MUX1	PIR1 (Back)			#1 use Necessary when PIR1 mounted
		MUX2	PIR2 (Back)			#1 use Necessary when PIR2 mounted
		MUX3	PIR3 (Back)			#1 use Necessary when PIR3 mounted
PIR0 (Back)		MUX01	PIR0 (Front)	MUX (Slot 13 CJ-PC00 front connector) **Note 1**	MT24-D25 CA-C **Note 3** **Note 4**	#0 use
PIR1 (Back)			PIR1 (Front)			#0 use Necessary when PIR1 mounted
PIR2 (Back)			PIR2 (Front)	MUX (Slot 13 PH-PC36 front connector) **Note 2**		#0 use Necessary when PIR2 mounted
PIR3 (Back)			PIR3 (Front)			#0 use Necessary when PIR3 mounted
PIR0 (Back)		MUX11	PIR0 (Front)	MUX (Slot 14 CJ-PC00 front connector) **Note 1**		#1 use
PIR1 (Back)			PIR1 (Front)			#1 use Necessary when PIR1 mounted
PIR2 (Back)			PIR2 (Front)	MUX (Slot 14 PH-PC36 front connector) **Note 2**		#1 use Necessary when PIR2 mounted
PIR3 (Back)			PIR3 (Front)			#1 use Necessary when PIR3 mounted

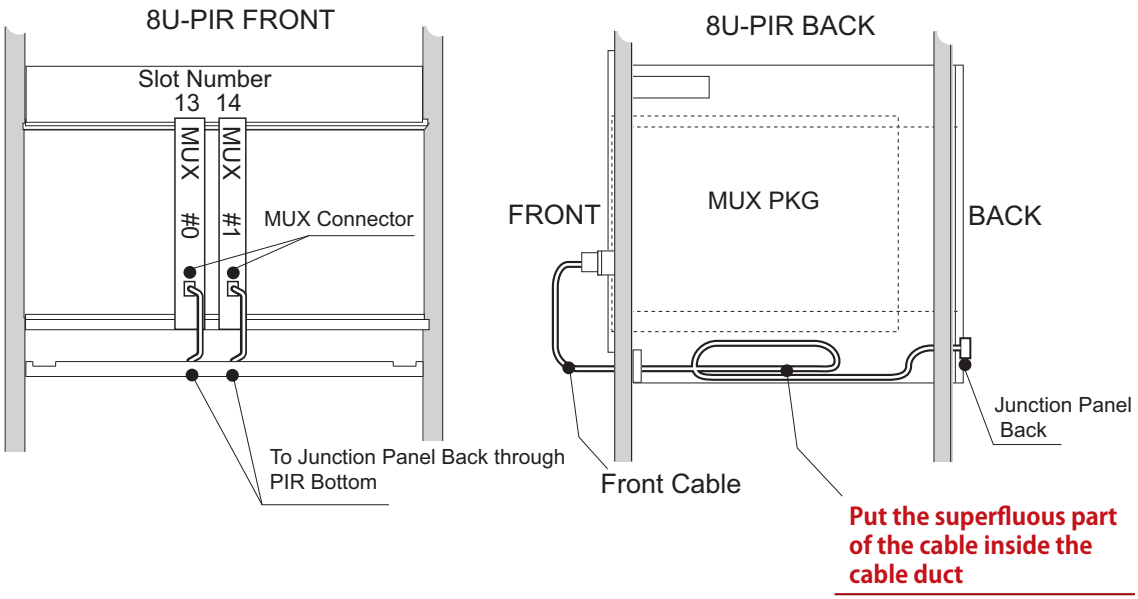
Note 1: For 7U-PIR, CJ-PC00 is used as MUX card.

Note 2: For 8U-PIR, PH-PC36 is used as MUX card.

Note 3: For 7U-PIR, run the cables (such as BUS cables between the front connectors on TSW/MUX card and the MUX0x/1x connectors on backboard) from front to back through the cable duct at the bottom of each PIR to protect the cables. To avoid obstructions when inserting the cards, fix firmly the cables with a tie-wrap to the tie-down point set up at the lower part of PIR.

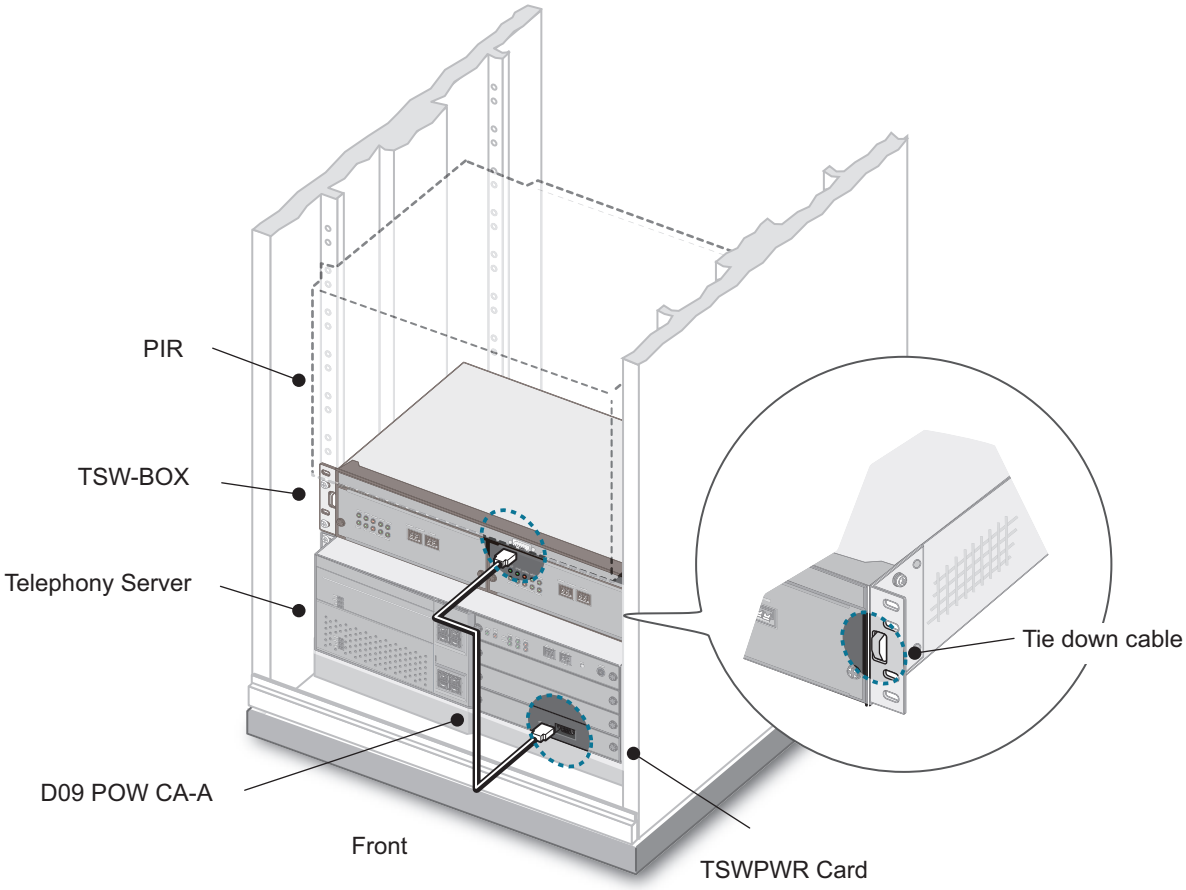


Note 4: For 8U-PIR, run the cables (such as BUS cables between the front connectors on TSW/MUX card and the MUX0x/1x connectors on backboard) from front to back through the cable duct at the bottom of each PIR to protect the cables. Be careful as explained in Precautions in Running Cables through 8U-PIR.



Note: Refer to 5.4 How to Install Connectors on PIR for MUX Use BUS Cable for the way to connect the cables to junction panel on rear PIR.

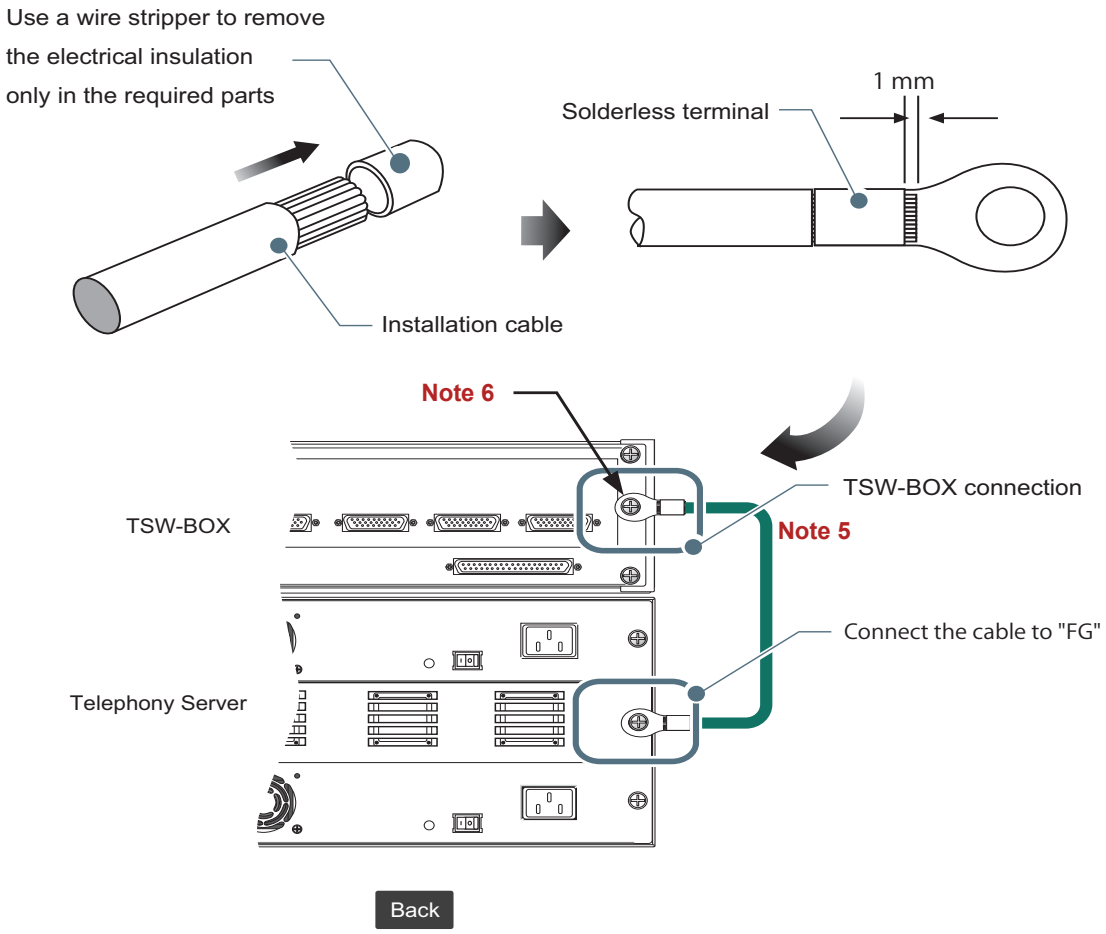
Step4: Connect the external power cable of the TSW-BOX. Power is fed through the TSWPWR card (SCA-M01-A) installed on the Telephony Server.



Note: Secure the cables with a tie wrap to the tie down point on the rack mount bracket of the TSW-BOX so as not to interfere with installation or removal of the cards.

FROM		TO		CABLE NAME
UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME	
Telephony Server (TSWPWR card)	TSWPWR	TSW-BOX	PWR	D09 POW CA-A

Step5: Connect FG cable between TSW-BOX and Telephony Server as shown the figure below.



Note 5: Use the following installation cable:
AWG12, Cable length: within 250mm, Solderless terminal: R5.5-4
or
AWG14 or 2sq, Cable length: within 250mm, Solderless terminal: R2-4

Note 6: Use a screw (M4 screw on the earth plate of PIR) not in use.

5.3.4 Cable Connection for DC-Powered Model (4-IMG Configuration)

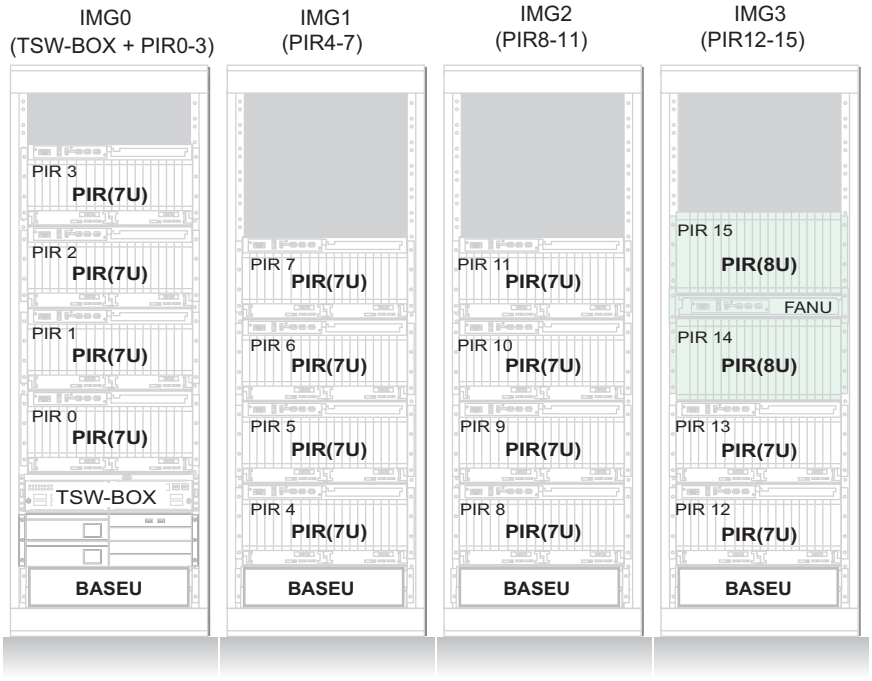


This section explains cable connections for DC-Powered Model (4-IMG).

- When Using TSW-BOX
- When Using TSWR

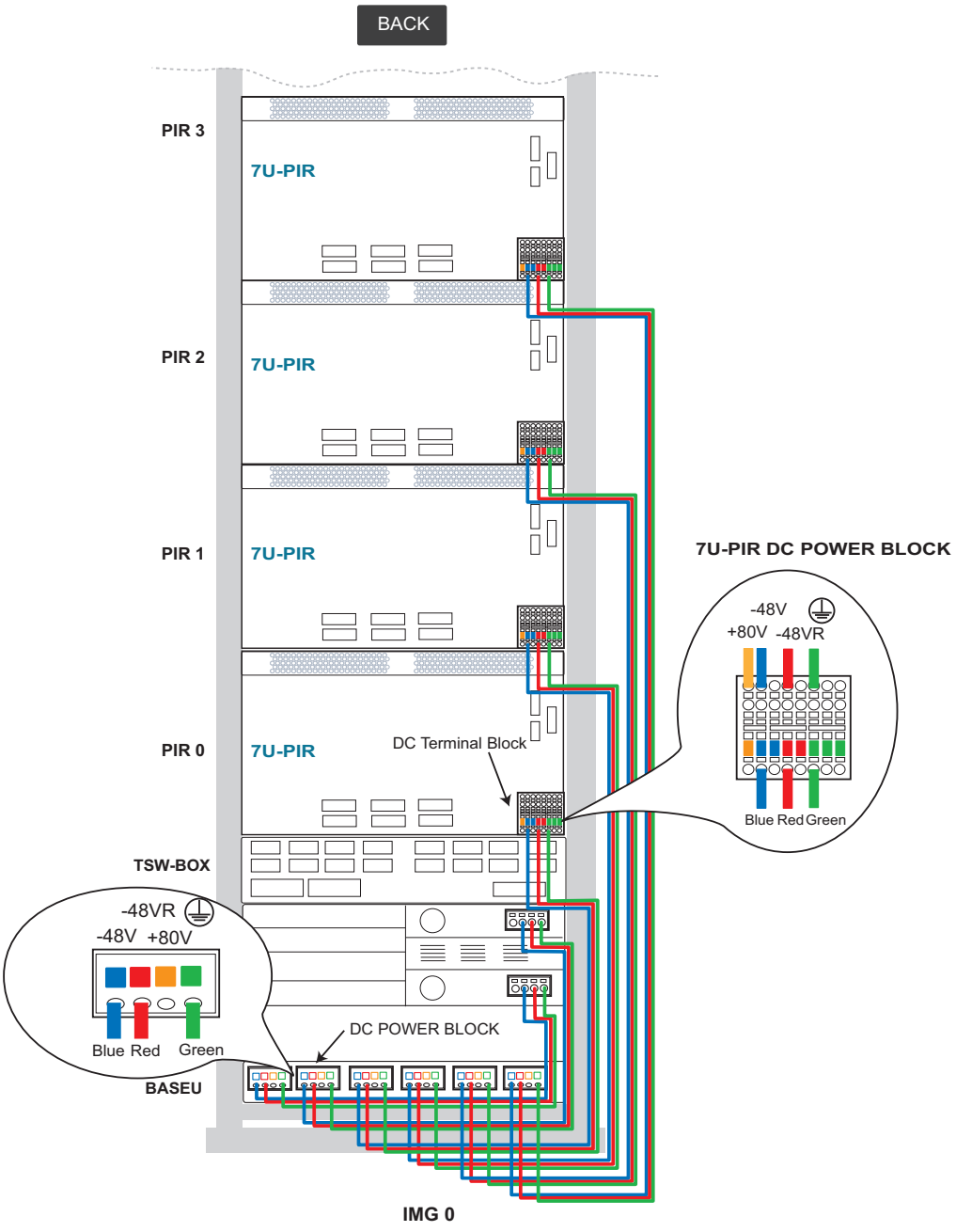
5.3.4.1 When Using TSW-BOX

Connect the cables according to the module configuration. We will explain the connections using the figure below (14 7U-PIRs and 2 8U-PIRs). For other configurations refer to 7. 7U-PIR and 8U-PIR Mixed Configuration Patterns List.

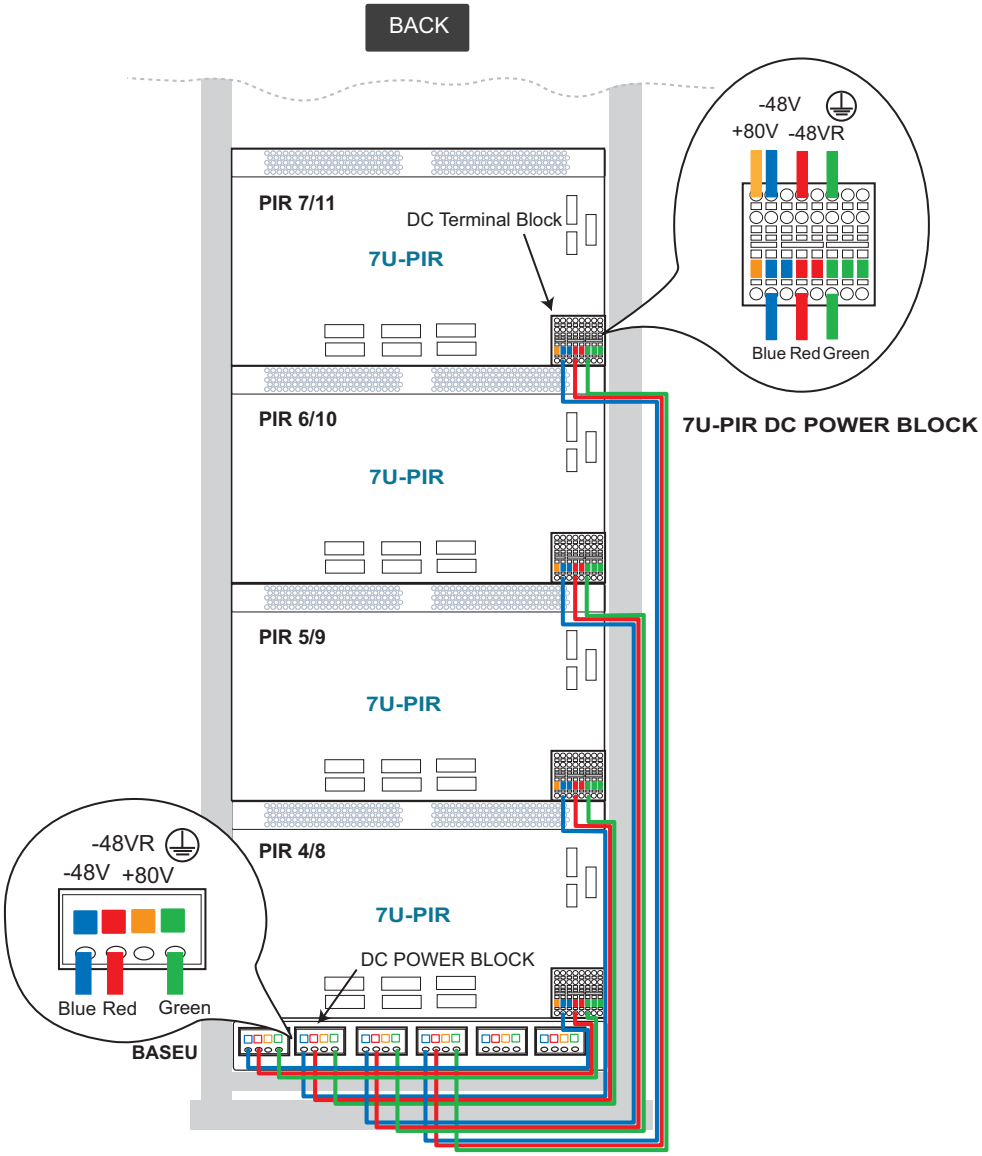


Step1: Connect power, ground, and FG cables (-48V, G, FE) between PIR and BASEU.
**see SN1757 BBUB Installation Design in Peripheral Equipment Description (Digital/Analog Devices) for cable connection with BBU to use Message Waiting Lamp.*

Only 7U-PIR Mounting (IMG 0)

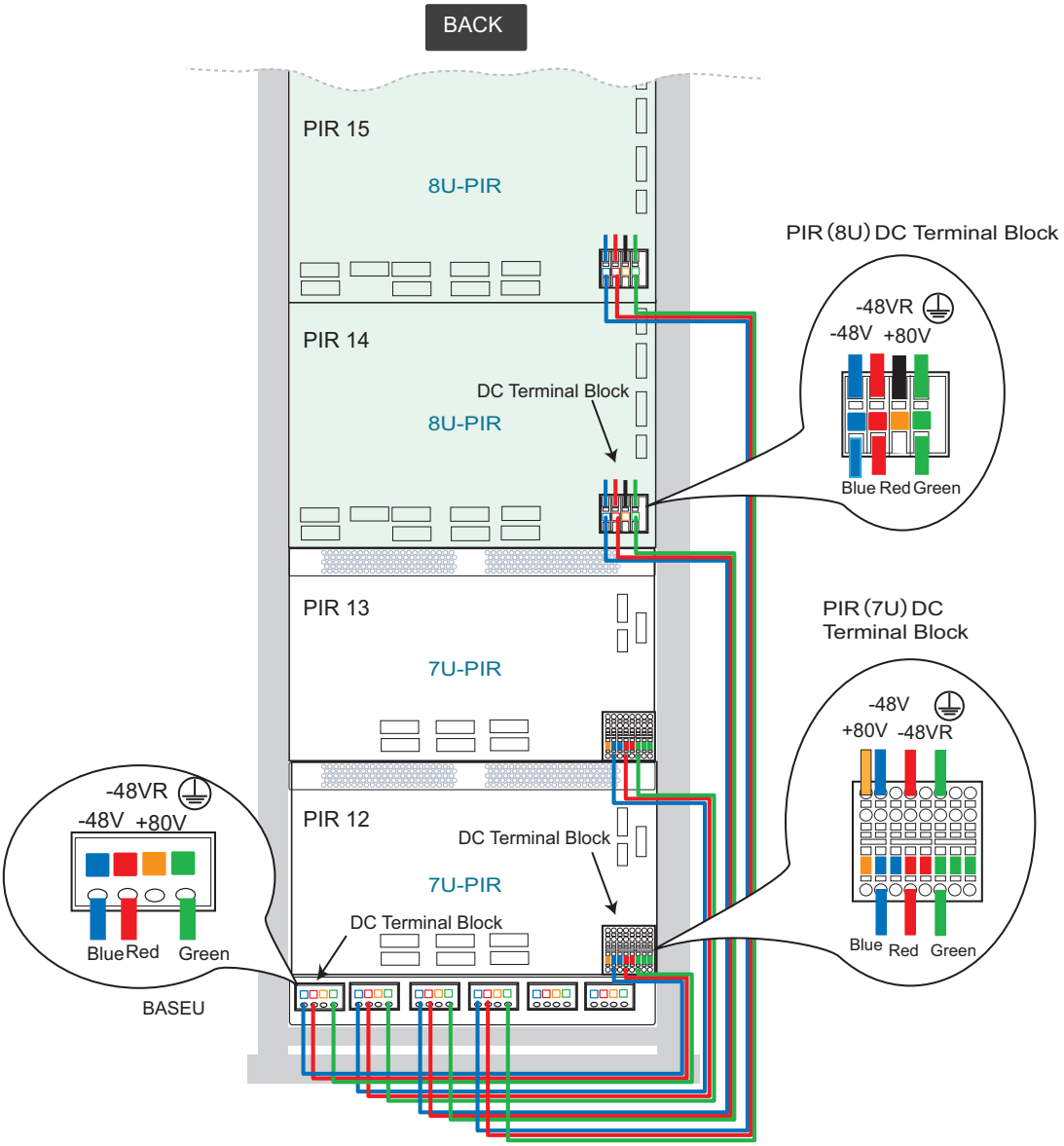


Only 7U-PIR Mounting (IMG1 and IMG 2)



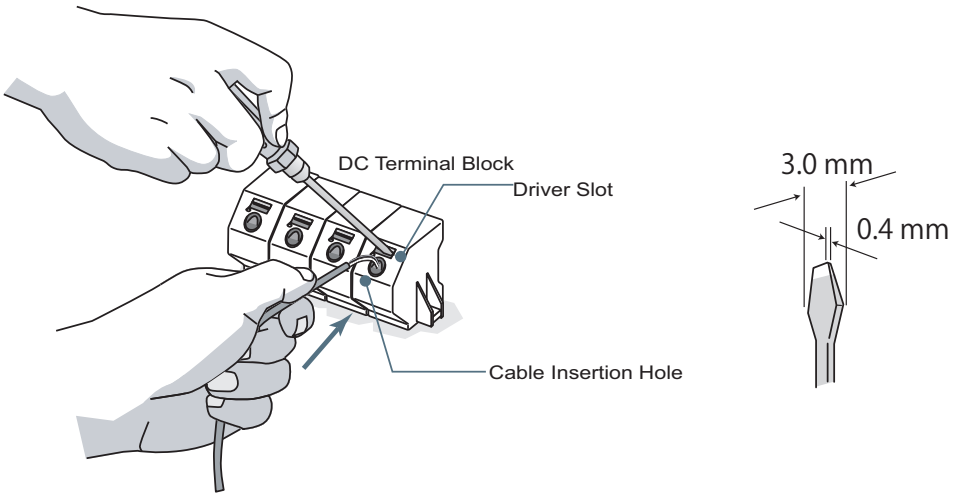
IMG 1/2

7U-PIR and 8U-PIR Mounting (IMG 3)



IMG 3

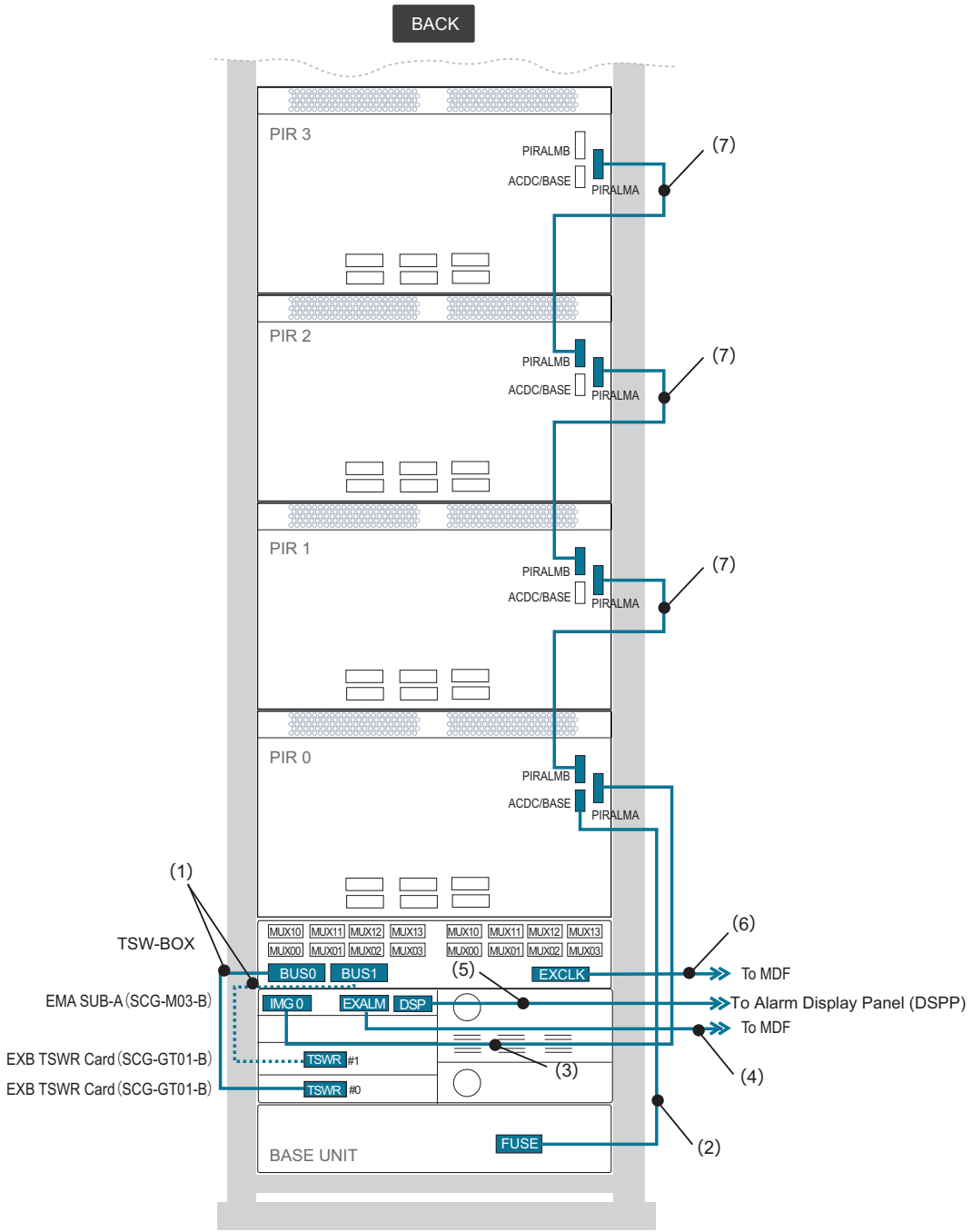
Use a flat-blade driver to connect power cables (AWG12, 14 or 2sq) to DC terminals.
**Be careful not to touch an electric pole with the metallic part of the driver when connecting the power cable.*



Step2: Connect BUS cables.

Note: The dotted line refers to #1 connections.

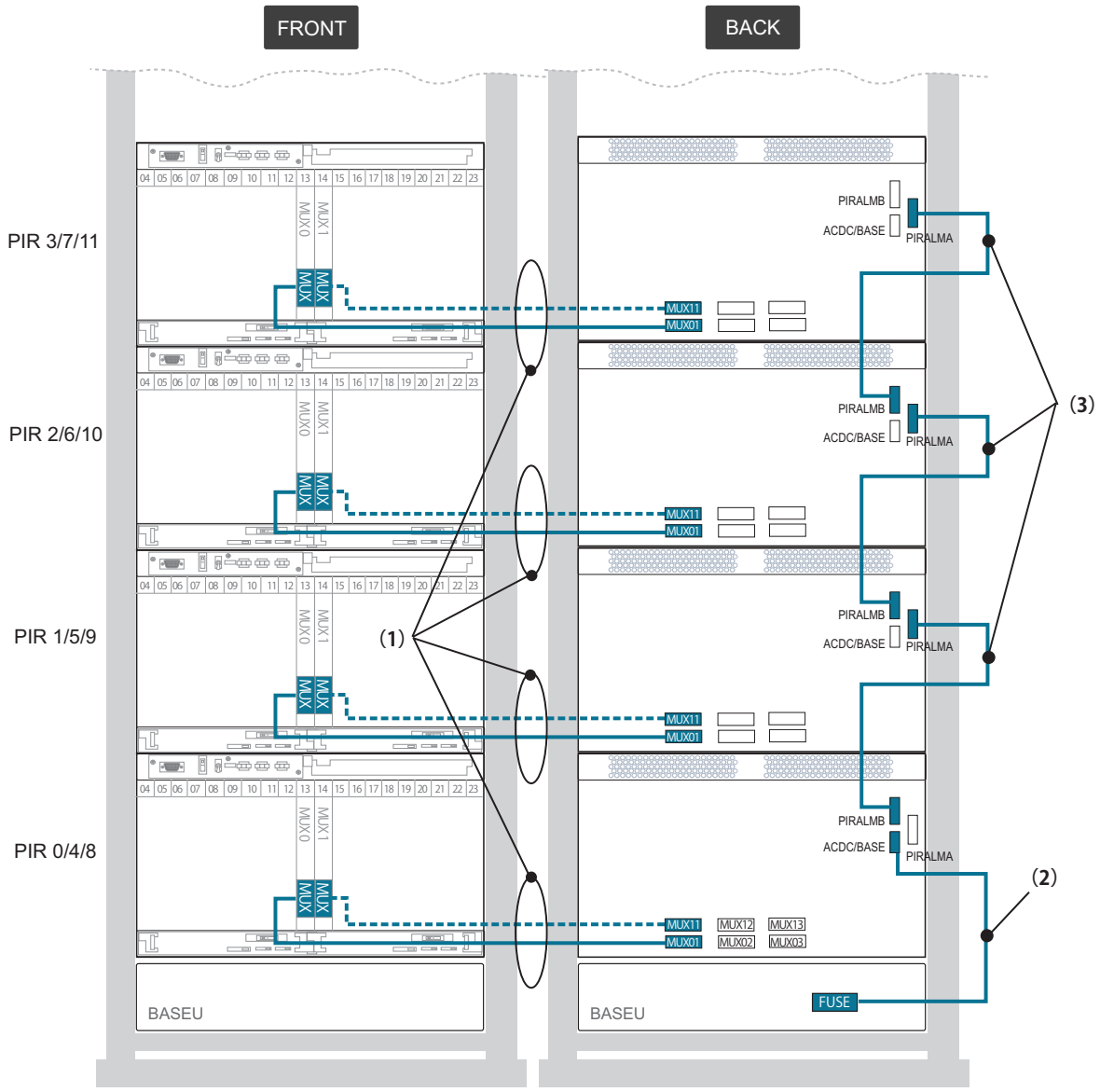
- TSW-BOX Part Connections



IMG 0

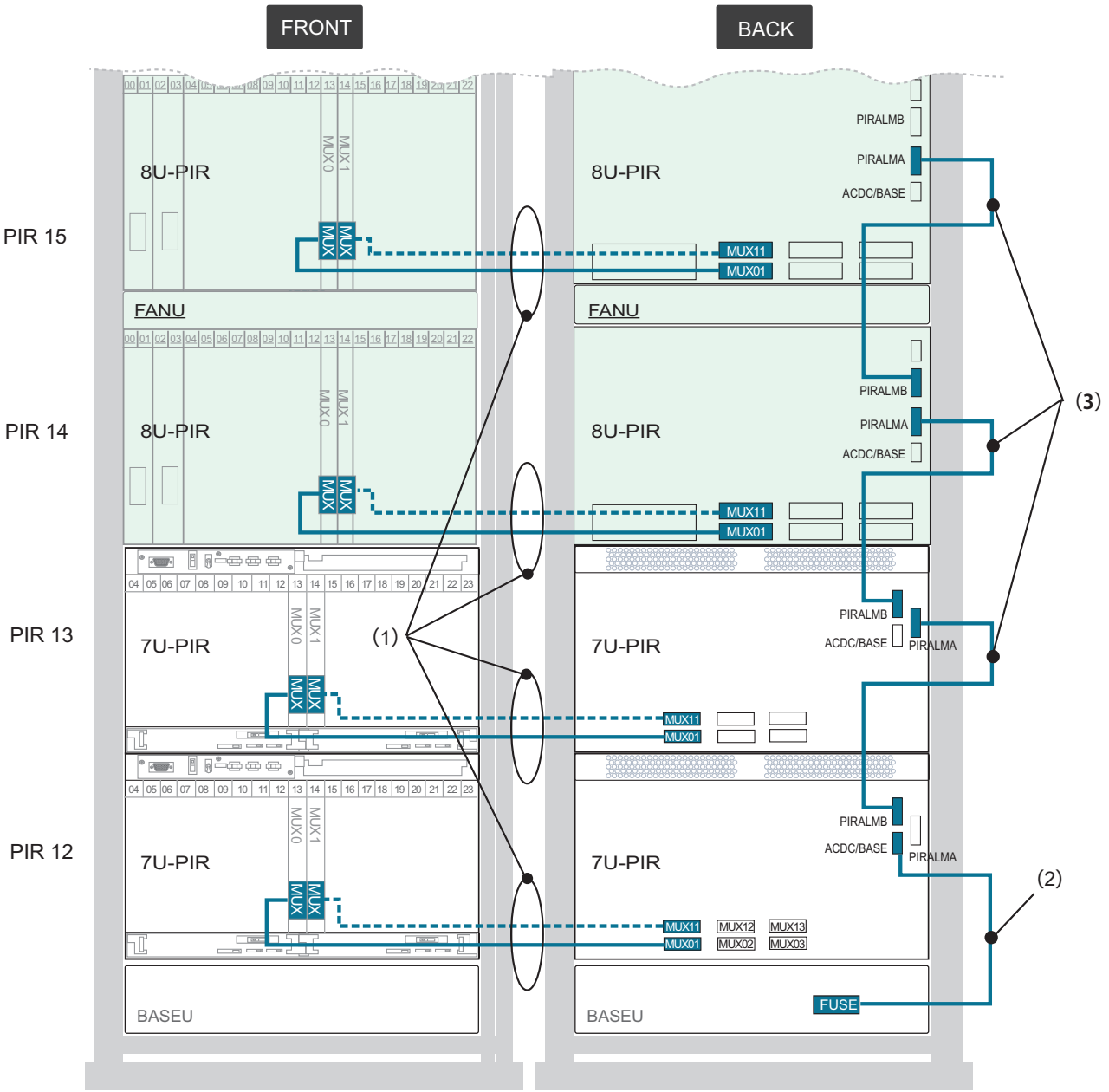
NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	Telephony Server (EXB-TSWR card #0)	TSWR	TSW-BOX	BUS0	D37-SC50 CA-E	-
	Telephony Server (EXB-TSWR card #0)	TSWR	TSW-BOX	BUS1	D37-SC50 CA-E	-
(2)	BASEU	FUSE	PIR	BASE	D09 ST CA-A	Connect to PIR0
(3)	Telephony Server (EMA SUB-A card)	IMG0	PIR0	PIRALMA	D15 ST-F CA-A	-
(4)	Telephony Server (EMA SUB-A card)	EXALM	MDF		D25 EXALM CA-A	Necessary when External Alarm Indication Panel is used
(5)	Telephony Server (EMA SUB-A card)	DSP	Alarm Dis-play Panel (DSPP)	J1	D15 ST-FF CA-C	Necessary when Alarm Display Panel (DSPP) is used
(6)	TSW-BOX	EXCLK	MDF		D37 EXCLK CA-A	Necessary when clock synchronization is performed Necessary when Music-On-Hold is used
(7)	PIR0	PIRALMB	PIR1	PIRALMA	D15 ST CA-A/B	Necessary when PIR1 is mounted
	PIR1	PIRALMB	PIR2	PIRALMA	D15 ST CA-A/B	Necessary when PIR2 is mounted
	PIR2	PIRALMB	PIR3	PIRALMA	D15 ST CA-A/B	Necessary when PIR3 is mounted

- Common Connections per IMG (Only 7U-PIR Mounted)



IMG0/1/2

- Common Connections per IMG (7U-PIR and 8U-PIR Mounted)



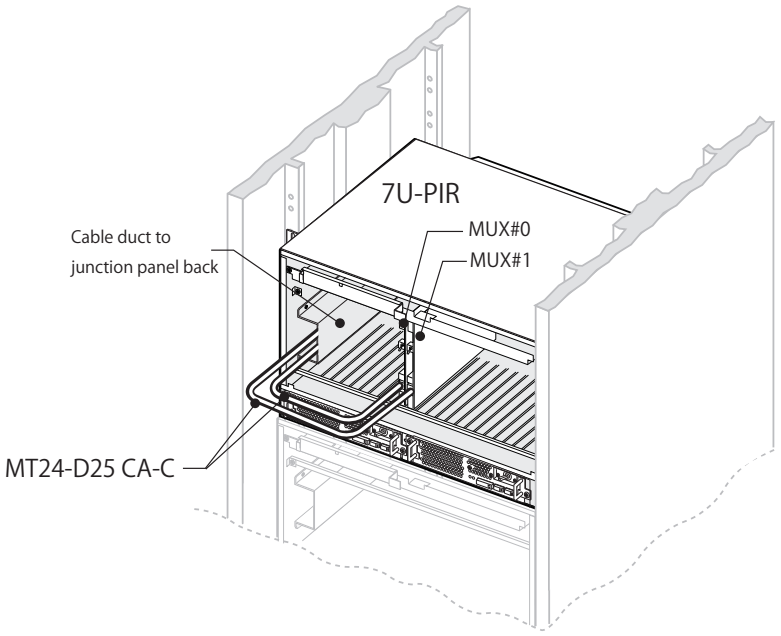
IMG 3

Bus Cable Connections

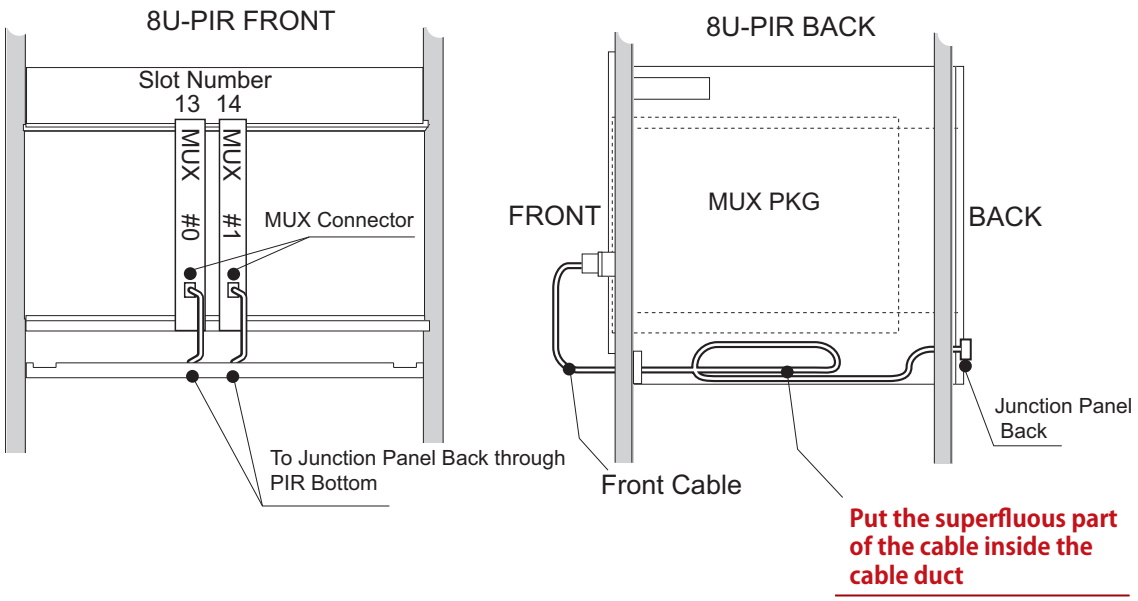
NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	PIR0/4/8/12 (back)	MUX01	PIR0/4/8/12 (front)	MUX (slot 13 CJ-PC00 front connector/PH-PC36 front connector) **Note 1**	MT24-D25 CA-C **Note 2** **Note 3**	Needed when connecting to PIR4/8/12 #0 use
	PIR0/4/8/12 (back)	MUX11	PIR0/4/8/12 (front)	MUX (slot 14 CJ-PC00 front connector/PH-PC36 front connector) **Note 1**		Needed when connecting to PIR4/8/12 #1 use
	PIR1/5/9/13 (back)	MUX01	PIR1/5/9/13 (front)	MUX (slot 13 CJ-PC00 front connector/PH-PC36 front connector) **Note 1**		Needed when connecting to PIR5/9/13 #0 use
	PIR1/5/9/13 (back)	MUX11	PIR1/5/9/13 (front)	MUX (slot 14 CJ-PC00 front connector/PH-PC36 front connector) **Note 1**		Needed when connecting to PIR5/9/13 #1 use
	PIR2/6/10/14 (back)	MUX01	PIR2/6/10/14 (front)	MUX (slot 13 CJ-PC00 front connector/PH-PC36 front connector) **Note 1**		Needed when connecting to PIR6/10/14 #0 use
	PIR2/6/10/14 (back)	MUX11	PIR2/6/10/14 (front)	MUX (slot 14 CJ-PC00 front connector/PH-PC36 front connector) **Note 1**		Needed when connecting to PIR6/10/14 #1 use
	PIR3/7/11/15 (back)	MUX01	PIR3/7/11/15 (front)	MUX (slot 13 CJ-PC00 front connector/PH-PC36 front connector) **Note 1**		Needed when connecting to PIR7/11/15 #0 use
	PIR3/7/11/15 (back)	MUX11	PIR3/7/11/15 (front)	MUX (slot 14 CJ-PC00 front connector/PH-PC36 front connector) **Note 1**		Needed when connecting to PIR7/11/15 #1 use
(2)	BASEU	FUSE	PIR0/4/8/12	ACDC/BASE	D09 ST CA-A	
(3)	PIR0/4/8/12	PIRALMB	PIR1/5/9/13	PIRALMA	D15 ST CA-A	Connect to the proper PIR
	PIR1/5/9/13	PIRALMB	PIR2/6/10/14	PIRALMA		
	PIR2/6/10/14	PIRALMB	PIR3/7/11/15	PIRALMA		

Note 1: For 7U-PIR, CJ-PC00 is used as MUX card and for 8U-PIR, PH-PC36 is used as MUX card.

Note 2: For 7U-PIR, run the cables (such as BUS cables between the front connectors on TSW/MUX card and the MUX0x/1x connectors on backboard) from front to back through the cable duct at the bottom of each PIR to protect the cables. To avoid obstructions when inserting the cards, fix firmly the cables with a tie-wrap to the tie-down point set up at the lower part of PIR.

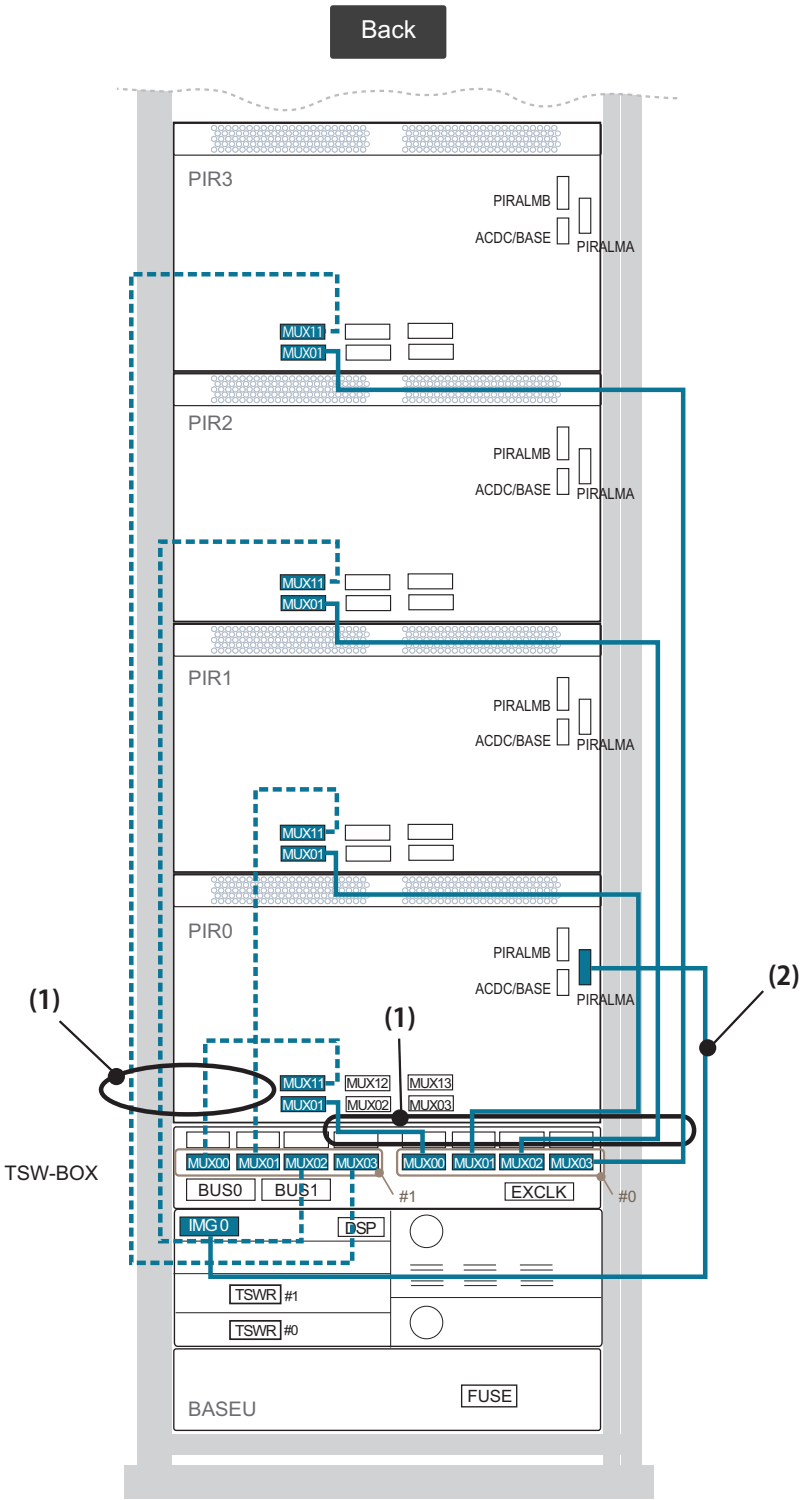


Note 3: For 8U-PIR, run the cables (such as BUS cables between the front connectors on TSW/MUX card and the MUX0x/1x connectors on backboard) from front to back through the cable duct at the bottom of each PIR to protect the cables. Be careful as explained in 2. Precautions in Running Cables through 8U-PIR.



Note: Refer to 5.4 How to Install Connectors on PIR for MUX Use BUS Cable for the way to connect the cables to junction panel on rear PIR.

- Connections between TSW-BOX and IMG 0

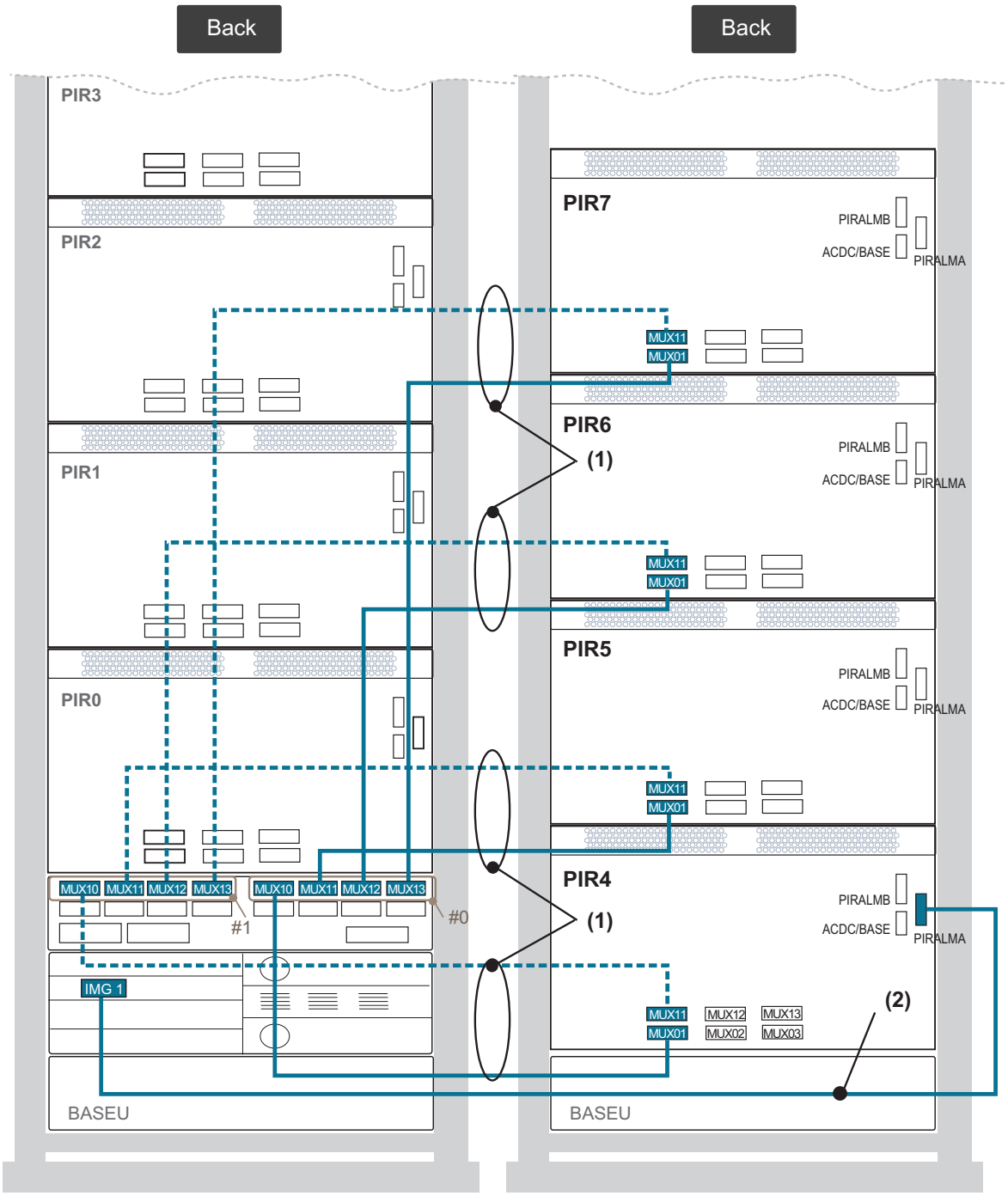


IMG 0

Bus Cable Connections (between TSW-BOX and IMG0)

NO.	FROM			TO		CABLE NAME	REMARKS
	UNIT/MODULE		CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	TSW-BOX (Back)	TSW #0	MUX00	PIR0 (Back)	MUX01	D26-D25 TSW-PIR CA-C	#0 use
			MUX01	PIR1 (Back)			#0 use Necessary when PIR1 mounted
			MUX02	PIR2 (Back)			#0 use Necessary when PIR2 mounted
			MUX03	PIR3 (Back)			#0 use Necessary when PIR3 mounted
		TSW #1	MUX00	PIR0 (Back)	MUX11		#1 use
			MUX01	PIR1 (Back)			#1 use Necessary when PIR1 mounted
			MUX02	PIR2 (Back)			#1 use Necessary when PIR2 mounted
			MUX03	PIR3 (Back)			#1 use Necessary when PIR3 mounted
(2)	Telephony Server (EMA SUB-A card)		IMG0	PIR0	PIRALMA	D15 ST-F CA-C	Necessary when connecting to IMG0

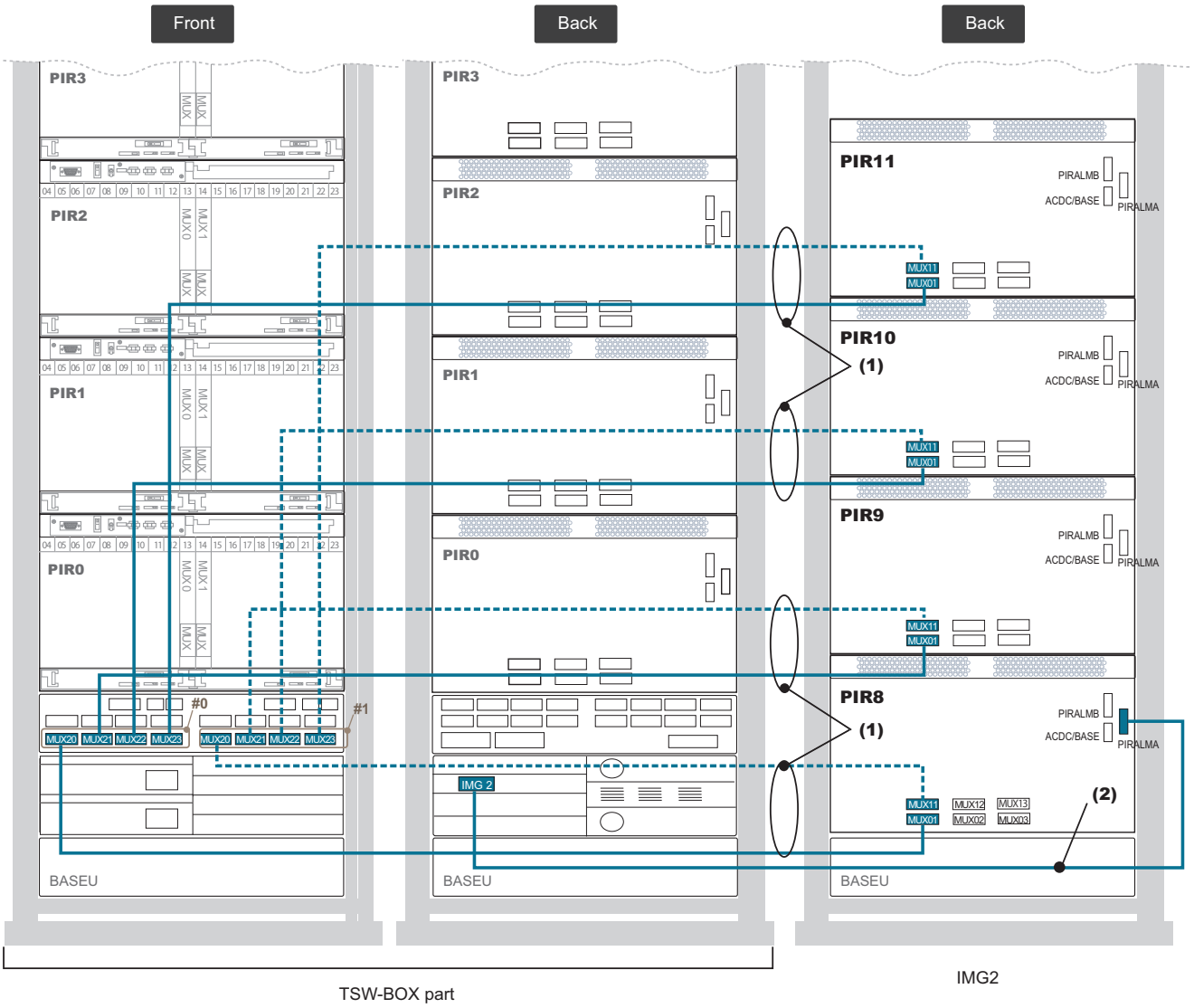
- Connections between TSW-BOX and IMG1



Bus Cable Connections (between TSW-BOX and IMG1)

NO.	FROM			TO		CABLE NAME	REMARKS
	UNIT/MODULE		CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	TSW-BOX (Back)	TSW #0	MUX10	PIR4 (Back)	MUX01	D26-D25 TSW-PIR CA-C	#0 use Necessary when PIR4 mounted
			MUX11	PIR5 (Back)			#0 use Necessary when PIR5 mounted
			MUX12	PIR6 (Back)			#0 use Necessary when PIR6 mounted
			MUX13	PIR7 (Back)			#0 use Necessary when PIR7 mounted
		TSW #1	MUX10	PIR4 (Back)	MUX11		#1 use Necessary when PIR4 mounted
			MUX11	PIR5 (Back)			#1 use Necessary when PIR5 mounted
			MUX12	PIR6 (Back)			#1 use Necessary when PIR6 mounted
			MUX13	PIR7 (Back)			#1 use Necessary when PIR7 mounted
(2)	Telephony Server (EMA SUB-B card)		IMG1	PIR4	PIRALMA	D15 ST-F CA-C	Necessary when connecting to IMG1

- Connections between TSW-BOX and IMG2

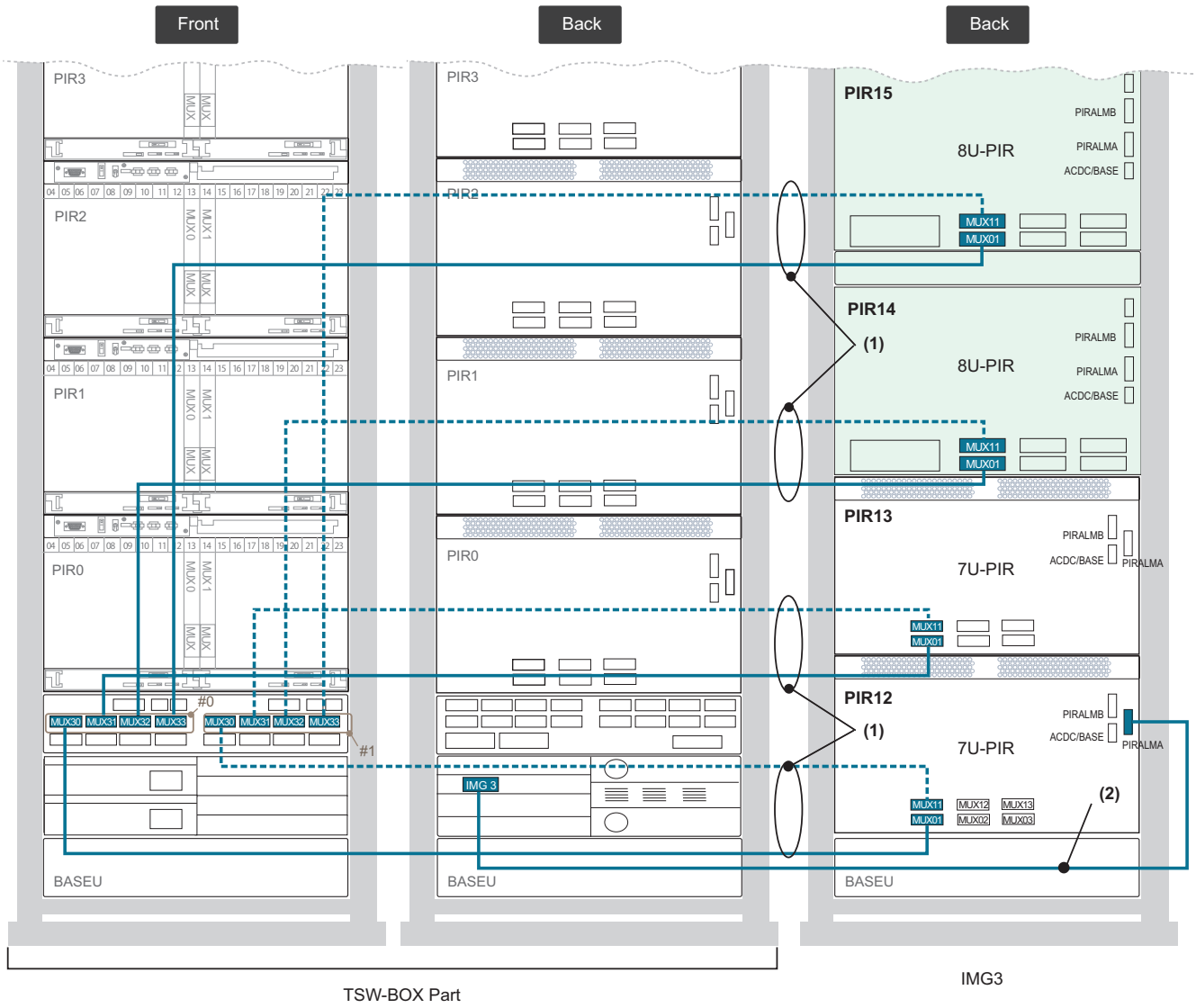


Bus Cable Connections (between TSW-BOX and IMG2)

NO.	FROM			TO		CABLE NAME	REMARKS
	UNIT/MODULE		CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1) **Note 4**	TSW-BOX (Front)	TSW #0	MUX20	PIR8 (Back)	MUX01	D26-D25 TSW-PIR CA-C	#0 use Necessary when PIR8 mounted
			MUX21	PIR9 (Back)			#0 use Necessary when PIR9 mounted
			MUX22	PIR10 (Back)			#0 use Necessary when PIR10 mounted
			MUX23	PIR11 (Back)			#0 use Necessary when PIR11 mounted
		TSW #1	MUX20	PIR8 (Back)	MUX11		#1 use Necessary when PIR8 mounted
			MUX21	PIR9 (Back)			#1 use Necessary when PIR9 mounted
			MUX22	PIR10 (Back)			#1 use Necessary when PIR10 mounted
			MUX23	PIR11 (Back)			#1 use Necessary when PIR11 mounted
(2)	Telephony Server (EMA SUB-B card)		IMG2	PIR8	PIRALMA	D15 ST-F CA-C	Necessary when connecting to IMG2

Note 4: If the system is not installed on a raised floor, run the BUS cables between the front connectors on TSW-BOX (4-IMG) and the connectors on the back board of PIRs through the free space at the bottom of 19-inch rack.

- Connections between TSW-BOX and IMG3

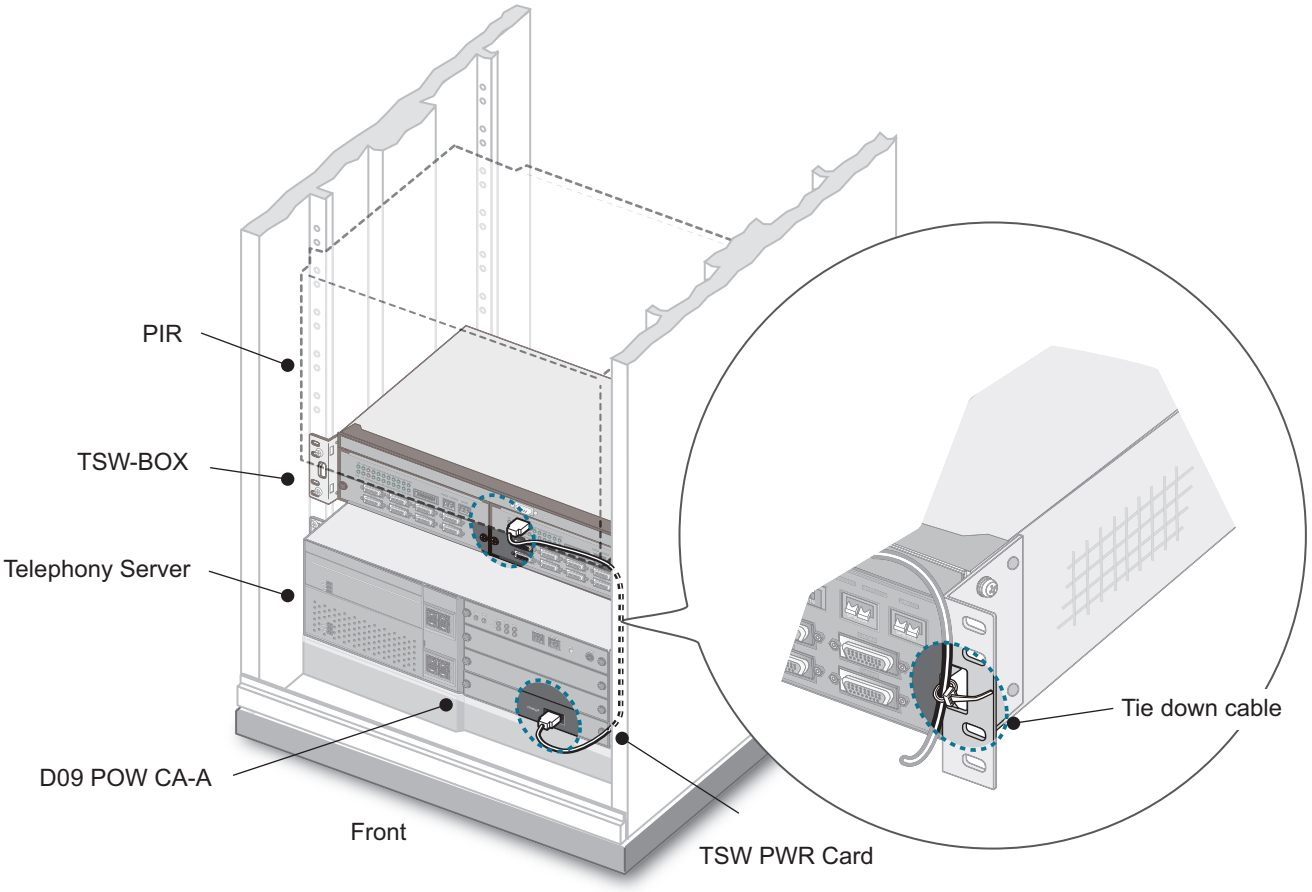


Bus Cable Connections (between TSW-BOX and IMG3)

NO.	FROM			TO		CABLE NAME	REMARKS
	UNIT/MODULE		CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1) Note 5	TSW-BOX (Front)	TSW #0	MUX30	PIR12 (Back)	MUX01	D26-D25 TSW-PIR CA-C	#0 use Necessary when PIR12 mounted
			MUX31	PIR13 (Back)			#0 use Necessary when PIR13 mounted
			MUX32	PIR14 (Back)			#0 use Necessary when PIR14 mounted
			MUX33	PIR15 (Back)			#0 use Necessary when PIR15 mounted
		TSW #1	MUX30	PIR12 (Back)	MUX11		#1 use Necessary when PIR12 mounted
			MUX31	PIR13 (Back)			#1 use Necessary when PIR13 mounted
			MUX32	PIR14 (Back)			#1 use Necessary when PIR14 mounted
			MUX33	PIR15 (Back)			#1 use Necessary when PIR15 mounted
(2)	Telephony Server (EMA SUB-B card)		IMG3	PIR12	PIRALMA	D15 ST-F CA-C	Necessary when connecting to IMG3

Note 5: If the system is not installed on a raised floor, run the BUS cables between the front connectors on TSW-BOX (4-IMG) and the connectors on the back board of PIRs through the free space at the bottom of 19-inch rack.

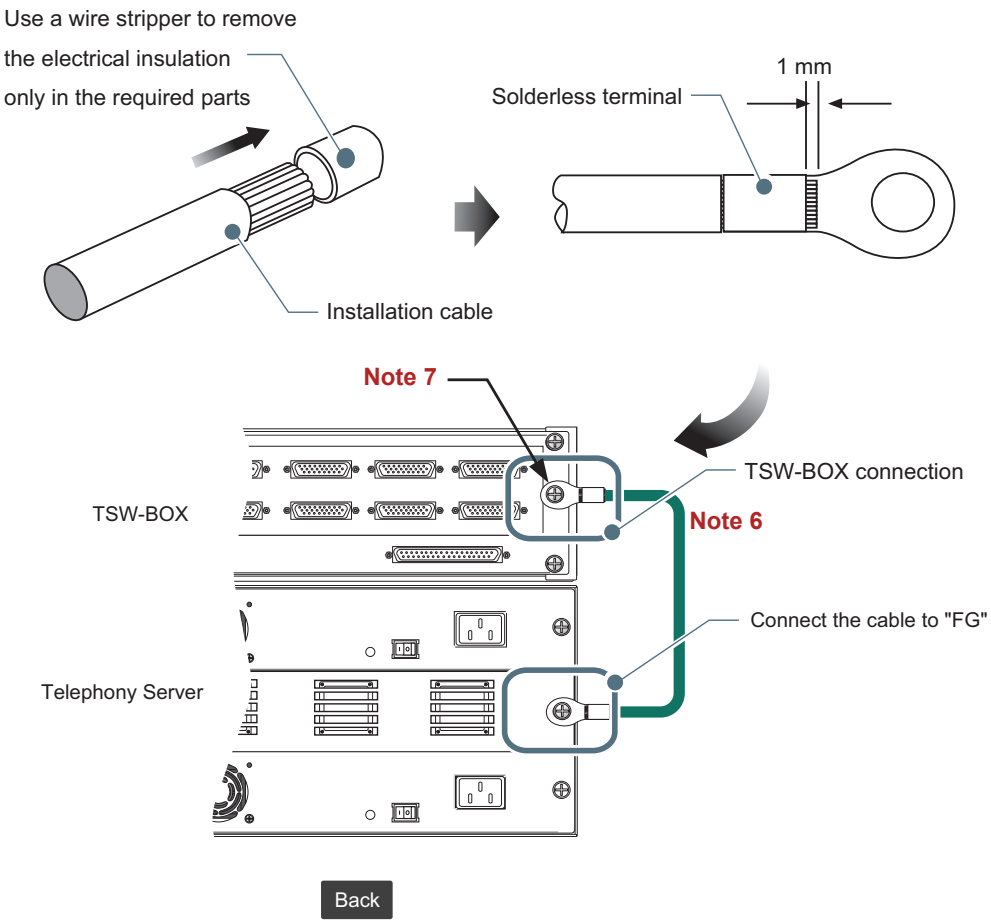
Step3: Connect the external power cable of the TSW-BOX. Power is fed through the TSWPWR card (SCA-M01-A) installed on the Telephony Server.



Note: Secure the cables with a tie wrap to the tie down point on the rack mount bracket of the TSW-BOX so as not to interfere with installation or removal of the cards. In the case of cable cover installation, this work must be carried out when all the cables between TSW-BOXs and PIRs are secured. For details, see Attach Covers in Chapter 9.

FROM		TO		CABLE NAME
UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME	
Telephony Server (TSWPWR card)	TSWPWR	TSW-BOX	PWR	D09 POW CA-A

Step4: Connect FG cable between TSW-BOX and Telephony Server as shown the figure below.

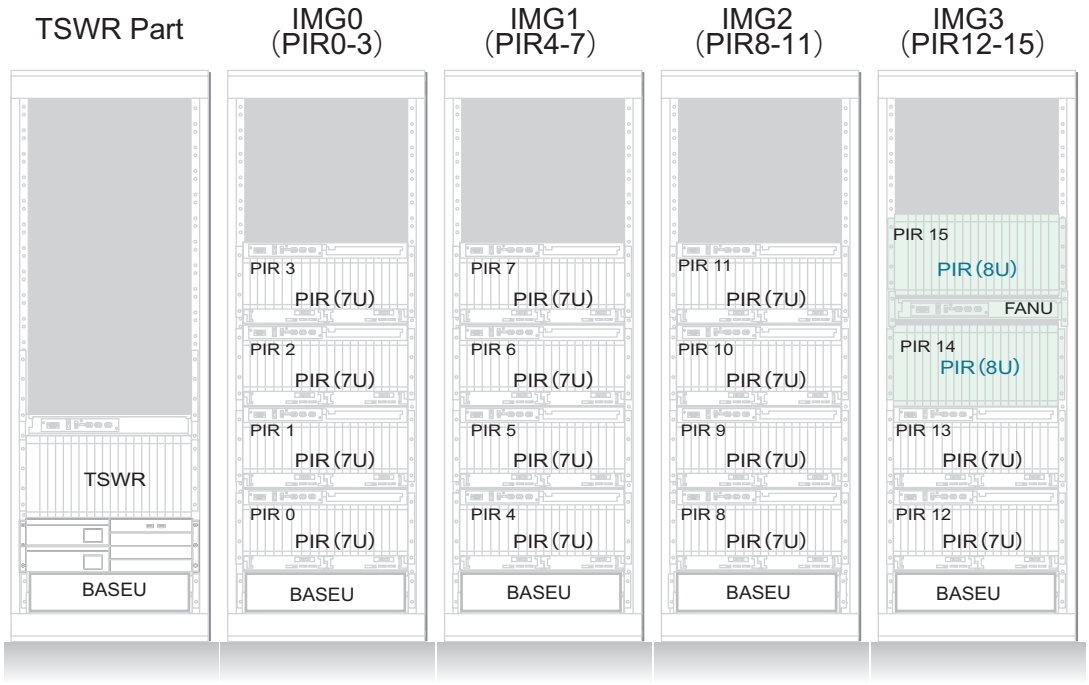


Note 6: Use the following installation cable:
AWG12, Cable length: within 250mm, Solderless terminal: R5.5-4
or
AWG14 or 2sq, Cable length: within 250mm, Solderless terminal: R2-4

Note 7: Use a screw (M4 screw on the earth plate of PIR) not in use.

5.3.4.2 When Using TSWR

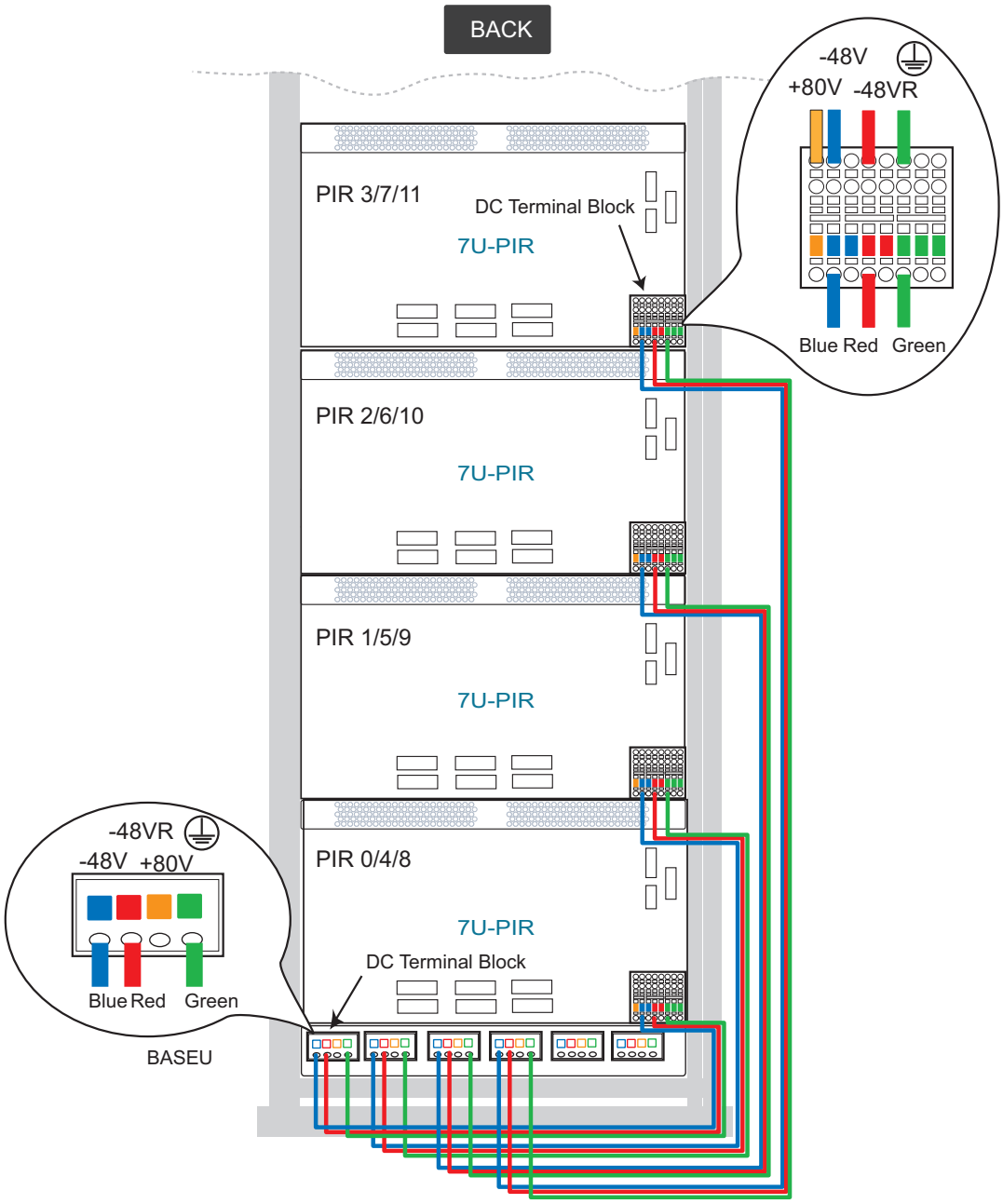
Connect the cables according to the module configuration. We will explain the connections using the figure below (14 7U-PIRs and 2 8U-PIRs). For other configurations refer to 7. 7U-PIR and 8U-PIR Mixed Configuration Patterns List.



Step1: Connect power, ground, and FG cables (-48V, G, FE) between PIR/TSWR and BASEU. **See SN1757 BBUB Installation Design in Peripheral Equipment Description (Digital/Analog Devices) for cable connection with BBU to use Message Waiting Lamp.*

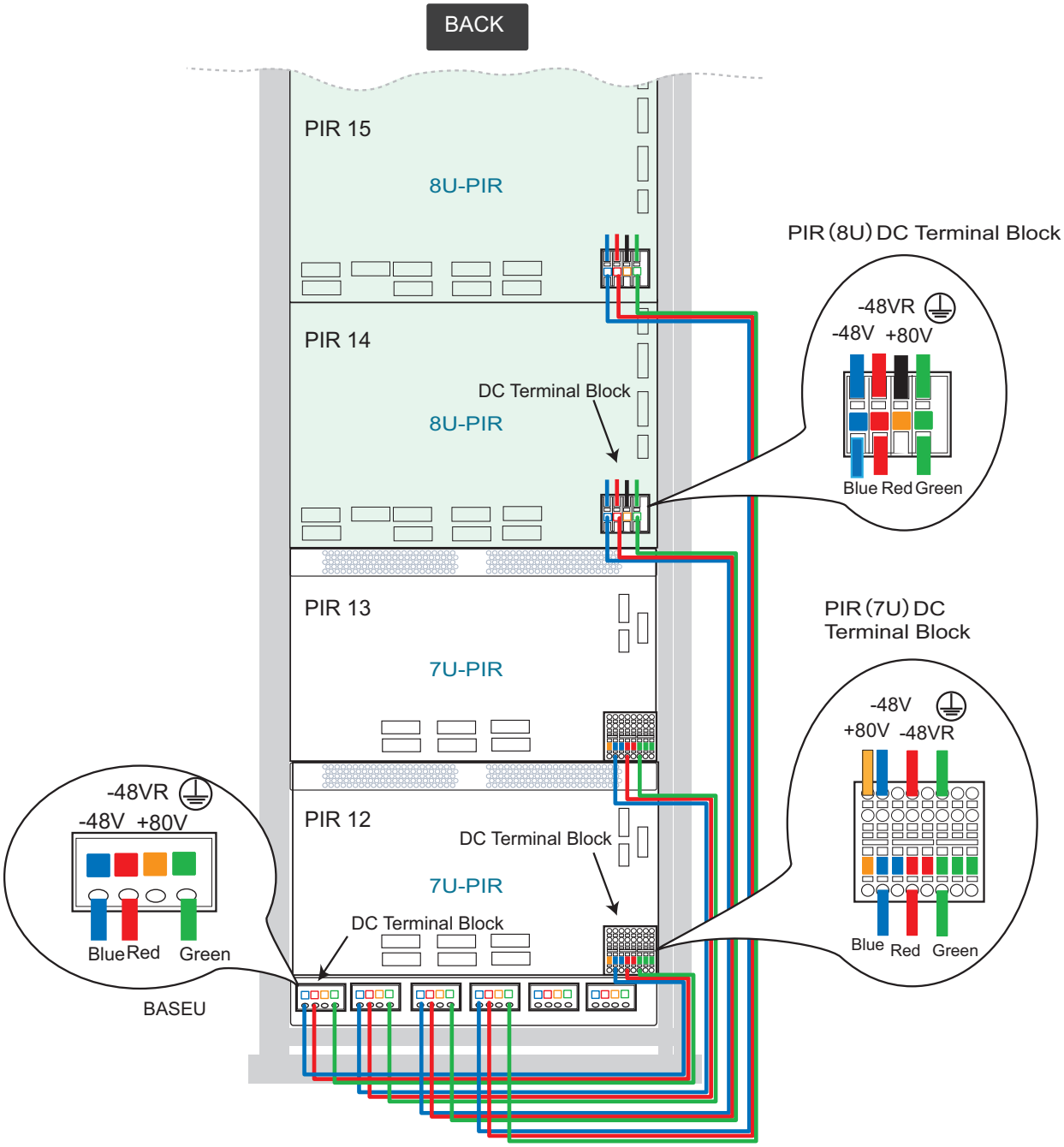
- BASEU - PIR

Only 7U-PIR Mounting (IMG0-IMG2)



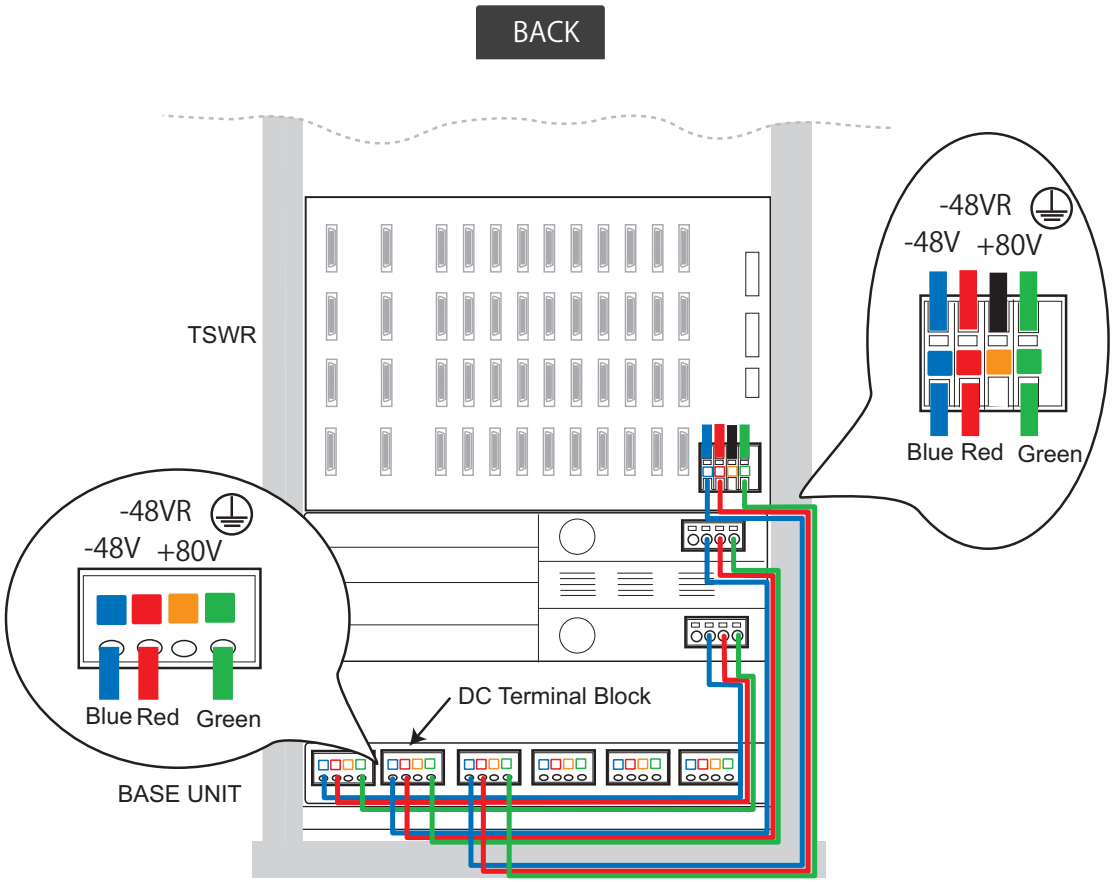
IMG 0/1/2

7U-PIR and 8-U-PIR Mounting (IMG 3)

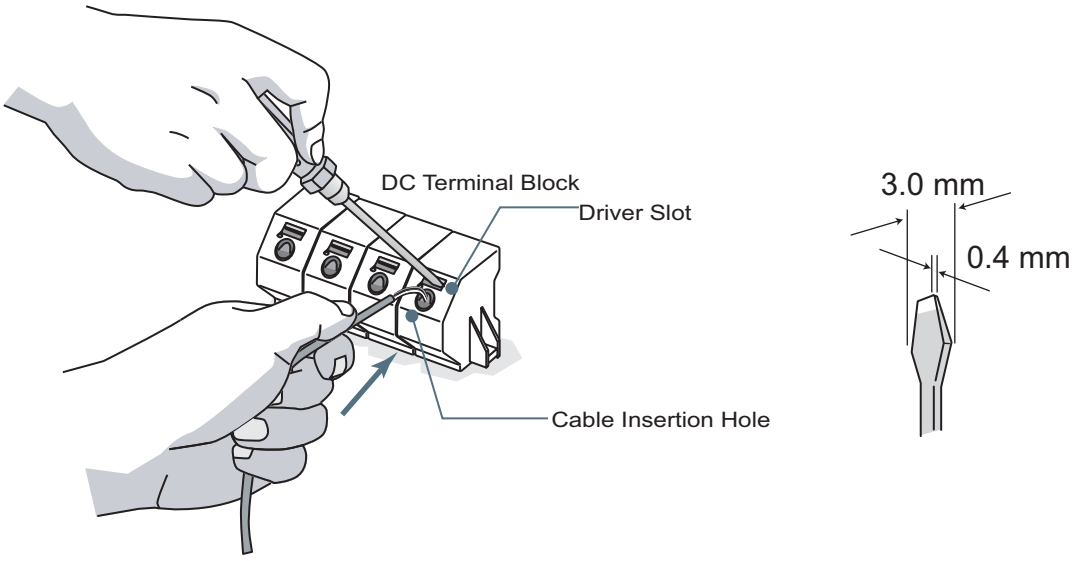


IMG 3

- BASEU - TSWR



Use a flat-blade driver to connect power cables (AWG12, 14 or 2sq) to DC terminals.
**Be careful not to touch an electric pole with the metallic part of the driver when connecting the power cable.*

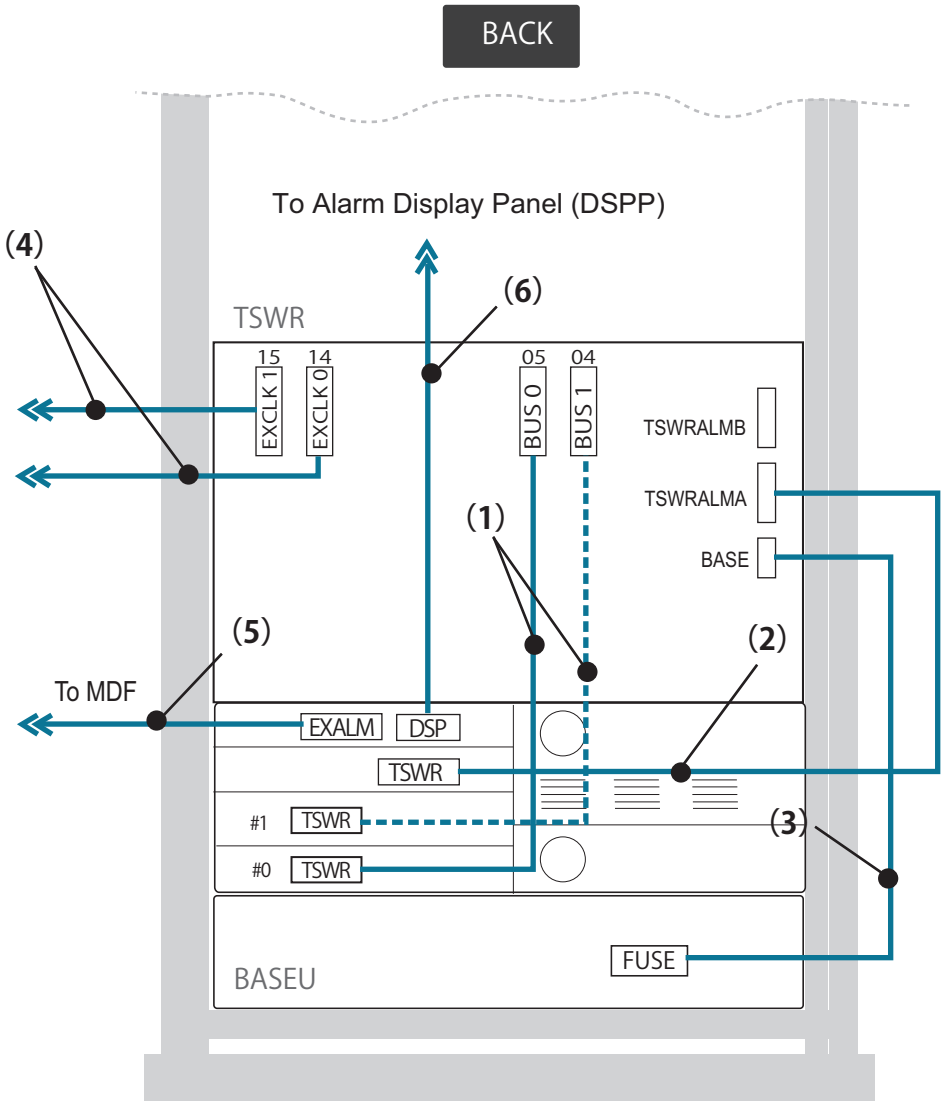


Step2: Connect BUS cables.

Note: The dotted line refers to #1 connections.

- TSWR Part Connections

BUS CABLE CONNECTIONS

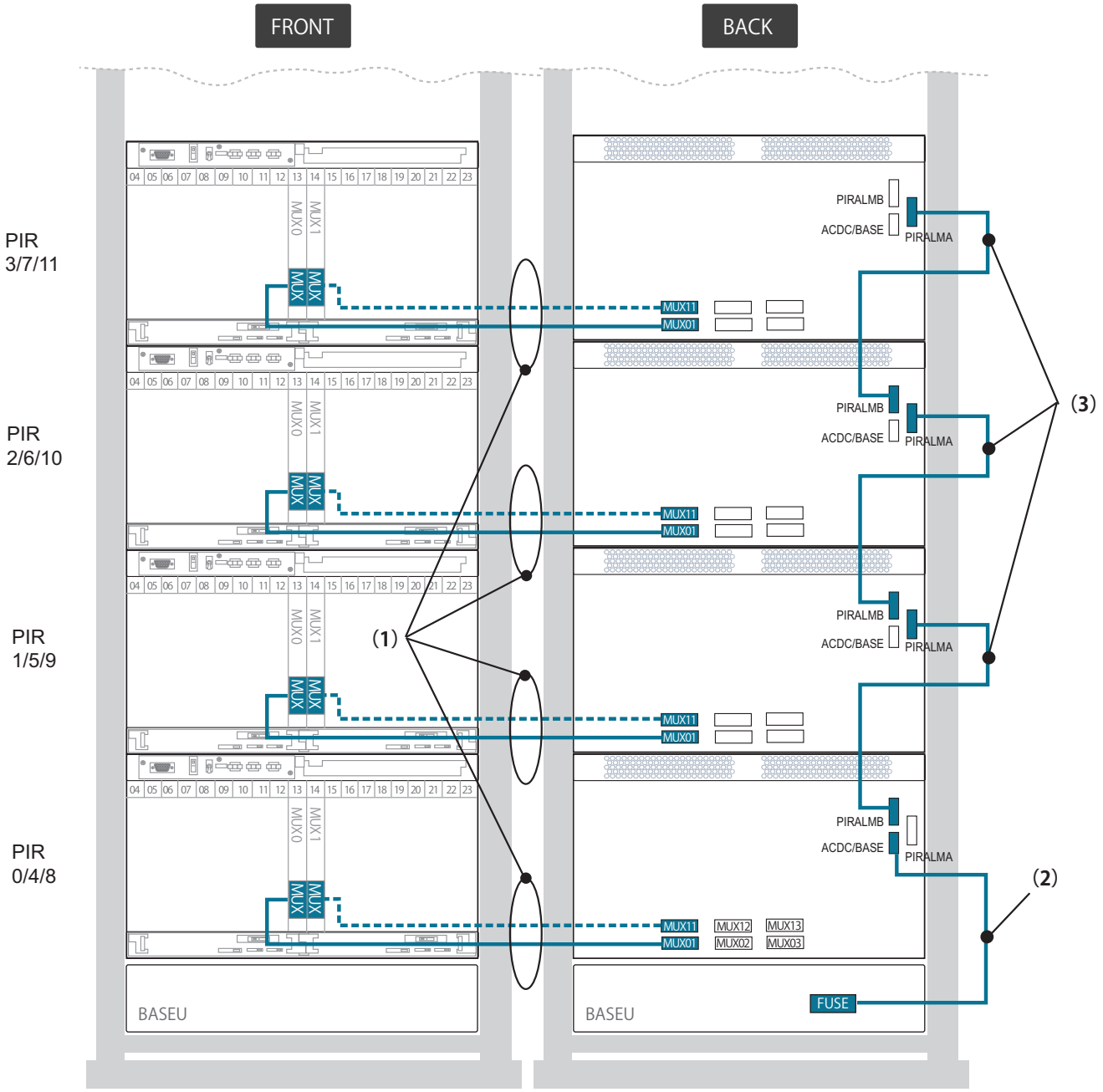


Bus Cable Connections

NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	Telephony Server (EXB-TSWR card #0)	TSWR	TSW-BOX	BUS0 (Slot05)	D37-SC50 CA-B	#0 use
	Telephony Server (EXB-TSWR card #1)	TSWR	TSW-BOX	BUS1 (Slot04)	D37-SC50 CA-B	#1 use
(2)	Telephony Server (EMA SUB-B card) **Note 1**	TSWR	TSWR	TSWRALMA	D15 ST CA(S)-A	
(3)	BASEU	FUSE	TSWR	BASE	D09 ST CA-A	
(4)	TSWR	EXCLK0 (Slot14)	MDF		D37 EXCLK CA-A	Necessary when clock synchronization based on PLO cards is performed Necessary when Music-On-Hold is used
		EXCLK1 (Slot15)				
(5)	Telephony Server (EMA SUB-A card)	EXALM	MDF		D25 EXALM CA-A	Necessary when External Alarm Indication Panel is used
(6)	Telephony Server (EMA SUB-A card)	DSP	Alarm Display Panel (DSPP)	J1	D15 ST-FF CA-C	Necessary when Alarm Display Panel (DSPP) is used

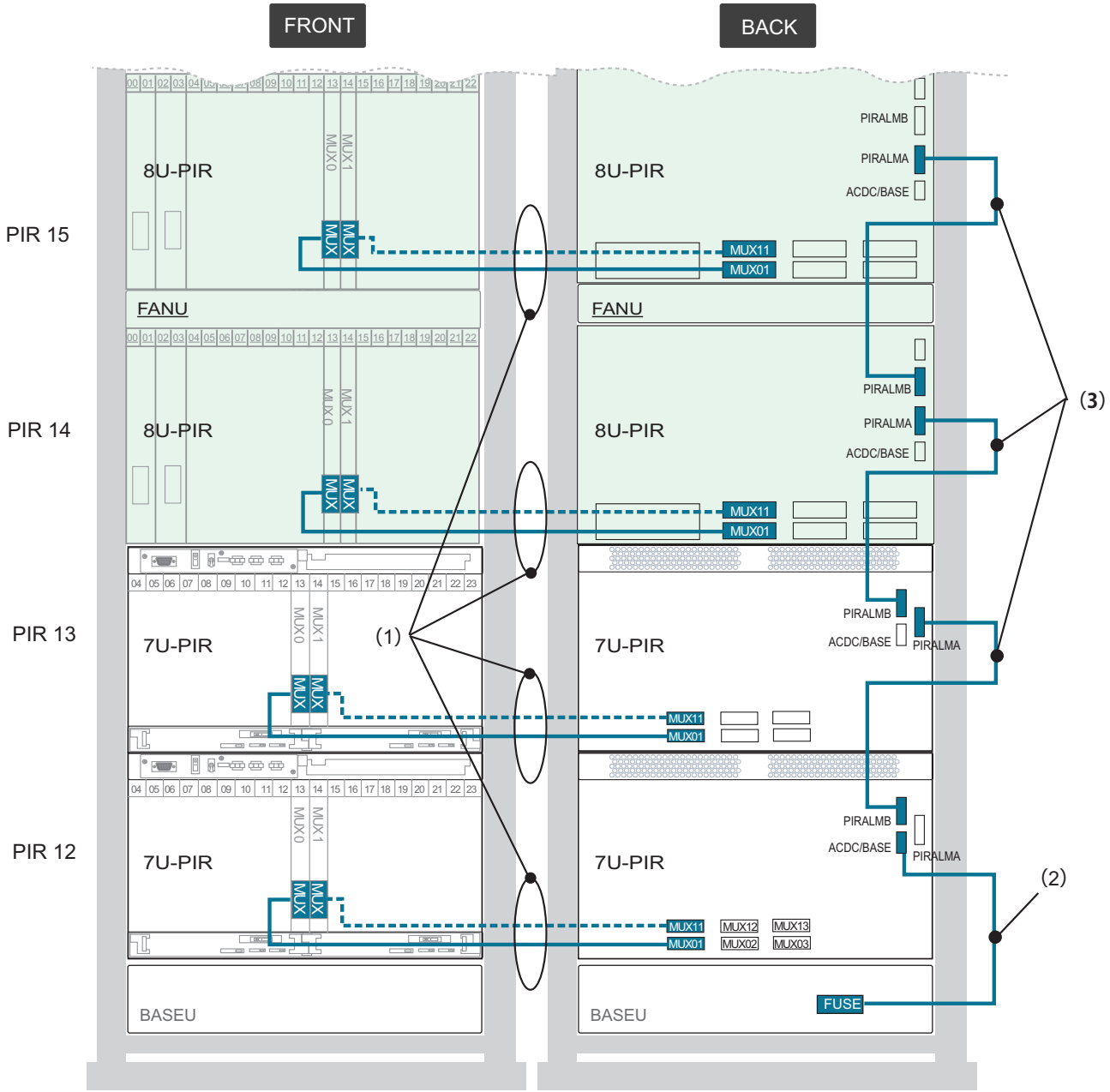
Note 1: The card can be damaged if it is connected to other connector. Insert the cable after a visual check.

- Common Connections per IMG (Only 7U-PIR Mounted)



IMG 0/1/2

- Common Connections per IMG (7U-PIR and 8U-PIR Mounted)



IMG 3

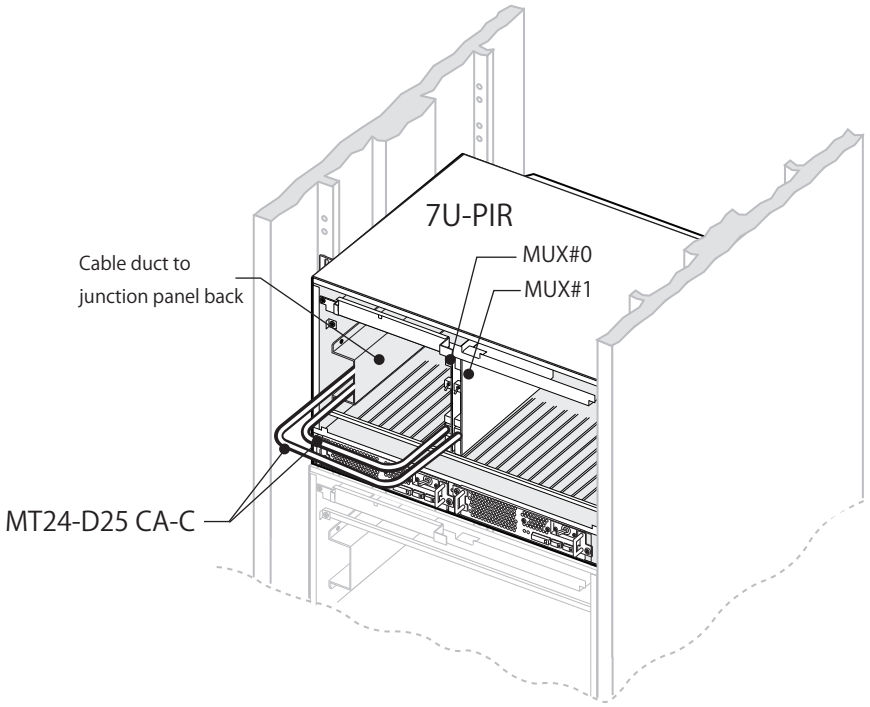
Bus Cable Connections

NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	PIR0/4/8/12 (back)	MUX01	PIR0/4/8/12 (front)	MUX (slot 13 CJ-PC00 front connector/PH-PC36 front connector) **Note 2**	MT24-D25 CA-C **Note 3** **Note 4**	Needed when connecting to PIR4/8/12 #0 use
	PIR0/4/8/12 (back)	MUX11	PIR0/4/8/12 (front)	MUX (slot 14 CJ-PC00 front connector/PH-PC36 front connector) **Note 2**		Needed when connecting to PIR4/8/12 #1 use
	PIR1/5/9/13 (back)	MUX01	PIR1/5/9/13 (front)	MUX (slot 13 CJ-PC00 front connector/PH-PC36 front connector) **Note 2**		Needed when connecting to PIR5/9/13 #0 use
	PIR1/5/9/13 (back)	MUX11	PIR1/5/9/13 (front)	MUX (slot 14 CJ-PC00 front connector/PH-PC36 front connector) **Note 2**		Needed when connecting to PIR5/9/13 #1 use
	PIR2/6/10/14 (back)	MUX01	PIR2/6/10/14 (front)	MUX (slot 13 CJ-PC00 front connector/PH-PC36 front connector) **Note 2**		Needed when connecting to PIR6/10/14 #0 use
	PIR2/6/10/14 (back)	MUX11	PIR2/6/10/14 (front)	MUX (slot 14 CJ-PC00 front connector/PH-PC36 front connector) **Note 2**		Needed when connecting to PIR6/10/14 #1 use
	PIR3/7/11/15 (back)	MUX01	PIR3/7/11/15 (front)	MUX (slot 13 CJ-PC00 front connector/PH-PC36 front connector) **Note 2**		Needed when connecting to PIR7/11/15 #0 use
	PIR3/7/11/15 (back)	MUX11	PIR3/7/11/15 (front)	MUX (slot 14 CJ-PC00 front connector/PH-PC36 front connector) **Note 2**		Needed when connecting to PIR7/11/15 #1 use
(2)	BASEU	FUSE	PIR0/4/8/12	ACDC/BASE	D09 ST CA-A	

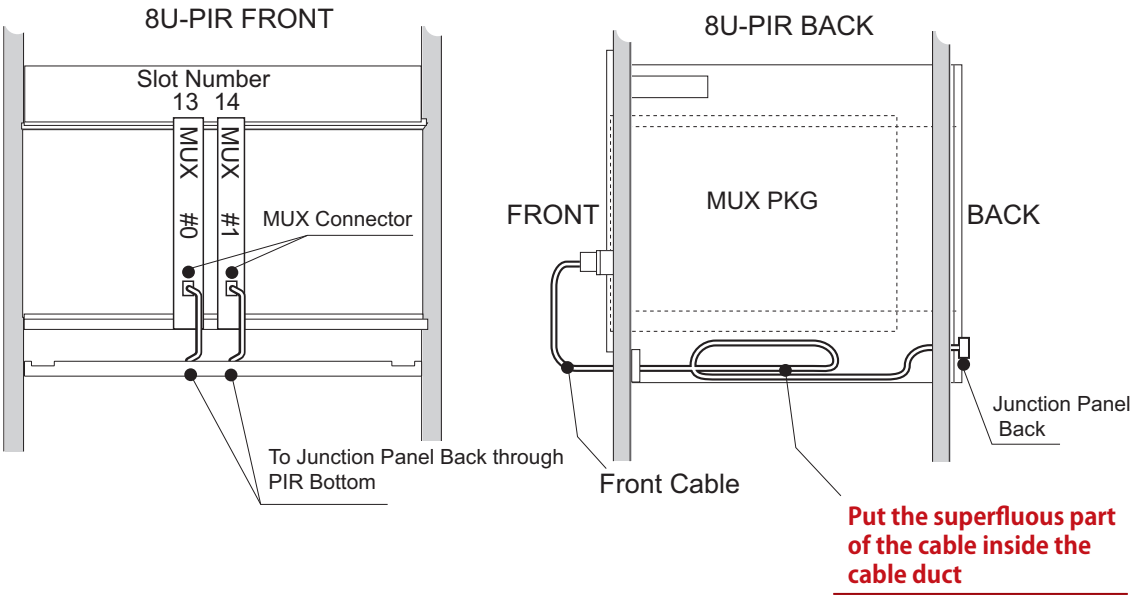
NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(3)	PIR0/4/8/12	PIRALMB	PIR1/5/9/13	PIRALMA	D15 ST CA-A	Connect to the proper PIR
	PIR1/5/9/13	PIRALMB	PIR2/6/10/14	PIRALMA		
	PIR2/6/10/14	PIRALMB	PIR3/7/11/15	PIRALMA		

Note 2: For 7U-PIR, CJ-PC00 is used as MUX card and for 8U-PIR, PH-PC36 is used as MUX card.

Note 3: For 7U-PIR, run the cables (such as BUS cables between the front connectors on TSW/MUX card and the MUX0x/1x connectors on backboard) from front to back through the cable duct at the bottom of each PIR to protect the cables. To avoid obstructions when inserting the cards, fix firmly the cables with a tie-wrap to the tie-down point set up at the lower part of PIR.

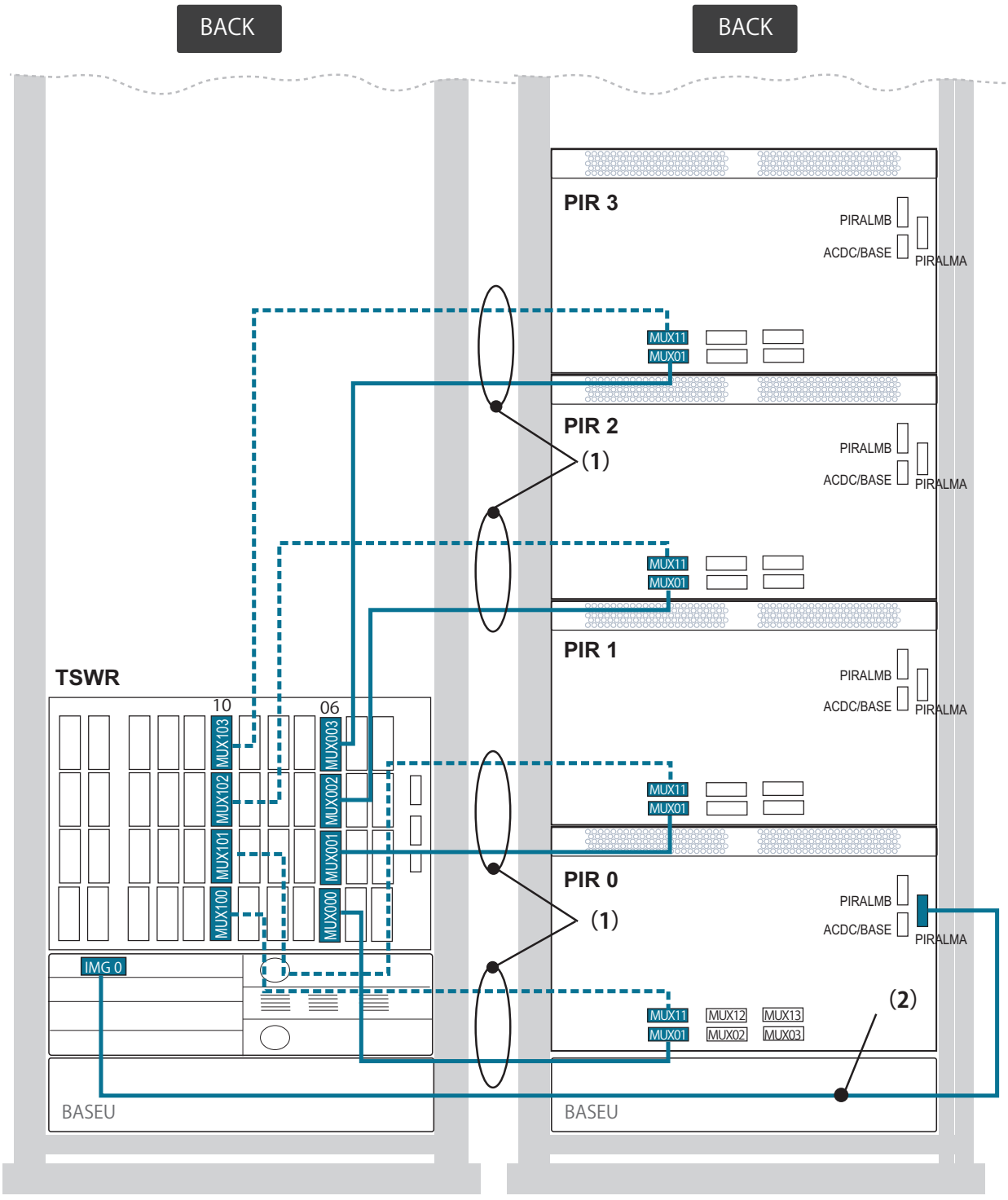


Note 4: For 8U-PIR, run the cables (such as BUS cables between the front connectors on TSW/MUX card and the MUX0x/1x connectors on backboard) from front to back through the cable duct at the bottom of each PIR to protect the cables. Be careful as explained in 2. Precautions in Running Cables through 8U-PIR.



Note: Refer to 5.4 How to Install Connectors on PIR for MUX Use BUS Cable for the way to connect the cables to junction panel on rear PIR.

- TSWR Part - IMG 0 Connections

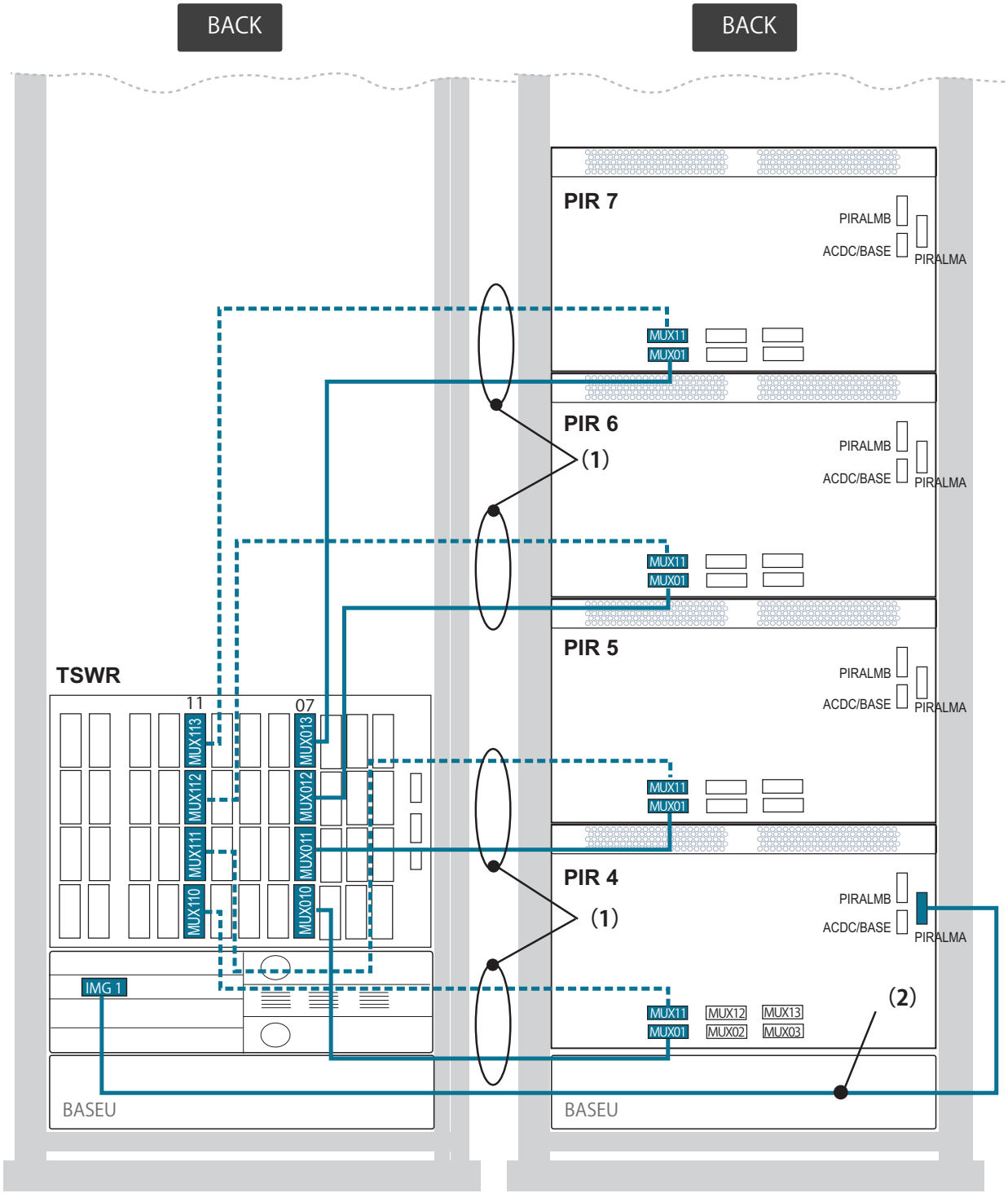


TSWR Part IMG 0

Bus Cable Connections

NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	TSWR	MUX000 (Slot06)	PIR0	MUX01	D37-D25 CA-A	#0 use
	TSWR	MUX100 (Slot10)	PIR0	MUX11		#1 use
	TSWR	MUX001 (Slot06)	PIR1	MUX01		#0 use
	TSWR	MUX101 (Slot10)	PIR1	MUX11		#1 use
	TSWR	MUX002 (Slot06)	PIR2	MUX01		#0 use
	TSWR	MUX102 (Slot10)	PIR2	MUX11		#1 use
	TSWR	MUX003 (Slot06)	PIR3	MUX01		#0 use
	TSWR	MUX103 (Slot10)	PIR3	MUX11		#1 use
(2)	Telephony Server (EMA SUB-A card)	IMG0	PIR0	PIRALMA	D15 ST-F CA-C	

- TSWR Part - IMG 1 Connections

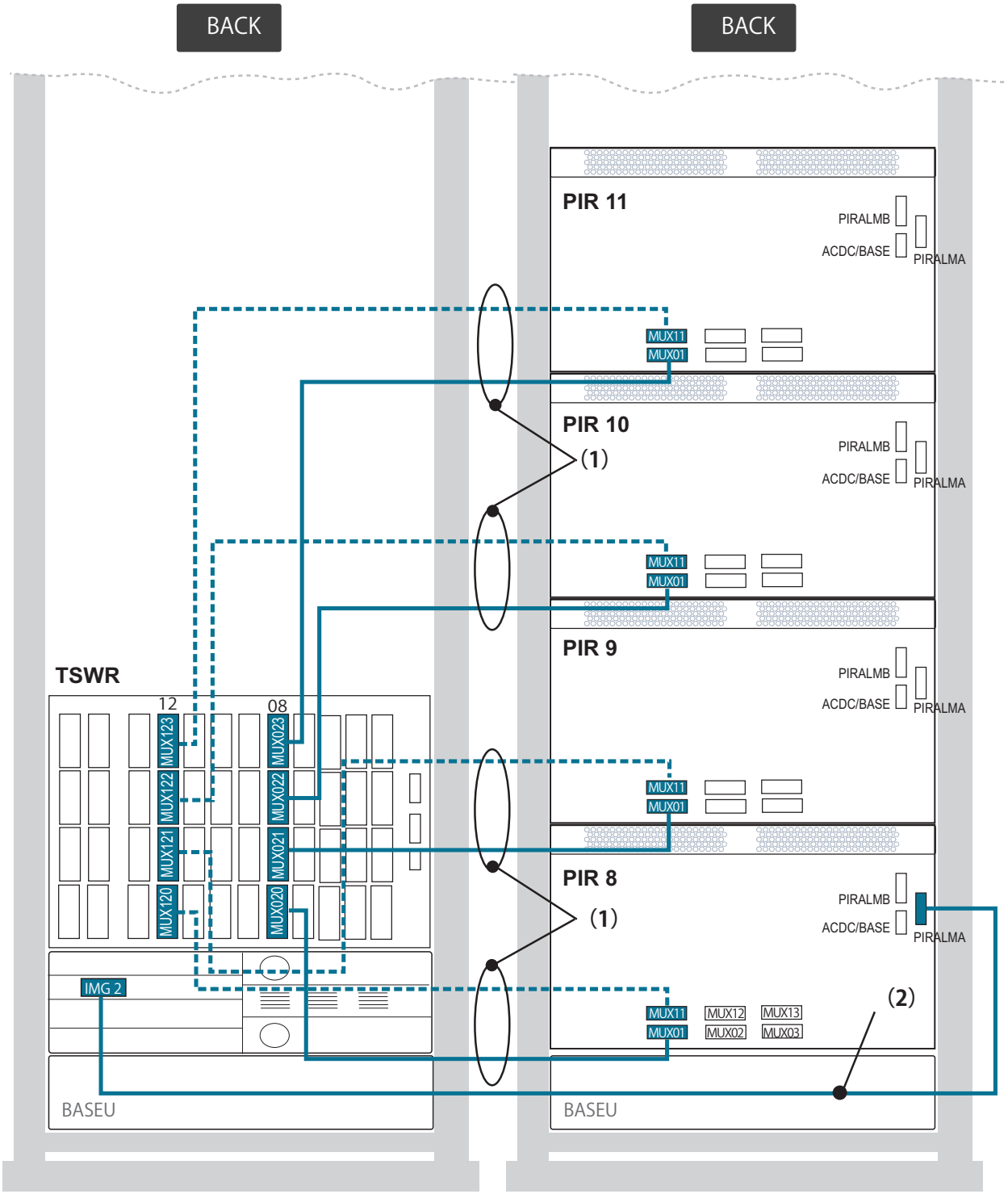


TSWR Part IMG 1

Bus Cable Connections

NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	TSWR	MUX010 (Slot07)	PIR4	MUX01	D37-D25 CA-A	Needed when connecting to PIR4 #0 use
	TSWR	MUX110 (Slot11)	PIR4	MUX11		Needed when connecting to PIR4 #1 use
	TSWR	MUX011 (Slot07)	PIR5	MUX01		Needed when connecting to PIR5 #0 use
	TSWR	MUX111 (Slot11)	PIR5	MUX11		Needed when connecting to PIR5 #1 use
	TSWR	MUX012 (Slot07)	PIR6	MUX01		Needed when connecting to PIR6 #0 use
	TSWR	MUX112 (Slot11)	PIR6	MUX11		Needed when connecting to PIR6 #1 use
	TSWR	MUX013 (Slot07)	PIR7	MUX01		Needed when connecting to PIR7 #0 use
	TSWR	MUX113 (Slot11)	PIR7	MUX11		Needed when connecting to PIR7 #1 use
(2)	Telephony Server (EMA SUB-B card)	IMG1	PIR4	PIRALMA	D15 ST-F CA-C	Needed when connecting to IMG1

- TSWR Part - IMG 2 Connections

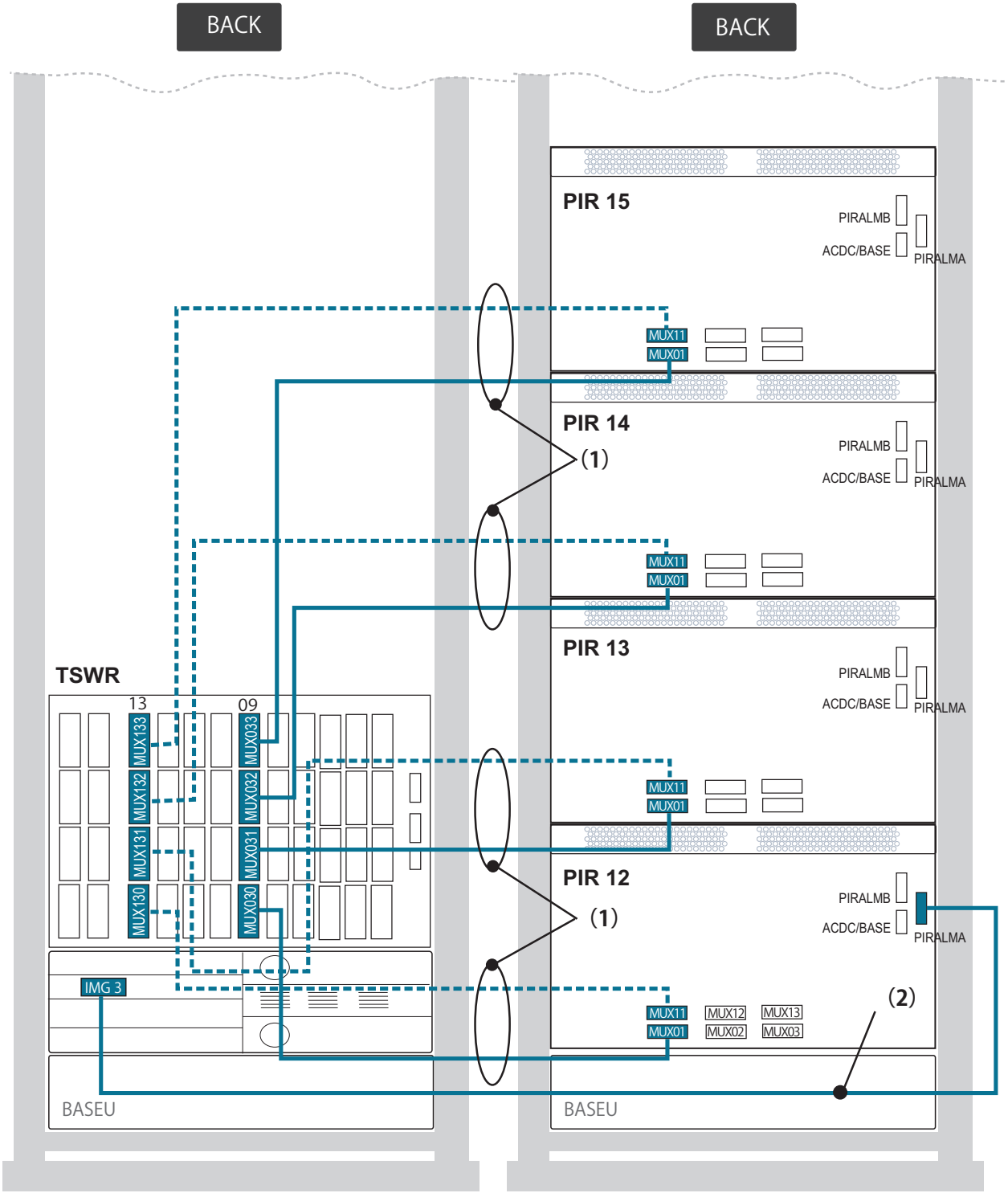


TSWR Part IMG 2

Bus Cable Connections

NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	TSWR	MUX020 (Slot08)	PIR8	MUX01	D37-D25 CA-A	Needed when connecting to PIR8 #0 use
	TSWR	MUX120 (Slot12)	PIR8	MUX11		Needed when connecting to PIR8 #1 use
	TSWR	MUX021 (Slot08)	PIR9	MUX01		Needed when connecting to PIR9 #0 use
	TSWR	MUX121 (Slot12)	PIR9	MUX11		Needed when connecting to PIR9 #1 use
	TSWR	MUX022 (Slot08)	PIR10	MUX01		Needed when connecting to PIR10 #0 use
	TSWR	MUX122 (Slot12)	PIR10	MUX11		Needed when connecting to PIR10 #1 use
	TSWR	MUX023 (Slot08)	PIR11	MUX01		Needed when connecting to PIR11 #0 use
	TSWR	MUX123 (Slot12)	PIR11	MUX11		Needed when connecting to PIR11 #1 use
(2)	Telephony Server (EMA SUB-B card)	IMG2	PIR8	PIRALMA	D15 ST-F CA-C	Needed when connecting to IMG2

- TSWR Part - IMG 3 Connections



Bus Cable Connections

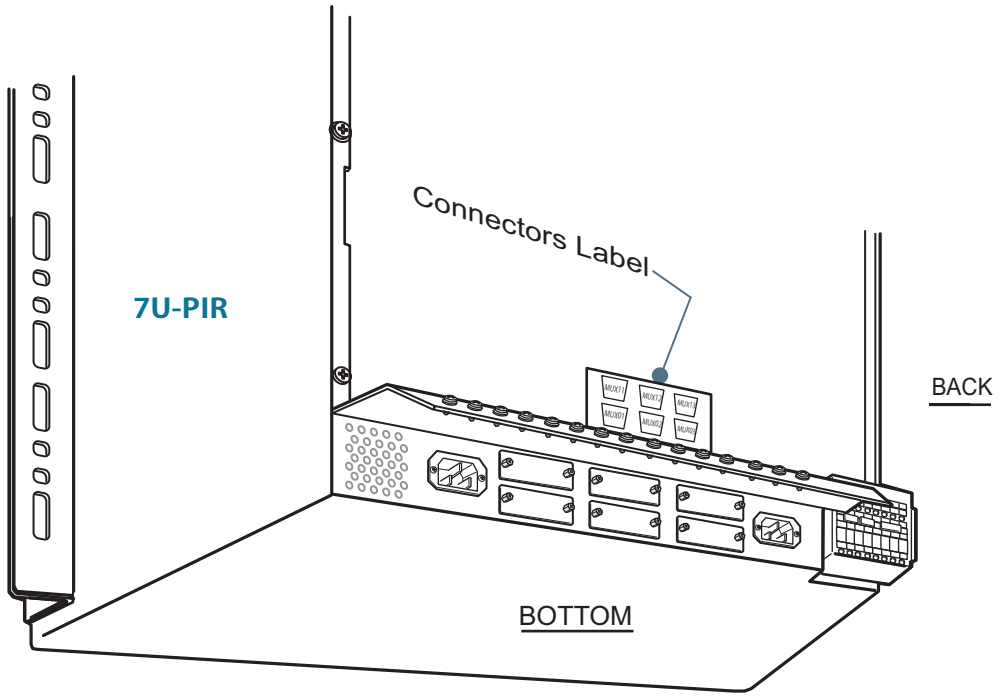
NO.	FROM		TO		CABLE NAME	REMARKS
	UNIT/MODULE	CONNECTOR NAME	UNIT/ MODULE	CONNECTOR NAME		
(1)	TSWR	MUX030 (Slot09)	PIR12	MUX01	D37-D25 CA-A	Needed when connecting to PIR12 #0 use
	TSWR	MUX130 (Slot13)	PIR12	MUX11		Needed when connecting to PIR12 #1 use
	TSWR	MUX031 (Slot09)	PIR13	MUX01		Needed when connecting to PIR13 #0 use
	TSWR	MUX131 (Slot13)	PIR13	MUX11		Needed when connecting to PIR13 #1 use
	TSWR	MUX032 (Slot09)	PIR14	MUX01		Needed when connecting to PIR14 #0 use
	TSWR	MUX132 (Slot13)	PIR14	MUX11		Needed when connecting to PIR14 #1 use
	TSWR	MUX033 (Slot09)	PIR15	MUX01		Needed when connecting to PIR15 #0 use
	TSWR	MUX133 (Slot13)	PIR15	MUX11		Needed when connecting to PIR15 #1 use
(2)	Telephony Server (EMA SUB-B card)	IMG3	PIR12	PIRALMA	D15 ST-F CA-C	Needed when connecting to IMG3

5.4 How to Install Connectors on PIR for MUX Use BUS Cable

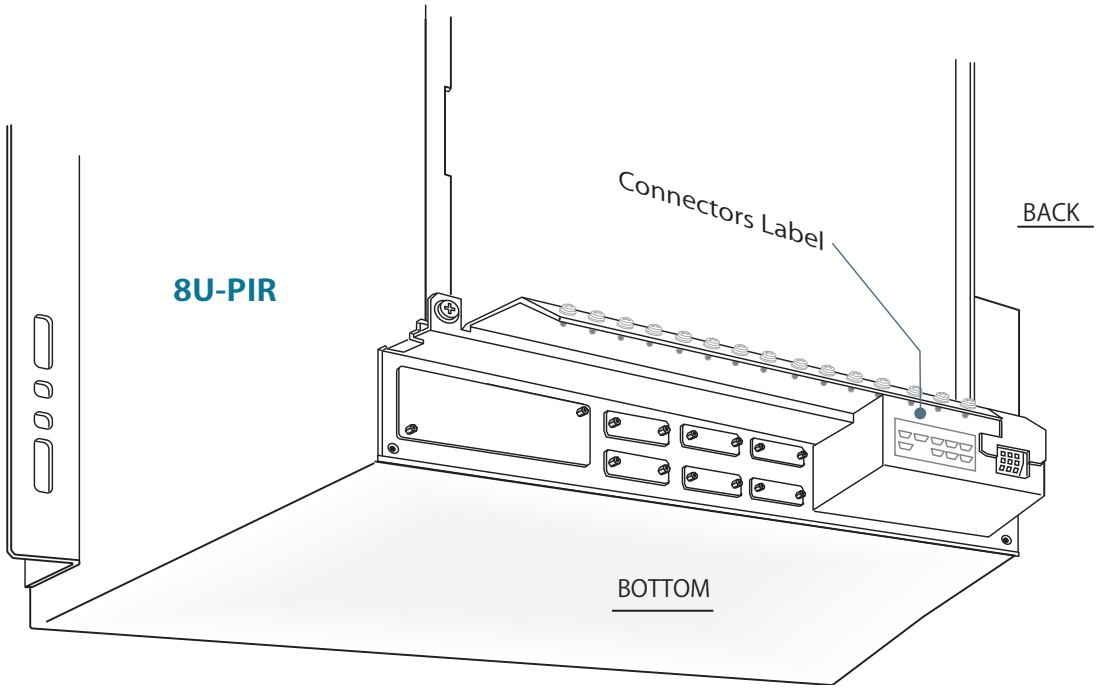
5.4.1 Connectors Label

See the indicating label for the connectors position on the rear bottom of PIR.

Connectors Label in 7U-PIR



Connectors Label in 8U-PIR



5.4.2 How to Install BUS Connectors

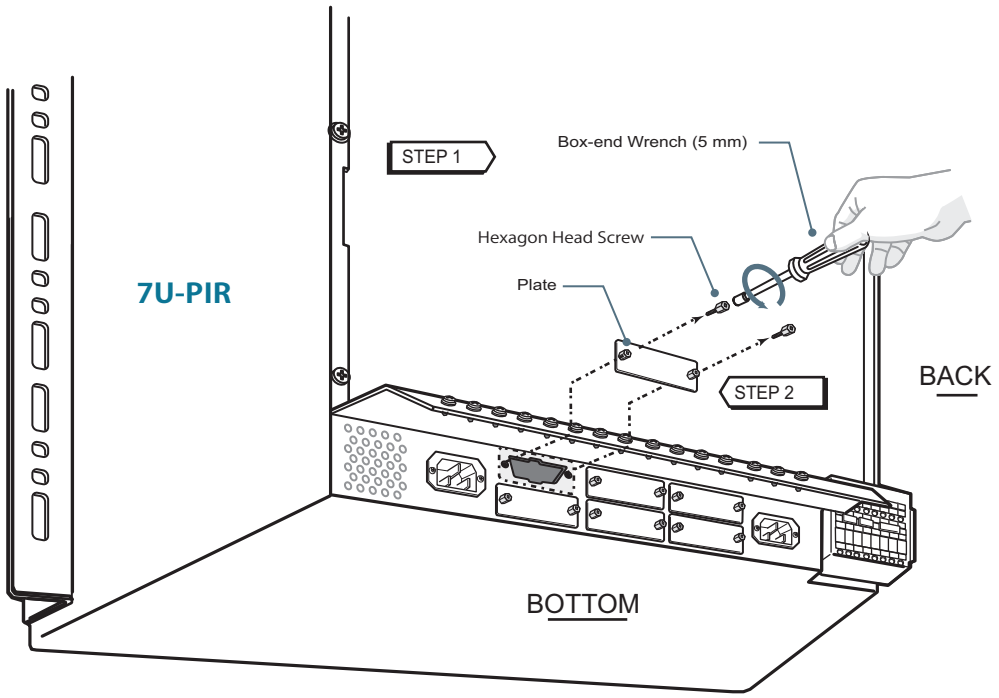
We will explain the procedure to fix the connector that is used with the MUX11 cable. For other connectors follow the same procedure.

Note: Perform this cable connection before mounting the module on 19-inch rack, preventing from damaging the equipment by falling screws.

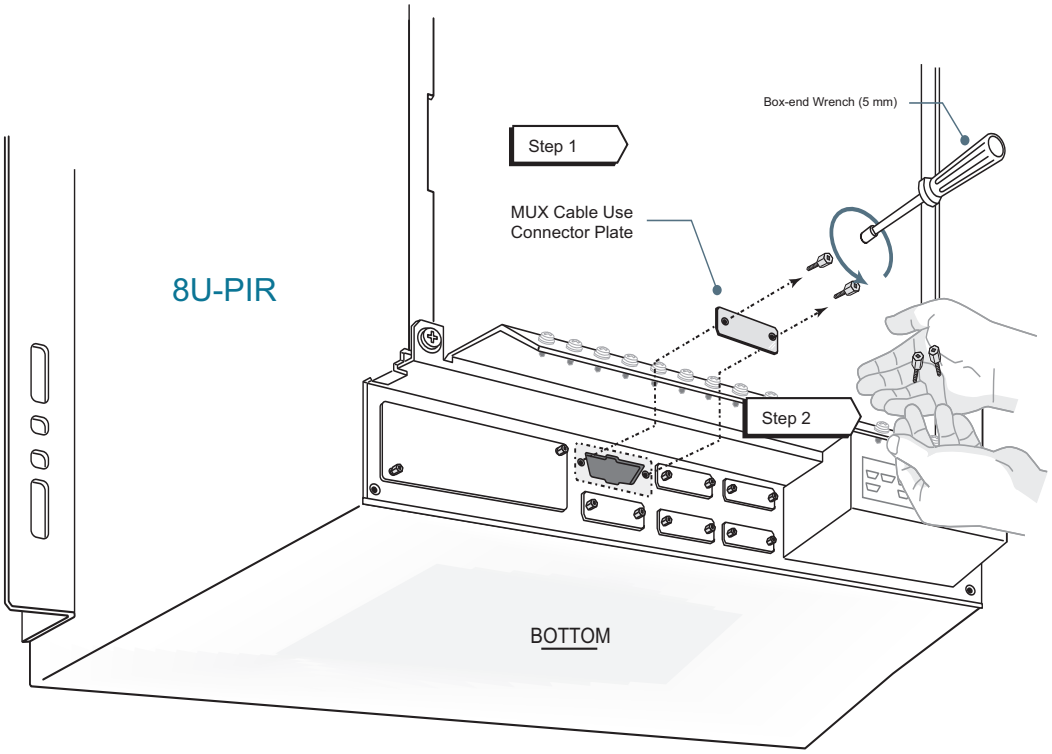
Step1: Remove the BUS connector' plate attached on the rear bottom of PIR.

Step2: Keep the unfastened hexagon head screws, which are used later in STEP 4.

Connector Installation (7U-PIR)



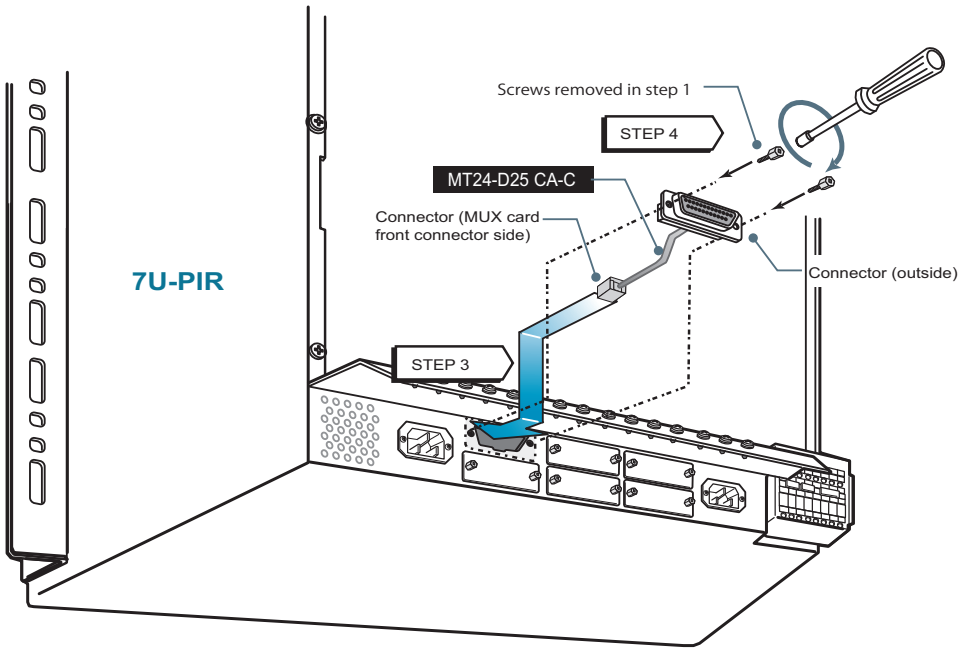
Connector Installation (8U-PIR)



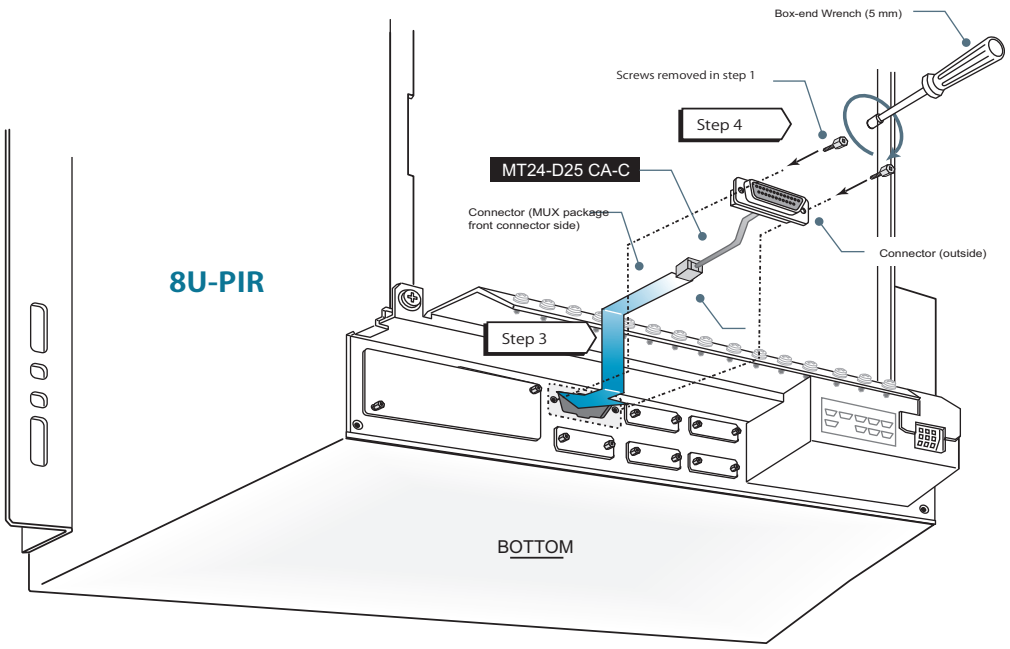
Step3: Plug the MT24-D25 CA-C connector (MUX card front connector side) to the MUX card connector.

Step4: Fasten the outside connector with the hexagon head screws removed in step 1.

Connector Installation (PIR-7U)



Connector Installation (PIR-8U)



Step5: Install other connectors in the same way.

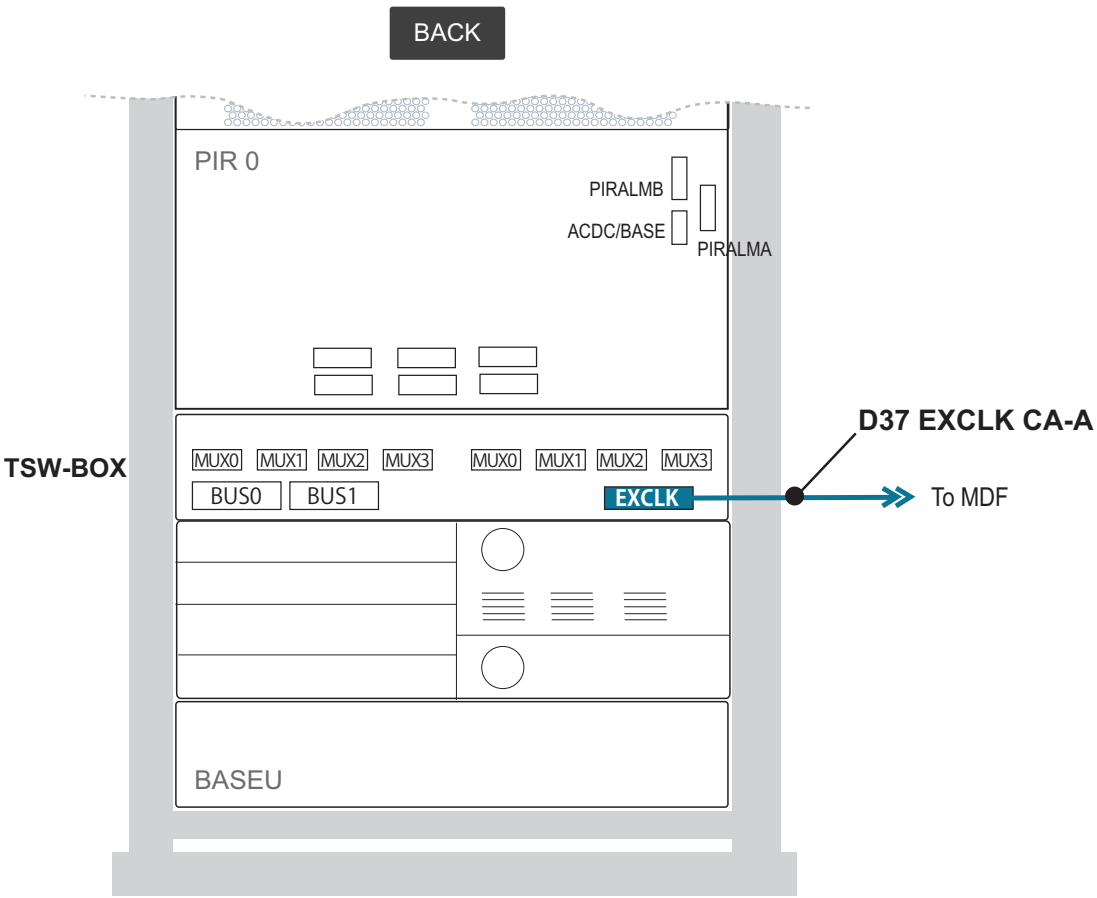
5.5 Clock Interface



Connect cables according to the PIR configuration.

5.5.1 PLO Connection for System with TSW-BOX (1-IMG/4-IMG)

PLO line uses the EXCLK connector at the back of TSW-BOX. The figure below show the PLO connection for the 1-IMG System.

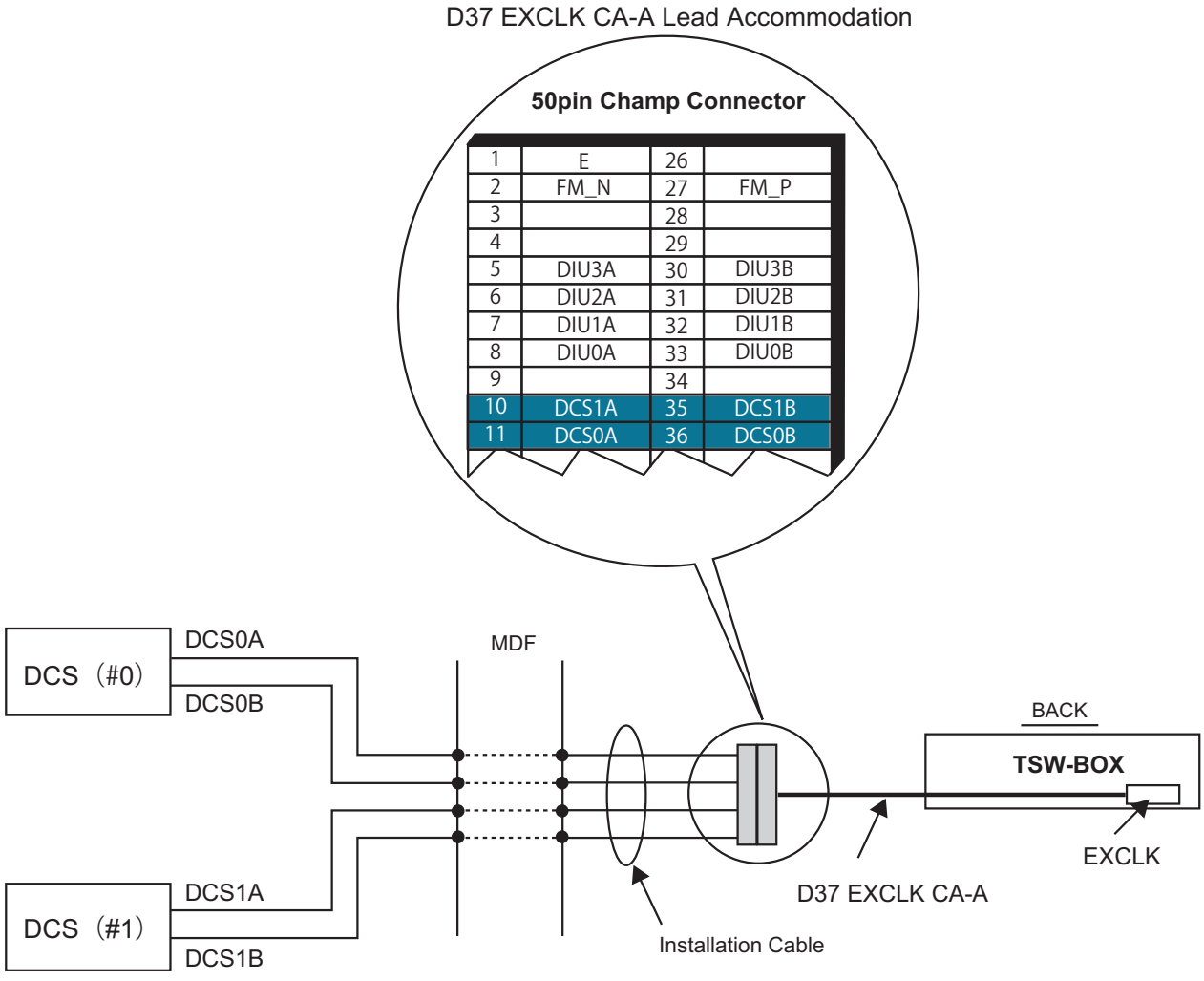


The PLO function part inside of the TSW-BOX behaves as a slave node. A system clock synchronized to a clock supplied by DCS (Digital Clock Supply) or DTI (Digital Trunk Interface) is formed.

- DCS Interface

  The DCS device and TSW-BOX connections are represented in the figure below. To correspond to a dual DCS device, TSW-BOX can make a 2 systems input from DCS.

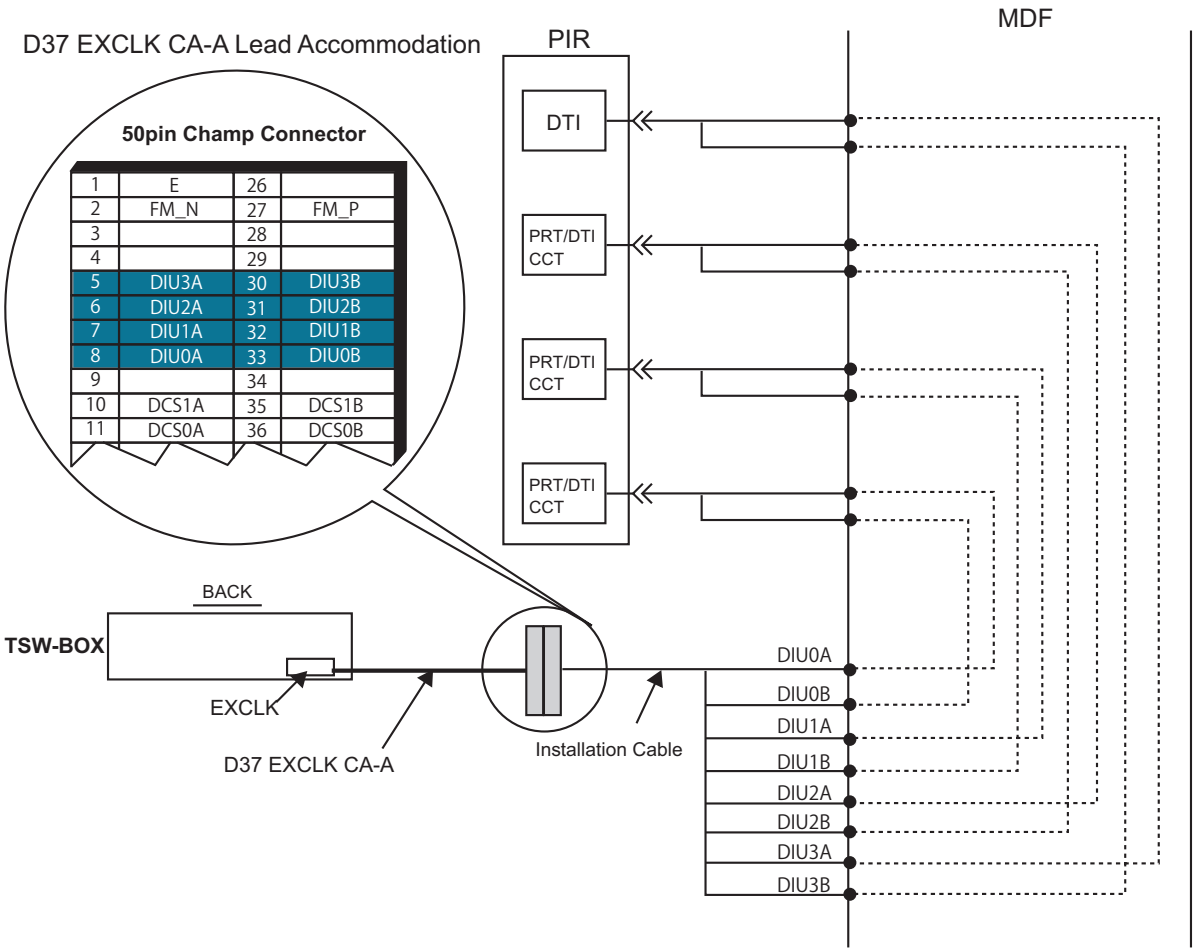
DCS Interface



- DTI interface

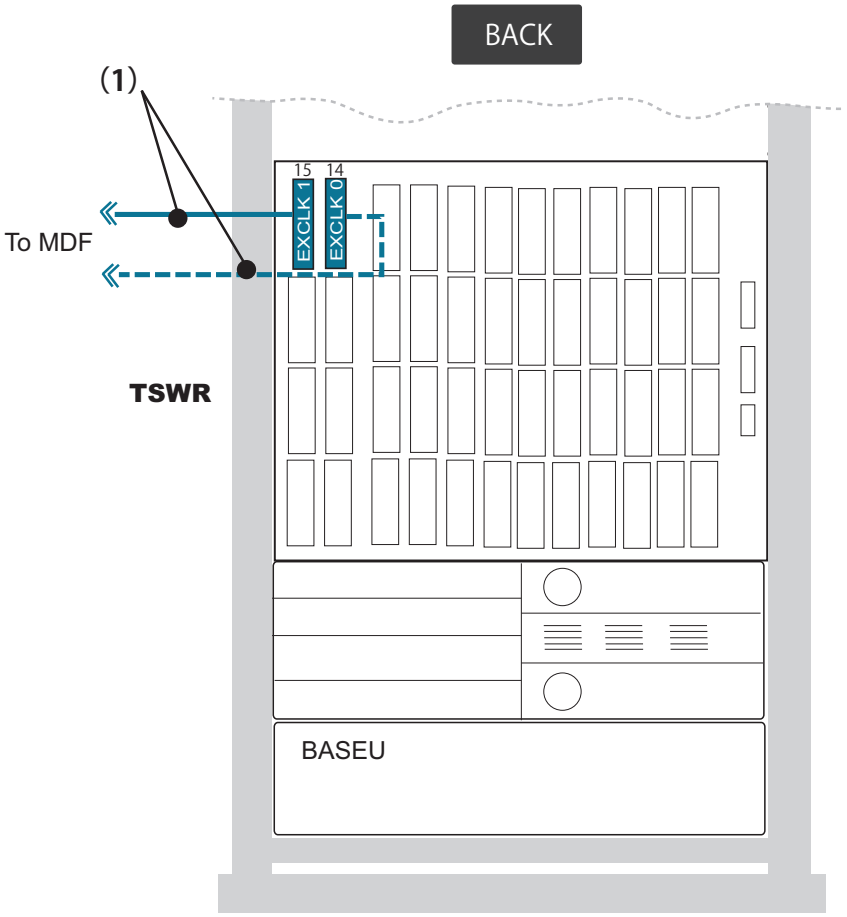
  DTI clock signal connections are represented in the figure below. Since the signal is distributed based on an internal TSW-BOX multi dropped connection, TSW-BOX can correspond to a dual TSW system.

DTI Interface



5.5.2 PLO Connection for System with TSWR (4-IMG)

PLO line uses the EXCLK0/1 connector of TSWR. For PLO connector lead accommodation figure, refer to PH-CK20 in Chapter 5 of Circuit Card Description.



TSWR Part

(1) Cable name: D37 EXCLK CA-A

5.6 External Music-On-Hold Cable Connection



This section explains the cable connections to use external Music-On-Hold feature. Announce Machine/BMG or DAT card are used as sources of external Music-On-Hold.

[TSW-BOX/PLO Card Interface Conditions]

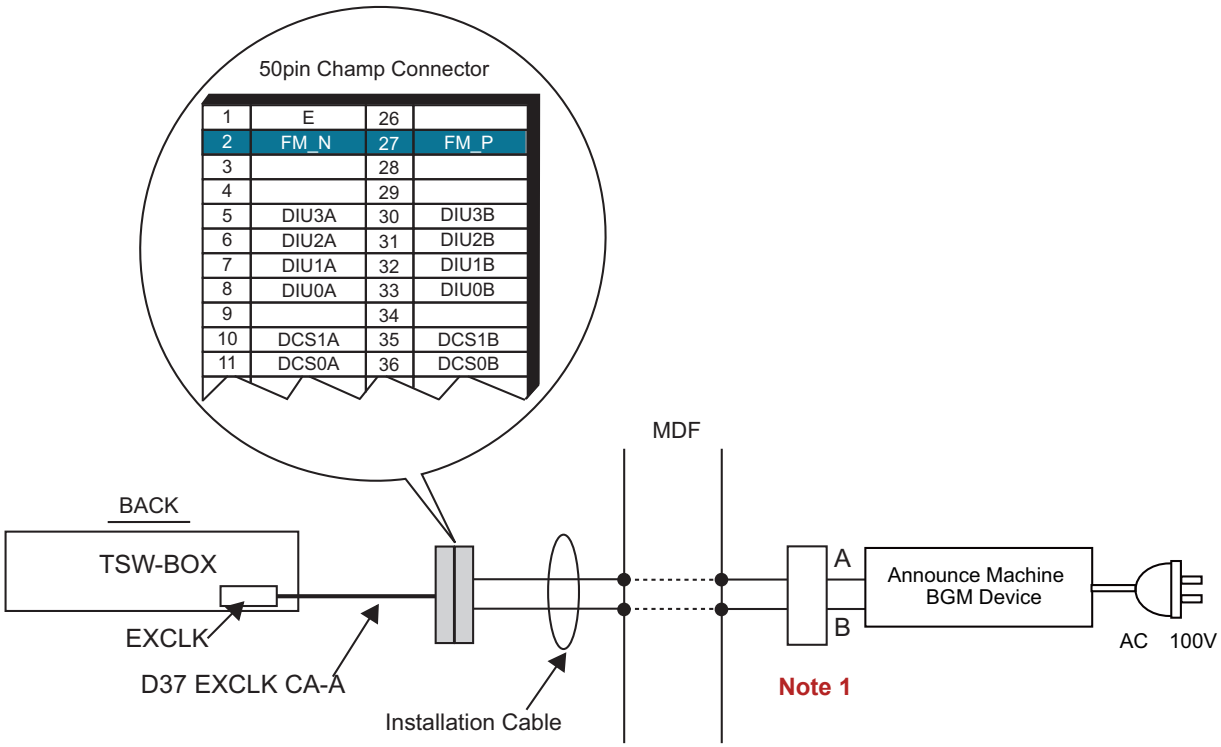
- Impedance: 8.2 Ω, 600 Ω, 47k Ω
- Input Power no more than 1/2W
- The device is in constant use state, there is no need to start or stop it.

[1] In case Announce Machine/BGM is used as source of external Music-On-Hold.

(a) TSW-BOX is used (1-IMG/4-IMG type)

EXCLK connector on TSW-BOX backboard is used for getting the sound source of an external Music-On-Hold.

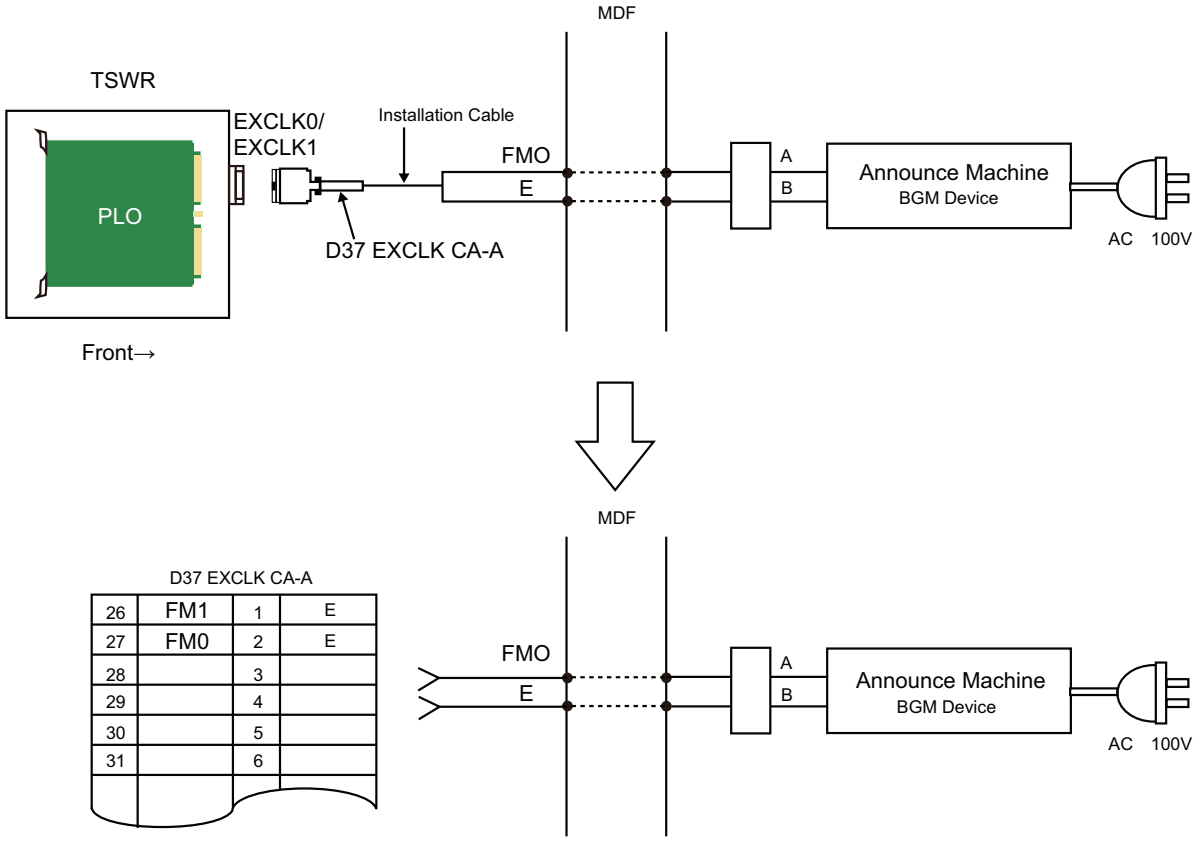
External Music-On-Hold figure (1-IMG model)



Note 1: Impedance matching requires a distributor and an amplifier in relation to levels.

(b) PH-CK20 (PLO) card accommodated in TSWR is used (4-IMG)

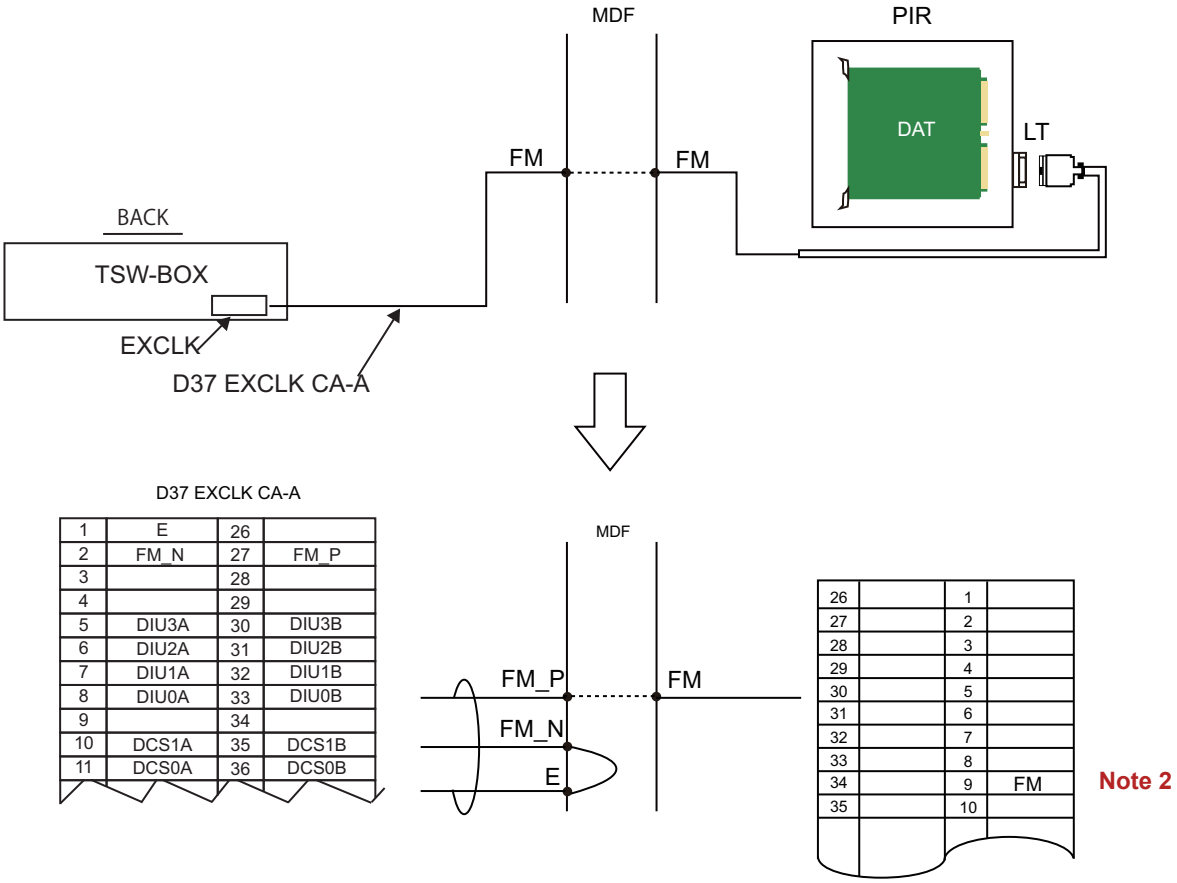
EXCLK0/1 connector on the TSWR is used for getting the sound source of external Music-On-Hold.



[2] In case DAT card is used as source of external Music-On-Hold.

(a) TSW-BOX is used (1-IMG/4-IMG)

EXCLK connector on TSW-BOX backboard is used for getting the sound source of an external Music-On-Hold.



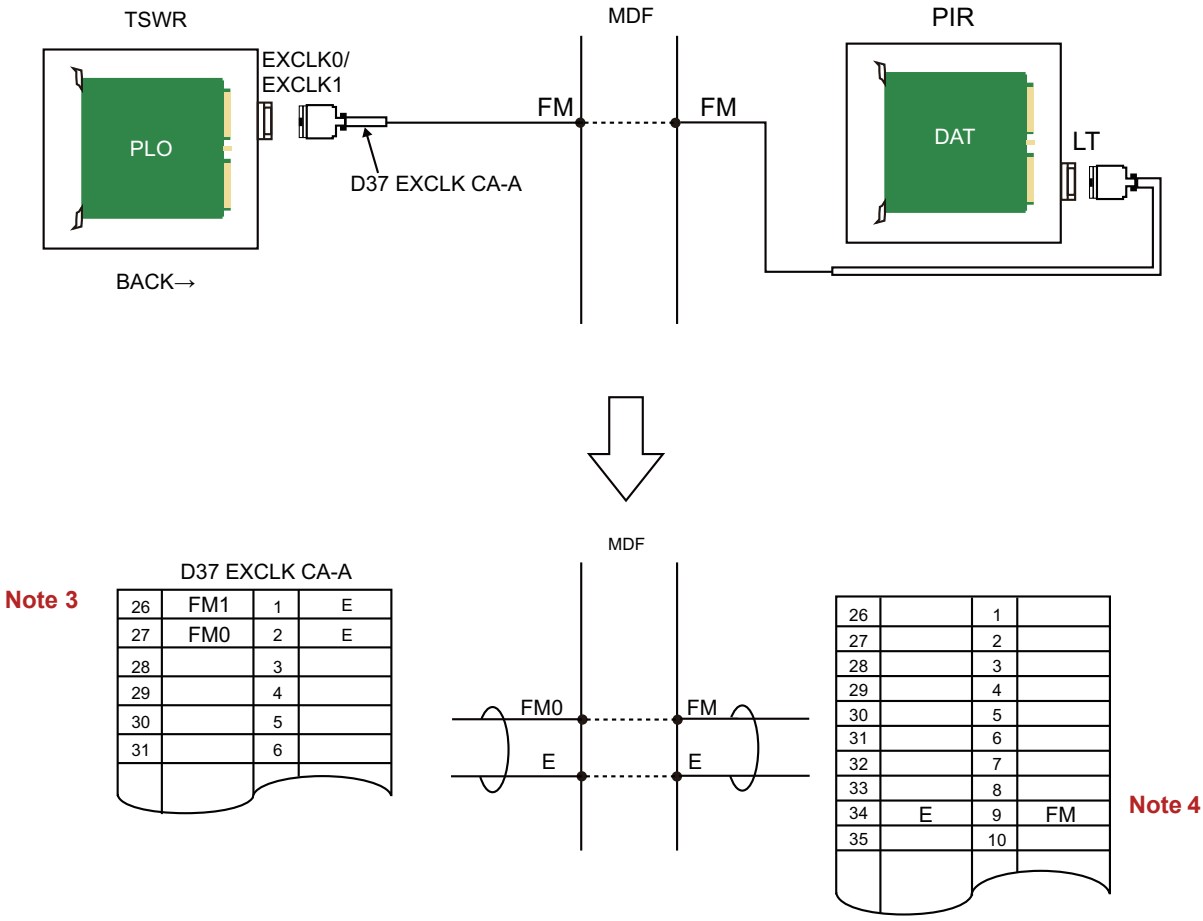
1	E	26	
2	FM_N	27	FM_P
3		28	
4		29	
5	DIU3A	30	DIU3B
6	DIU2A	31	DIU2B
7	DIU1A	32	DIU1B
8	DIU0A	33	DIU0B
9		34	
10	DCS1A	35	DCS1B
11	DCS0A	36	DCS0B

26		1	
27		2	
28		3	
29		4	
30		5	
31		6	
32		7	
33		8	
34		9	FM
35		10	

Note 2: FM lead accommodation may vary according to DAT card accommodation position. Refer to Circuit Card Description for a detailed explanation in each card.

(b) PH-CK20 (PLO) card accommodated in TSWR is used (4-IMG)

EXCLK0/1 connector on the TSWR is used for getting the sound source of external Music-On-Hold.



Note 3: FM1 is not used.

Note 4: FM lead accommodation may vary according to DAT card accommodation position. Refer to Circuit Card Description for a detailed explanation in each card.

6. Mounting Second Power Unit on 1U AC-DC Power Unit (8U-PIR) for Dual Power Configuration

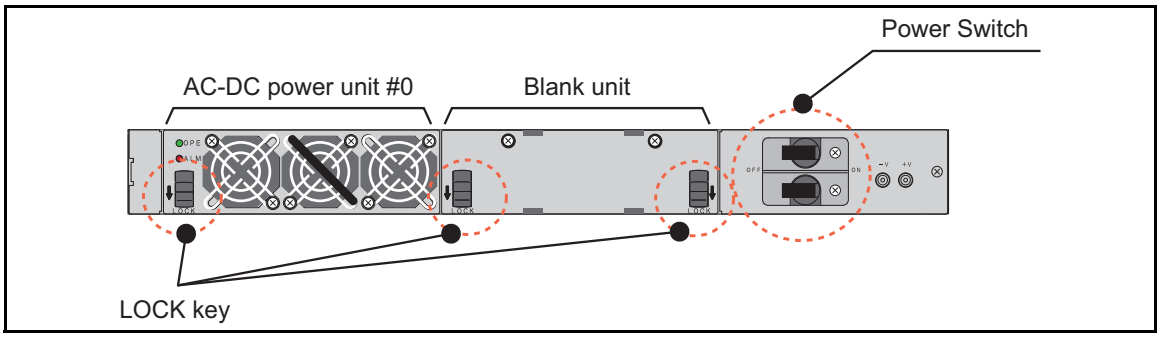
This section explains how to mount dual power unit on an 1U AC-DC Power Unit.

6.1 Precautions

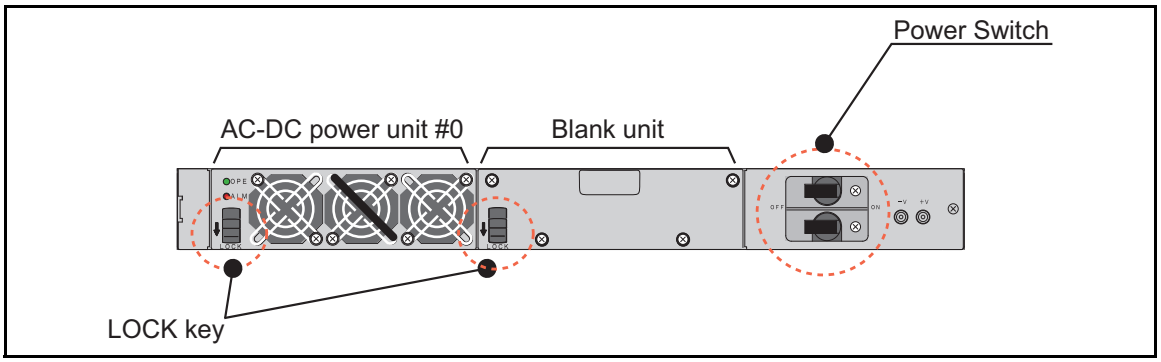
- 1U AC-DC Power Unit is in single power configuration in its factory default. Therefore, a blank unit is mounted on the #1 side of the 1U AC-DC Power Unit when shipped. There are two types of blank units: the unit with two LOCK keys and the unit with one LOCK key.
- Replacements should be done one power unit at a time. Do not cut off power for both 1U AC-DC Power Units at the same time.
- Replace the 1U AC-DC Power Unit once every seven years.

Single Power Configuration (when the product is shipped)

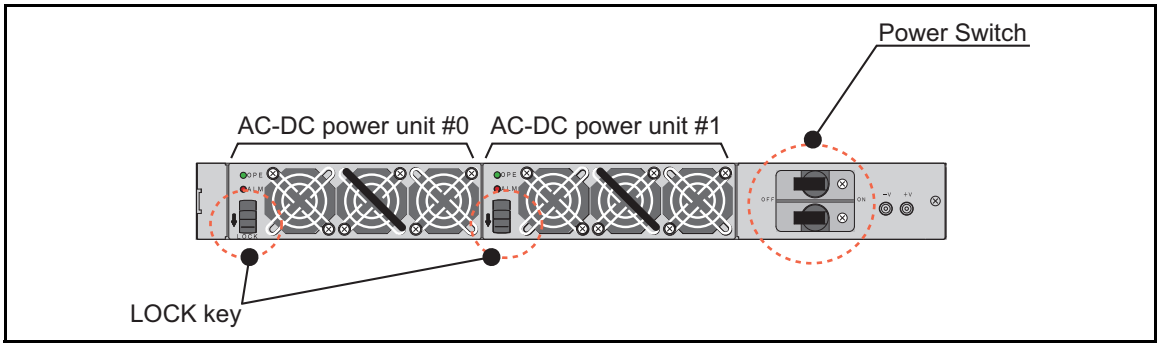
Blank Unit with Two LOCK Keys



Blank Unit with One LOCK Key



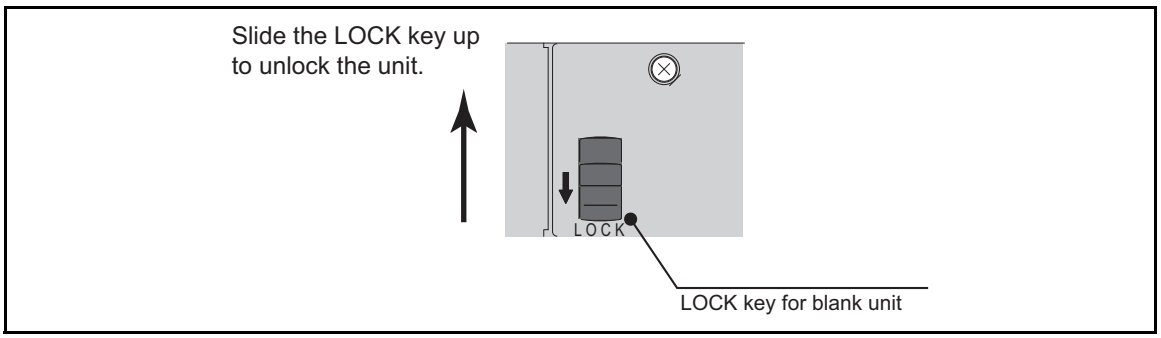
Dual Power Configuration



6.2 Procedures

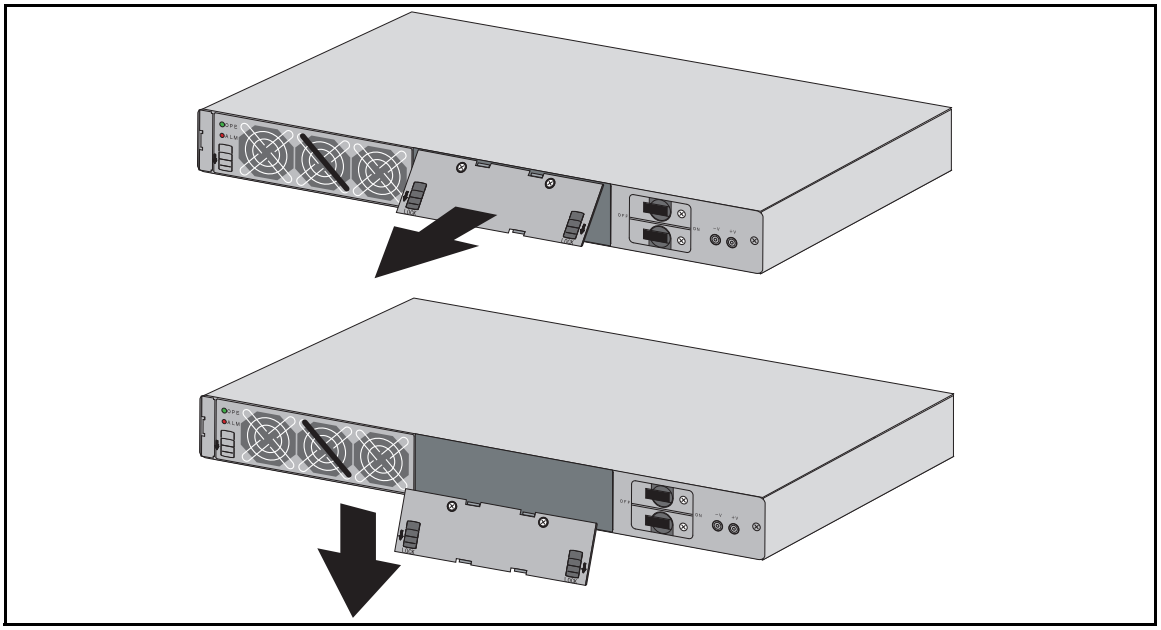
6.2.1 Making Dual System

Step1: Unlock the blank unit.

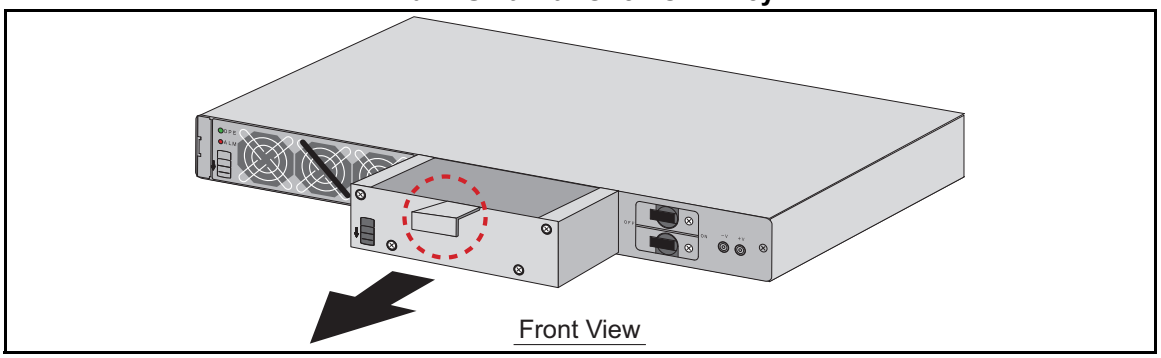


Step2: Remove the blank unit.

Blank Unit with Two LOCK Keys



Blank Unit with One LOCK Key

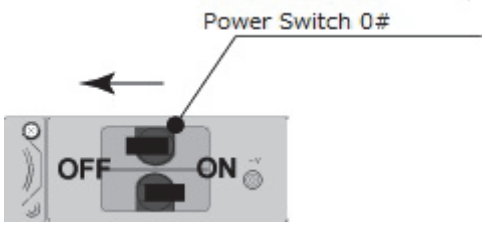


Step3: Slide in the new 1U AC-DC Power Unit. Check that the OPE lamp light is ON and the FAN is turning.

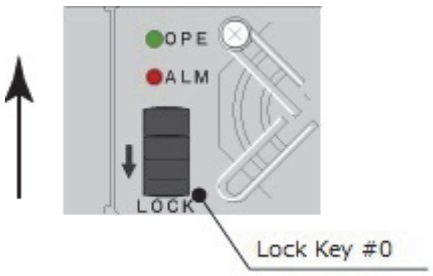
Step4: Slide the LOCK key downward to lock the unit.

6.2.2 Changing the Power Unit

Step1: Turn off the power switch for the #0 power unit.



Step2: Unlock the #0 power unit (slide up the LOCK key).



Step3: Use the handle to remove the #0 power unit.

Note: The Fan in the power unit is continually rotating. Be careful with the fingers.



Step4: Slide in the new #0 power unit. Check that the OPE lamp light is ON and the FAN is turning.

Step5: Slide the LOCK key downward to lock the #0 power unit.

Step6: For #1 power unit use the same process.

7. 7U-PIR and 8U-PIR Mixed Configuration Patterns List

7.1 AC-Powered Model

The figure below is for AC powered model of 7U-PIR and 8U-PIR in mixed configuration.

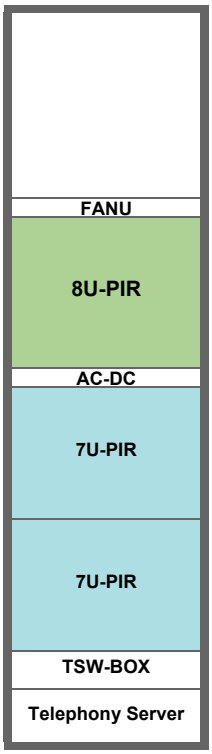
Note: The number in parenthesis is for a dual configuration case.

Pattern 1
(7U-PIRx3 / 8U-PIRx1)



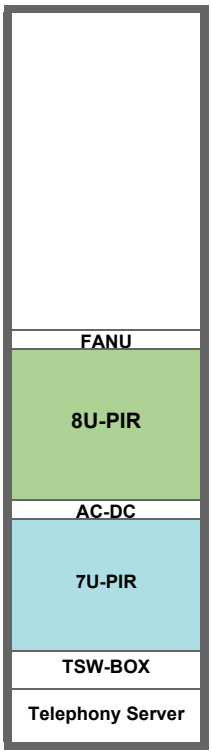
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A/B	3
D26-D25 TSW-PIR CA-A/B	4 (8)
PWR ALM CA-B	1
MT24-D25 CA-C	4 (8)
D09 POW CA-A	1

Pattern 2
(7U-PIRx2 /8U-PIRx1)



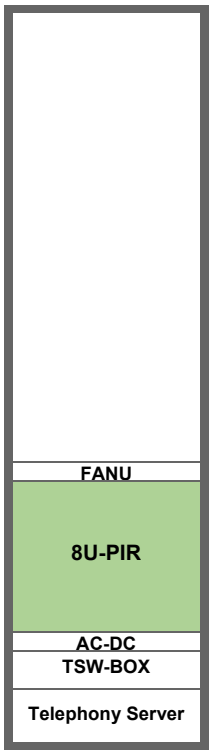
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A/B	2
D26-D25 TSW-PIR CA-A/B	3 (6)
PWR ALM CA-B	1
MT24-D25 CA-C	3 (6)
D09 POW CA-A	1

Pattern 3
(7U-PIRx1 / 8U-PIRx1)



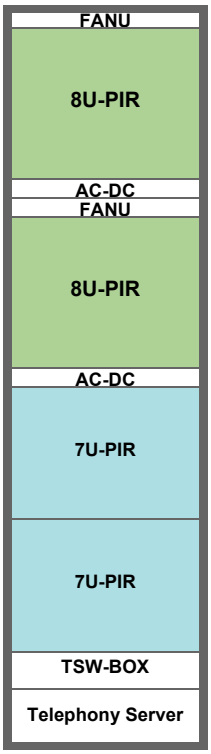
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A/B	1
D26-D25 TSW-PIR CA-A/B	2 (4)
PWR ALM CA-B	1
MT24-D25 CA-C	2 (4)
D09 POW CA-A	1

Pattern 4
(8U-PIRx1)



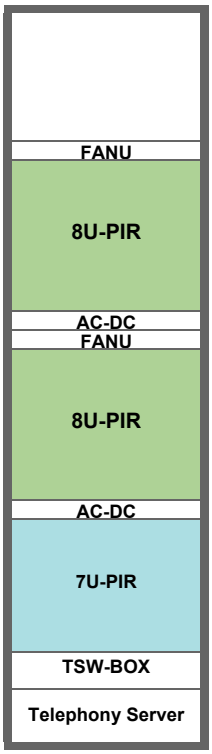
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A/B	-
D26-D25 TSW-PIR CA-A/B	1 (2)
PWR ALM CA-B	1
MT24-D25 CA-C	1 (2)
D09 POW CA-A	1

Pattern 5
(7U-PIRx2 / 8U-PIRx2)



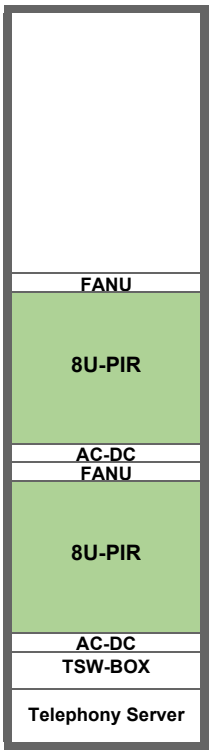
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A/B	3
D26-D25 TSW-PIR CA-A/B	4 (8)
PWR ALM CA-B	2
MT24-D25 CA-C	4 (8)
D09 POW CA-A	1

Pattern 6
(7U-PIRx1 /8U-PIRx2)



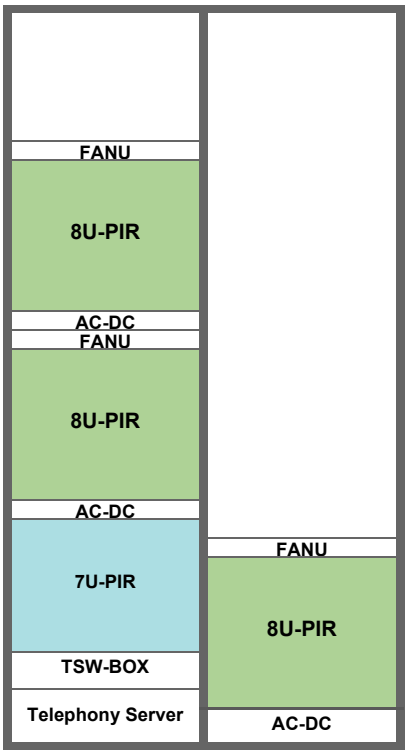
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A/B	2
D26-D25 TSW-PIR CA-A/B	3 (6)
PWR ALM CA-B	2
MT24-D25 CA-C	3 (6)
D09 POW CA-A	1

Pattern 7
(8U-PIRx2)



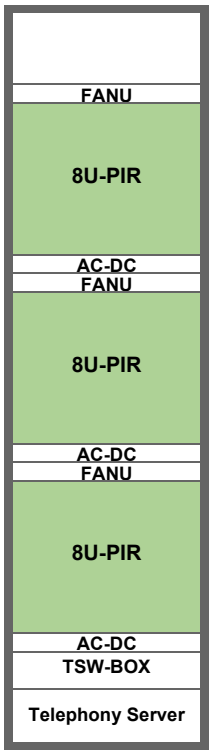
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A/B	1
D26-D25 TSW-PIR CA-A/B	2 (4)
PWR ALM CA-B	2
MT24-D25 CA-C	2 (4)
D09 POW CA-A	1

Pattern 8
(7U-PIRx1 / 8U-PIRx3)



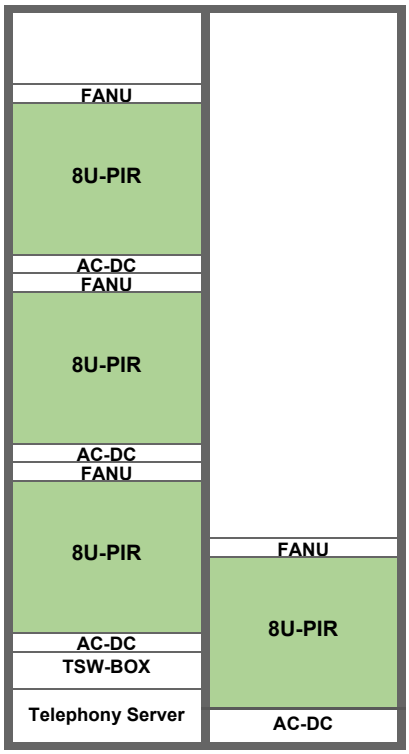
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A/B	3
D26-D25 TSW-PIR CA-A/B	4 (8)
PWR ALM CA-B	3
MT24-D25 CA-C	4 (8)
D09 POW CA-A	1

Pattern 9
(8U-PIRx3)



CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A/B	2
D26-D25 TSW-PIR CA-A/B	3 (6)
PWR ALM CA-B	3
MT24-D25 CA-C	3 (6)
D09 POW CA-A	1

Pattern 10
(8U-PIRx4)



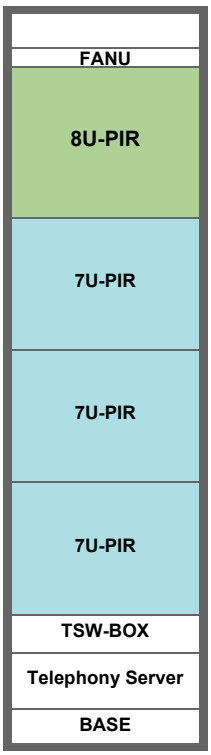
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A/B	3
D26-D25 TSW-PIR CA-A/B	4 (8)
PWR ALM CA-B	4
MT24-D25 CA-C	4 (8)
D09 POW CA-A	1

7.2 DC-Powered Model (1-IMG)

The figure below is for DC powered model of 7U-PIR and 8U-PIR in mixed configuration.

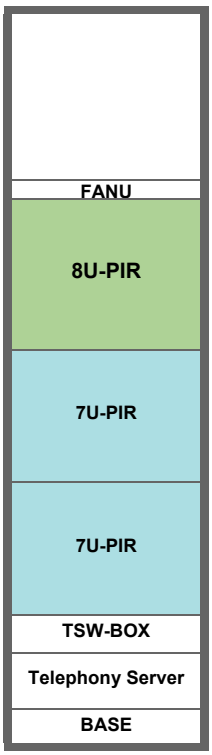
Note: The number in parenthesis is for a dual configuration case.

Pattern 1
(7U-PIRx3 / 8U-PIRx1)



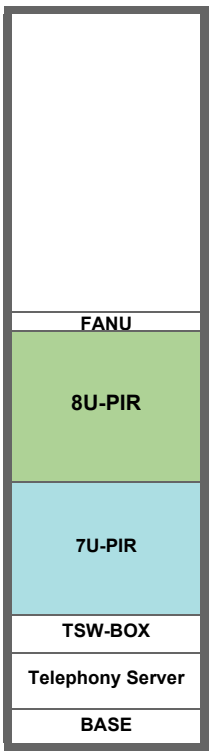
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D09 ST CA-A	1
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A	3
D26-D25 TSW-PIR CA-A/B	4 (8)
MT24-D25 CA-C	4 (8)
D09 POW CA-A	1

Pattern 2
(7U-PIRx2 / 8U-PIRx1)



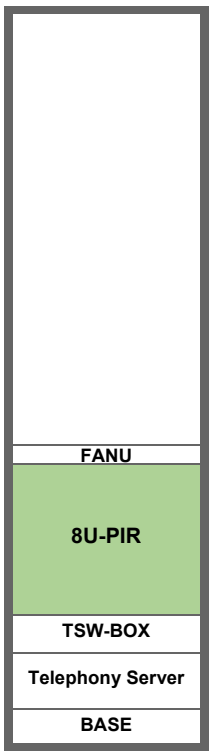
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D09 ST CA-A	1
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A	2
D26-D25 TSW-PIR CA-A/B	3 (6)
MT24-D25 CA-C	3 (6)
D09 POW CA-A	1

Pattern 3
(7U-PIRx1 / 8U-PIRx1)



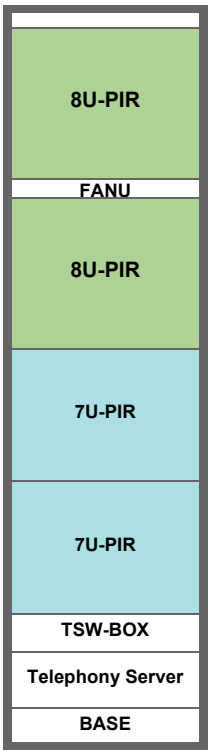
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D09 ST CA-A	1
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A	1
D26-D25 TSW-PIR CA-A/B	2 (4)
MT24-D25 CA-C	2 (4)
D09 POW CA-A	1

Pattern 4
(8U-PIRx1)



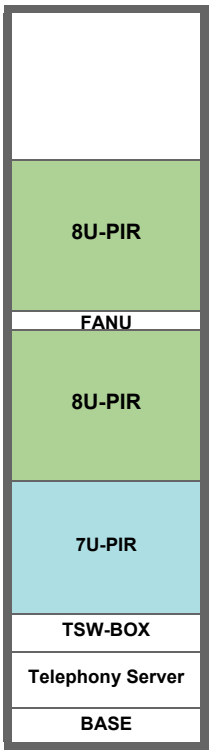
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D09 ST CA-A	1
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A	-
D26-D25 TSW-PIR CA-A/B	1 (2)
MT24-D25 CA-C	1 (2)
D09 POW CA-A	1

Pattern 5
(7U-PIRx2 / 8U-PIRx2)



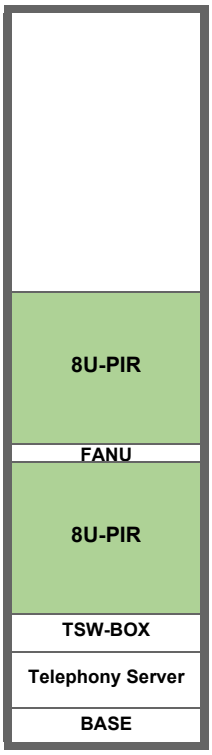
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D09 ST CA-A	1
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A	3
D26-D25 TSW-PIR CA-A/B	4 (8)
MT24-D25 CA-C	4 (8)
D09 POW CA-A	1

Pattern 6
(7U-PIRx1 / 8U-PIRx2)



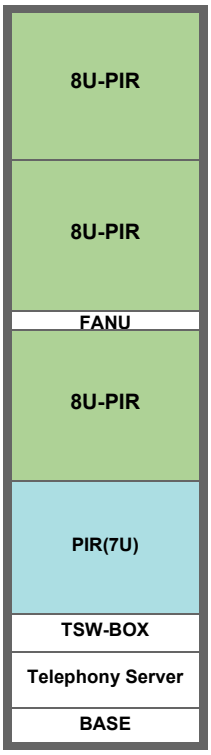
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D09 ST CA-A	1
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A	2
D26-D25 TSW-PIR CA-A/B	3 (6)
MT24-D25 CA-C	3 (6)
D09 POW CA-A	1

Pattern 7
(8U-PIRx2)



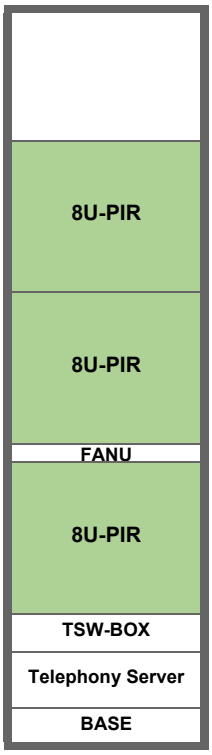
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D09 ST CA-A	1
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A	1
D26-D25 TSW-PIR CA-A/B	2 (4)
MT24-D25 CA-C	2 (4)
D09 POW CA-A	1

Pattern 8
(7U-PIRx1 / 8U-PIRx3)



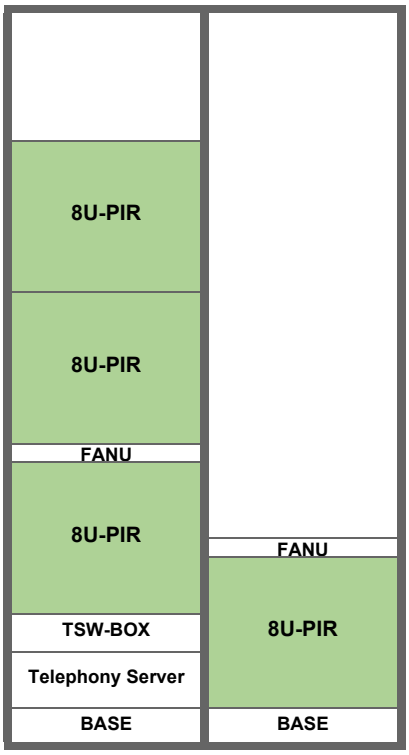
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D09 ST CA-A	1
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A	3
D26-D25 TSW-PIR CA-A/B	4 (8)
MT24-D25 CA-C	4 (8)
D09 POW CA-A	1

Pattern 9
(8U-PIRx3)



CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D09 ST CA-A	1
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A	2
D26-D25 TSW-PIR CA-A/B	3 (6)
MT24-D25 CA-C	3 (6)
D09 POW CA-A	1

Pattern 10
(8U-PIRx4)



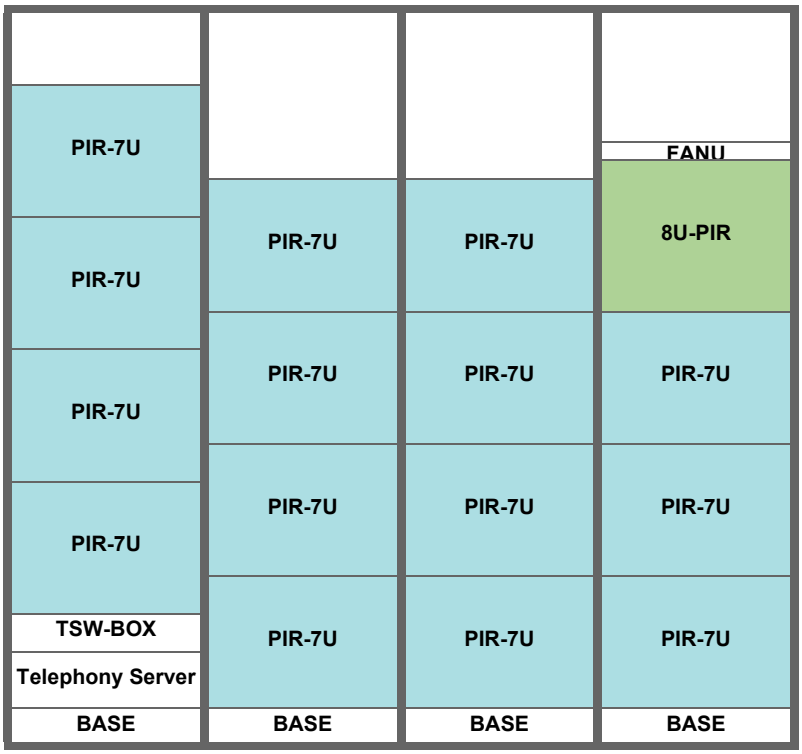
CABLE NAME	Qty
D37-SC50 CA-E	1 (2)
D09 ST CA-A	2
D15 ST-F CA-A	1
D37 EXCLK CA-A	1
D15 ST CA-A	3
D26-D25 TSW-PIR CA-A/B	4 (8)
MT24-D25 CA-C	4 (8)
D09 POW CA-A	1

7.3 DC-Powered Model (4-IMG) with TSW-BOX

The figures below show 7U-PIR and 8U-PIR mixed configuration patterns of DC-Powered model (4-IMG) with TSW-BOX.

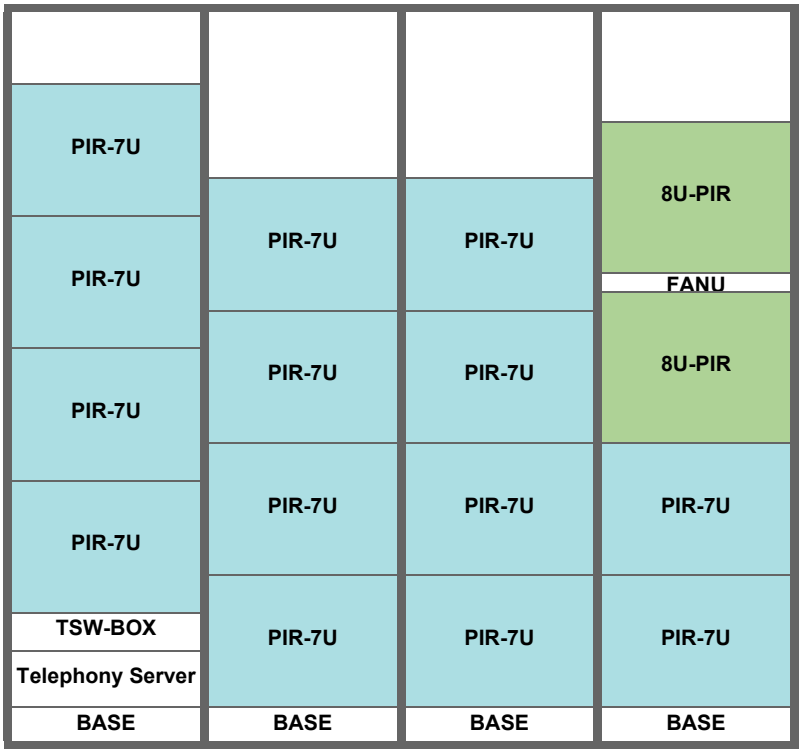
Note: The number in parenthesis is for a dual configuration case.

Pattern 1
(7U-PIRx15 / 8U-PIRx1)



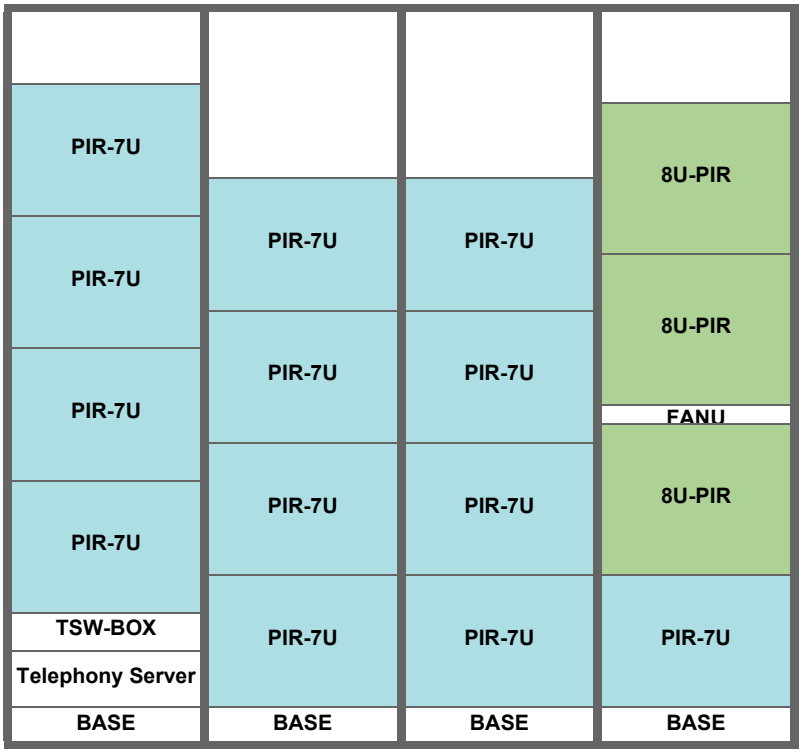
CABLE NAME	Quantity
D37-SC50 CA-E	1 (2)
D09 ST CA-A	4
D37 EXCLK CA-A	1
D15 ST CA-A	12
D26-D25 TSW-PIR CA-C	16 (32)
D15 ST-F CA-C	4
MT24-D25 CA-C	16 (32)
D09 POW CA-A	1

Pattern 2
(7U-PIRx14 / 8U-PIRx2)



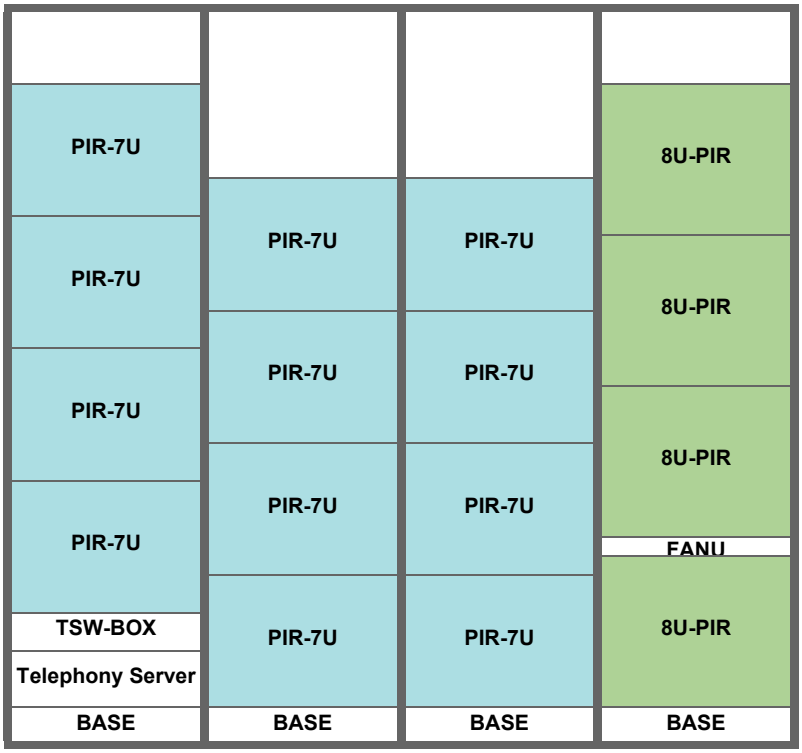
CABLE NAME	Quantity
D37-SC50 CA-E	1 (2)
D09 ST CA-A	4
D37 EXCLK CA-A	1
D15 ST CA-A	12
D26-D25 TSW-PIR CA-C	16 (32)
D15 ST-F CA-C	4
MT24-D25 CA-C	16 (32)
D09 POW CA-A	1

Pattern 3
(7U-PIRx13 / 8U-PIRx3)



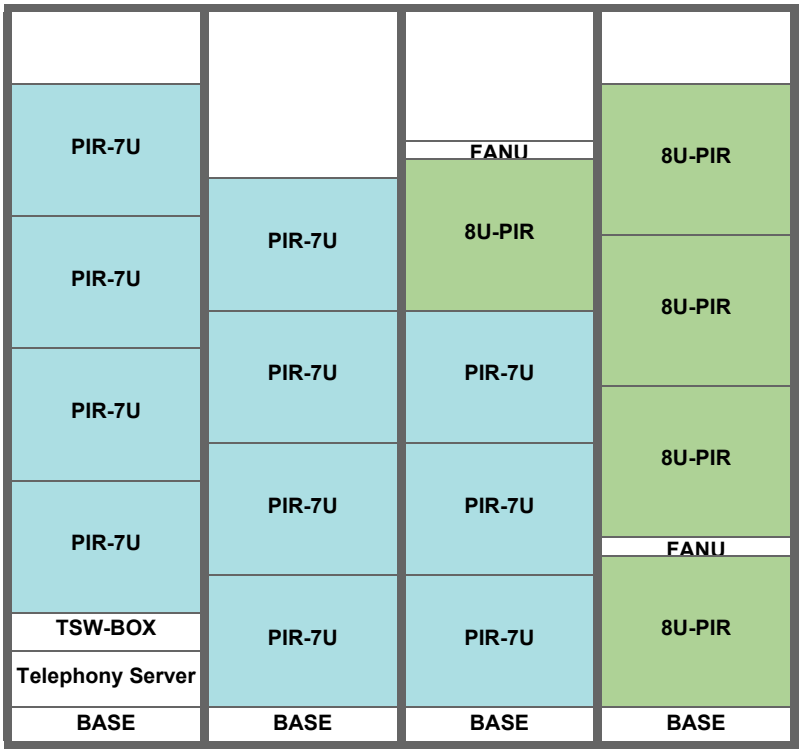
CABLE NAME	Quantity
D37-SC50 CA-E	1 (2)
D09 ST CA-A	4
D37 EXCLK CA-A	1
D15 ST CA-A	12
D26-D25 TSW-PIR CA-C	16 (32)
D15 ST-F CA-C	4
MT24-D25 CA-C	16 (32)
D09 POW CA-A	1

Pattern 4
(7U-PIRx12 / 8U-PIRx4)



CABLE NAME	Quantity
D37-SC50 CA-E	1 (2)
D09 ST CA-A	4
D37 EXCLK CA-A	1
D15 ST CA-A	12
D26-D25 TSW-PIR CA-C	16 (32)
D15 ST-F CA-C	4
MT24-D25 CA-C	16 (32)
D09 POW CA-A	1

Pattern 5
(7U-PIRx11 / 8U-PIRx5)



CABLE NAME	Quantity
D37-SC50 CA-E	1 (2)
D09 ST CA-A	4
D37 EXCLK CA-A	1
D15 ST CA-A	12
D26-D25 TSW-PIR CA-C	16 (32)
D15 ST-F CA-C	4
MT24-D25 CA-C	16 (32)
D09 POW CA-A	1

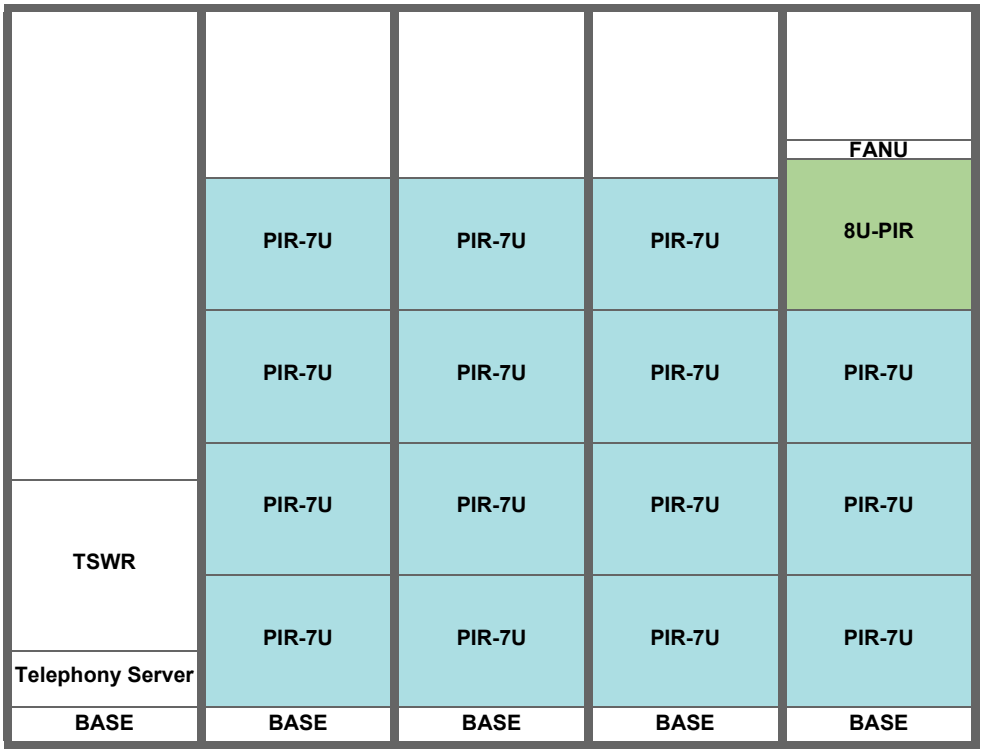
Note: From pattern 1 to 4, you can mount 8U-PIR on IMG0-IMG2.

7.4 DC-Powered Model (4-IMG) with TSWR

The figures below show 7U-PIR and 8U-PIR mixed configuration patterns of DC-Powered model (4-IMG) with TSWR.

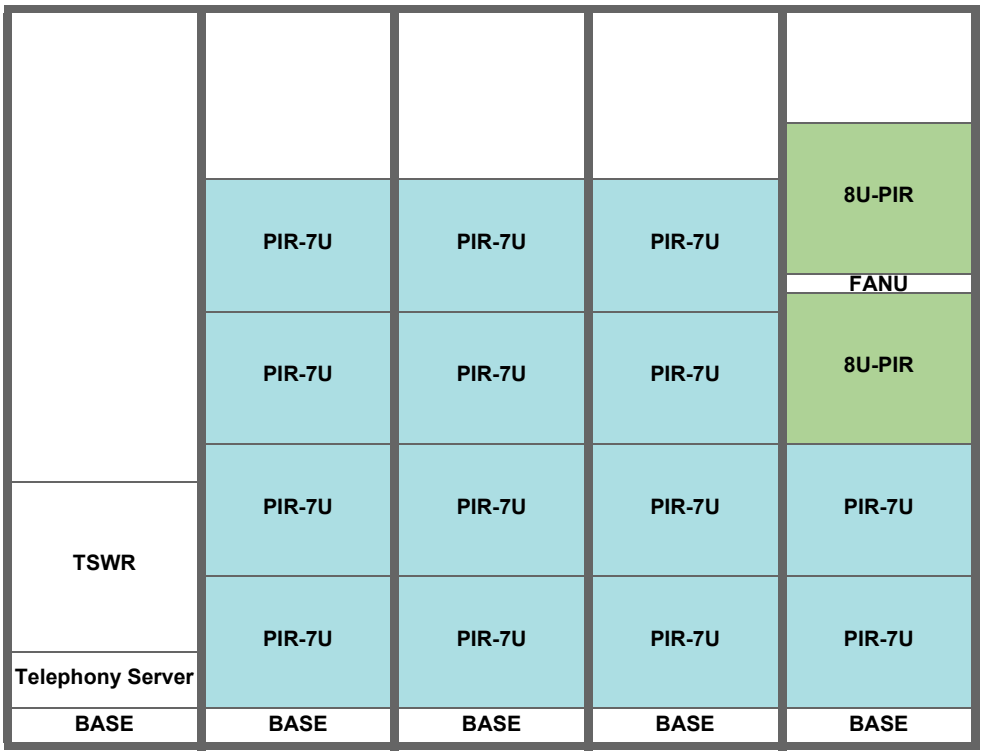
Note: The number in parenthesis is for a dual configuration case.

Pattern 1
(7U-PIRx15 / 8U-PIRx1)



CABLE NAME	Quantity
D37-SC50 CA-B	1 (2)
D15 ST CA(S)-A	1
D09 ST CA-A	5
D37 EXCLK CA-A	1 (2)
D15 ST CA-A	12
D37-D25 CA-A	16 (32)
D15 ST-F CA-C	4
MT24-D25 CA-C	16 (32)

Pattern 2
(7U-PIRx14 / 8U-PIRx2)



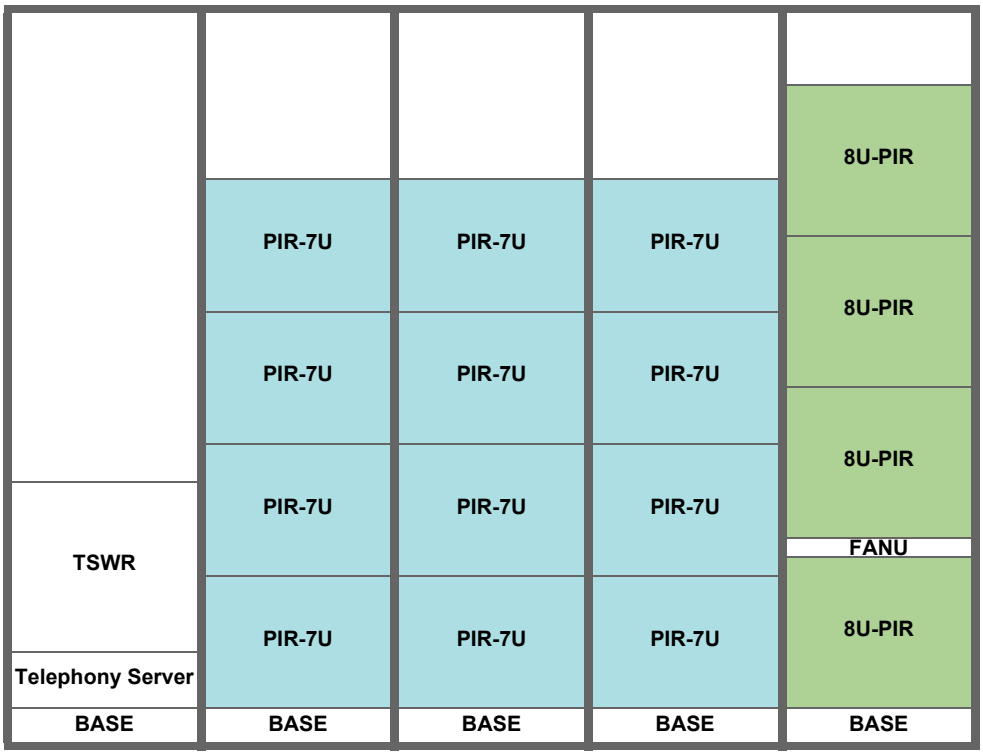
CABLE NAME	Quantity
D37-SC50 CA-B	1 (2)
D15 ST CA(S)-A	1
D09 ST CA-A	5
D37 EXCLK CA-A	1 (2)
D15 ST CA-A	12
D37-D25 CA-A	16 (32)
D15 ST-F CA-C	4
MT24-D25 CA-C	16 (32)

Pattern 3
(7U-PIRx13 / 8U-PIRx3)

	PIR-7U	PIR-7U	PIR-7U	8U-PIR
	PIR-7U	PIR-7U	PIR-7U	8U-PIR
				FANU
	PIR-7U	PIR-7U	PIR-7U	8U-PIR
TSWR				
	PIR-7U	PIR-7U	PIR-7U	PIR-7U
Telephony Server				
BASE	BASE	BASE	BASE	BASE

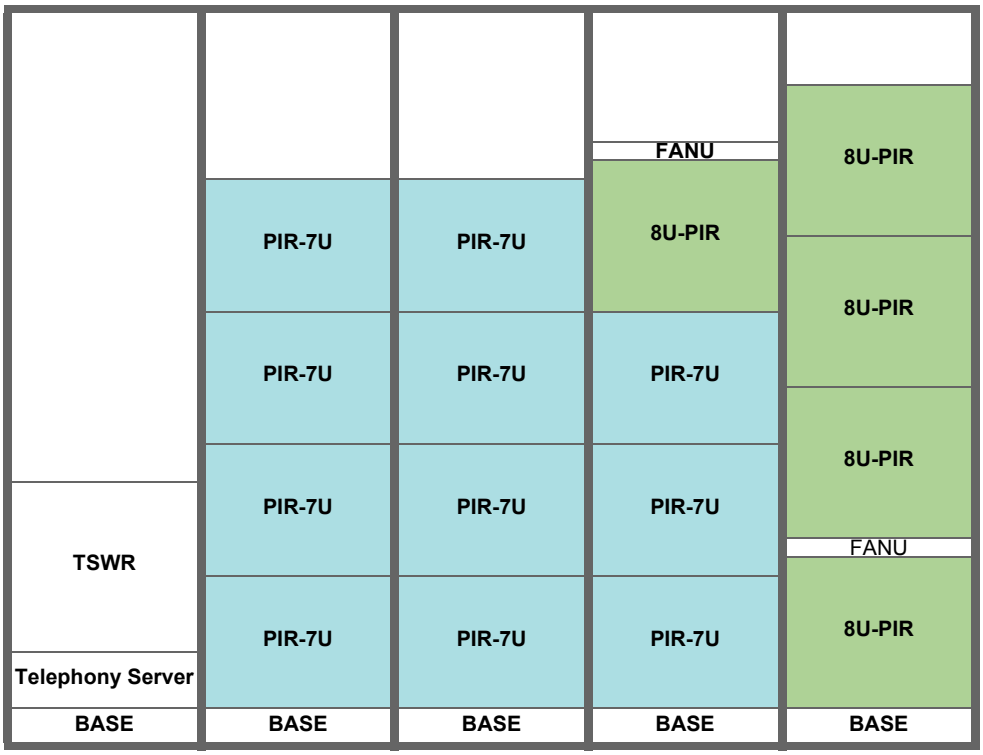
CABLE NAME	Quantity
D37-SC50 CA-B	1 (2)
D15 ST CA(S)-A	1
D09 ST CA-A	5
D37 EXCLK CA-A	1 (2)
D15 ST CA-A	12
D37-D25 CA-A	16 (32)
D15 ST-F CA-C	4
MT24-D25 CA-C	16 (32)

Pattern 4
(7U-PIRx12 / 8U-PIRx4)



CABLE NAME	Quantity
D37-SC50 CA-B	1 (2)
D15 ST CA(S)-A	1
D09 ST CA-A	5
D37 EXCLK CA-A	1 (2)
D15 ST CA-A	12
D37-D25 CA-A	16 (32)
D15 ST-F CA-C	4
MT24-D25 CA-C	16 (32)

Pattern 5
(7U-PIRx11 / 8U-PIRx5)



CABLE NAME	Quantity
D37-SC50 CA-B	1 (2)
D15 ST CA(S)-A	1
D09 ST CA-A	5
D37 EXCLK CA-A	1 (2)
D15 ST CA-A	12
D37-D25 CA-A	16 (32)
D15 ST-F CA-C	4
MT24-D25 CA-C	16 (32)

Note: From pattern 1 to 4, you can mount 8U-PIR on IMG0-IMG2.

CHAPTER 6
SYSTEM STARTUP

This chapter describes how to start up the system.

The initial startup process of the Telephony Server includes many procedures for setting and operation.The instructions in the following sections will help you perform the initial startup more easily by giving a detailed description on each setting.

In the sections of initial startup procedure, **Note** states the precautions required when performing each initial startup procedure. An error or failure may occur if these precautions are missed. Be sure to follow each precautions without exception. **Point** states tips and supplemental remarks to be considered when performing each initial startup procedure.

Refer to "2.3 FAQ About Startup" and check for any similar cases when the procedures could not be performed as the instructions or an error occurs.

1. Initial Startup

This section explains the initial startup procedure; program installing to CF card and IP address setting.

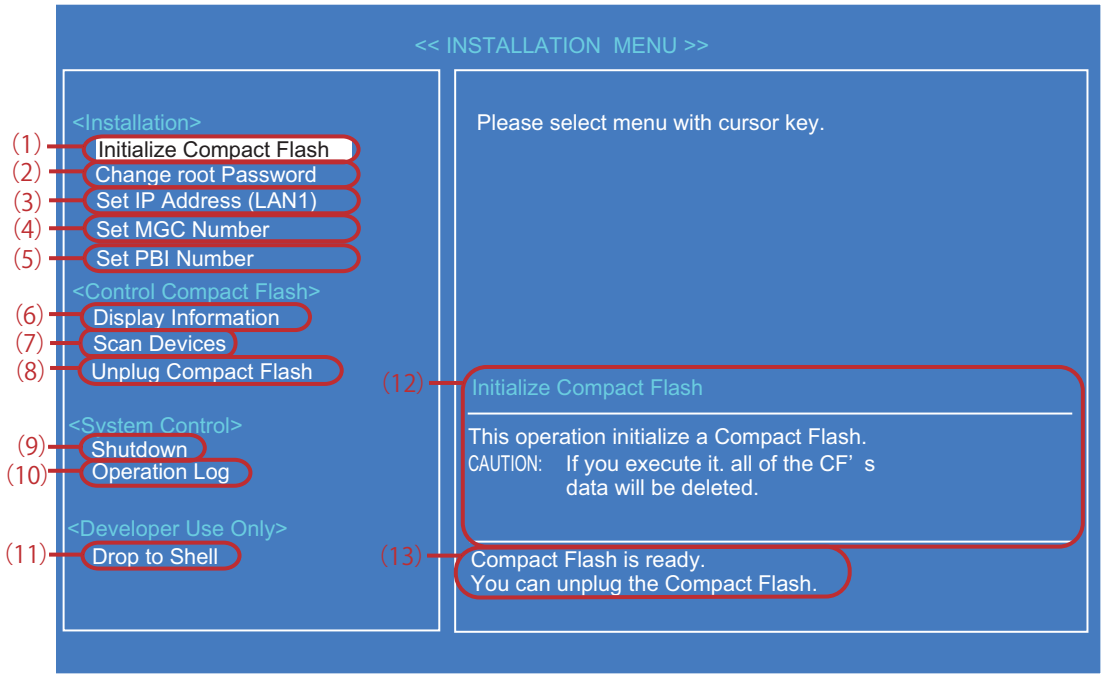
Note: For North America and Asia, the CF card is shipped pre-loaded. Only use this procedure when the CF card must be re-loaded. If this procedure is not required, skip to Section 1.6 Program Installation.

1.1 Installation Menu

This section gives an explanation on Installation Menu of SV9500. This Installation Menu appears when you boot up the maintenance PC from the install DVD "GENERIC SOFTWARE" inserted in the disk drive.

1.1.1 Screen Layout and Functions of Each Component

The following is the screen layout of Installation Menu and functional descriptions of each component.



No.	Item	Description
(1)	Initialize Compact Flash	Initializes the CF card. When you select this menu, data in the CF card will all be deleted and the software of "GENERIC SOFTWARE" inserted in the maintenance PC will be written into the CF card.
(2)	Change root Password	Changes Linux administrator (root) password. **Note 1**

No.	Item	Description
(3)	Set IP Address (LAN1)	Changes the IP address of LAN1. Select **Single** for a single configuration or **Dual** for a dual configuration.
(4)	Set MGC Number	Sets MGC number when Geographic Redundancy is enabled in your system.
(5)	Set PBI Number	Sets PBI number for the UMGi system.
(6)	Display Information	Reads out and displays the Office Data installed in the CF card.
(7)	Scan Devices	Searches the connected CF card and turns it to a mounted condition so that you can manipulate the files inside the CF card.
(8)	Unplug Compact Flash	Releases the mounting condition of the CF card in order to remove the card safely.
(9)	Shutdown	Ends the INSTALLATION MENU and shuts down the maintenance PC.
(10)	Operation Log	Displays the logs of operations and processes performed in the INSTALLATION MENU.
(11)	Drop to Shell	Ends the INSTALLATION MENU and changes the window to a command prompt for Linux. **Note 2**
(12)	Menu Description	Displays the description for the menu currently selected.
(13)	CF Card Status	Displays the current status of the CF card. Refer to "Message List for CF Card Status in Installation Menu" for details on messages indicated for CF Card Status.

Note 1: Contact NEC maintenance personnel if you forget Linux administrator (root) password.

Note 2: This menu is for engineers only.

1.1.2 Message List for CF Card Status in Installation Menu

The table below shows a list for messages indicated for CF Card Status in the Installation Menu.

Message	Description
Compact Flash is ready. CF is already mounted. DON'T UNPLUG IT!	A CF card is connected and has turned to a mounted condition. **Note 1**
Compact Flash is ready. You can unplug the Compact Flash.	A CF card is connected but has not turned into a mounted condition. This message will be indicated when a new CF card is connected or after **Scan Devices** is executed. You may remove the CF card in this condition. **Initialize Compact Flash** can be executed as well.
Compact Flash is unmounted. Please unplug it and insert another one.	A CF card is placed in the unmounting condition after **Unplug Compact Flash** is executed. In this condition, the CF card can be removed safely. To initialize another CF card continuously, remove the CF card and then insert a new CF card.

Message	Description
Compact Flash status: unexpected. Please try **Scan Devices**	A CF card is in an unexpected condition. You will have to execute **Scan Devices**. When the unexpected condition does not improve by executing **Scan Devices**, perform **Shutdown** and then try **Scan Devices** once again.
Compact Flash is NOT found. If CF is connected, try **Scan Devices**	A CF card is not connected. Execute **Scan Devices** to turn the CF card into a mounted condition if a CF card is already connected. You may remove the CF card in this condition.

Note 1: A malfunction may occur if the CF card is removed under this condition.

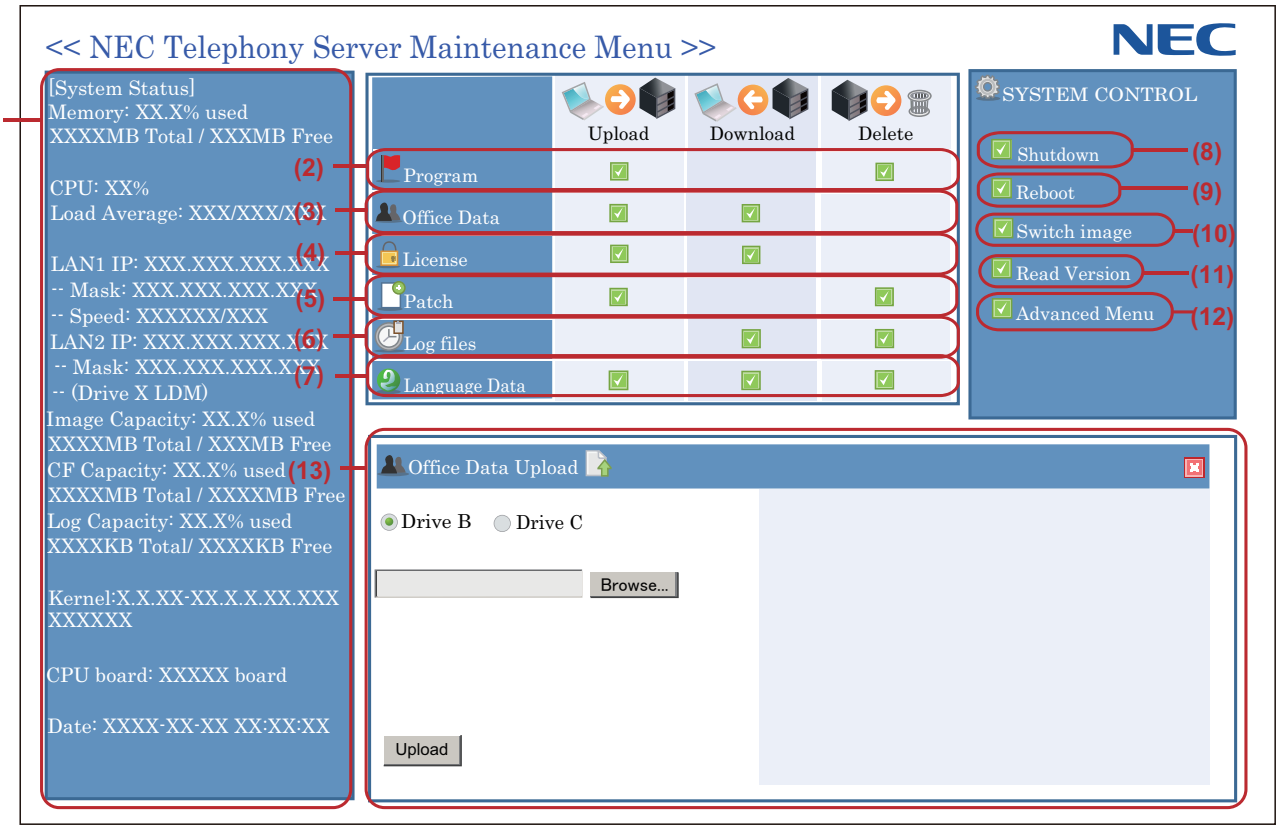
1.2 Telephony Server Maintenance Menu

This section gives an explanation on Telephony Server Maintenance Menu which is used as a tool to upload, download or delete the data to/from the CF card of the Telephony Server and SR-MGC.

This tool can be accessed and operated from the maintenance PC to the Telephony Server via Web browser.

1.2.1 Screen Layout and Functions of Each Component

The following is the screen layout of Telephony Server Maintenance Menu and functional descriptions of each component.



No.	Item	Description
(1)	System Status Display Area	Displays the current status of the connecting Telephony Server. This information will be updated in real-time while Telephony Server Maintenance Menu is executed. Refer to "1.2.2 System Status Indication" for details on each parameter.
(2)	Program Menu	Uploads or deletes the program. The Program Upload dialog box appears in (13) Configuration Dialog Box Display Area by clicking the Upload button and the Program Delete dialog box for the Delete button. Upload and deletion of a program can be executed only on the TEMP side. **Note 1**, **Note 2**
(3)	Office Data Menu	Uploads or downloads the Office Data. The Office Data Upload dialog box appears in (13) Configuration Dialog Box Display Area by clicking the Upload button and the Office Data Download dialog box for the Download button.
(4)	License Menu **Note 3**	Uploads or downloads the license. The License Upload dialog box appears in (13) Configuration Dialog Box Display Area by clicking the Upload button and the License Download dialog box for the Download button. Upload and download of a license can be executed on the WORK side and the TEMP side. **Note 2**
(5)	Patch Menu	Uploads or deletes the patch. The Patch Upload dialog box appears in (13) Configuration Dialog Box Display Area by clicking the Upload button and the Patch Delete dialog box for the Delete button. Upload and deletion of a patch can be executed on the WORK side and the TEMP side. **Note 2**
(6)	Log files Menu	Downloads or deletes the log files. The Log files Download dialog box appears in (13) Configuration Dialog Box Display Area by clicking the Download button and the Log files Delete dialog box for the Delete button.
(7)	Language Data Menu	Uploads, downloads or deletes the language data. The Language Data Upload dialog box appears in (13) Configuration Dialog Box Display Area by clicking the Upload button, Language Data Download dialog box for the Download button, and the Language Data Delete dialog box for the Delete button.
(8)	Shutdown Menu	Shuts down the Telephony Server. The Shutdown dialog box appears in (13) Configuration Dialog Box Display Area.
(9)	Reboot Menu	Reboots the Telephony Server. The Reboot dialog box appears in (13) Configuration Dialog Box Display Area.

No.	Item		Description
(10)	Switch image Menu		Switches the files between the WORK side and the TEMP side. **Note 2**, **Note 4** The Switch image dialog box appears in (13) Configuration Dialog Box Display Area.
(11)	Read Version Menu		Reads out the program version of the currently connecting Telephony Server. The information for both sides of the WORK side and the TEMP side will be read out. **Note 2** The Read Version dialog box appears in (13) Configuration Dialog Box Display Area. • Show results in new window: Place a checkmark to display the information of the program version in a new window. • Auto copy to clipboard: Place a checkmark to automatically copy the information of the program version to a clipboard. **Note 8**
(12)	Advanced Menu	Change Maintenance Menu's Password	You can change user name and password for login. **Note 5**, **Note 9**
		Show Memory Details	Displays how much of the Telephony Server's memory is currently being used.
		Remove host keys	Deletes the host key of the Telephony Server.
		Lock release of Maintenance Menu	Release the lock state when the Telephony Server Maintenance Menu is locked due to an unexpected event.
		Lock release of SR-MGC **Note 6**	Release the lock state when SR-MGC continues to be locked even after it returns to standby mode from operation mode.
		Change root password	Changes Linux administrator (root) password. **Note 7**
		ACDP Program Upload	Uploads the ACDP Program.
(13)	Configuration Dialog Box Display Area		Displays the dialog box for processes of each function according to the menu you have selected.

Note 1: Do not operate the Telephony Server Maintenance Menu while the upload is still processing. Wait until the message **Operation successfully completed.** appears. If any operation is performed before the uploading process is completed, the Telephony Server Maintenance Menu turns to a locked status with a message **Process is busy now** indication and operations will all be denied. In this case, release the lock state from **Lock release of Maintenance Menu** under **Advanced Menu**.

Note 2: File storages of programs, licenses, and patches for Telephony Server Maintenance Menu are divided into WORK side and TEMP side. The files used for current operation are stored in the WORK side and the temporary files are stored in the TEMP side.

Note 3: This menu is not displayed for SR-MGC.

Note 4: The Telephony Server is restarted forcibly when this process is executed.

Note 5: Contact NEC maintenance personnel if you forget your User Name and Password.

Note 6: This item is displayed only for SR-MGC.

Note 7: Contact NEC maintenance personnel if you forget Linux administrator (root) password.

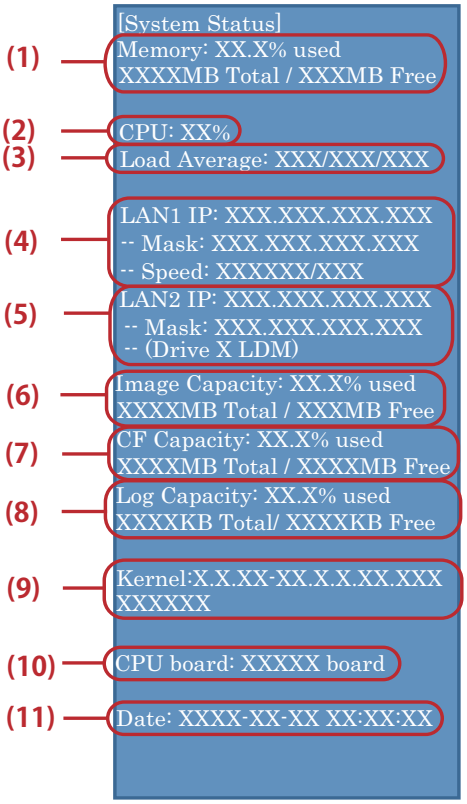
Note 8: Telephony Server Maintenance Menu will not be displayed when Internet Explorer 10 is used. For copying the displayed result, check the **Show results in new window** box under Read Version. Then copy and paste the desired information.

Note 9: For a detailed explanation see 1.2.4 How to Change User Name and Password.

1.2.2 System Status Indication

The current status of the connecting Telephony Server is displayed in the System Status area.

This section explains the details on each status displayed in the System Status area.



No.	Item	Description
(1)	Memory	Displays the capacity and an amount of free space of the memory mounted in the Telephony Server.

No.	Item		Description
(2)	CPU		Displays the usage rate of the CPU.
(3)	Load Average		Displays the load factor of the CPU. **Note:** Load Average: the three numbers represent averages over progressively longer periods of time (one, five, and fifteen minute averages).
(4)	LAN1	IP	Displays the IP address of LAN1.
		Mask	Displays the Subnet Mask of LAN1.
		Speed	Displays the communication mode of LAN1.
(5)	LAN2	IP	Displays the IP address of LAN2.
		Mask	Displays the Subnet Mask of LAN2.
		Drive	Displays the drive retrieving the IP address of LAN2.
(6)	Image Capacity		Displays the usage rate, the capacity, and an amount of free space for the image (program) currently under operation.
(7)	CF Capacity		Displays the usage rate, the capacity, and an amount of free space for the CF card.
(8)	Log Capacity		Displays the usage rate, the capacity, and an amount of free space for the log storage area.
(9)	Kernel		Displays the version of the current Linux kernel.
(10)	CPU board		Displays the type of a CPU board.
(11)	Date		Displays the date time information of the Telephony Server.

1.2.3 Operating Environment

This section explains the specifications on operating environment for the Telephony Server Maintenance Menu.

1.2.3.1 Specification on Operating Environment

Common Operating Environment

Item	Specification
Hard Disk	2.0GB of free disk space minimum
Monitor	1,024 x 768 dots or more, 16-bit colors (65,536) at least. **Note 1**
OS	**Note 2**
CPU	
Memory	
DVD-ROM drive	Required to install the program.
Mouse	Mouse, or equivalent pointing device

Item	Specification
Serial Port	9-pin D-SUB (male) **Note 3**
LAN Port	10BASE-T/100BASE-TX/1000BASE-T (Depending on an intermediate device such as HUB) **Note 4**
PCMCIA Card Slot	Type II (Required for writing a program for CF card.)
Browser	Internet Explorer 7 or higher **Note 5**, **Note 6**
Number of Concurrent Access	Only one at a time

Note 1: When using desktop, 1,280 x 1,024 dots or more are recommended.

Note 2: For details of OS and specific operating environments, refer to “OS-Specific Operating Environments” in Chapter 2 PCPro Overview of PCPro Setup Manual.

Note 3: Required for the serial connection with the Telephony Server (via the IOC card).

Note 4: Required for LAN/WAN connection with the Telephony Server.

Note 5: Internet Explorer 8 or higher is recommended. Internet Explorer 7 is supported but the processing may take longer time. A warning message will appear when using Internet Explorer 6 or lower. Note that this is not available for Modern UI on Internet Explorer 10.

Note 6: Microsoft Edge is not supported. When operating Windows 10, use Internet Explorer.

1.2.3.2 Operating Conditions

(1) An internet environment is required to access the License Management Server (LMS).

1.2.4 How to Change User Name and Password

This section explains how to change User Name and Password.

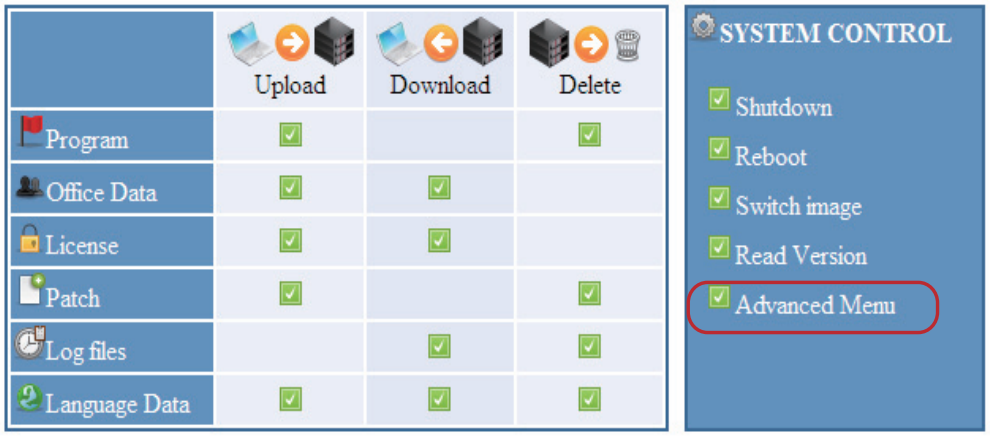
Note: When you change the user name and password, note the following points.
- Before you change a user name and password, you need to log in to Telephony Server Maintenance Menu.
- After logging in to Telephony Server Maintenance Menu, do not use Back button on browser.
- When your system is in dual configuration, you need to specify a user name and password for each CPU (System #0 and System #1).

Step1: Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar to access Telephony Server Maintenance Menu. (xxx.xxx.xxx.xxx represents the LAN1 IP address.)

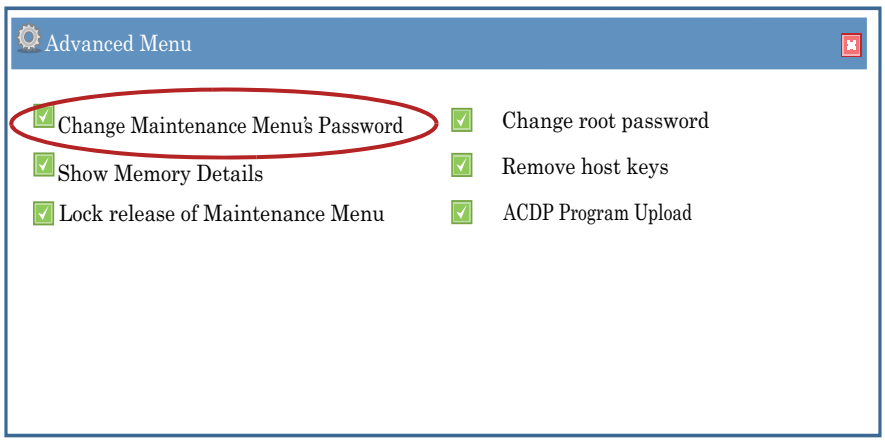
Step2: **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.

Note: When you type a user name and password, note the following points.
- The default for both user name and password is “admin”.
- Contact NEC maintenance personnel if you forget your user Name and password.

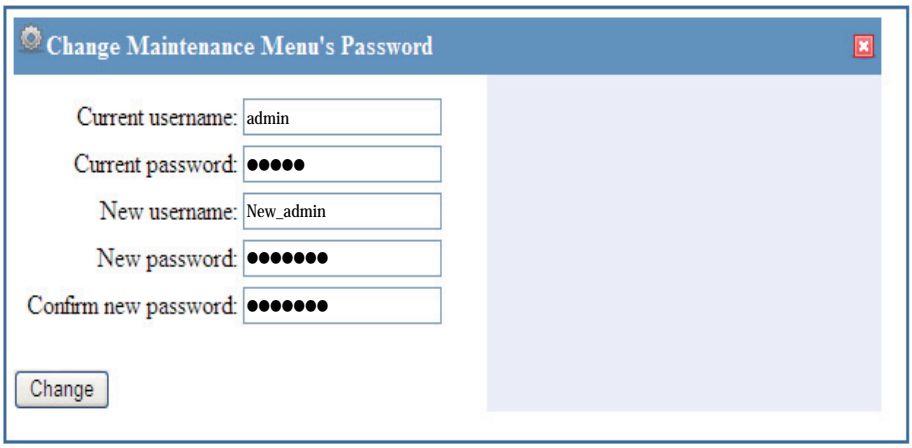
Step3: After the login, **Telephony Server Maintenance Menu** screen appears. Click the **Advanced Menu** button in the **SYSTEM CONTROL** area (in the upper right-hand part of the screen).



Step4: The **Advanced Menu** dialog box appears. Click the **Change Maintenance Menu’s Password** button on the dialog box.



Step5: The **Change Password** dialog box appears. Configure each setting.



Screen Item	Type Item
Current username:	Type your current user name. **Note 1**
Current password:	Type your current password. **Note 1**
New username:	Type a new user name. **Note 2**
New password:	Type a new password. **Note 2**
Confirm new password:	Type a new password again to confirm the new password.

Note 1: The default for both user name and password is “admin”.

Note 2: Up to 64 alphanumeric characters including "-", "_" and "." can be included in a user name and password (case-sensitive)

Step6: Click the **Change** button.

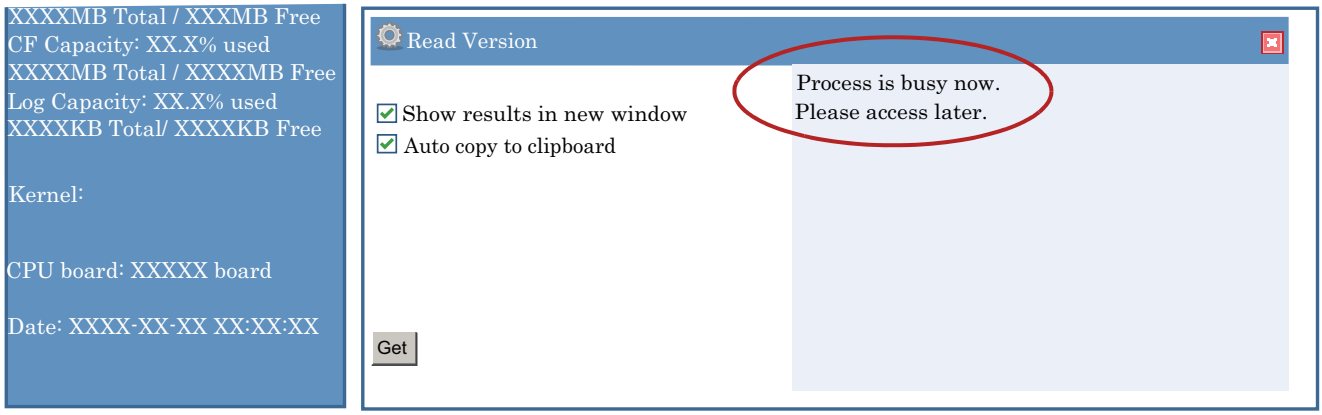
Note: The password in the **Confirm new password** field must match the password you entered in the **New password** field above.

Step7: Check that a message “Username and Password change success.” is displayed.

The change of the user name and password is complete.

1.2.5 How to Unlock the Locked Telephony Server Maintenance Menu

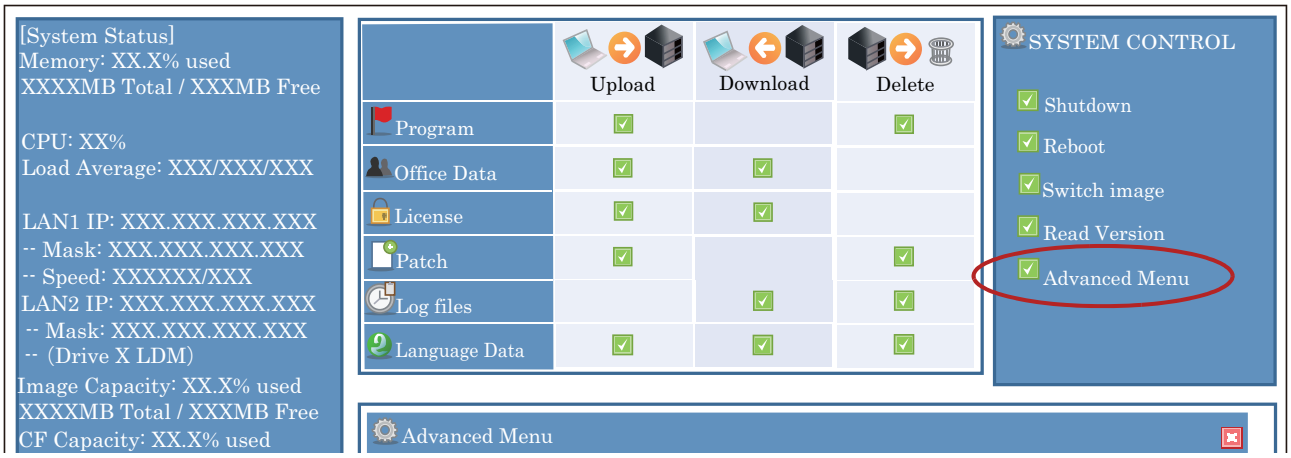
If you attempt to perform another action on the Telephony Server Maintenance Menu before program upload is completed (the message **Operation successfully completed.** appears), the menu may be locked and you will get the error message **Process is busy now. Please access later.** Once the menu is locked, only the unlock function is available



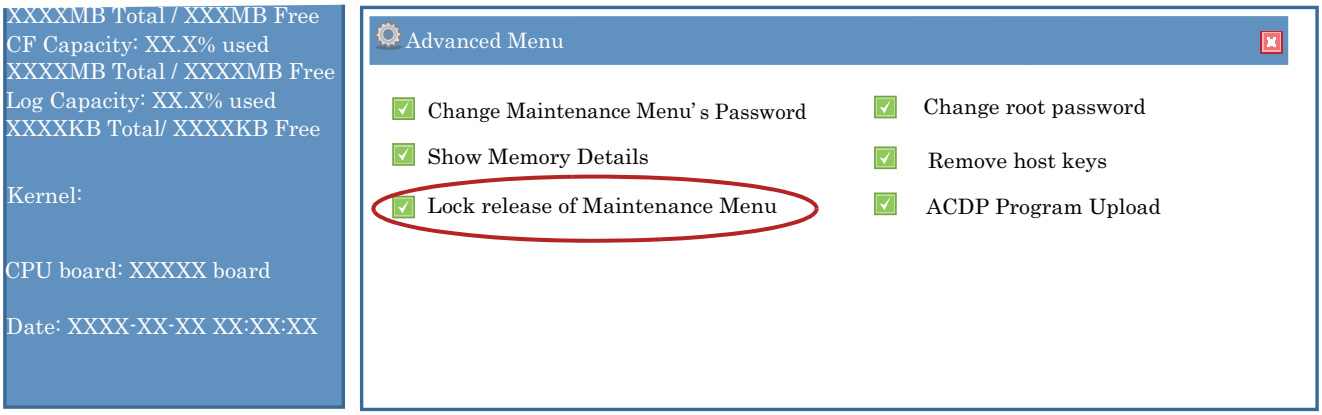
This section explains how to unlock the locked Telephony Server Maintenance Menu.

Note: When the message **Process is busy now. Please access later.** appears, first ensure that no other PC users are accessing the same Telephony Server, and then unlock the menu by following the steps below:

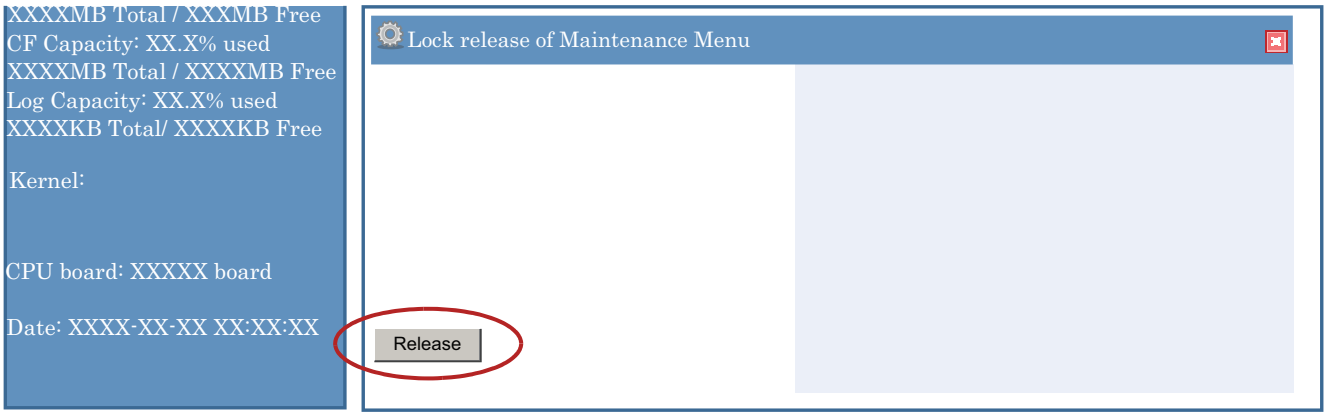
Step1: Click the **Advanced Menu** button in the **SYSTEM CONTROL** area.



Step2: The **Advanced Menu** dialog box appears. Click the **Lock release of Webconfig** button on the dialog box.



Step3: The **Lock release of Webconfig** dialog box appears. Click the **Release** button on the dialog box.



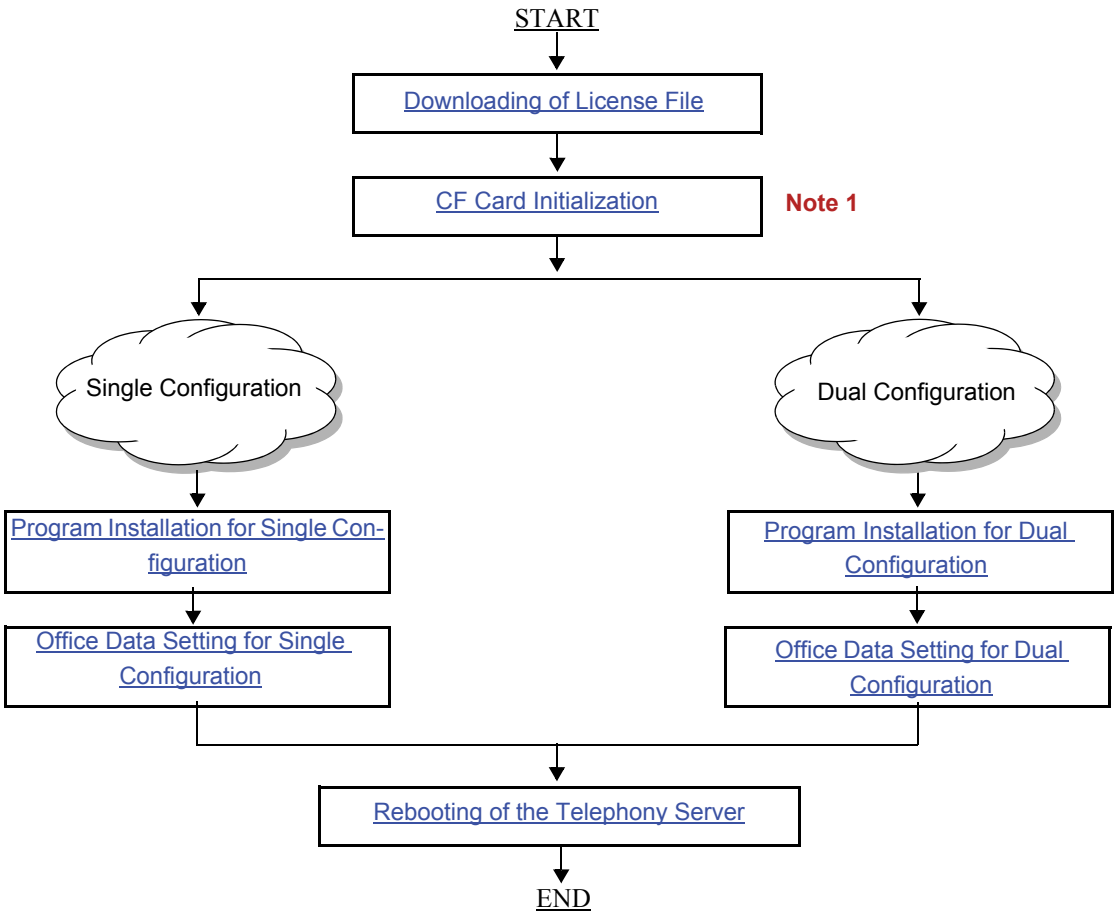
Step4: A confirmation message appears. Ensure that no other PC users are accessing the same Telephony Server, and click **OK**.

Step5: A message appears, saying **Operation successfully completed.** Click **OK** to close the message box.

The Telephony Server Maintenance Menu is unlocked now.

1.3 Initial Startup Procedure

This section explains the initial startup procedure of the Telephony Server. Follow the flow chart below to configure the initial startup.Take notice that some parts of the procedure may differ between single configuration and dual configuration.



Note 1: For Asia and North America, this step is not required because the CF card is shipped preloaded with an OS and applications.

1.4 Downloading of License File

Access the License Management Server (LMS) to download a license file (svi.zip) and obtain Activation Code.

Note: Be sure to note the following conditions.

- A new Registration Activation code is necessary when the license is upgraded.
- The SVI file is downloaded in a zip format. Do not unzip the SVI file since this file is used as is.
- You can rename the saved SVI file, but do not change the extension of the file.

1.5 CF Card Initialization

Follow the steps below to initialize CF card and install OS, SV9500 program and default Office Data into the card.

Note: For North America and Asia, the CF card is shipped pre-loaded. Only use this procedure when the CF card must be re-loaded. If this procedure is not required, skip this section and go to 1.6 Program Installation.

1

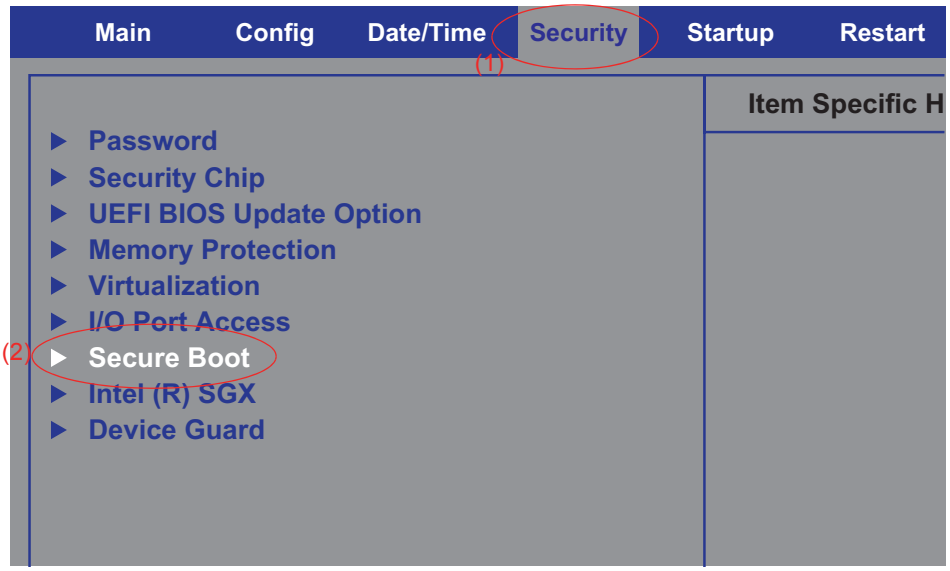
(1) Turn on the maintenance PC to be used for CF card initialization.
(2) Set the install DVD "GENERIC SOFTWARE" in the disk drive.
(3) Insert CF card into PCMCIA card slot.
(4) On Windows, open **ACTION CENTER** and select **All settings**.
(5) Click **Update & security** on **Windows Settings**.
(6) Click **Recovery** under **Update & security**.
(7) Click **Restart now** under **Advanced startup**.
(8) Select **Troubleshoot** on **Choose an option**.
(9) Select **Advanced options** on **Troubleshoot**.
(10) Select **UEFI Firmware Settings** on **Advanced options**.
(11) Select **Restart** on **UEFI Firmware Settings**.
UEFI screen automatically displays after restart.

Note:
If you can access the BIOS setting menu by pressing the key (such as F2) during boot in your PC, do the following:

- Select DVD drive as the first option in the boot priority order. If the boot mode is set to UEFI boot, change it to Legacy boot.
- Insert DVD and turn off PC.
- Insert CF card into PCMCIA card slot and turn on the PC.
- Then, go to STEP8.

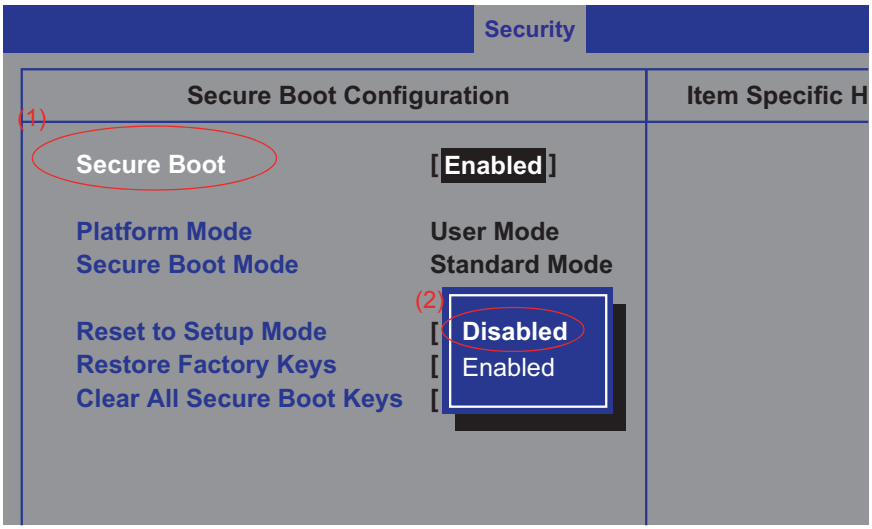
2

(1) Click **Security** tab on **BIOS Setup**.
(2) Click **Secure Boot** on **Security**.



3

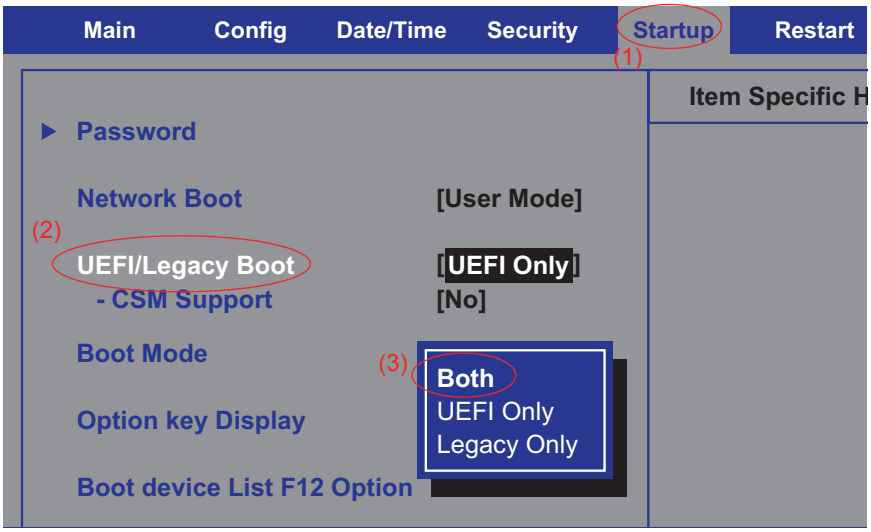
(1) Select **Secure Boot** on **Secure Boot Configuration**.
(2) Select **Disabled** on **Secure Boot**.
(3) Press **ESC** key to return to the previous screen.



Note:
The screens being explained here may not be the same as ones you see in your PC. Please consider it and assign the same settings on your PC.

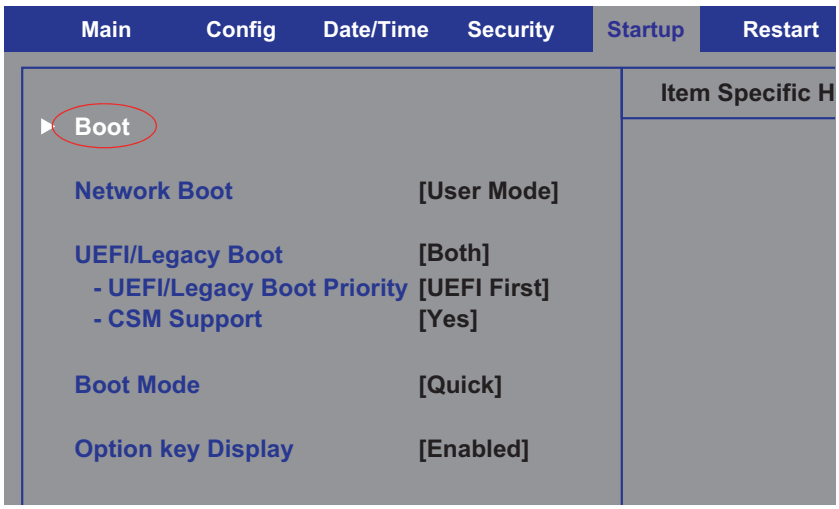
4

(1) Select **Startup** tab.
(2) Select **UEFI/Legacy Boot** on **Startup**.
(3) Select **Both** on **UEFI/Legacy Boot**.



5

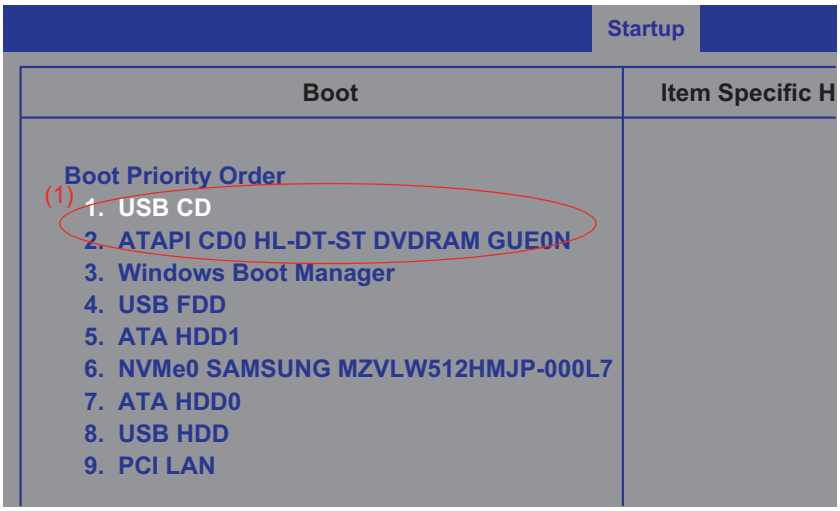
Select **Boot** on **Startup**.



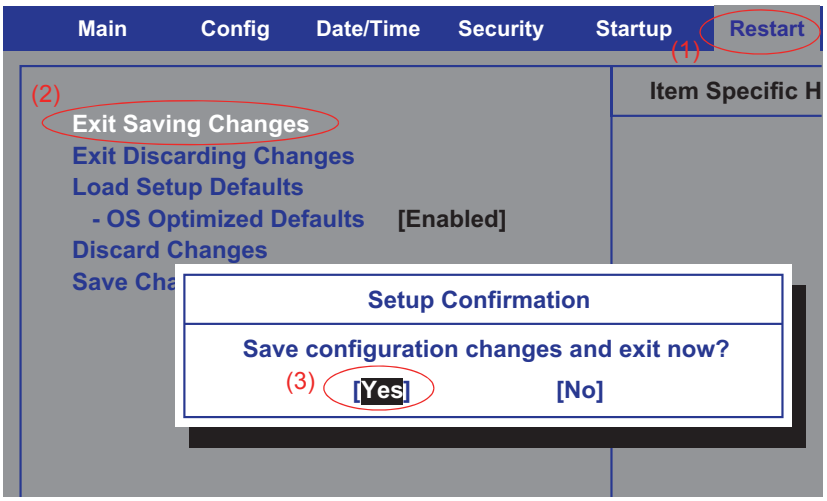
6 Determine the boot priority order for DVD drive in a PC that initializes CF.

(1) Specify the setting for restart (boot priority 1).
The settings varies, depending on the PC environment such as USB-connected DVD drive or embedded DVD drive. For example;
- Set **ATAPI CD...** to the top priority (1) if you intend to use an embedded DVD drive as boot drive.
- Set **UCB CD** to the top priority (1) if you intend to use USB-connected DVD drive as boot drive.

(2) Press **ESC** key to return to the previous screen.



7 (1) Select **Restart** tab.
(2) Select **Exit Saving Changes** in **Restart**.
(3) Select **Yes** in **Setup Confirmation**.



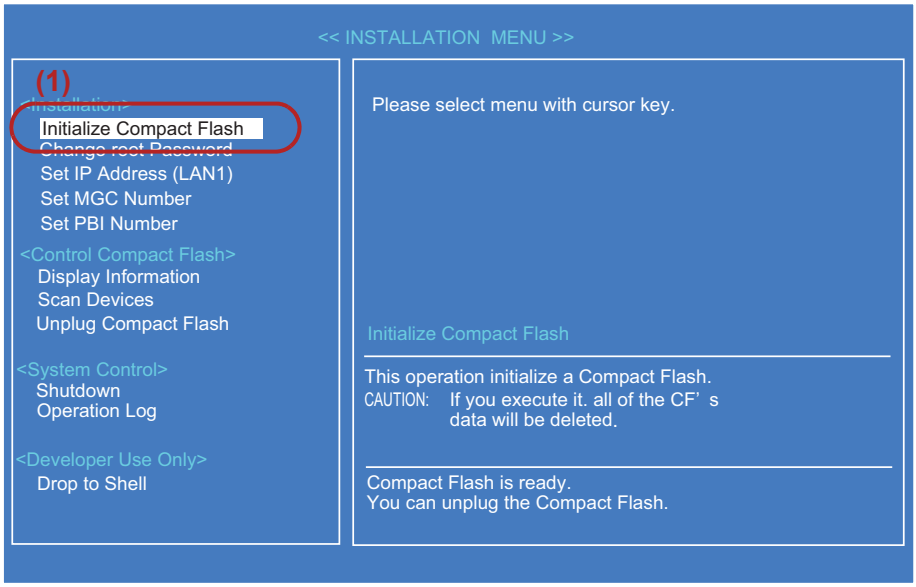
8 **INSTALL DVD BOOT OPTIONS MENU** screen appears. Select **2. Auto (Keyboard: US)** and then press the Enter key.

Note:
Be sure to set **1.USB CD** in the case of USB-connected DVD drive.
The boot program may not run if USB - connected DVD drive is set as 2 or later in Boot Priority Order.

9

(1) **SV9500 INSTALL MENU** screen appears about five minutes later. Select **Initialize Compact Flash** under <Installation> by using the arrow keys on the keyboard and then press the Enter key.

(2) A confirmation message appears. Select **OK** and press the Enter key.



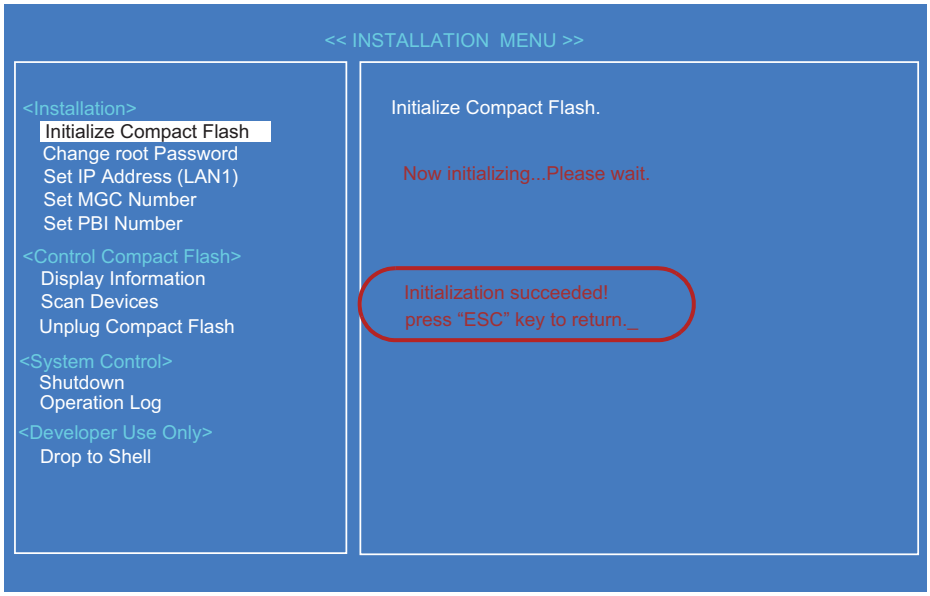
Note: When your PC is slow in CF card writing speed, an error may occur. If an error occurs during the installation, the following action is required.

- When the installation process is aborted, take DVD-ROM out of the tray manually.
- When the PC failed to recognize the CF card, the message **Compact Flash is NOT found...** is displayed. In that case, perform **Scan Devices** under <Control Compact Flash>. If the problem still remains unsolved, you need to use another PC to perform the installation.

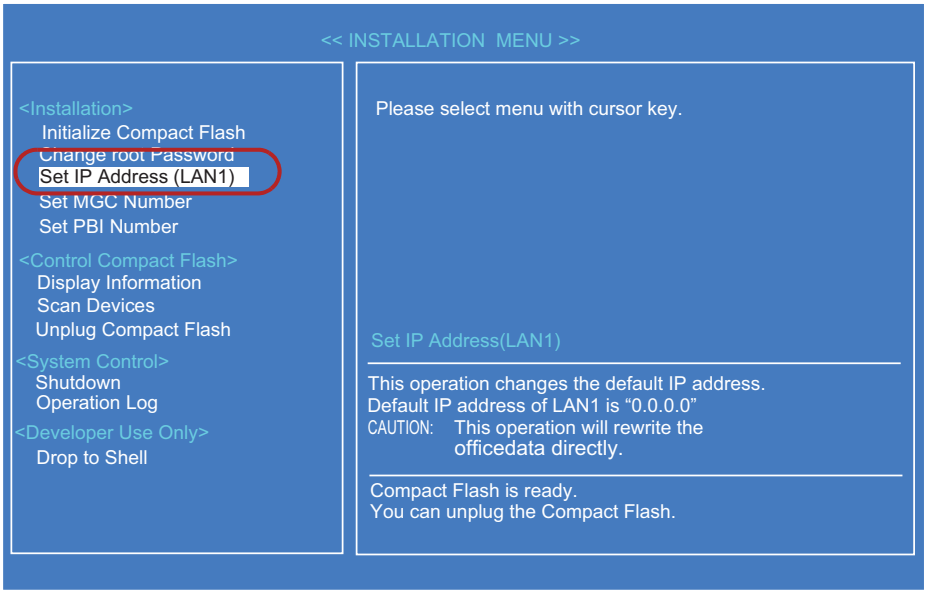
Note:

- The time to complete the initialization (OS and program Installation) varies depending on the PC used.
- When the CF card is not detected by the PC, the installation cannot be executed. In that case, select **Scan Devices** under **<Control Compact Flash>** to have the card detected, then execute the initialization again by selecting **Initialize Compact Flash**.

10 When the initialization is complete, the message **Initialization succeeded! press ESC key to return** is displayed. It takes about 20 minutes to complete the initialization.



11 Select **Set IP Address (LAN1)** under <Installation> by using the arrow keys on the keyboard and then press the Enter key.



Note:
The time to complete the initialization (OS and program Installation) varies depending on the PC used.

12

(1) Select **Single** for the single configuration or **Dual** for the dual configuration and then press the Enter key.

(2) Set the values corresponding to your actual network environment for the following items.

Note: When your system is in dual configuration, apply the same setting for both CF cards.

Setting Items for Single Configuration

Items	Setting Values
IP Address[ACT]	IP address of LAN1 (ex. 10.100.1.11)
Subnet Mask	Subnet mask (ex. 255.255.255.0)
Default Gateway	Default gateway (ex. 10.100.1.1)

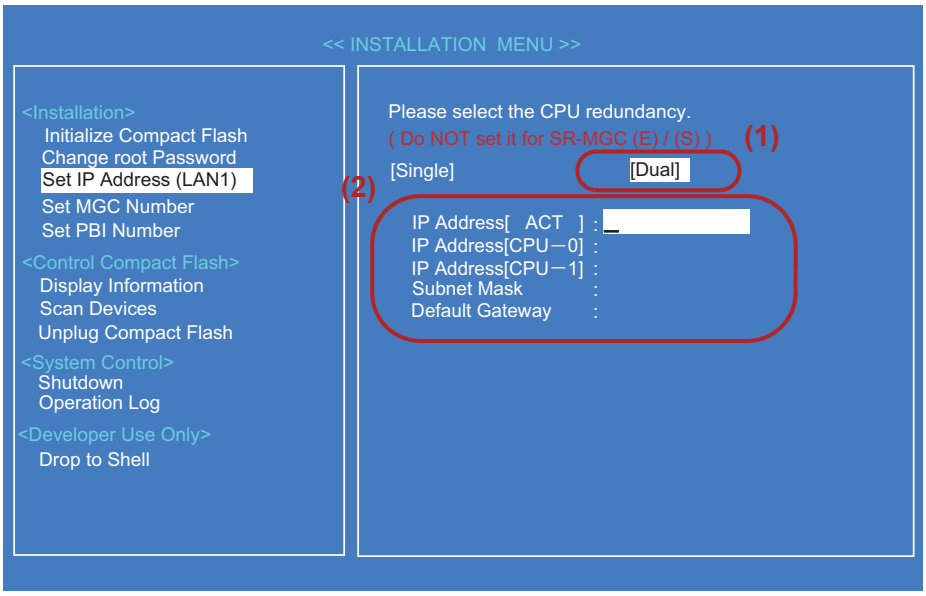
Setting Items for Dual Configuration

Items	Setting Values
IP Address[ACT]	IP address (ACT) of LAN1 (ex. 10.100.1.11)
IP Address[CPU-0]	IP address (System #0) of LAN1 (ex. 10.100.1.21)
IP Address[CPU-1]	IP address (System #1) of LAN1 (ex. 10.100.1.31)
Subnet Mask	Subnet mask (ex. 255.255.255.0)
Default Gateway	Default gateway (ex. 10.100.1.1)

(3) After the setting is complete, select **OK** and then press the Enter key.

(4) The message **WARNING! this operation will change the setting in Compact Flash** is displayed. Select **OK** and press the Enter key.

(5) The message **Succeed. press ESC key to return** is displayed. Press the ESC key.



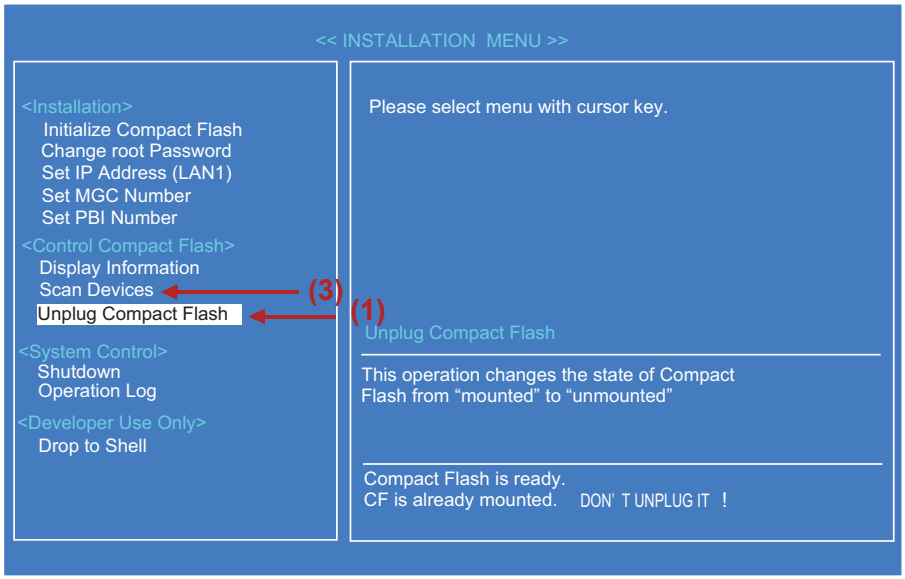
13

(1) Select **Unplug Compact Flash** under <Control Compact Flash> by using the arrow keys on the keyboard and then press the Enter key.

(2) Take the inserted CF card out of the slot and then insert the second CF card into the slot.

(3) Select **Scan Devices** under <Control Compact Flash> to have the card detected.

(4) Repeat the procedure Step 4 to Step 7.

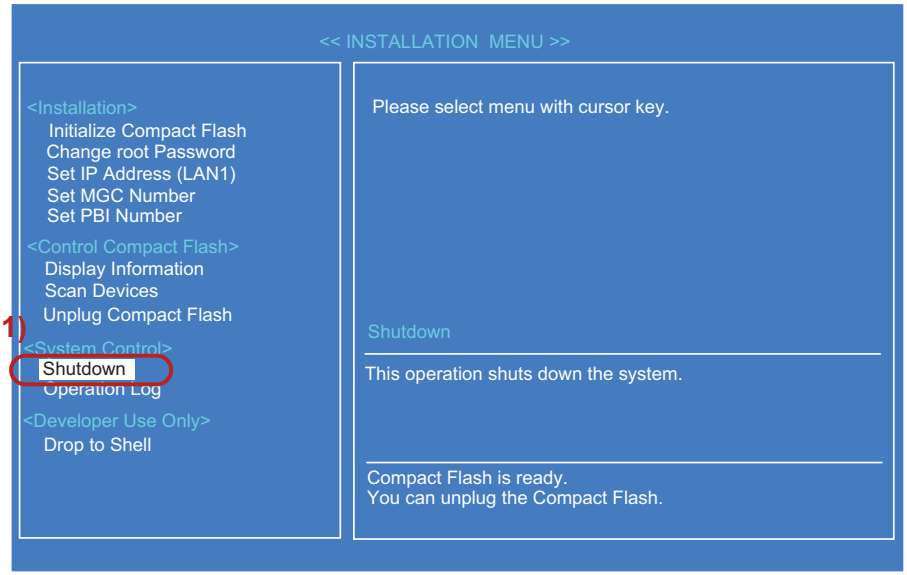


Note:
This procedure is required only for a dual configuration system. Skip this procedure when your system is in single configuration.

Note:
When the maintenance PC has two PCMCIA slots, use the same slot for both the first card and the second card. If different slots are used, CF card may not be detected.

14

(1) Select **Shutdown** under <System Control> by using the arrow keys on the keyboard and then press the Enter key.
(2) A confirmation message appears. Select **OK** and then press the Enter key.
(3) The DVD tray is automatically ejected and the PC is turned off.
(4) Take the CF card out of the slot.



15

When you have changed any settings of the maintenance PC through STEP1 to STEP7, restore it to the original settings.

Note:
When you can access the BIOS setting menu by pressing the key (such as F2), if you have changed the original BIOS settings to the following (STEP1), restore the original settings.

- DVD is selected as the top priority for boot.
- The boot mode is set to Legacy boot.

1.6 Program Installation

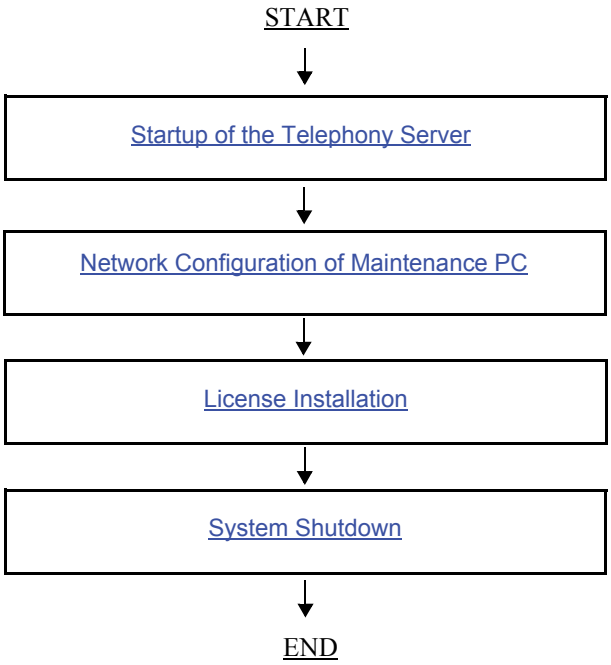
To start up the Telephony Server, the initial setting data (including the program, default office data and license data) needs to be written into CF card.

This section explains the installation procedure for each configuration listed below.

- 1.6.1 Program Installation for Single Configuration
- 1.6.2 Program Installation for Dual Configuration

1.6.1 Program Installation for Single Configuration

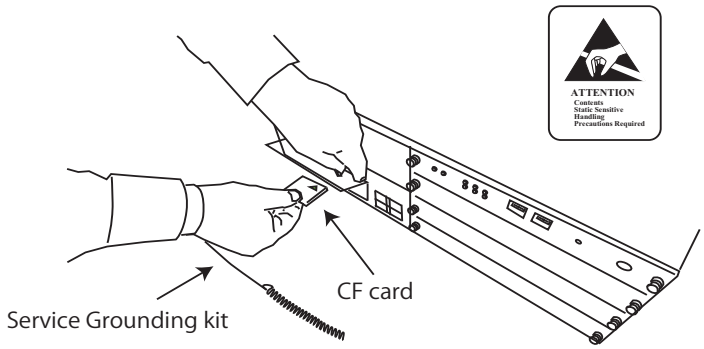
This section explains the procedure of program installation for a system in a single configuration.
Follow the flow chart below to install the initial setting data into CF card.



1.6.1.1 Startup of the Telephony Server

This section explains the procedure for starting up the Telephony Server which is required as a first process when installing the program.

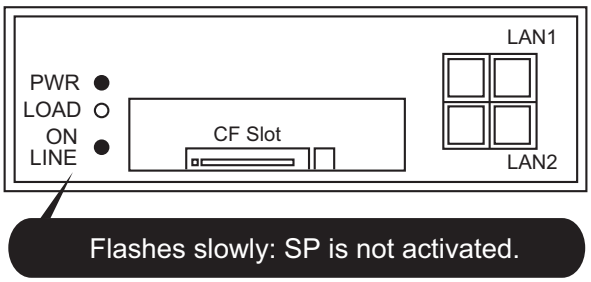
1 Insert CF card into CF slot on CPU card.



Point:
Only the CF cards provided by NEC are supported.

2 Turn on the power switch on the rear panel of the Telephony Server.

3 Verify that ON LINE lamp on the front panel of CPU card flashes slowly after a few minutes.



Point: For detailed information on ON LINE lamp, refer to "2.2.1 CPU Card" in 1. WHAT IS SV9500? of CHAPTER 1 GENERAL.

1.6.1.2 Network Configuration of Maintenance PC

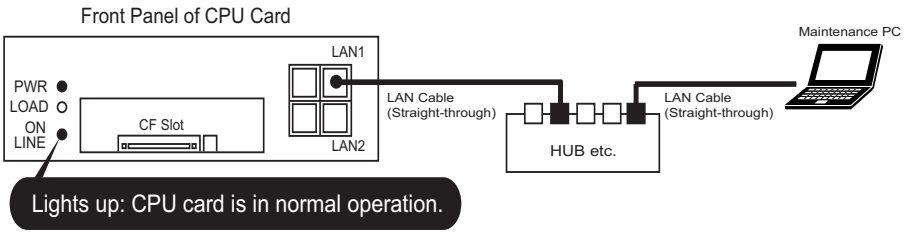
This section explains the procedure to set the network configuration of the maintenance PC to connect to the Telephony Server.

1 Modify the network configuration of the maintenance PC to connect the LAN 1 IP address (ex. 10.100.1.11/24) set at Step 7 in 1.5 CF Card Initialization.
Example of IP address for maintenance PC: 10.100.1.50/24

Note: IP addresses listed below cannot be assigned to the maintenance PC.
- Network address (ex. 10.100.1.0)
- IP address of LAN1 (ex. 10.100.1.11)
- Broadcast address (ex. 10.100.1.255)

Note: For Asia, the following default IP address is set for LAN1. Modify the network configuration of the maintenance PC to connect with the default IP address of LAN1.
LAN1 IP Address: 192.168.0.2
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.0.254

2 Connect LAN1 connector on CPU card and the maintenance PC with a LAN cable.



Note: Do not connect a cable to any LAN connector other than LAN1 connector.

3 Execute ping command from the maintenance PC to the LAN1 IP address (ex. 10.100.1.11/24) set at Step 7 in 1.5 CF Card Initialization. and verify that a response is sent back.
If no response is confirmed, check the settings including the network configuration and cable connection.

Note: For Asia, the following default IP address is set for LAN1. Execute ping command from the maintenance PC to the default IP address.
LAN1 IP Address: 192.168.0.2
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.0.254

1.6.1.3 License Installation

This section explains the procedure to install the downloaded license files into the CF card with Telephony Server Maintenance Menu.

1 Start Internet Explorer and type “https://xxx.xxx.xxx.xxx:9801/” into the address bar. (xxx.xxx.xxx.xxx represents the LAN1 IP address (ex. 10.100.1.11) set at Step 7 in 1.5 CF Card Initialization.)

Note: For Asia, the following default IP address is set for LAN 1. Type “http://192.168.0.2:9801/” into the address bar.
LAN1 IP Address: 192.168.0.2
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.0.254

Note:
Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2 (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click **OK** to log in to **Telephony Server Maintenance Menu**.

Note:
- The default for both user name and password is “admin”. You are recommended to change user name and password from **Advanced Menu**.
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to Telephony Server Maintenance Menu, do not use Back button on browser.

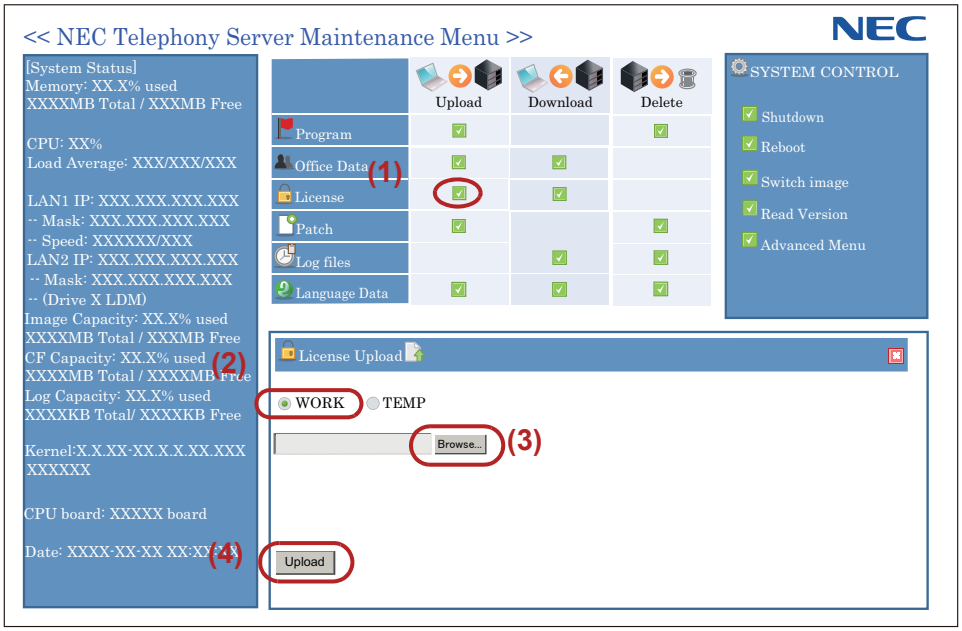
3

(1) Click the **Upload** button for **License**. The **License Upload** dialog box appears in the lower right portion of the screen.

(2) Select **Work** on the **License Upload** dialog box.

(3) Click the **Browse** button on the dialog box and then specify the License file downloaded in 1.4 Downloading of License File.

(4) Click the **Upload** button. When the uploading is complete, **Operation successfully completed** will be displayed. Click **OK**.



Point:

The Language Data button needs to be clicked only when Optional Language Pack Loading [O-42] is used. For more details on Optional Language Pack Loading [O-42], see Data Programming Manual - Business.

Note:

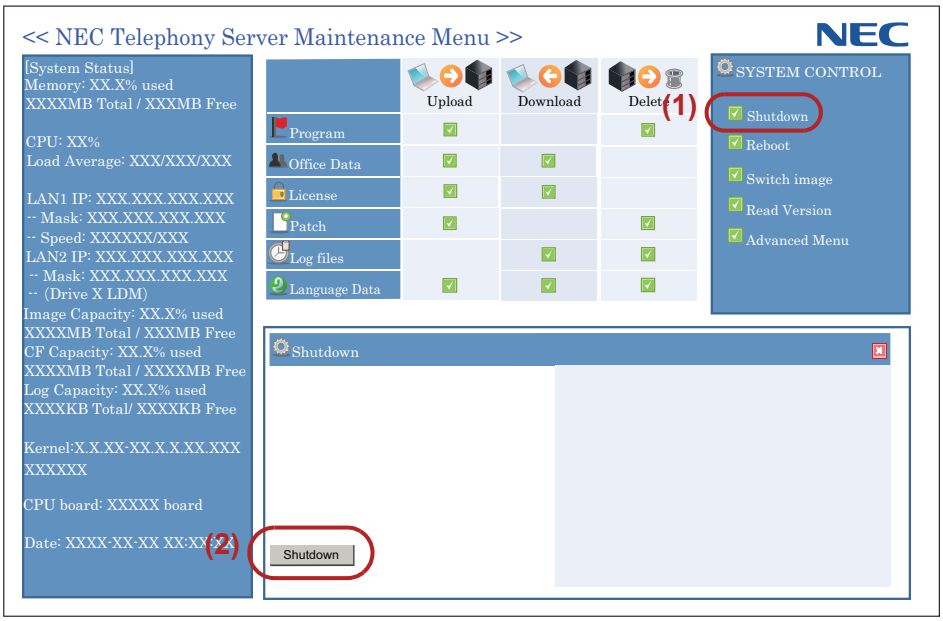
When the writing of license file ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

1.6.1.4 System Shutdown

The system needs to be shut down temporarily to validate the office data and license data installed in the CF card.
Follow the procedure below to shut down the system.

1

(1) Click the **Shutdown** button in the **SYSTEM CONTROL** area. The **Shutdown** dialog box appears.
(2) Click the **Shutdown** button on the dialog box.
(3) A confirmation message appears. Click **OK** to shut down the telephony server.
(4) When the shutting down is complete, **Operation successfully completed. Please close the browser.** will be displayed. Click **OK**.

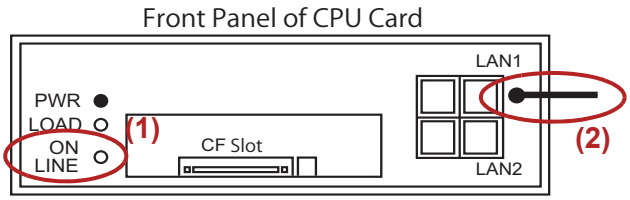


Point:
- Only the CPU of the Telephony Server will shut down by executing the procedure explained here. Therefore, the power of Telephony Server will not be turned off.

Note:
When the system shutdown ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

2

(1) Verify that ON LINE lamp on the front panel of CPU card goes off. After verifying the lights out, turn off the power switch on the rear panel of the Telephony Server.
(2) Disconnect the LAN cable from LAN1 connector.



Note:
Power off the Telephony Server after verifying that ON LINE lamp is completely turned off.

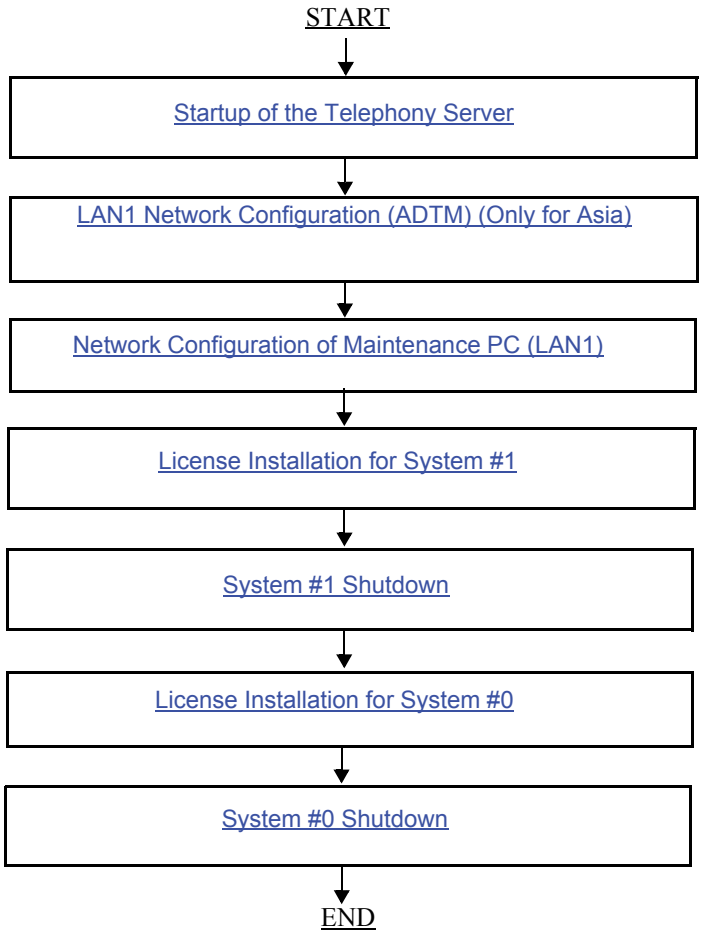
Point: For detailed information on ON LINE lamp, refer to "2.2.1 CPU Card" in 1. WHAT IS SV9500? of CHAPTER 1 GENERAL.

3

Click the **Close** button on the browser.

1.6.2 Program Installation for Dual Configuration

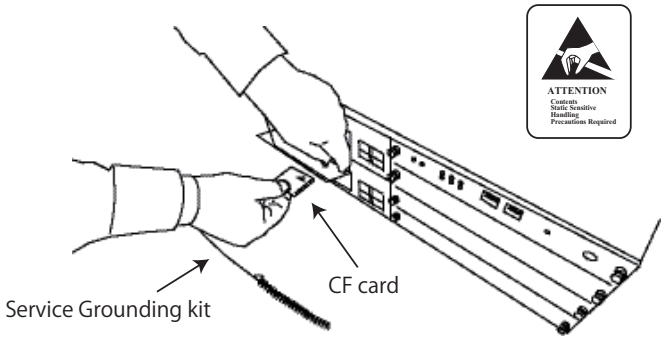
This section explains the procedure of program installation for a system in a dual configuration. Follow the flow chart below to install the initial setting data into CF card.



1.6.2.1 Startup of the Telephony Server

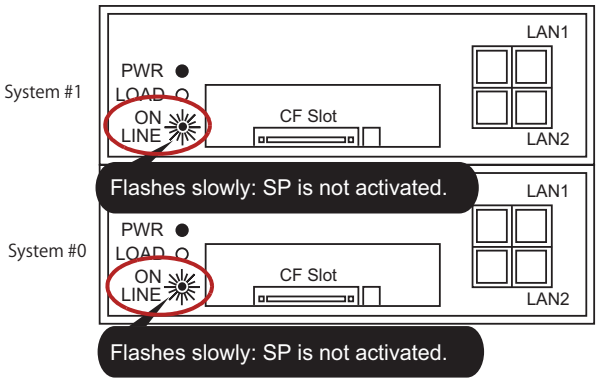
This section explains the procedure for starting up the Telephony Server which is required as a first process when installing the program.

1 Insert a CF card into CF slot on both CPU cards of System #0 and #1.



2 Turn on the power switch on the rear panel of each Telephony Server (System #0 and #1).

3 Verify that ON LINE lamps on the front panel of CPU card for System #0 and for System #1 flash slowly.



Point:
Only the CF cards provided by NEC are supported.

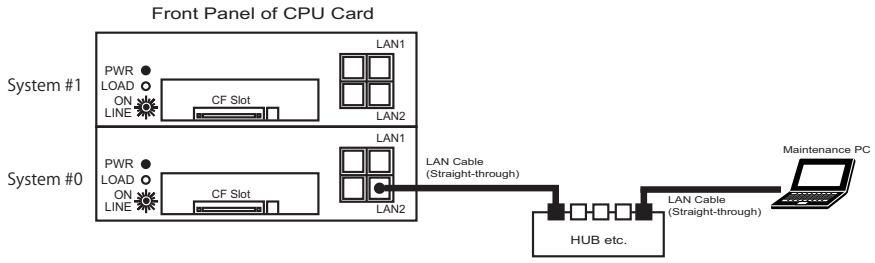
Point:
For detailed information on ON LINE lamp, refer to "2.2.1 CPU Card" in 1. WHAT IS SV9500? of CHAPTER 1 GENERAL

1.6.2.2 LAN1 Network Configuration (ADTM) (Only for Asia)

Note: This procedure is required for Asia only.

This section explains the procedure to modify the IP addresses of System #0 and #1 for LAN1 assigned with the default IP address (192.168.0.2) to the IP address used for the actual environment (ex. 10.100.1.11).

1 Connect LAN2 connector of System #0 and the maintenance PC with a LAN cable.

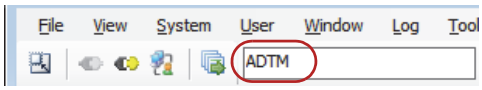


2 Send a ping request from the maintenance PC to the default IP address of the active (ACT) interface for LAN2 (172.16.253.0) and verify connectivity.
If no response is confirmed, check the settings including the network configuration and cable connection.

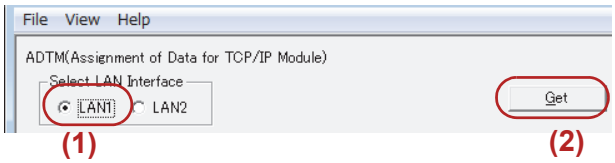
3 Connect to PCPro by using the account (ex. LAN2_Default) assigned to the default IP address of the active (ACT) interface for LAN2 (172.16.253.0).
The user ID and the password shown below need to be entered.

User ID: maintenance
Password:ty8*#02F

4 Type ADTM and press enter.



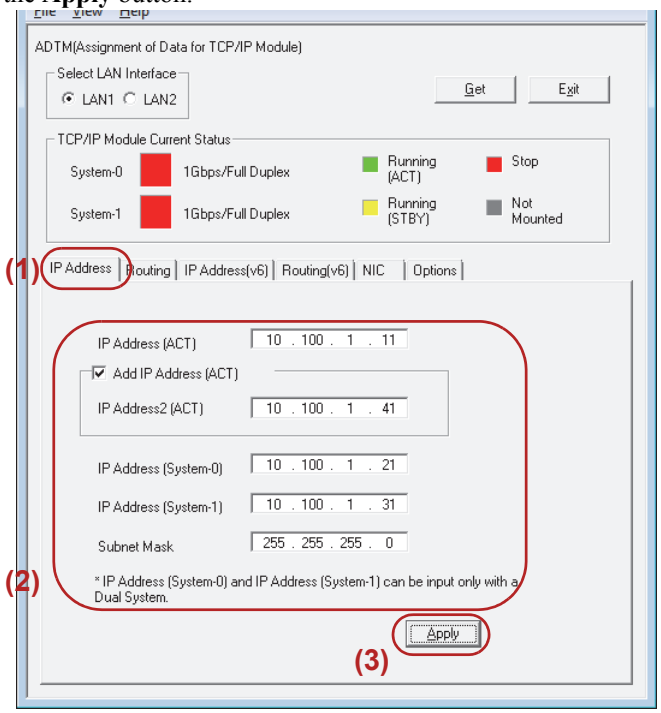
5 (1) Select **LAN1** for **Select LAN Interface**.
(2) Click the **Get** button.



Note:
Do not connect a cable to any LAN connector other than LAN2 connector of System #0.

6

(1) Click the **IP Address** tab.
(2) Set the values corresponding to your actual network environment for **IP Address (ACT)**, **IP Address (System-0)**, **IP Address (System-1)** and **Subnet Mask**.
(3) Click the **Apply** button.



7

(1) Click the **Routing** tab.
(2) Set the values corresponding to your actual network environment for each necessary parameter.
(3) Click the **Apply** button.

8

Click the **Exit** button to close the ADTM command.

9

Disconnect the LAN cable from LAN2 connector of System #0.

1.6.2.3 Network Configuration of Maintenance PC (LAN1)

This section explains the procedure for setting the network configuration of the maintenance PC to connect to LAN1 of System #0 and System #1.

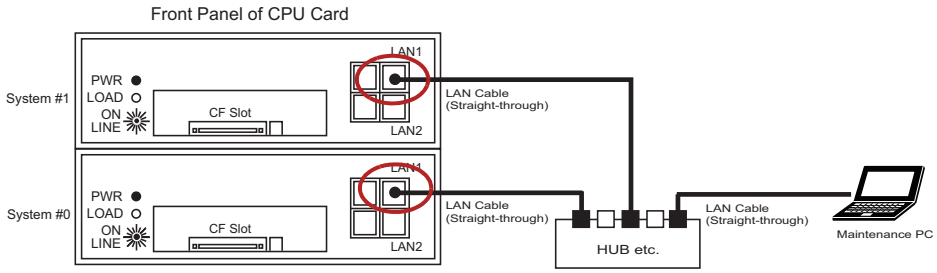
1 Modify the network configuration of the maintenance PC to connect the LAN 1 IP address of System #0 (10.100.1.21/24) set at Step 7 in 1.5 CF Card Initialization.
Example of IP address for maintenance PC: 10.100.1.50/24

Note: IP addresses listed below cannot be assigned to the maintenance PC.

- Network address
- LAN 1 IP Address for ACT (ex. 10.100.1.11/24)
- LAN1 IP address of System #0 (ex. 10.100.1.21/24)
- LAN 1 IP address of System #1 (ex. 10.100.1.31/24)
- Broadcast address

Note: For Asia, modify the IP address of the maintenance PC to connect with LAN 1 IP address for System #0 set in LAN1 Network Configuration (ADTM) (Only for Asia).

2 Connect LAN cables from LAN1 connector on CPU cards of System #0 and System #1 to the maintenance PC.



Note: Do not connect a cable to any LAN connector other than LAN1 connector of System #0 and System #1.

3 Execute ping command from the maintenance PC to the LAN 1 IP address of System #0 (ex. 10.100.1.21/24) and System #1 (ex. 10.100.1.31/24) set at Step 7 in 1.5 CF Card Initialization and verify that a response is sent back.
If no response is confirmed, check the settings including the network configuration and cable connection.

Note: For Asia, execute ping command from the maintenance PC to LAN 1 IP address for System #0 and System #1 set in LAN1 Network Configuration (ADTM) (Only for Asia).

1.6.2.4 License Installation for System #1

This section explains the procedure to install the downloaded license files into the CF card for System #1 with Telephony Server Maintenance Menu.

1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. (xxx.xxx.xxx.xxx represents the LAN1 IP address for System #1 (ex. 10.100.1.31) set at Step 7 in 1.5 CF Card Initialization.

Note: For Asia, "xxx.xxx.xxx.xxx" represents the LAN1 IP address for System #1 set in LAN1 Network Configuration (ADTM) (Only for Asia).

Note:
- Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2 (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click **OK** to log in to **Telephony Server Maintenance Menu**.

Note:
- The default for both user name and password is “admin”. You are recommended to change user name and password from **Advanced Menu**.
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to Telephony Server Maintenance Menu, do not use Back button on browser.

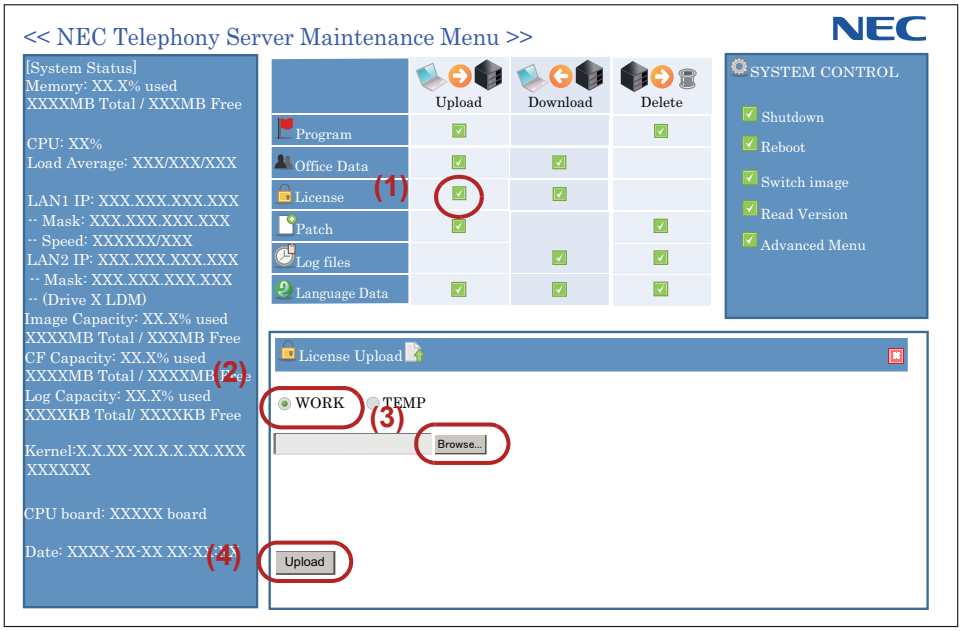
3

(1) Click the **Upload** button for **License**. The **License Upload** dialog box appears in the lower right portion of the screen.

(2) Select **Work** on the **License Upload** dialog box.

(3) Click the **Browse** button on the dialog box and then specify the License file downloaded in 1.4 Downloading of License File.

(4) Click the **Upload** button. When the uploading is complete, **Operation successfully completed** will be displayed. Click **OK**



Point:

The Language Data button needs to be clicked only when Optional Language Pack Loading [O-42] is used. For more details on Optional Language Pack Loading [O-42], see Data Programming Manual - Business.

Note:

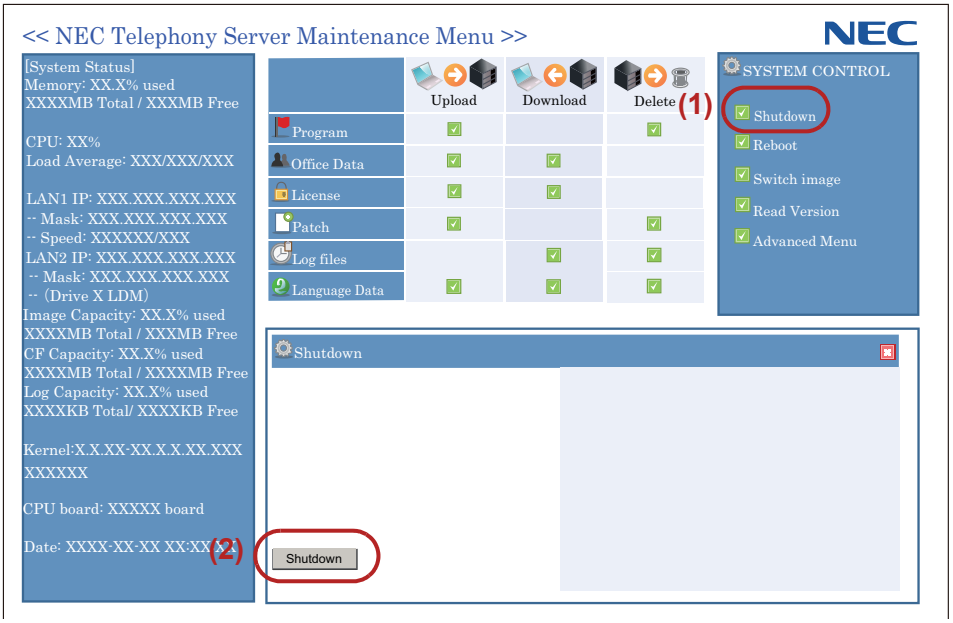
When the writing of license file ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

1.6.2.5 System #1 Shutdown

The system needs to be shut down temporarily to validate the office data and license data installed in the CF card.
In this section, only System #1 will be shut down.

1

(1) Click the **Shutdown** button in the **SYSTEM CONTROL** area. The **Shutdown** dialog box appears.
(2) Click the **Shutdown** button on the dialog box.
(3) A confirmation message appears. Click **OK** to shut down the telephony server.
(4) When the shutting down is complete, **Operation successfully completed. Please close the browser.** will be displayed. Click **OK**.

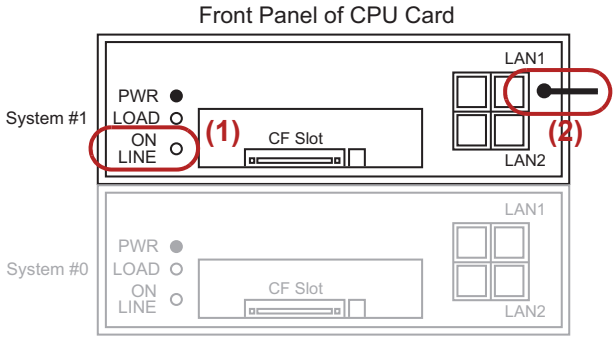


Point:
- Only the CPU of the Telephony Server will shut down by executing the procedure explained here. Therefore, the power of Telephony Server will not be turned off.

Note:
When the system shutdown ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

2

(1) Verify that ON LINE lamp on the front panel of CPU card of System #1 goes out.
(2) Disconnect the LAN cable from LAN1 connector of System #1.



Point: For detailed information on ON LINE lamp, refer to "2.2.1 CPU Card" in 1. WHAT IS SV9500? of CHAPTER 1 GENERAL.

3

Click the **Close** button on the browser.

1.6.2.6 License Installation for System #0

This section explains the procedure to install the downloaded license files into the CF card for System #0 with Telephony Server Maintenance Menu.

1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. (xxx.xxx.xxx.xxx represents the LAN1 IP address for System #0 (ex. 10.100.1.21) set at Step 7 in 1.5 CF Card Initialization.)

Note: For Asia, "xxx.xxx.xxx.xxx" represents the LAN1 IP address for System #0 set in LAN1 Network Configuration (ADTM) (Only for Asia).

Note:
- Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2 (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click **OK** to log in to **Telephony Server Maintenance Menu**.

Note:
- The default for both user name and password is “admin”. You are recommended to change user name and password from **Advanced Menu**.
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to Telephony Server Maintenance Menu, do not use Back button on browser.

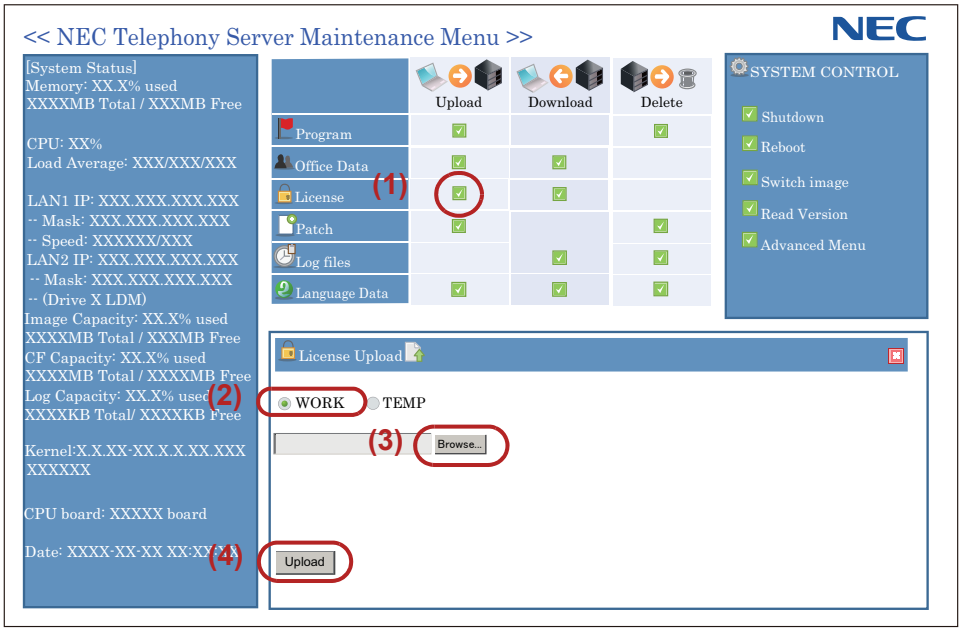
3

(1) Click the **Upload** button for **License**. The **License Upload** dialog box appears in the lower right portion of the screen.

(2) Select **Work** on the **License Upload** dialog box.

(3) Click the **Browse** button on the dialog box and then specify the License file downloaded in 1.4 Downloading of License File.

(4) Click the **Upload** button. When the uploading is complete, **Operation successfully completed** will be displayed. Click **OK**



Point:

The Language Data button needs to be clicked only when Optional Language Pack Loading [O-42] is used. For more details on Optional Language Pack Loading [O-42], see Data Programming Manual - Business.

Note:

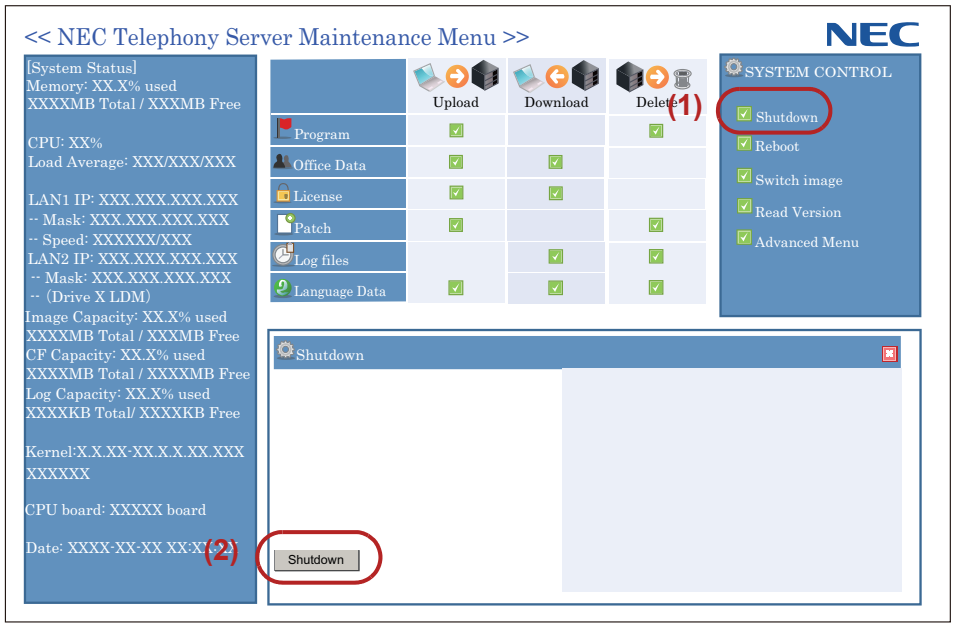
When the writing of license file ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

1.6.2.7 System #0 Shutdown

The system needs to be shut down temporarily to validate the office data and license data installed in the CF card.
In this section, only System #0 will be shut down.

1

(1) Click the **Shutdown** button in the **SYSTEM CONTROL** area. The **Shutdown** dialog box appears.
(2) Click the **Shutdown** button on the dialog box.
(3) A confirmation message appears. Click **OK** to shut down the telephony server.
(4) When the shutting down is complete, **Operation successfully completed. Please close the browser.** will be displayed. Click **OK**.



Point:

- Only the CPU of the Telephony Server will shut down by executing the procedure explained here. Therefore, the power of Telephony Server will not be turned off.

Note:

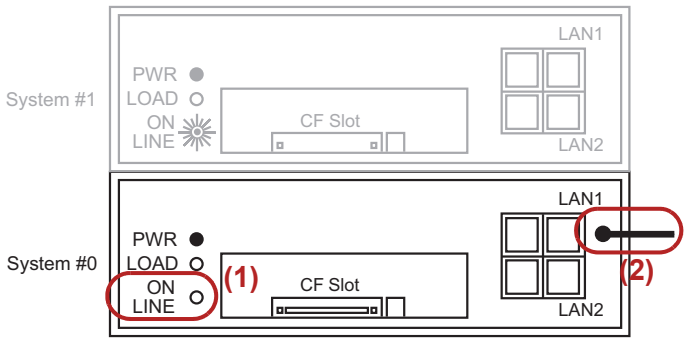
When the system shutdown ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

2

(1) Verify that ON LINE lamp on the front panel of CPU card of System #0 goes out. After verifying the lamp indication, turn off the power switch on the rear panel of the Telephony Server.

(2) Disconnect the LAN cable from LAN1 connector of System #0.

Front Panel of CPU Card



3

Click the **Close** button on the browser.

Note:
Power off the Telephony Server after verifying that ON LINE lamp is completely turned off.

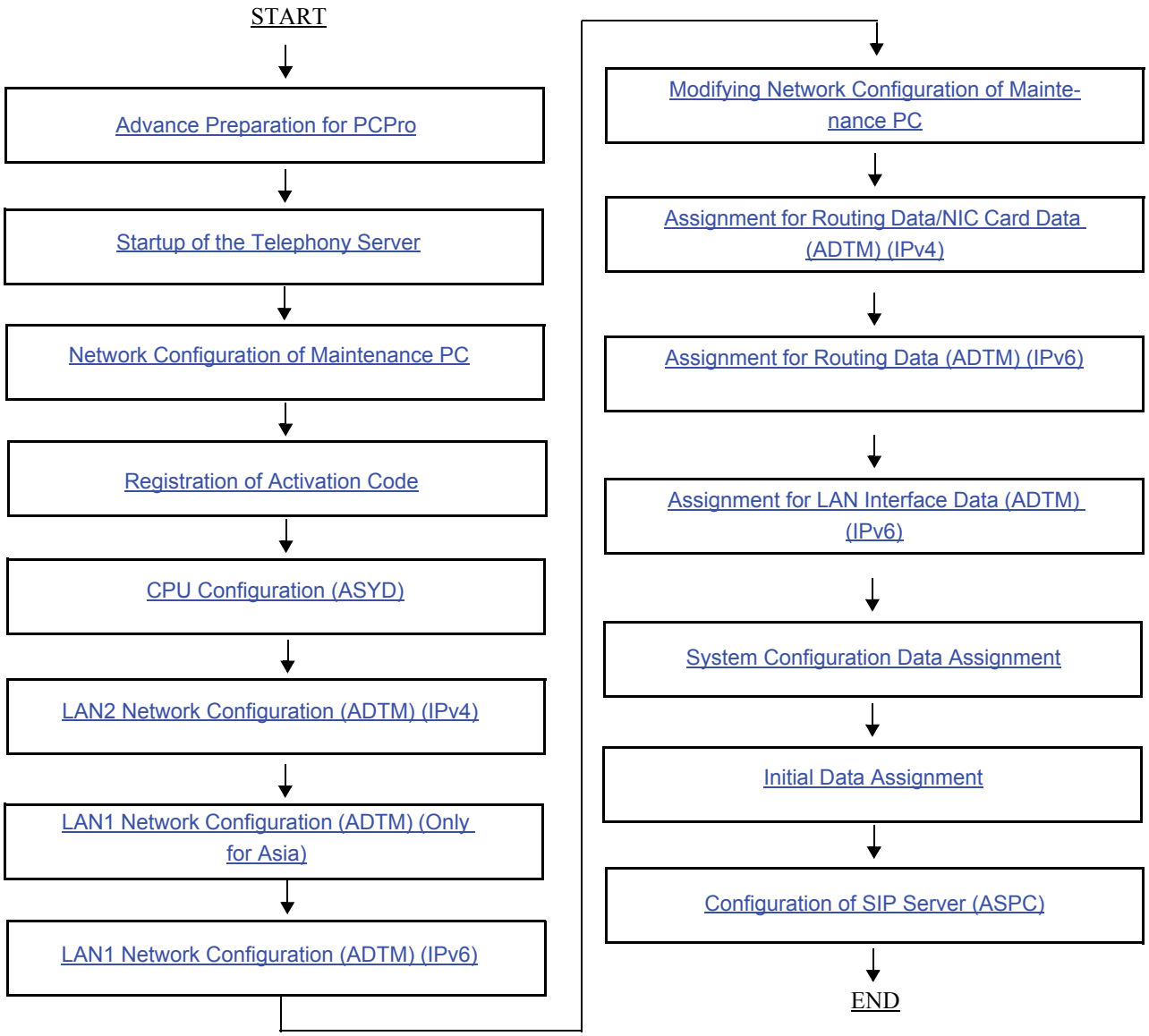
Point: For detailed information on ON LINE lamp, refer to "2.2.1 CPU Card" in 1. WHAT IS SV9500? of CHAPTER 1 GENERAL.

1.7 Office Data Setting

This section explains the procedure to set the Office Data used to operate the Telephony Server.

1.7.1 Office Data Setting for Single Configuration

Follow the flow chart below to set the Office Data for a single configuration system.



Note: The following settings are only for the IPv6 connection. If you use only IPv4 addresses, these settings are not required.
1.7.1.8 LAN1 Network Configuration (ADTM) (IPv6)
1.7.1.11 Assignment for Routing Data (ADTM) (IPv6)
1.7.1.12 Assignment for LAN Interface Data (ADTM) (IPv6)

1.7.1.1 Advance Preparation for PCPro

This section explains the procedure of an advance preparation required to establish a communication link between PCPro and the Telephony Server.

1 Launch PCPro.

2 Assign connection accounts, one for the default IP address of LAN2 (172.16.253.0) and another for IP address of LAN2 in the actual environment (e.g. 10.100.1.12). See the table below.

Note: Make the account shown in the table "Account Setting Items (for IPv6)" only when you need to use the IPv6 connection with PCPro.

Note: Account settings shown in the table "Account Setting Items (for IPv4)" is also required even for the IPv6 connection.

Point:
For detailed procedure, refer to "Connection Account Setting" in Chapter 5 Various Settings of PCPro in PCPro Setup Manual.

Account Setting Items (for IPv4)

Setting Items	Default IP address of LAN2	IP address of LAN2 in an actual environment
Account Name	arbitrary (e.g. LAN2_Default)	arbitrary (e.g. NewOffice#1)
FUG	0	0
FPC	1	1
Connection Type	TCP/IPv4	TCP/IPv4
IP address	172.16.253.0	IP address of LAN2 used in an actual environment (e.g. 10.100.1.12)
Port Number	60000	60000

Account Setting Items (for IPv6)

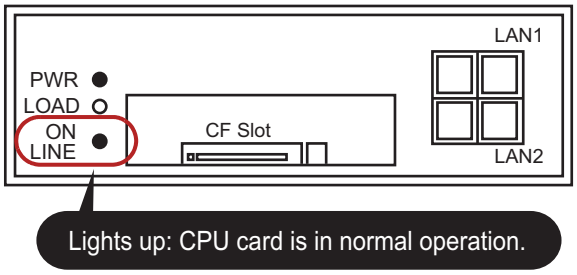
Setting Items	IPv6 Address in Actual Network Environment
Account Name	Arbitrary (e.g. LAN1_IPv6)
FUG	0
FPC	1
Connection Type	TCP/IPv6
IP address	IPv6 Address in Actual Network Environment (e.g. 2001:db8::c)
Port Number	60000

1.7.1.2 Startup of the Telephony Server

This section explains the procedure for starting up the Telephony Server which is required as a first process when setting the Office Data.

1 Turn on the power switch on the rear panel of the Telephony Server.

2 Verify that ON LINE lamp on the front panel of CPU card changes in the following order.
[1] OFF → [2] flash fast → [3] flash slowly → [4] ON



Point: For detailed information on ON LINE lamp, refer to "2.2.1 CPU Card" in 1. WHAT IS SV9500? of CHAPTER 1 GENERAL.

1.7.1.3 Network Configuration of Maintenance PC

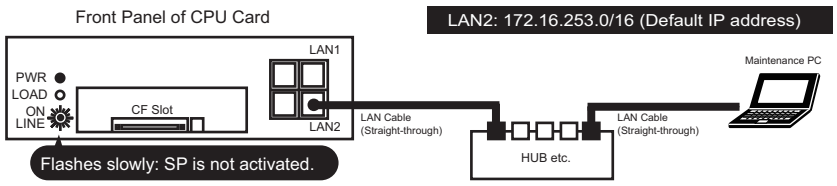
This section explains the procedure to set the network configuration of the maintenance PC to connect to the Telephony Server.

1 Assign an IP address to the maintenance PC so that it is in the same network segment as the active (ACT) interface for LAN 2.
The default IP address of the ACT interface for LAN 2 is 172.16.253.0.
(Example for IP address of the maintenance PC: 172.16.253.10/16)

Note:
IP addresses listed in the table below cannot be assigned to the maintenance PC.

IP address	Reason
172.16.0.0	This IP address is a network address.
172.16.253.0	This IP address will be used as the default IP address (ACT) of LAN2.
172.16.253.1	This IP address will be used as the default IP address of LAN2 for System #1. **Note:** This address is valid after ASYD Sys-1 Index-58 is configured for Dual CPUs.
172.16.253.2	This IP address will be used as the default IP address of LAN2 for System #0. **Note:** This address is valid after ASYD Sys-1 Index-58 is configured for Dual CPUs.
172.16.255.255	This IP address is a broadcast address.

2 Connect LAN2 connector on CPU card and the maintenance PC with a LAN cable.



Note:
Do not connect a cable to any LAN connector other than LAN2 connector.

3 Send a ping request from the maintenance PC to the default IP address of the active (ACT) interface for LAN2 (172.16.253.0) and verify connectivity.
If no response is confirmed, check the settings including the network configuration and cable connection.

1.7.1.4 Registration of Activation Code

Once the license file has been uploaded and the SV9500 has been reset, the SV9500 must be registered before you will be granted a PCPro access.

The following section explains how to register the SV9500.

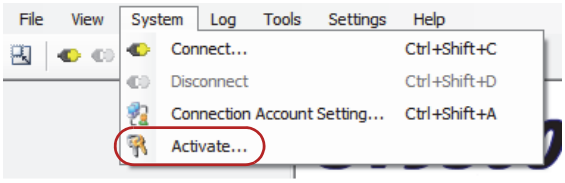
Note: You cannot be logged in to the PCPro to use these steps. For dual CPUs, both CPUs must be on-line to enter the Activation Code.

1 Configure a **Connection Account** in PCPro for the default IP Address 172.16.253.0.

2 Configure the maintenance PC to connect to the 172.16.0.0/16 network.
Verify connectivity to the SV9500 by pinging the default IP Address.

3 Launch PCPro.

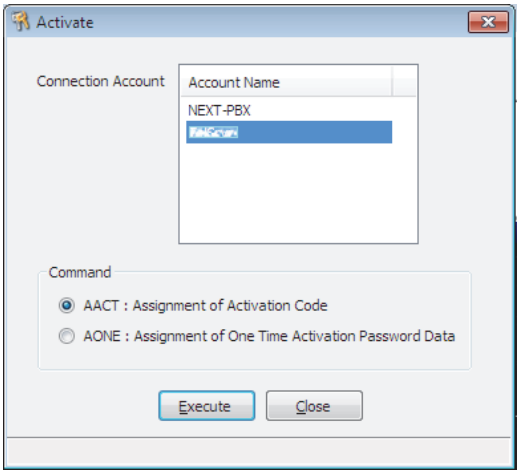
- Select **System**.
- Select **Activate**.



4 The **Activate** screen will launch.

(1) Highlight the **Connection Account** configured for the default IP Address.

(2) Select the AACT radio button and press **Execute**.



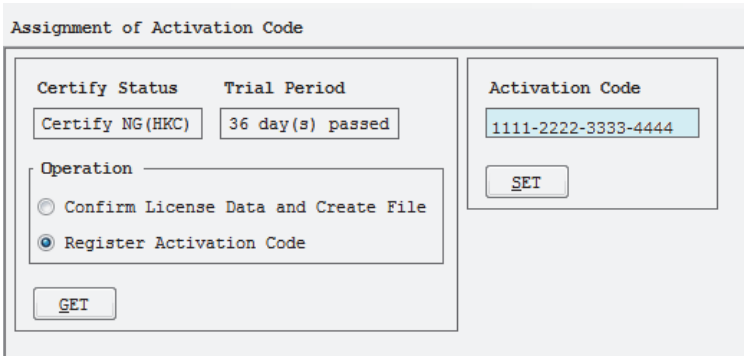
5 The AACT command will launch.

(1) Select the **Register Activation Code** radio button and press Get.

(2) Enter the **Activation Code** you have received from the LMS server, into the **Activation Code** field and press **Set**.

(3) Verify you receive the **Certify OK** confirmation message.

(4) Close the **AACT** command and the **Activate** screen.



6 You can now log in to PCPro; remember to backup the Activation Code using the **MEM_HDD** command.

Note: If the Activation Code is not available, the SV9500 may be unlocked by selecting the **AONE** option instead of the **AACT** option. Once unlocked using the AONE option, the PCPro connection will be valid for 7 days. After 7 days, PCPro access will be denied until the SV9500 is registered. Please note that the AONE option can only be used once.

1.7.1.5 CPU Configuration (ASYD)

This section explains the procedure to configure the CPU for a single configuration system.

1 Connect to PCPro using the connection account (e.g. LAN2_Default) assigned to the default IP address of the active (ACT) interface for LAN2 (172.16.253.0/16).
The user ID and the password shown below need to be entered.

User ID: maintenance

Password:ty8*#02F

Note: If the user ID and the password are not entered, login is unavailable.

Point:
For procedure to connect to PCPro, refer to "Communication Link with the Telephony Server" in Chapter 3. Setting Up PCPro in PCPro Setup Manual.

2

(1) Execute the ASYD command.
(2) Set the following data.

SYS1 INDEX58 bit0 = 0 (configuration of CPU = Single)

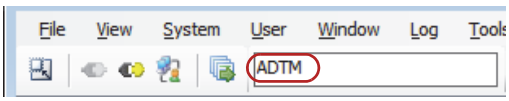
(3) Exit the ASYD command.

Point:
No modification is required since the default value is set for this data in normal cases.
If a different value is set, modify the data to the value as given.

1.7.1.6 LAN2 Network Configuration (ADTM) (IPv4)

This section explains the procedure to modify the IP address of LAN2 assigned with the default IP address (172.16.253.0) to the IP address used for the actual environment (e.g. 10.100.1.12).

1 Execute the ADTM command.



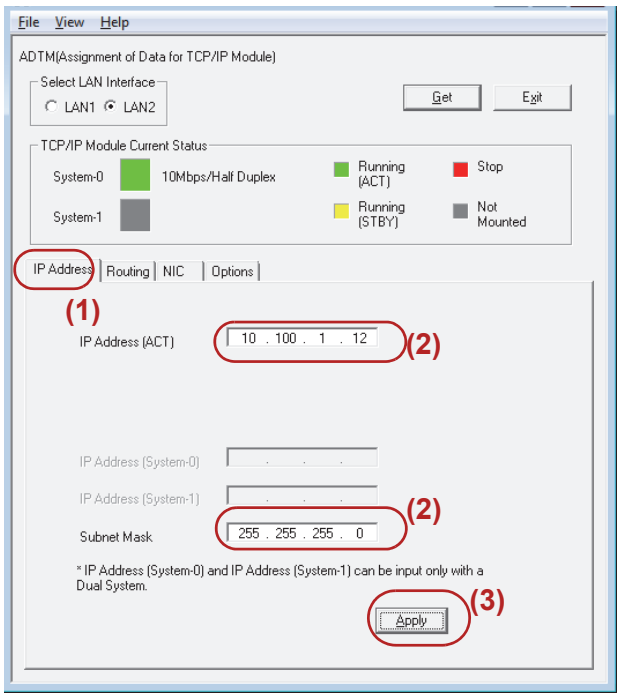
2

(1) Select **LAN2** for **Select LAN Interface**.
(2) Click the **Get** button.

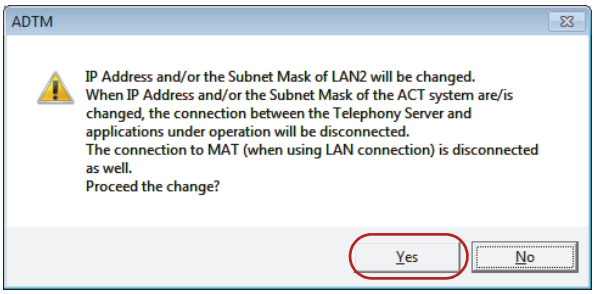


3

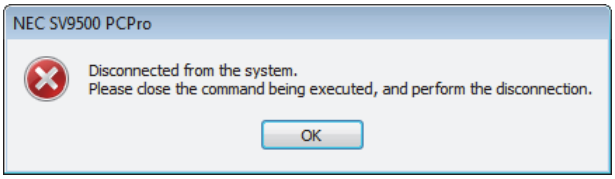
(1) Click the **IP Address** tab.
(2) Set the value corresponding to your actual network environment for **IP Address (ACT)** and **Subnet Mask**.
(3) Click the **Apply** button.



4 The following confirmation message will be displayed.
Click the **Yes** button to apply the modification.



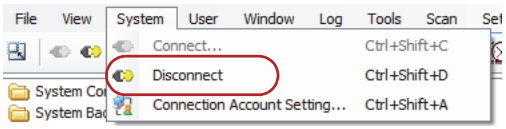
5 The following message will be displayed by PCPro.
Click **OK** to close the message box.



6 Click the **Exit** to exit the ADTM command.



7 Disconnect PCPro from the system.



Point:
The connection to PC-Pro will be disconnected when the data is modified.

Point:
For detailed disconnecting procedure, refer to "Disconnecting the Communication Link" in Chapter 3 Setting Up PCPro in PC-Pro Setup Manual.

8 Assign a user ID and a password to PCPro.

Note:
User the user ID and password assigned here when connecting PCPro to the Telephony Server.

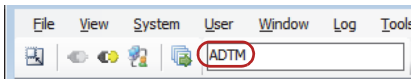
Point:
For detailed Procedure, refer to “User Account Setting” in Chapter 5 Various Settings of PCPro in PCPro Setup Manual.

1.7.1.7 LAN1 Network Configuration (ADTM) (Only for Asia)

Note: This procedure is required for Asia only.

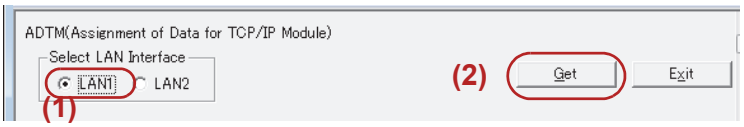
This section explains the procedure to modify the IP addresses of LAN1 assigned with the default IP address (192.168.0.2) to the IP address used for the actual environment (ex. 10.100.1.11).

1 Execute the ADTM command.



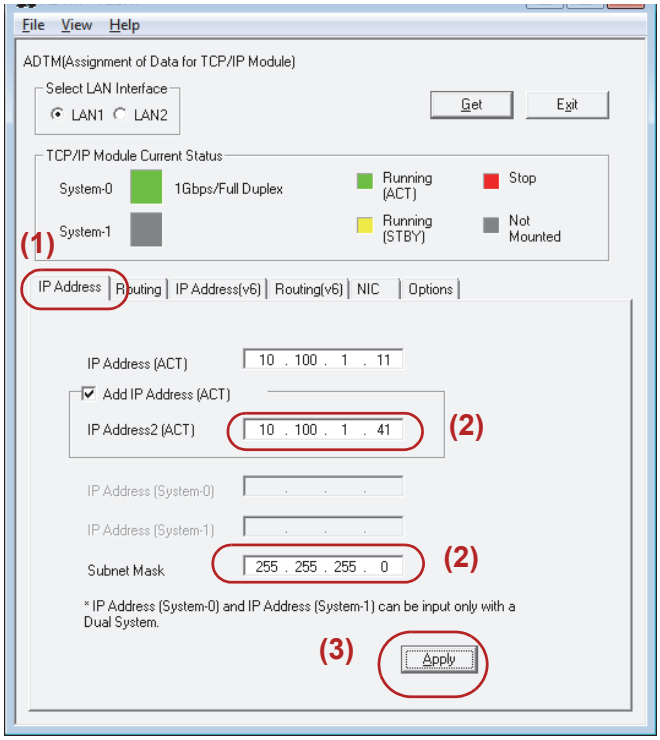
2

(1) Select **LAN1** for **Select LAN Interface**.
(2) Click the **Get** button.



3

(1) Click the **IP Address** tab.
(2) Set the values corresponding to your actual network environment for **IP Address (ACT)** and **Subnet Mask**.
(3) Click the **Apply** button.



4

(1) Click the **Routing** tab.
(2) Set the values corresponding to your actual network environment for each necessary parameter.
(3) Click the **Apply** button.

5

Click the **Exit** button to close the ADTM command.

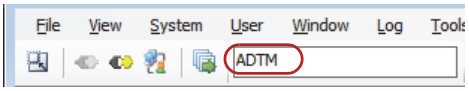
1.7.1.8 LAN1 Network Configuration (ADTM) (IPv6)

This section explains how to set IPv6 addresses (e.g. 2001:db8::c) for LAN1.

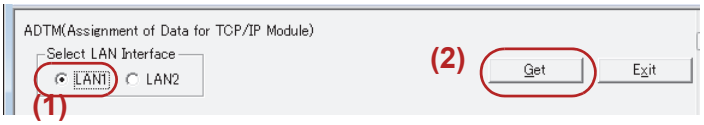
Note: Note the following conditions for this setting.

- This data setting is for the IPv6 connection with PCPro. If you use only IPv4 addresses, this setting is not required.
- Programming for IPv4 must be done before programming in this section can be done.
- For detailed conditions of IPv6 addresses, refer to"IPv6 Connection with PCPro" in the System Description.

1 Execute the ADTM command.

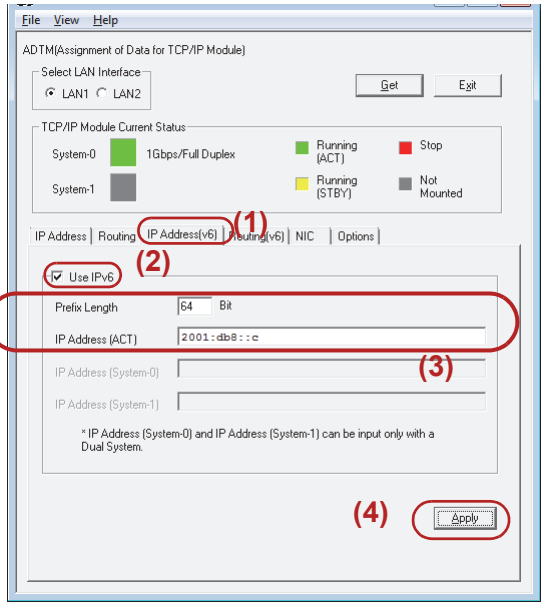


2 (1) Select **LAN1** under **Select LAN Interface**.
(2) Click the **Get** button.



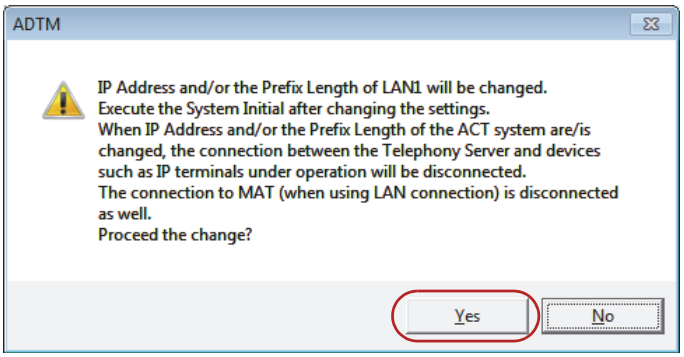
3

(1) Click the **IP Address (v6)** tab.
(2) Select the **Use IPv6** check box.
(3) Set the values corresponding to your actual network environment for **Prefix Length** and **IP Address (ACT)**.
(4) Click the **Apply** button.



4

The following confirmation message is displayed.
Click the **Yes** button to apply the new setting.



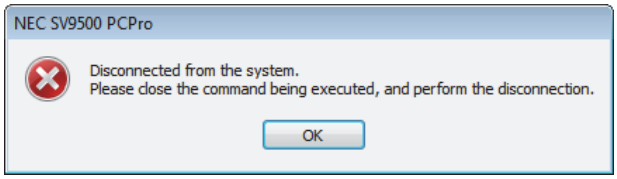
Note:

- Do not execute a system initialization even though the message recommends you to initialize the system.
- The data setting for the IPv6 address becomes valid after the change is applied.

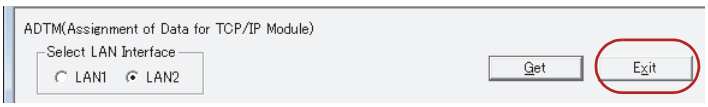
Point:

The connection to PC-Pro is disconnected when the data is modified.

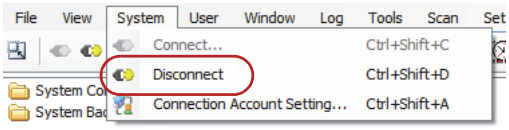
5 The following message is displayed on PCPro.
Click **OK** to close the message.



6 Click the **Exit** button to exit the ADTM command.



7 Select **Disconnect** on the **System** menu on PCPro.



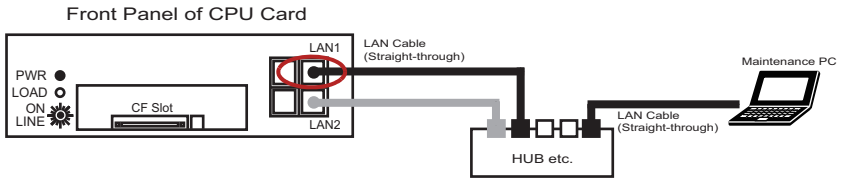
Point:
For detailed disconnecting procedure, refer to "Disconnecting the Communication Link" in Chapter 3 Setting Up PCPro in PCPro Setup Manual.

1.7.1.9 Modifying Network Configuration of Maintenance PC

This section explains the procedure to modify the network configuration of the maintenance PC to conform to the IP address of LAN2 to the actual environment (e.g. 10.100.1.12).

1 Modify the IP address of the maintenance PC to conform to the actual network environment in order to connect with the IP address (e.g. 10.100.1.12) assigned by ADTM command.
(Example for IP address of the maintenance PC: 10.100.1.50)

2 Connect a LAN cable to LAN1 connector.



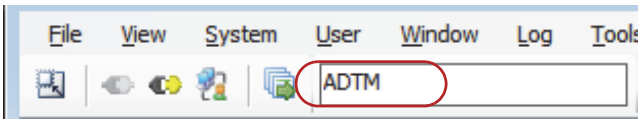
3 Execute ping command from the maintenance PC toward each connector of LAN1 and LAN2 and verify that both IP addresses are configured correctly.

1.7.1.10Assignment for Routing Data/NIC Card Data (ADTM) (IPv4)

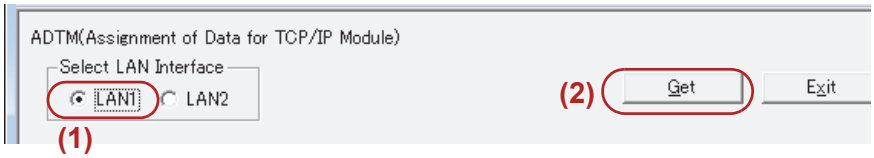
This section explains the procedure for configuring the network of the Telephony Server to conform with the actual network environment.

1 Connect to PCPro using the connection account (e.g. NewOffice#1) assigned for the IP address of LAN2 connector. Enter the user ID and the password that have been previously assigned to connect to PCPro.

2 Execute the ADTM command.



3 (1) Select **LAN1** for **Select LAN Interface**.
(2) Click the **Get** button.

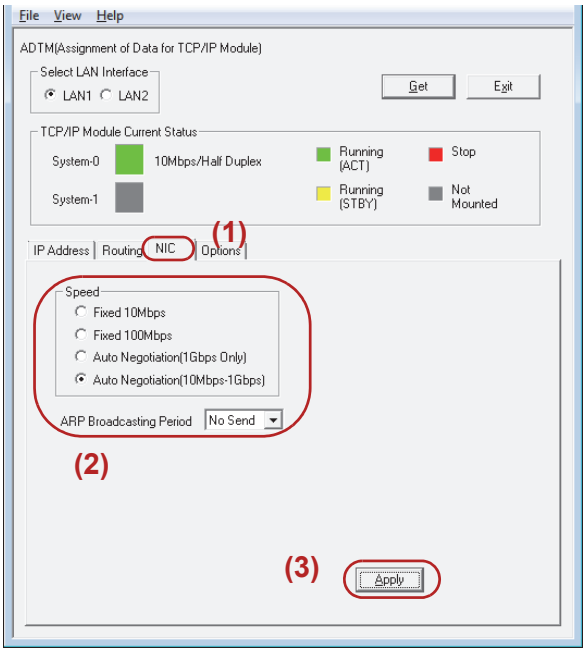


Note:
If the user ID and password are not entered, login is unavailable.

Point:
For detailed procedure to connect to PCPro, refer to "Communication Link with the Telephony Server" in Chapter 3 Setting Up PCPro in PCPro Setup Manual.

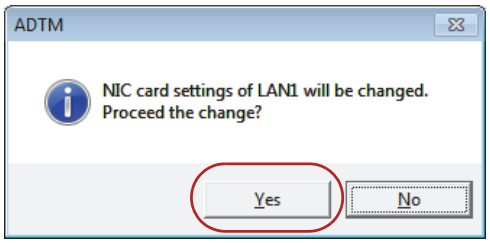
4

(1) Click the **NIC** tab.
(2) Select the value corresponding to your actual network environment for **Speed** and **ARP Broadcasting Period**.
(3) Click the **Apply** button.



5

The confirmation message is displayed. Click the **Yes** button to apply the change.



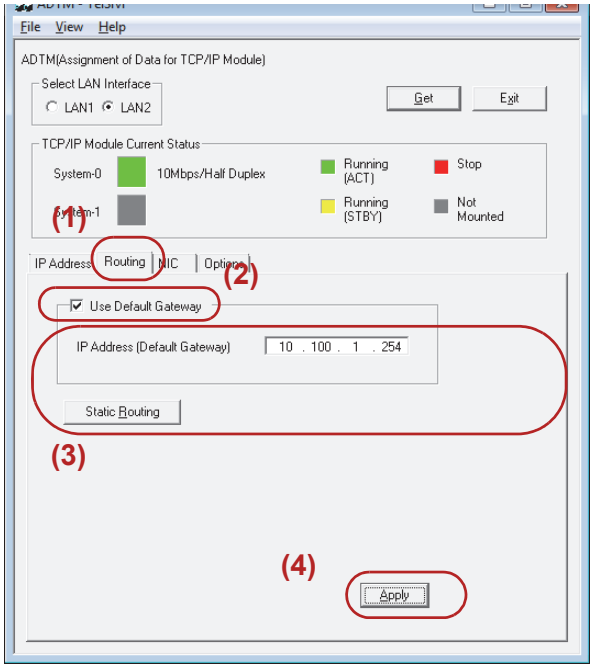
6

(1) Select **LAN2** for **Select LAN Interface**.
(2) Click the **Get** button.



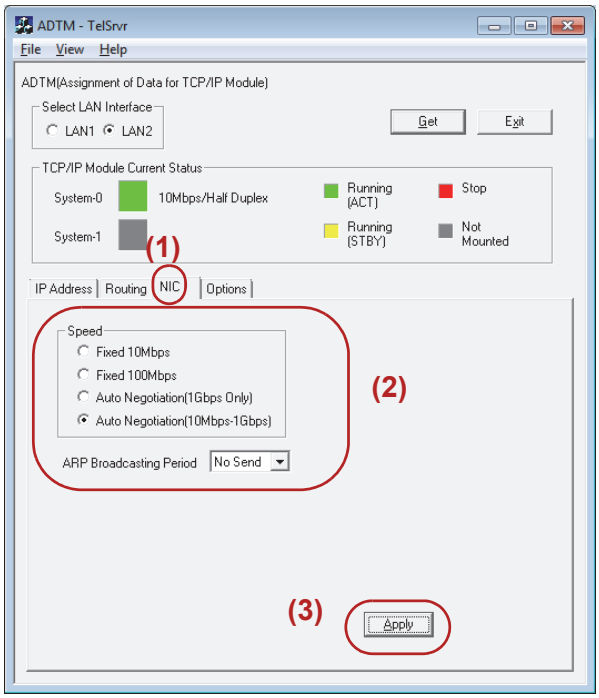
7

(1) Click the **Routing** tab.
(2) Select the **Use Default Gateway** check box.
(3) Set the value corresponding to your actual network environment for **IP Address (Default Gateway)** and **Static Routing**.
(4) Click the **Apply** button.



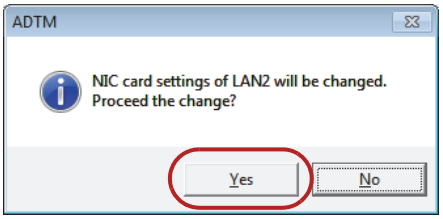
8

(1) Click the **NIC** tab.
(2) Select the value corresponding to your actual network environment for **Speed** and **ARP Broadcasting Period**.
(3) Click the **Apply** button.



9

The confirmation message is displayed. Click the **Yes** button to apply the change.



10

Click the **Exit** button to exit the ADTM command.



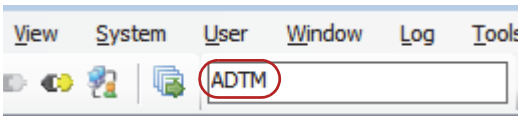
1.7.1.11 Assignment for Routing Data (ADTM) (IPv6)

This section explains the procedure for configuring the network of the Telephony Server to conform with the actual network environment.

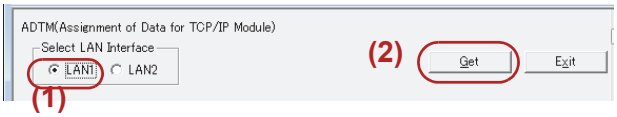
Note: This data setting is for the IPv6 connection with PCPro. If you use only IPv4 addresses, this setting is not required.

Note: Programming for IPv4 must be done before programming in this section can be done.

1 Execute the ADTM command.

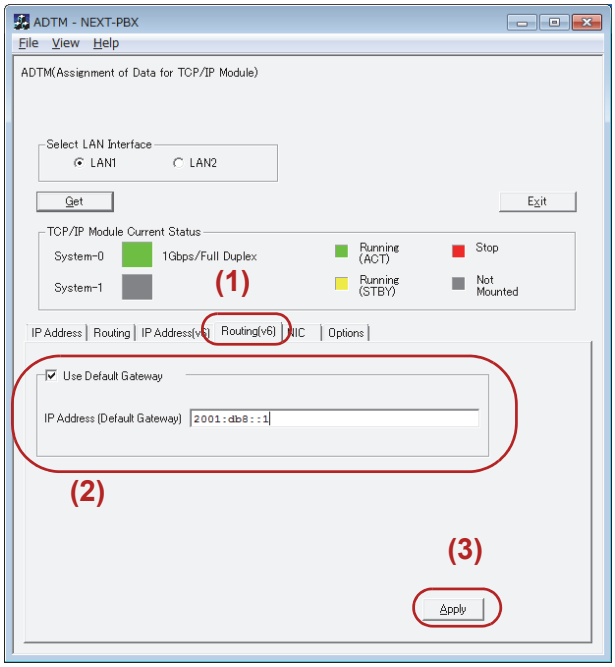


2 (1) Select **LAN1** under **Select LAN Interface**.
(2) Click the **Get** button.



3

(1) Click the **Routing (v6)** tab.
(2) Set the value corresponding to your actual network environment for each item.
(3) Click the **Apply** button.



4

Click the **Exit** button to exit the ADTM command.



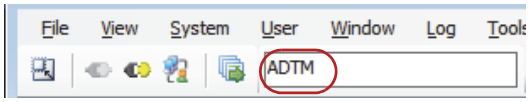
1.7.1.12Assignment for LAN Interface Data (ADTM) (IPv6)

This section explains the procedure for configuring the LAN interface to connect to PCPro with IPv6 addresses.

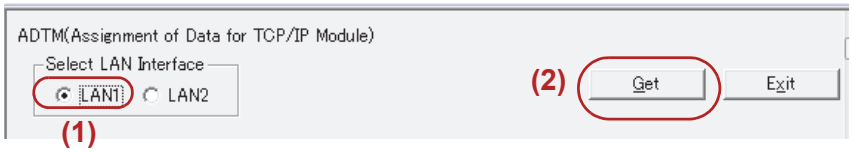
Note: This data setting is for the IPv6 connection with PCPro. If you use only IPv4 addresses, this setting is not required.

Note: Programming for IPv4 must be done before programming in this section can be done.

1 Execute the ADTM command.

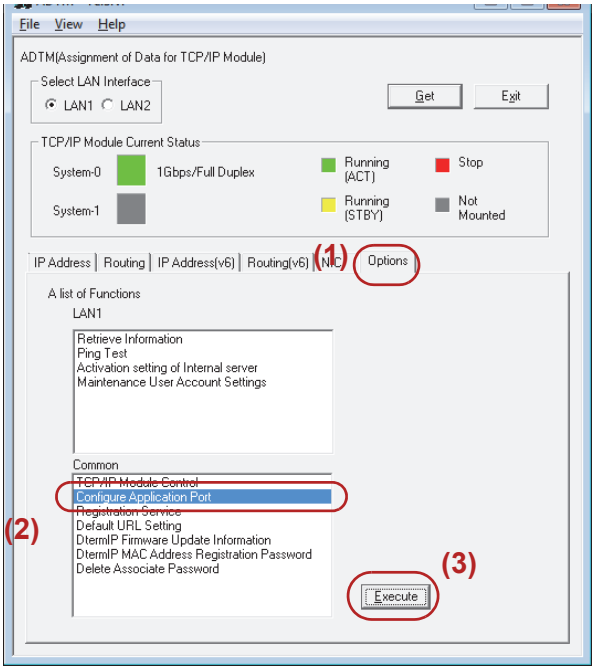


2 (1) Select **LAN1** under **Select LAN Interface**.
(2) Click the **Get** button.



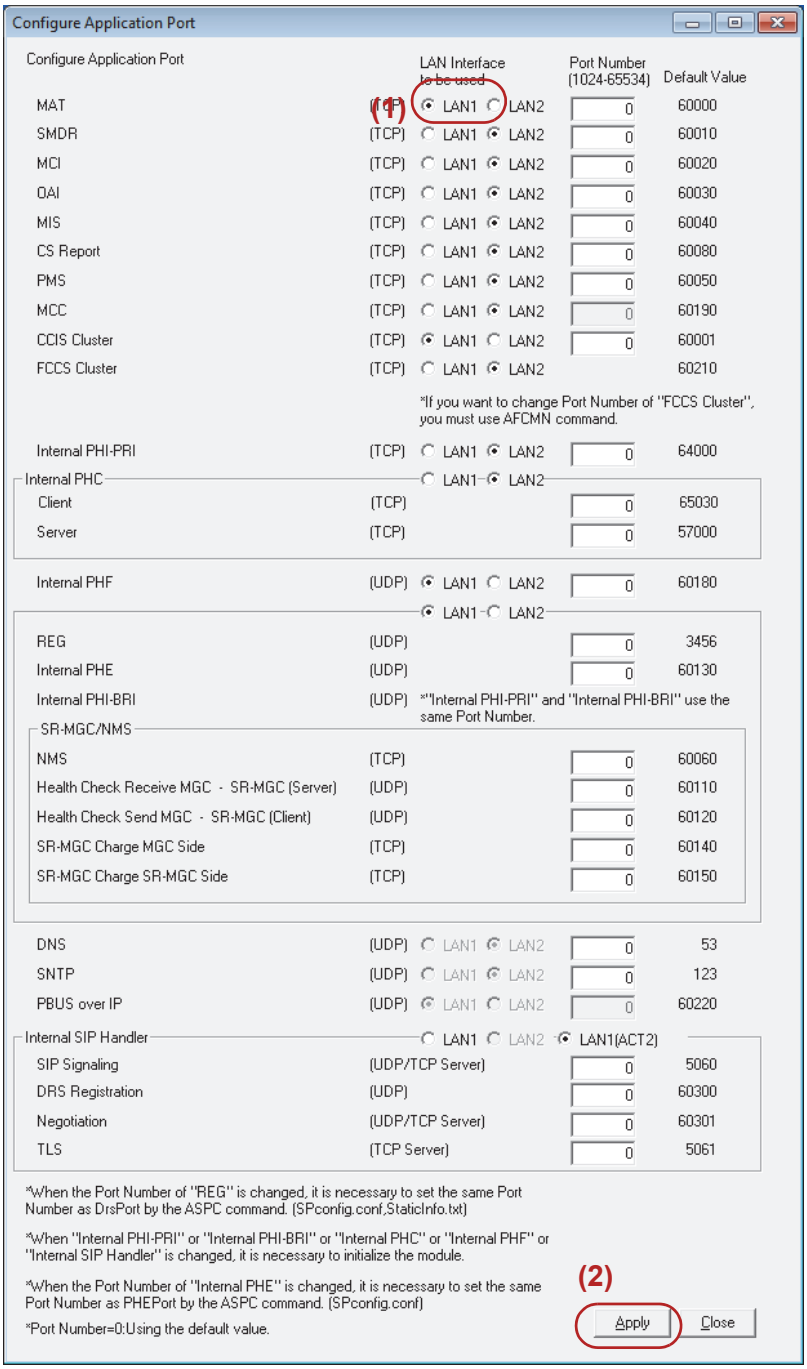
3

(1) Click the **Options** tab.
(2) In the **Common** list, select **Configure Application Port**.
(3) Click the **Execute** button.

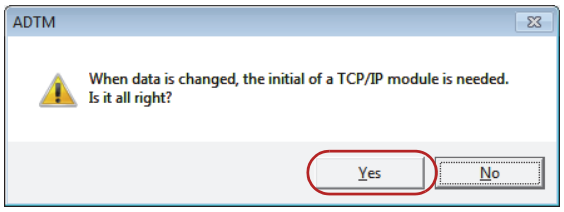


4

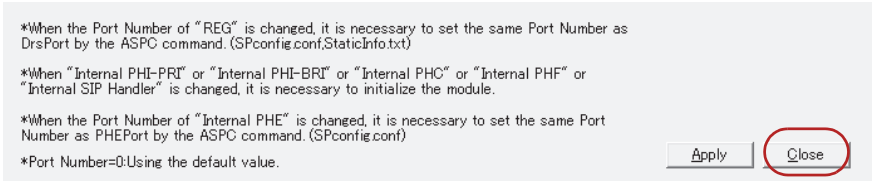
(1) Select **LAN1** under **LAN Interface to be used** in **MAT**.
(2) Click the **Apply** button.



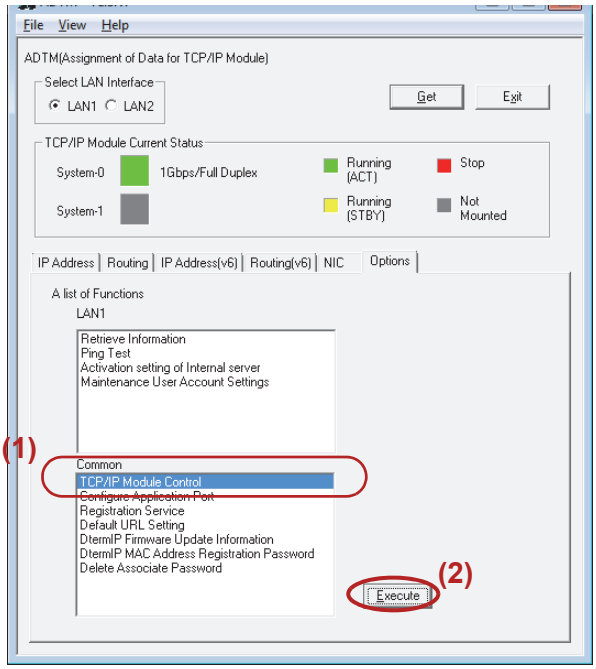
5 The confirmation message is displayed. Click the **Yes** button to apply the change.



6 Click the **Close** button to close the **Configure Application Port** dialog box.

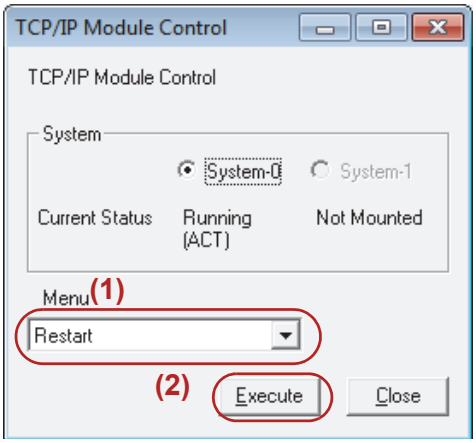


7 (1) Select **TCP/IP Module Control** in the **Common** list.
(2) Click the **Execute** button.



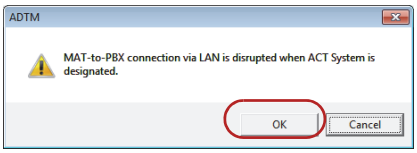
8

(1) Select **Restart** in the **Menu** box.
(2) Click the **Execute** button.



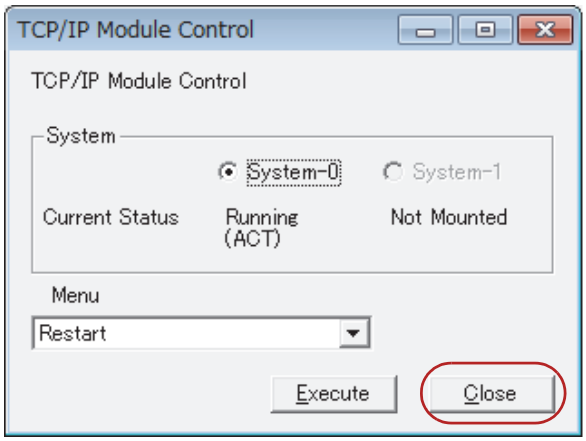
9

The following message is displayed. Click **OK** to close the message.



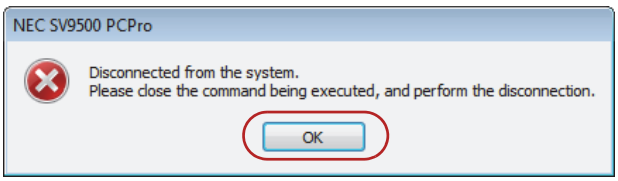
10

Click the **Close** button to close the **TCP/IP Module Control** dialog box.



11

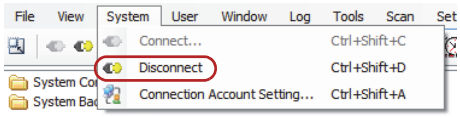
The following message is displayed on PCPro. Click **OK** to close the message.



12 Click the **Exit** button to exit the ADTM command.



13 Select **Disconnect** on the **System** menu on PCPro.



Point:

For detailed disconnecting procedure, refer to “Disconnecting the Communication Link” in Chapter 3 Setting Up PCPro in PCPro Setup Manual.

1.7.1.13System Configuration Data Assignment

Basic data assignment of the Office Data must be set to start up the system.

Refer to 2.1 System Configuration Data Assignment for instructions on data assignment.

1.7.1.14Initial Data Assignment

Initial data assignment is required to be set on the Telephony Server by PCPro.

Refer to 2.2 Initial Data Assignment for instructions on data assignment.

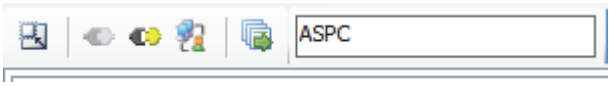
Note: The initial data assignment must be set when using IP equipment (IP stations) within the system. This procedure can be skipped if only legacy equipment is used in the system.

1.7.1.15Configuration of SIP Server (ASPC)

This section explains the procedure to configure the SP part of the system.

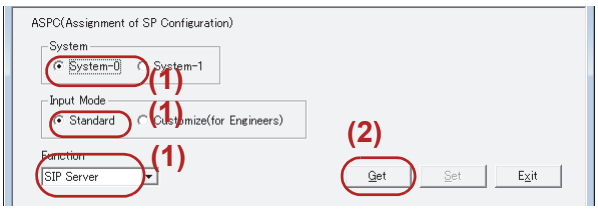
Note: The configuration of SIP Server must be set when using IP equipment (IP stations) within the system. This procedure can be skipped if only legacy equipment is used in the system.

1 Execute the ASPC command.



2 (1) Click **System-0** for **System**, **Standard** for **Input Mode** and **SIP Server** from the **Function** list.

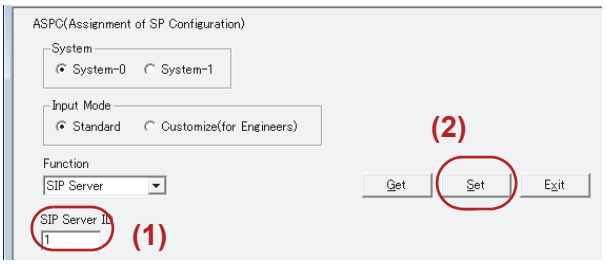
(2) Click the **Get** button.



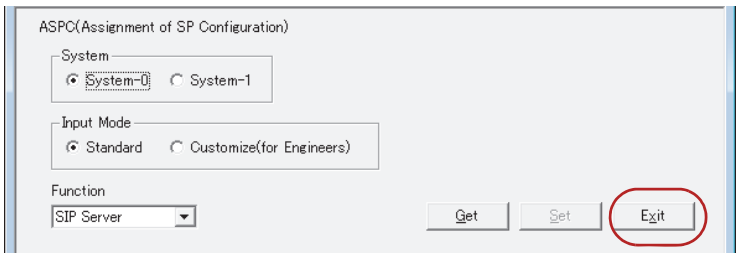
Note:

- System which does not exist cannot be selected for [System].
- Customize mode is for engineers only.

3 (1) Type the SIP Server Identifier for **SIP Server ID**.
(2) Click the **Set** button.



4 Click the **Exit** button to exit the ASPC command.



5 Disconnect PCPro from the system.

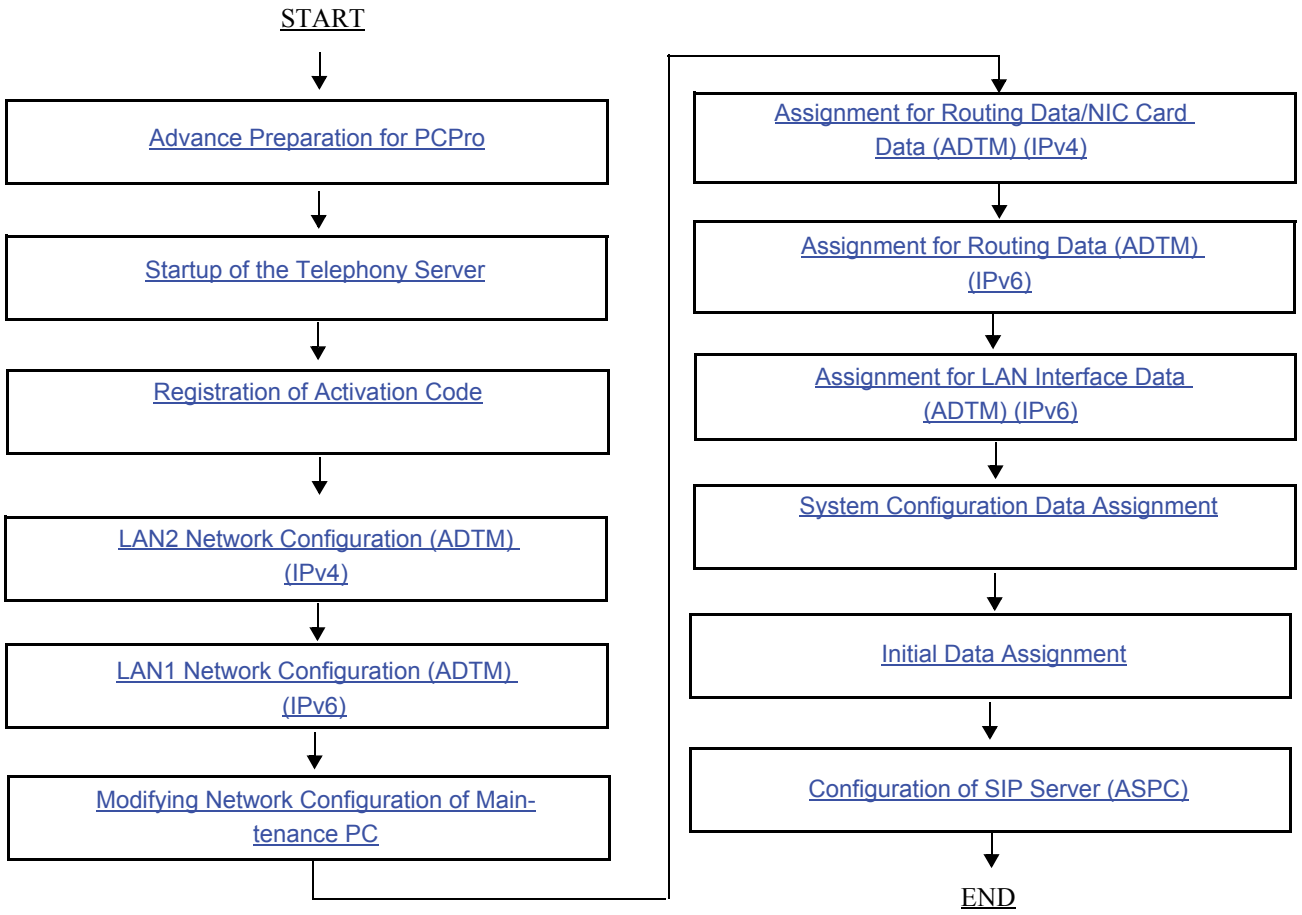
6 The basic office data assignment for a single configuration is completed.

Note:
- Unique SIP-Server Identifier must be assigned in the network within the range from 1 to 127.
- Always assign SIP-Server Identifier when initializing the Telephony Server regardless of whether the SP Controlled SIP terminals are used or not. The number set for SIP-Server Identifier by ASS-DL/ASSDN command must be assigned for ASPC command as well.

Point:
For detailed disconnecting procedure, refer to “Disconnecting the Communication Link” in Chapter 3 Setting Up PCPro in PC-Pro Setup Manual.

1.7.2 Office Data Setting for Dual Configuration

Follow the flow chart below to set the Office Data for a dual configuration system.



Note: The following settings are only for the IPv6 connection. If you use only IPv4 addresses, these settings are not required.
1.7.2.5 LAN1 Network Configuration (ADTM) (IPv6)
1.7.2.8 Assignment for Routing Data (ADTM) (IPv6)
1.7.2.9 Assignment for LAN Interface Data (ADTM) (IPv6)

1.7.2.1 Advance Preparation for PCPro

This section explains the procedure of an advance preparation required to establish a communication link between PCPro and the Telephony Server.

1 Launch PCPro.

2 Assign connection accounts, one for the default IP address of LAN2 (172.16.253.0) and another for IP address of LAN2 in the actual environment (e.g. 10.100.1.12).
Refer to the table below for setting values of connection accounts.

Note: Make the account shown in the table "Account Setting Items (for IPv6)" only when you need to use the IPv6 connection with PCPro.

Note: Account settings shown in the table "Account Setting Items (for IPv4)" is also required even for the IPv6 connection.

Point:
For detailed procedure, refer to "Connection Account Setting" in Chapter 5 Various Settings of PCPro in PCPro Setup Manual

Account Setting Items (for IPv4)

Setting Items	Default IP address of LAN2	IP address of LAN2 in an actual environment
Account Name	arbitrary (e.g. LAN2_Default)	arbitrary (e.g. NewOffice#1)
FUG	0	0
FPC	1	1
Connection Type	TCP/IPv4	TCP/IPv4
IP address	172.16.253.0	IP address of LAN2 used in an actual environment (e.g. 10.100.1.12)
Port Number	60000	60000

Account Setting Items (for IPv6)

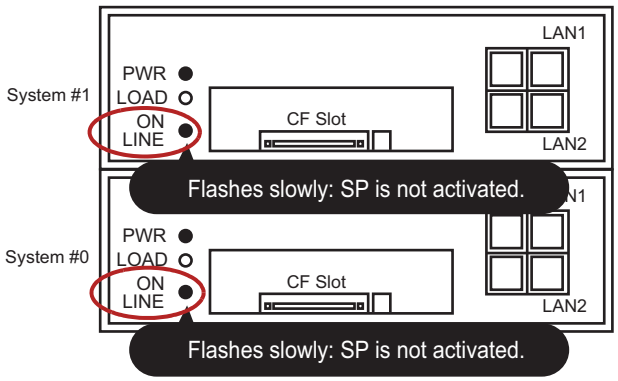
Setting Items	IPv6 Address in Actual Network Environment
Account Name	Arbitrary (e.g. LAN1_IPv6)
FUG	0
FPC	1
Connection Type	TCP/IPv6
IP address	IPv6 Address in Actual Network Environment (e.g. 2001:db8::c)
Port Number	60000

1.7.2.2 Startup of the Telephony Server

This section explains the procedure for starting up the Telephony Server which is required as a first process when setting the Office Data.

1 Turn on the power switch on the rear panel of the Telephony Server.

2 Verify that ON LINE lamp on the front panel of CPU card (System #0 and #1) changes in the following order.
[1] OFF → [2] flash slowly
For detailed information on ON LINE lamp, refer to refer to "2.2.1 CPU Card" in 1. WHAT IS SV9500? of CHAPTER 1 GENERAL.



1.7.2.3 Registration of Activation Code

Once the license file has been uploaded and the SV9500 has been reset, the SV9500 must be registered before you will be granted a PCPro access.

The following section explains how to register the SV9500.

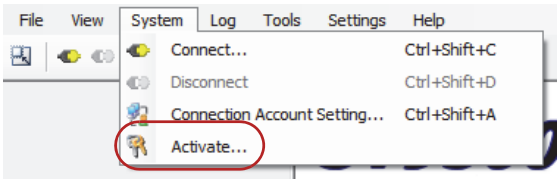
Note: You cannot be logged in to the PCPro to use these steps. For dual CPUs, both CPUs must be on-line to enter the Activation Code.

1 Configure a **Connection Account** in PCPro for the default IP Address 172.16.253.0.

2 Configure the maintenance PC to connect to the 172.16.0.0/16 network.
Verify connectivity to the SV9500 by pinging the default IP Address.

3 Launch PCPro.

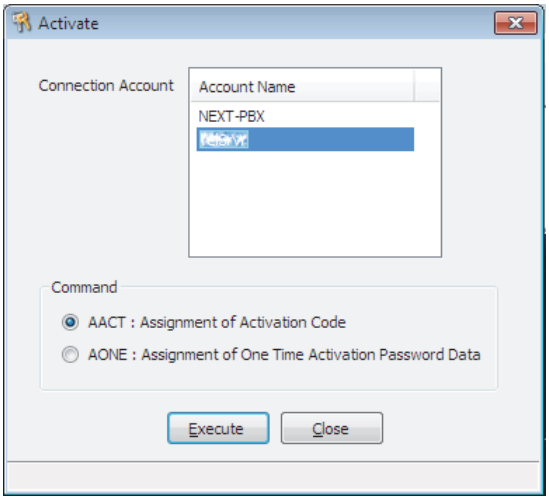
- Select **System**.
- Select **Activate**.



4 The **Activate** screen will launch.

(1) Highlight the **Connection Account** configured for the default IP Address.

(2) Select the AACT radio button and press **Execute** button.



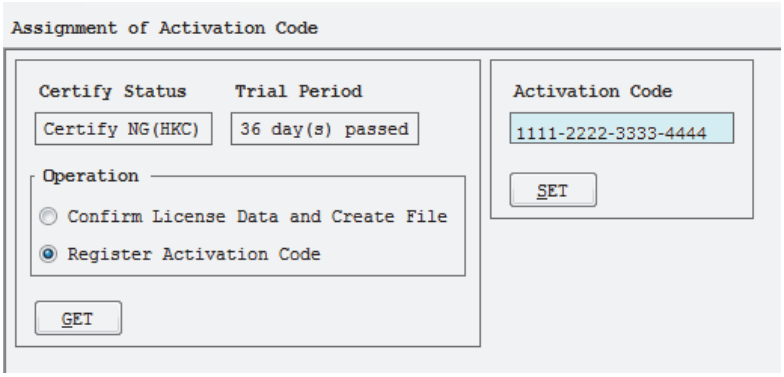
5 The AACT command will launch.

(1) Select the **Register Activation Code** radio button and press Get.

(2) Enter the **Activation Code** you have received from the LMS server, into the **Activation Code** field and press **Set**.

(3) Verify you receive the **Certify OK** confirmation message.

(4) Close the **AACT** command and the **Activate** screen.



6 You can now log into PCPro; remember to backup the Activation Code using the **MEM_HDD** command.

Note: If the Activation Code is not available, the SV9500 may be unlocked by selecting the **AONE** option instead of the **AACT** option. Once unlocked using the AONE option, the PCPro connection will be valid for 7 days. After 7 days, PCPro access will be denied until the SV9500 is registered. Please note that the AONE option can only be used once.

1.7.2.4 LAN2 Network Configuration (ADTM) (IPv4)

This section explains the procedure to modify the IP addresses of System #0 and #1 for LAN2 assigned with the default IP address (172.16.253.0) to the IP address used for the actual environment.

Note: For the dual system configuration, it is recommended to enable the periodic transmission of G-ARP on both LAN1 and LAN2 with the ADTM command. The parameter of ARP Broadcasting Period should be preferably selected as “60 sec”. As for the offices that frequently execute the CPU system changeover, select “30 sec” for the parameter of ARP Broadcasting Period.

1 Connect to PCPro using the connection account (e.g. LAN2_Default) assigned to the default IP address of the active (ACT) interface for LAN2 (172.16.253.0/16).
The user ID and the password shown below need to be entered.

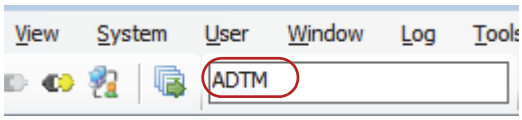
User ID: maintenance

Password:ty8*#02F

Note: If the user ID and the password are not entered, login is unavailable.

Point: For procedure to connect to PCPro, refer to “Communication Link with the Telephony Server” in Chapter 3 Setting Up PCPro in PCPro Setup Manual.

2 Execute the ADTM command.

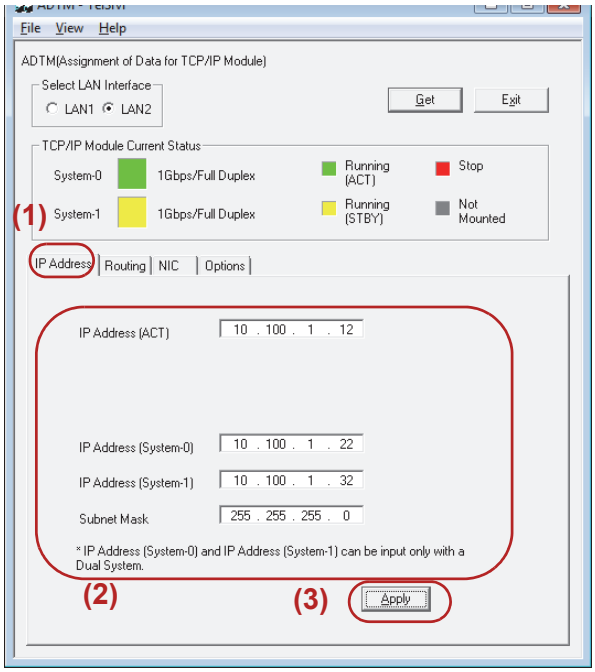


3 (1) Select **LAN2** for **Select LAN Interface**.
(2) Click the **Get** button.



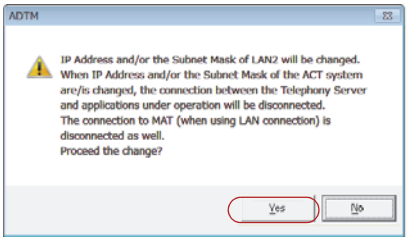
4

(1) Click the **IP Address** tab.
(2) Set the values corresponding to your actual network environment for **IP Address (ACT)**, **IP Address (System-0)**, **IP Address (System-1)** and **Subnet Mask**.
(3) Click the **Apply** button.



5

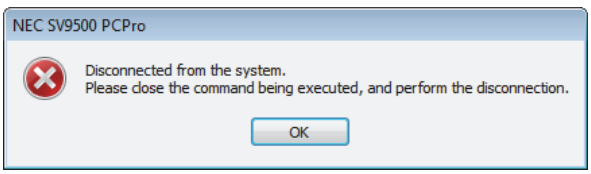
The following confirmation message will be displayed.
Click the **Yes** button to apply the modification.



The connection to PCPro will be disconnected when the data is modified.

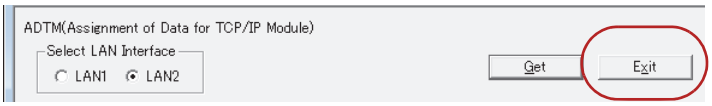
6

The following message will be displayed by PCPro.
Click **OK** to close the message box.



Note:
Do not execute a system initialization even though the message recommends you to initialize the system.

7 Click the **Exit** button to exit the ADTM command.



8 Disconnect PCPro from the system.

Point:
For detailed disconnecting procedure, refer to “Disconnecting the Communication Link” in Chapter 3 Setting Up PCPro in PCPro Setup Manual.

9 Assign a user ID and a password to PCPro.

Note:
Use the user ID and password assigned here when connecting PCPro to the Telephony Server.

Point:
For detailed procedure, refer to “User Account Setting” in Chapter 5 Various Settings of PCPro in PCPro Setup Manual.

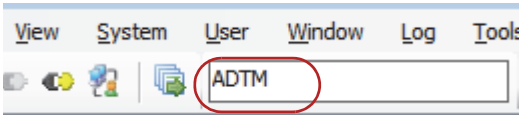
1.7.2.5 LAN1 Network Configuration (ADTM) (IPv6)

This section explains how to set IPv6 addresses for LAN1 of System-0 and System-1.

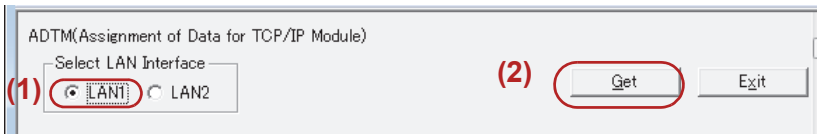
Note: Note the following conditions for this setting.

- This data setting is for the IPv6 connection with PCPro. If you use only IPv4 addresses, this setting is not required.
- Programming for IPv4 must be done before programming in this section can be done.
- For detailed conditions of IPv6 addresses, refer to “IPv6 Connection with PCPro” in the System Description.

1 Execute the ADTM command.

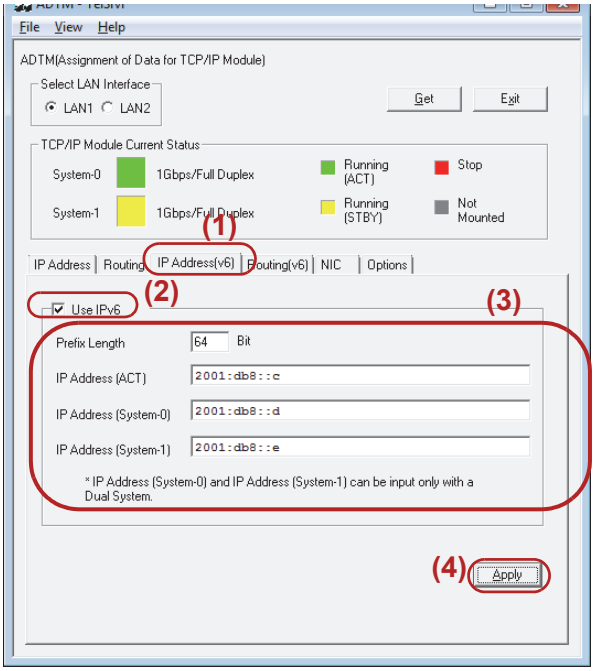


2 (1) Select **LAN1** under **Select LAN Interface**.
(2) Click the **Get** button.



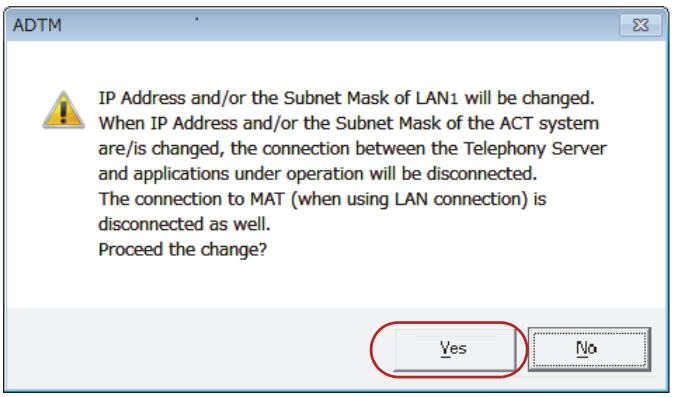
3

(1) Click the **IP Address (v6)** tab.
(2) Select the **Use IPv6** check box.
(3) Set the values corresponding to your actual network environment for **Prefix Length**, **IP Address (ACT)**, **IP Address (System-0)** and **IP Address (System-1)**.
(4) Click the **Apply** button.



4

The following confirmation message is displayed.
Click the **Yes** button to apply the new setting.



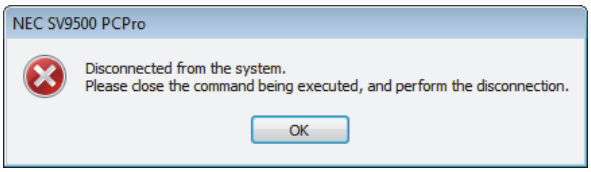
Note:

- Do not execute a system initialization even though the message recommends you to initialize the system.
- The data setting for the IPv6 address becomes valid after the change is applied.

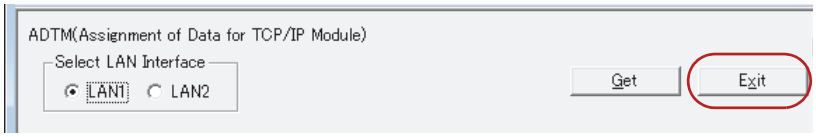
Point:

The connection to PC-Pro is disconnected when the data is modified.

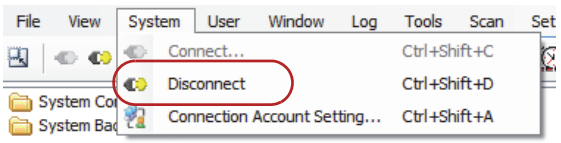
5 The following message will be displayed by PCPro.
Click **OK** to close the message box.



6 Click the **Exit** button to exit the ADTM command.



7 Select **Disconnect** on the **System** menu on PCPro.



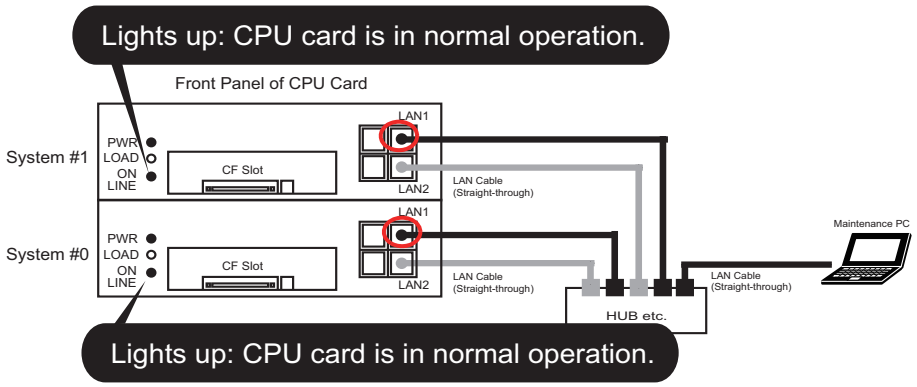
Point:
For detailed disconnecting procedure, refer to “Disconnecting the Communication Link” in Chapter 3 Setting Up PCPro in PCPro Setup Manual.

1.7.2.6 Modifying Network Configuration of Maintenance PC

This section explains the procedure to modify the network configuration of the maintenance PC to conform to the IP address to the actual environment.

1 Modify the IP address of the maintenance PC to conform to the actual network environment in order to connect with the IP address (e.g. 10.100.1.12) assigned by ADTM command.
(Example for IP address of the maintenance PC: 10.100.1.50)

2 Connect a LAN cable to LAN1 connector for System #0 and #1.



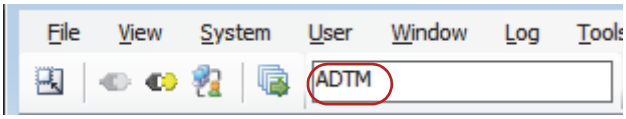
3 Execute ping command from the maintenance PC toward each connector of LAN1 and LAN2 for System #0 and #1, and verify that both IP addresses are configured correctly.

1.7.2.7 Assignment for Routing Data/NIC Card Data (ADTM) (IPv4)

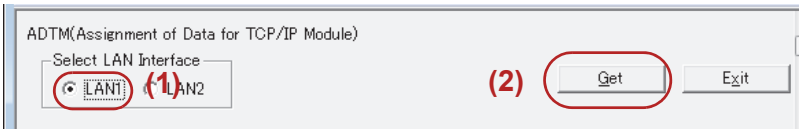
This section explains the procedure for configuring the network of the Telephony Server to conform with the actual network environment.

1 Connect to PCPro using the connection account (e.g. NewOffice#1) assigned for the IP address of LAN2 connector.

2 Execute the ADTM command.



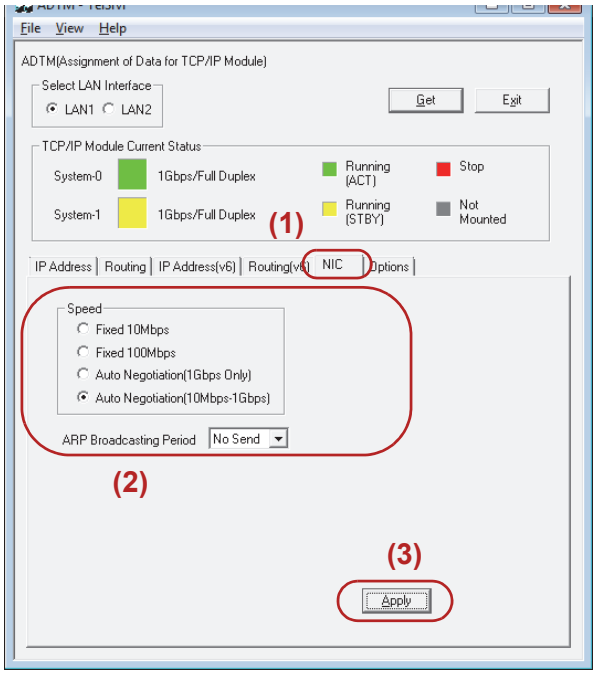
3 (1) Select **LAN1** for **Select LAN Interface**.
(2) Click the **Get** button.



Point:
For detailed procedure to connect to PCPro, refer to "Communication Link with the Telephony Server" in Chapter 3 Setting Up PCPro in the PCPro Setup Manual.

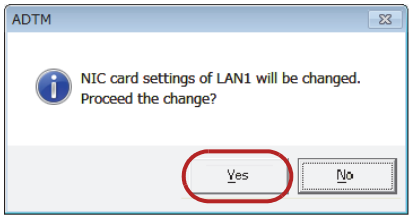
4

(1) Click the **NIC** tab.
(2) Select the value corresponding to your actual network environment for **Speed** and **ARP Broadcasting Period**.
(3) Click the **Apply** button.



5

The confirmation message is displayed. Click the **Yes** button to apply the change.



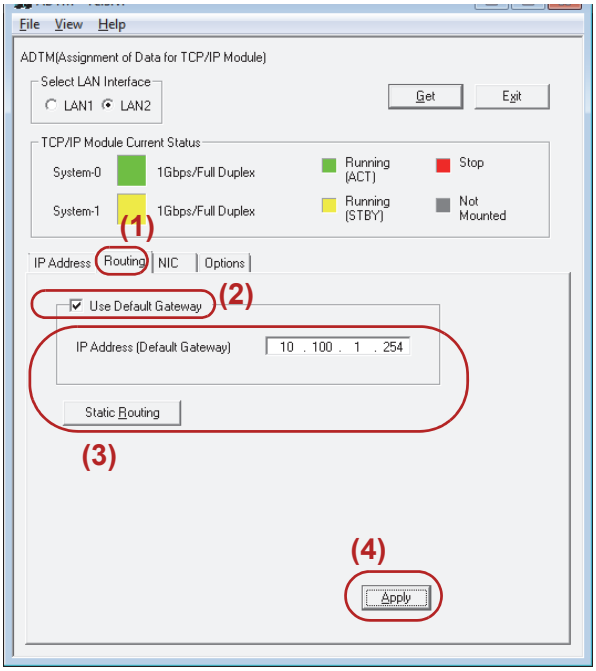
6

(1) Select **LAN2** for **Select LAN Interface**.
(2) Click the **Get** button.



7

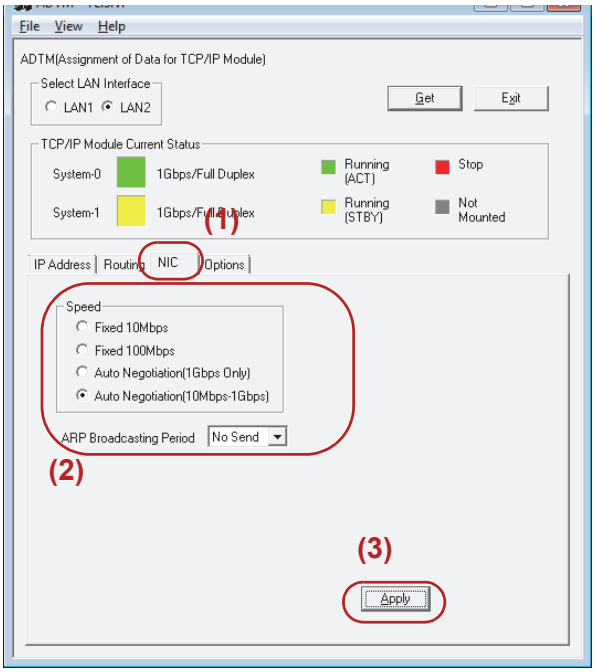
(1) Click the **Routing** tab.
(2) Select the **Use Default Gateway** check box.
(3) Set the value corresponding to your actual network environment for **IP Address (Default Gateway)** and **Static Routing**.
(4) Click the **Apply** button.



Note:
If you use only IPv6 addresses to connect with PCPro (without using IPv4 addresses), this procedure is not required.

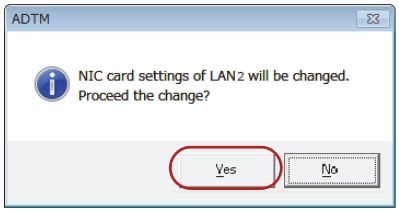
8

(1) Click the **NIC** tab.
(2) Select the value corresponding to your actual network environment for **Speed** and **ARP Broadcasting Period**.
(3) Click the **Apply** button.



9

The confirmation message is displayed. Click the **Yes** button to apply the change.



10

Click the **Exit** button to exit the ADTM command.



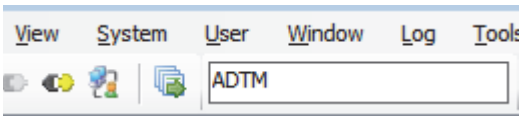
1.7.2.8 Assignment for Routing Data (ADTM) (IPv6)

This section explains the procedure for configuring the network of the Telephony Server to conform with the actual network environment.

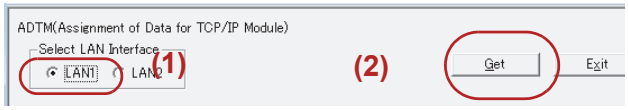
Note: This data setting is for the IPv6 connection with PCPro. If you use only IPv4 addresses, this setting is not required.

Note: Programming for IPv4 must be done before programming in this section can be done.

1 Execute the ADTM command.

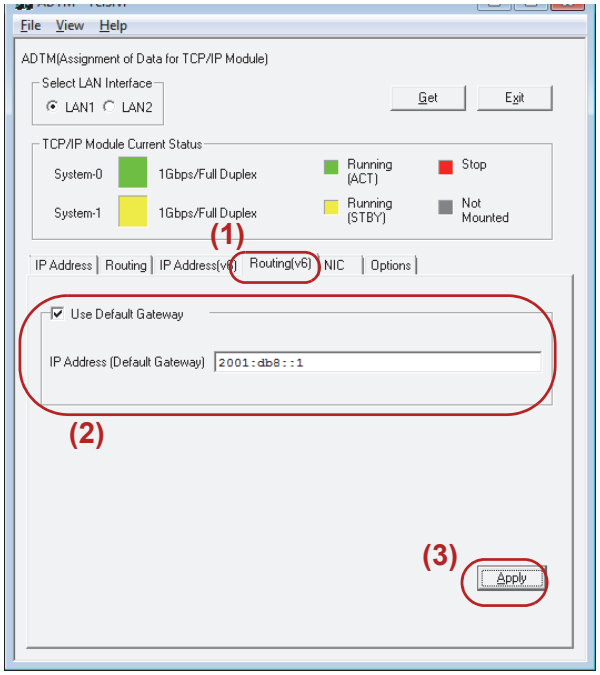


2 (1) Select **LAN1** under **Select LAN Interface**.
(2) Click the **Get** button.



3

(1) Click the **Routing (v6)** tab.
(2) Set the value corresponding to your actual network environment for each item.
(3) Click the **Apply** button.



4

Click the **Exit** button to exit the ADTM command.



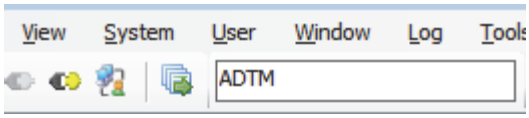
1.7.2.9 Assignment for LAN Interface Data (ADTM) (IPv6)

This section explains the procedure for configuring the LAN interface to connect to PCPro with IPv6 addresses.

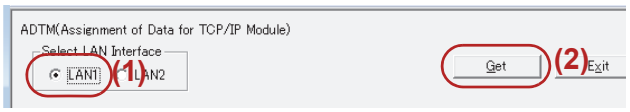
Note: This data setting is for the IPv6 connection with PCPro. If you use only IPv4 addresses, this setting is not required.

Note: Programming for IPv4 must be done before programming in this section can be done.

1 Execute the ADTM command.

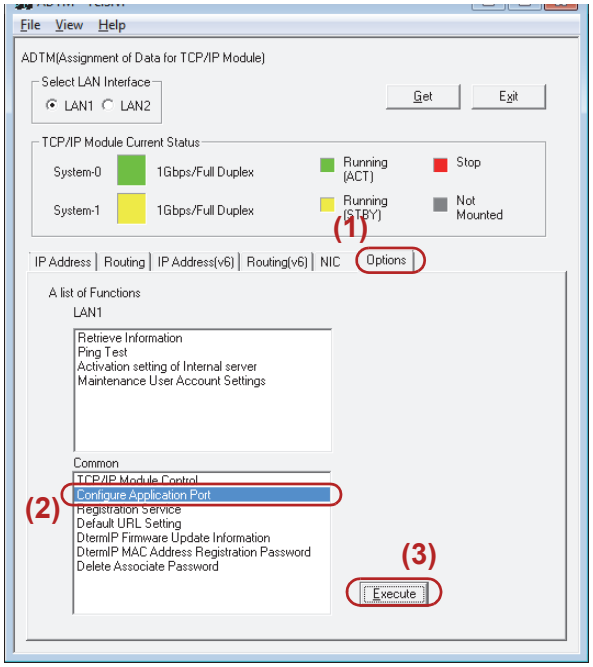


2 (1) Select **LAN1** under Select LAN Interface.
(2) Click the **Get** button.



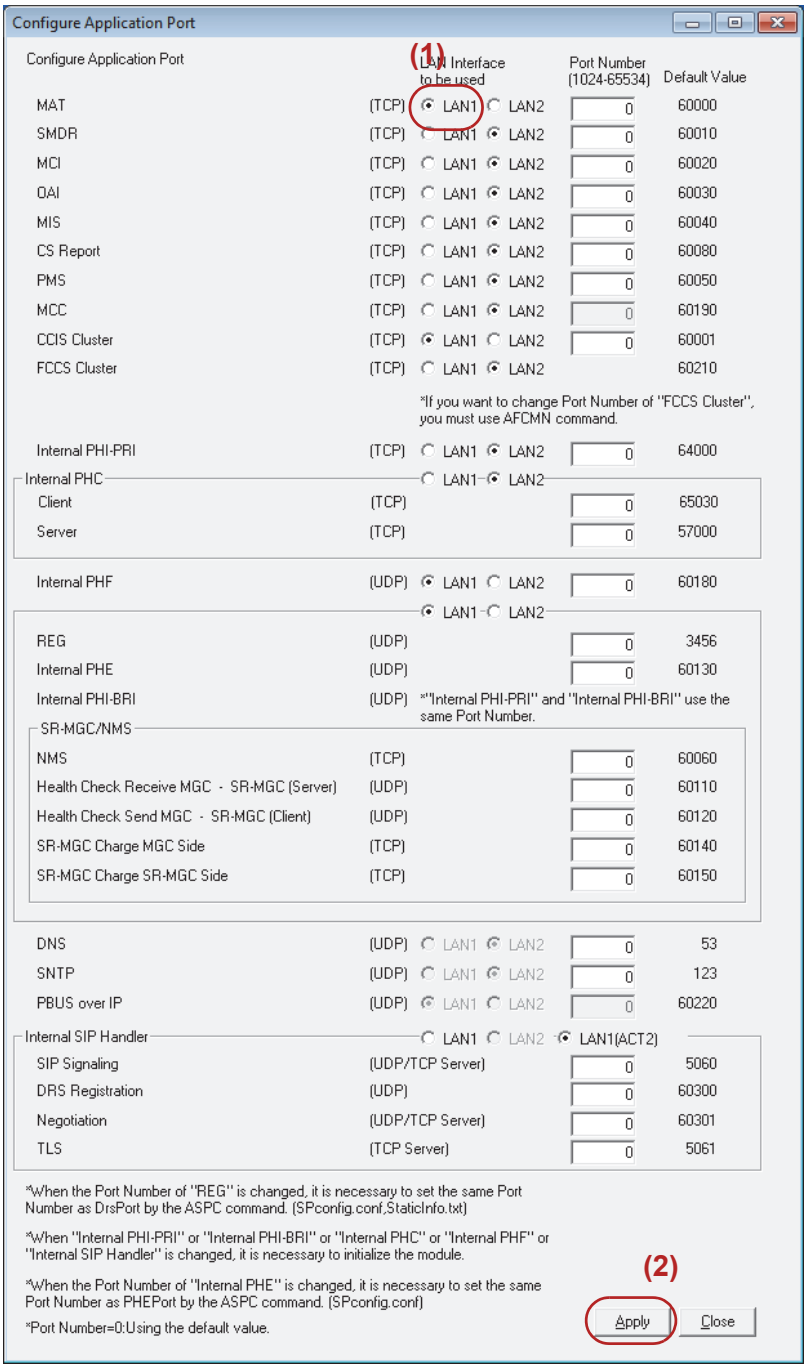
3

(1) Click the **Options** tab.
(2) In the **Common** list, select **Configure Application Port**.
(3) Click the **Execute** button.

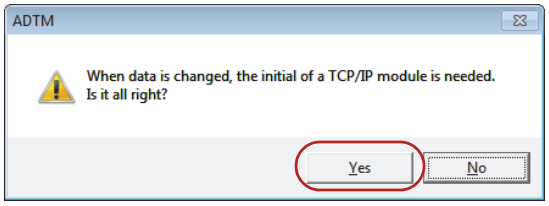


4

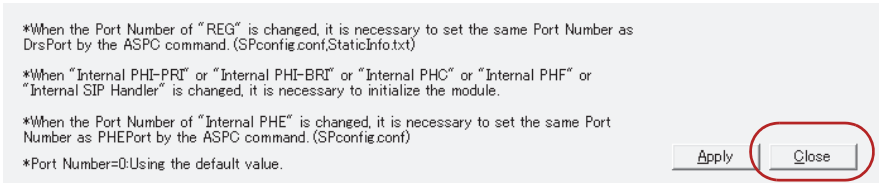
(1) Select **LAN1** under **LAN Interface to be used** in **MAT**.
(2) Click the **Apply** button.



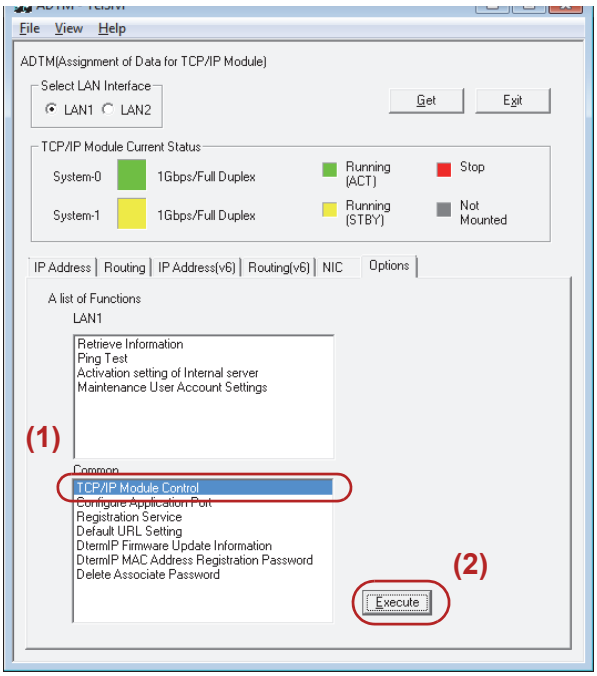
5 The confirmation message is displayed. Click the **Yes** button to apply the change.



6 Click the **Close** button to close the **Configure Application Port** dialog box.

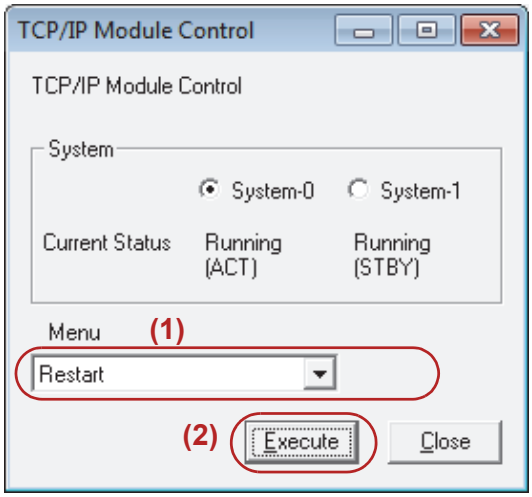


7 (1) Select **TCP/IP Module Control** in the **Common** list.
(2) Click the **Execute** button.



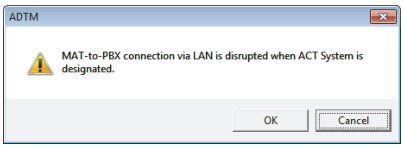
8

(1) Select **Restart** in the **Menu** box.
(2) Click the **Execute** button.



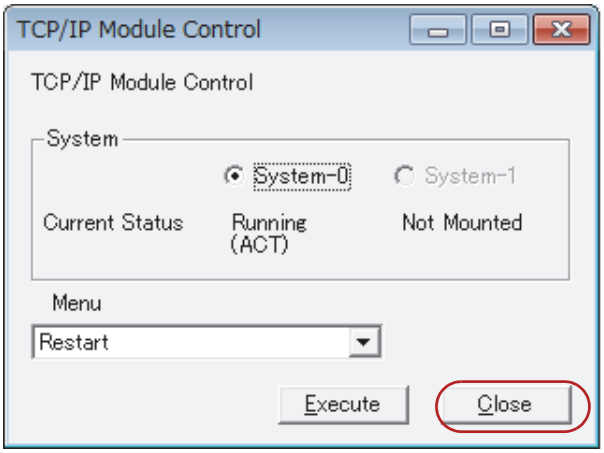
9

The following message is displayed. Click **OK** to close the message.

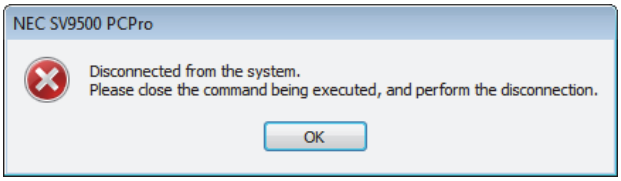


10

Click the **Close** button to close the **TCP/IP Module Control** dialog box.



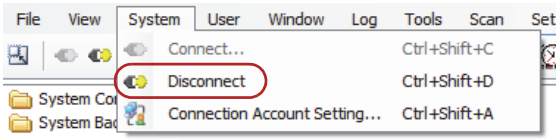
11 The following message is displayed on PCPro. Click **OK** to close the message.



12 Click the **Exit** button to exit the ADTM command.



13 Select **Disconnect** on the **System** menu on PCPro.



Point:
For detailed disconnecting procedure, refer to “Disconnecting the Communication Link” in Chapter 3 Setting Up PCPro in PCPro Setup Manual.

1.7.2.10System Configuration Data Assignment

Basic data assignment of Office data must be set to start up the system.

Refer to 2.1 System Configuration Data Assignment for instructions on data assignment.

1.7.2.11 Initial Data Assignment

Initial data assignment is required to be set on the Telephony Server by PCPro.

Refer to 1.3 Initial Startup Procedure for instructions on data assignment.

Note: The initial data assignment must be set when using IP equipment (IP stations) within the system. This procedure can be skipped if only legacy equipment is used in the system.

1.7.2.12Configuration of SIP Server (ASPC)

This section explains the procedure to configure the SP part of the system.

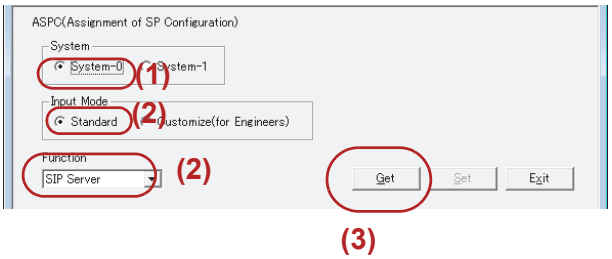
Note: The configuration of SIP Server must be set when using IP equipment (IP stations) within the system. This procedure can be skipped only when legacy equipment is used in the system.

1 Execute the ASPC command.



2

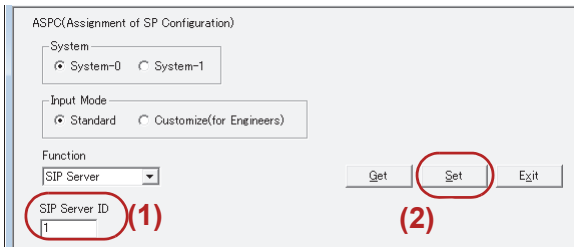
(1) Select **System-0** for **System**.
(2) Select **Standard** for **Input Mode** and **SIP Server** from **Function** list.
(3) Click the **Get** button.



Note:
- Customize mode is for engineers only.
- System which does not exist cannot be selected for [System].

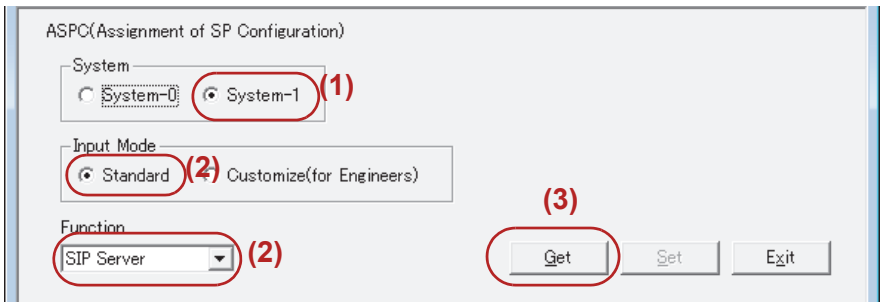
3

(1) Type the SIP Server Identifier for **SIP Server ID**.
(2) Click the **Set** button.



4

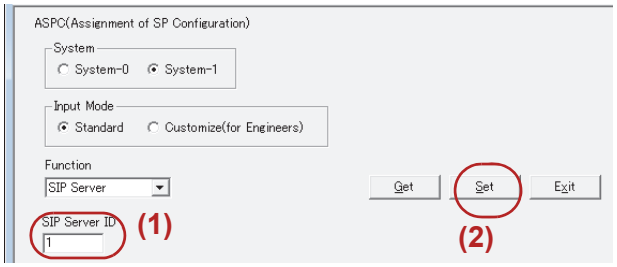
(1) Select **System-1** for **System**.
(2) Select **Standard** for **Input Mode** and **SIP Server** for **Function**.
(3) Click the **Get** button.



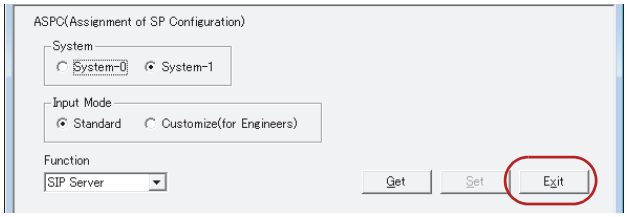
Note:

- Unique SIP-Server Identifier must be assigned in the network within the range from 1 to 127.
- Always assign SIP-Server Identifier when initializing the Telephony Server regardless of whether the SP Controlled SIP terminals are used or not. The number set for SIP-Server Identifier by ASSDL/ASSDN command must be assigned for ASPC command as well.

5 (1) Type the SIP Server Identifier for **SIP Server ID**.
(2) Click the **Set** button.



6 Click the **Exit** button to exit the ASPC command.



7 Disconnect PCPro from the system.

8 The basic office data assignment for a dual configuration is completed.

Note:

- Unique SIP-Server Identifier must be assigned in the network within the range from 1 to 127.
- Always assign SIP-Server Identifier when initializing Telephony Server regardless of whether the SP Controlled SIP terminals are used or not. The number set for SIP-Server Identifier by ASS-DL/ASSDN command must be assigned for ASPC command as well.

Point:

For detailed disconnecting procedure, refer to “Disconnecting the Communication Link” in Chapter 3 Setting Up PCPro in PCPro Setup Manual.

1.8 Rebooting of the Telephony Server

This section explains the procedure to backup the Office Data using MEM_HDD command and to reboot the Telephony Server.

Point: The Office Data backed up in the Telephony Server can be stored on a maintenance PC by using Telephony Server Maintenance Menu.

1 Launch PCPro and connect to PCPro using the connection account (e.g. NewOffice#1) assigned for the IP address of LAN2 connector.

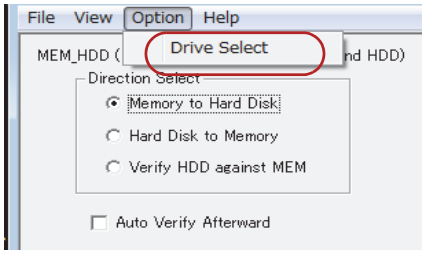
Point:
Use the account that is set for the IPv6 address of the LAN1 connector (e.g. LAN1_IPv6), if you connect to PCPro with IPv6 addresses.

Point:
For procedure to connect to PCPro, refer to "Communication Link with the Telephony Server" in Chapter 3 Setting Up PCPro in PCPro Setup Manual.

2 Execute the **MEM_HDD** command.

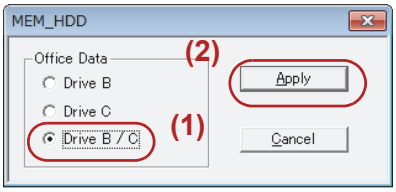


3 Select **Drive Select** from the **Option** menu.



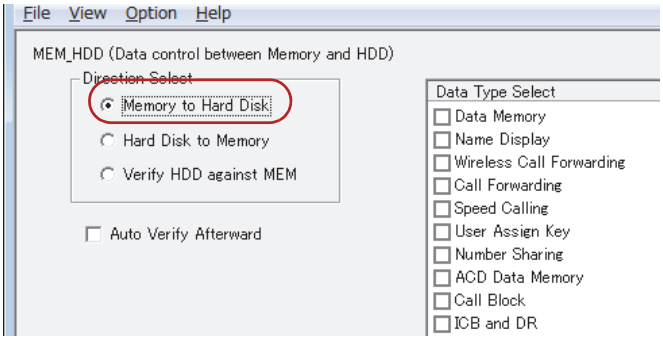
4

(1) Select **Drive B / C** for **Office Data**.
(2) Click the **Apply** button.



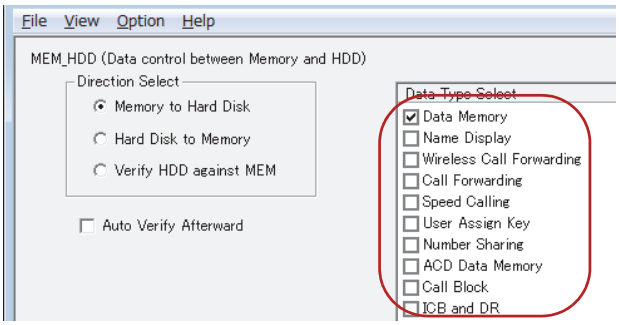
5

Select **Memory to Hard Disk** for **Direction Select**.



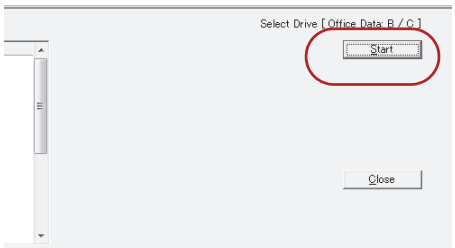
6

Select the used data type for **Data Type Select**.



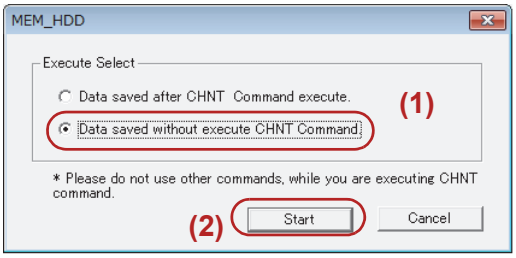
7

Click the **Start** button.



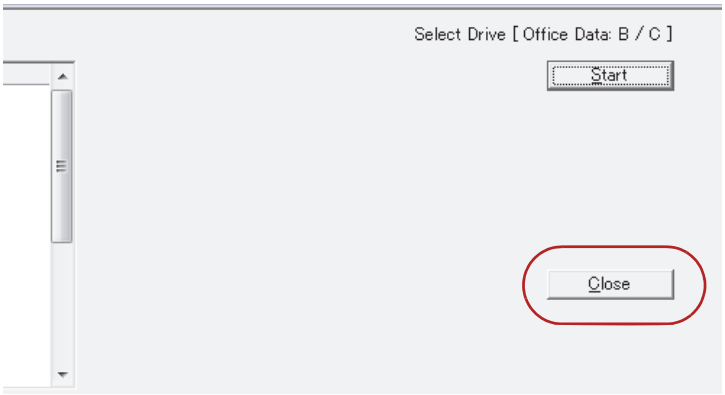
8

(1) Select **Data saved without execute CHNT Command** for **Execute Select**.
(2) Click the **Start** button.
The data backup begins.



9

After the backup is completed, click the **Close** button to exit the MEM_HDD command.



10

Refer to "2.1 System Initialization Test" in CHAPTER 7 INSTALLATION TEST of this manual to perform system initialization to test the system operation.

11

ON LINE lamp lights in the following order when Telephony Server is set up.
[1] OFF → [2] flash fast → [3] flash slowly → [4] ON

Point:
For detailed information on ON LINE lamp, refer to "2.2.1 CPU Card in CHAPTER 1 GENERAL.

12

The initial startup process of Telephony Server is completed.
Refer to "3. Power-ON Test" in this chapter for the next procedure.

2. Additional information on System Startup

2.1 System Configuration Data Assignment

Here explains basic data assignment for starting up the system. System configuration data such as system time, number of modules and units, #0/#1 configuration of controlling system, and data memory capacity are assigned.

2.1.1 System Time - ANTPL/ATIM

Select either of the commands ANTPL or ATIM to set system time.

(a) ANTPL - SNTP Setting

Time information for the system is taken in from specified SNTP server. System time is automatically adjusted periodically by setting the cycle (**Note 1**).
IP address of DNS server need to be assigned by ADTM command when SNTP is registered by domain name.

(b) ATIM - Date and Time Setting

Specify the current year, month, day, and time (hour, minute, second). System use the specified clock information during its operation. Refer to Operation and Maintenance Manual when you want to change the system time setting.

Note 1: SNTP service works once a day. When the start time is changed by ANTPL command after activating SNTP service for that day, the change takes effect on the following day. Activate SNTP service manually by pressing Execute button to activate immediately.

e.g.
1) Start time for SNTP service is set to 01:00
2) At 03:00, the start time is changed by ANTPL command from 01:00 to 05:00.
3) The next start time for SNTP service is 05:00 of the following day.

2.1.2 System Data - ASYD, ASYDL (LDM), and ASYDN (NDM)

System Data is assigned by ASYD consists of three major categories - SYS1 (Index 0 ~ 511), SYS2 (Index 0 ~ 15) and SYS3 (Index 0 ~31). The data of each index is entered in hexadecimal format (00 to FF). Each bit, 0 or 1 (in binary), has its meaning, such as “Use of Service A: 0 = No, 1 = Yes”.

Note: For this data assignment in the UMGi system, see UMGi Configuration and Maintenance Guide.

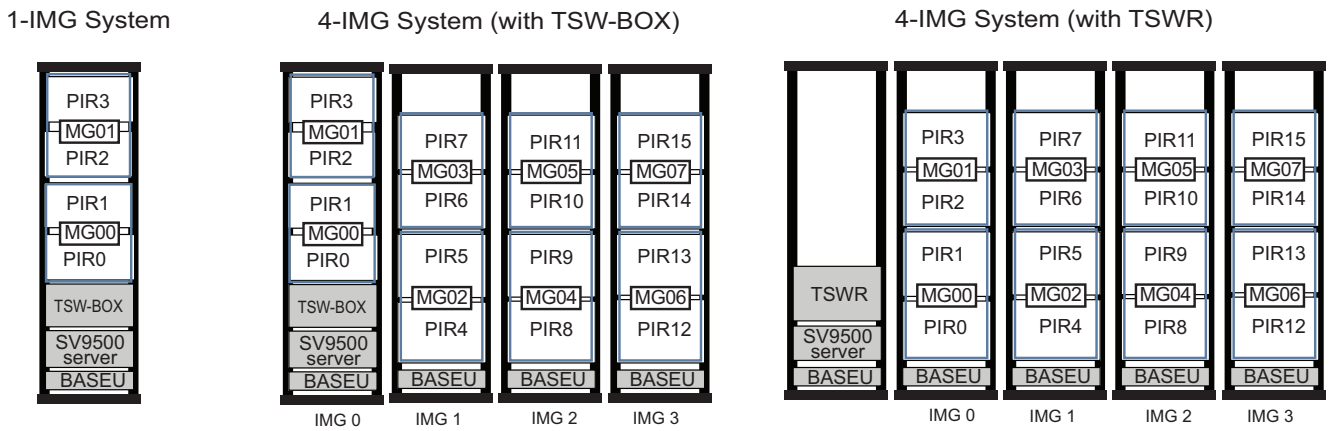
- **ASYD SYS1:**

INDEX	SYSTEM CONFIGURATION	BIT	SYSTEM	DATA
0	Number of Module Group (MG) **Note 1**, **Note 2**	0-7	1-IMG	01-02 Hex
			4-IMG	01-08 Hex
1	Number of Main Processor	0-7	1-IMG	01 Hex (Fixed)
			4-IMG	
3	Configuration of Time Division Switching (TSW) network **Note 3**	0-7	1-IMG	01 Hex (Single) 02 Hex (Dual)
			4-IMG	
30	Capacity of Data Memory (DM)	0-7	1-IMG	Usually 06 Hexadecimal
			4-IMG	
31	Capacity of Common Memory (CM)	0-7	1-IMG	Usually 02 Hex
			4-IMG	
58	Configuration of CPU	0	1-IMG	Bit 0 = 0 (Single) Bit 0 = 1 (Dual)
			4-IMG	
79	OAI/ACD Service	6	1-IMG	Bit 6 = 0 (In service) Bit 6 = 1 (Out of service)
			4-IMG	
194	MP (CPU) Mounting Status	0-7	1-IMG	01 Hex (Fixed)
			4-IMG	
198	IMG0, IMG1 Mounting Status **Note 2**	0-7	1-IMG	03 Hex (Fixed)
			4-IMG	33 Hex (Fixed)
199	IMG2, IMG3 Mounting Status **Note 2**	0-7	1-IMG	00 Hex (Fixed)
			4-IMG	03/33 Hex
256	Bit 2 = 1 (Fixed) Bit 3 = 0 (Fixed) Bit 4 = 1 (Fixed: IOC card #0 is mounted) **Note 4** Bit 5: 0/1 = IOC card #1 is not mounted/mounted **Note 4**	0-7	1-IMG	14/34 Hex
			4-IMG	

- **ASYDL SYS1:**

INDEX	SYSTEM CONFIGURATION	BIT	SYSTEM	DATA
513	Capacity of Local Data Memory (LDM)	0-7	1-IMG	01 Hex
			4-IMG	
514	Capacity of Network Data Memory (NDM)	0-7	1-IMG	01 Hex
			4-IMG	
556	PIR0 ~ PIR3 mounting status on IMG0, IMG1	0-7	1-IMG	**Note 5**
			4-IMG	
557	PIR0 ~ PIR3 mounting status on IMG2, IMG3	0-7	1-IMG	**Note 5**
			4-IMG	
1026	UNIT use on MG00-MG03 **Note 2**	0-7	1-IMG	0F Hex
			4-IMG	FF Hex
1027	UNIT use on MG04-MG07 **Note 2**	0-7	1-IMG	00 Hex
			4-IMG	FF Hex

Note 1: As shown in the figure below, a Module Group (MG) consists of two PIRs. 1-IMG of full configuration has MG 00 and 01, and 4-IMG has MG 00 to 07.



Note 2: For 1-IMG System with virtual PIR, assign the data of 4-IMG System.This assignment is contingent on the quantity of PIR licenses for both Physical PIRs and Virtual PIRs.

Note 3: Configuration of switching block network is shown below (7U-PIR is used as example*).

1-IMG
TSW (SPZ-SW25-A) Card in Slot 0 of TSW-BOX
MUX (CJ-PC00) Card in Slot 13 of PIR0
MUX (CJ-PC00) Card in Slot 13 of PIR1
MUX (CJ-PC00) Card in Slot 13 of PIR2
MUX (CJ-PC00) Card in Slot 13 of PIR3
→ Switching block network #0

TSW (SPZ-SW25-A) Card in Slot 1 of TSW-BOX
MUX (CJ-PC00) Card in Slot 14 of PIR0
MUX (CJ-PC00) Card in Slot 14 of PIR1
MUX (CJ-PC00) Card in Slot 14 of PIR2
MUX (CJ-PC00) Card in Slot 14 of PIR3
→ Switching block network #1

4-IMG with TSW-BOX
TSW (SPZ-SW26-A) Card in Slot 0 of TSW-BOX
MUX (CJ-PC00) Cards in Slot 13 of PIR0/1/2/3 of IMG0
MUX (CJ-PC00) Cards in Slot 13 of PIR4/5/6/7 of IMG1
MUX (CJ-PC00) Cards in Slot 13 of PIR8/9/10/11 of IMG2
MUX (CJ-PC00) Cards in Slot 13 of PIR12/13/14/15 of IMG3
→ Switching block network #0

TSW (SPZ-SW26-A) Cards in Slot 1 of TSW-BOX
MUX (CJ-PC00) Cards in Slot 14 of PIR0/1/2/3 of IMG0
MUX (CJ-PC00) Cards in Slot 14 of PIR4/5/6/7 of IMG1
MUX (CJ-PC00) Cards in Slot 14 of PIR8/9/10/11 of IMG2
MUX (CJ-PC00) Cards in Slot 14 of PIR12/13/14/15 of IMG3
→ Switching block network #1

* In the case of 8U-PIR, PH-PC36 is used as MUX card.

4-IMG with TSWR
TSW (PH-SW12) Cards in Slot 06/07/08/09 of TSWR
MUX (CJ-PC00) Cards in Slot 13 of PIR0/1/2/3 of IMG0
MUX (CJ-PC00) Cards in Slot 13 of PIR4/5/6/7 of IMG1
MUX (CJ-PC00) Cards in Slot 13 of PIR8/9/10/11 of IMG2
MUX (CJ-PC00) Cards in Slot 13 of PIR12/13/14/15 of IMG3
→ Switching block network #0

TSW (PH-SW12) Cards in Slot 10/11/12/13 of TSWR
MUX (CJ-PC00) Cards in Slot 14 of PIR0/1/2/3 of IMG0
MUX (CJ-PC00) Cards in Slot 14 of PIR4/5/6/7 of IMG1
MUX (CJ-PC00) Cards in Slot 14 of PIR8/9/10/11 of IMG2
MUX (CJ-PC00) Cards in Slot 14 of PIR12/13/14/15 of IMG3
→ Switching block network #1

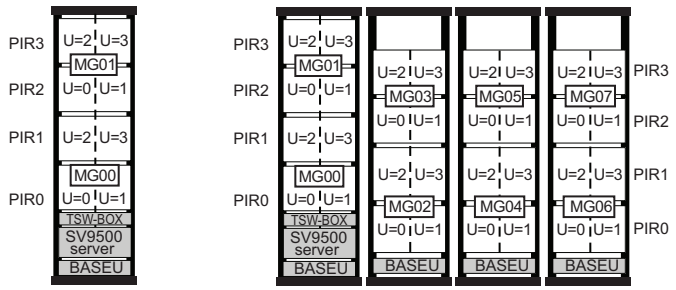
* In the case of 8U-PIR, PH-PC36 is used as MUX card.

Note 4: An IOC card has a total of four input/output ports (RS-232C ports), and each port provides an interface between the system and any of the peripheral equipment, such as a printer, PCPro, SMDR, and MCI. Up to eight ports of IOC can be accommodated per system. Assign ASYD - SYS1, Index 256, Bit 5 = 1 to mount IOC card #1.

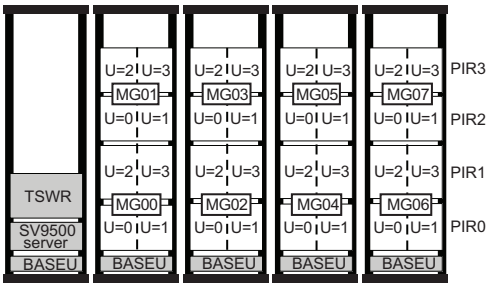
Note 5: The system data settings listed above are required for use with Physical PIRs or Virtual PIRs. Set up the system parameters according to the type (Physical/Virtual) and arrangement of PIRs in your system. For more information about virtual PIRs, see IP Related Data Setting - Virtual PIR Data in CHAPTER 2 ASSIGNMENT OF BASIC OFFICE DATA of Data Programming Manual - Business.

2.1.3 Unit Data - AUNT

Assign the Unit (U) data by using AUNT.
The Unit (U) is the second element of the Line Equipment Numbers (LENS) that specifies the accommodated location of station/trunk, and is a minimum requirement to be assigned before the entry of station/trunk and other office data. The pattern of the Unit (U) allocation is shown below:



1-IMG System　　4-IMG System with TSW-BOX



4-IMG System with TSWR

[Programming]

MG: Module Group Number
TYPE: 1 (Select 1 for Unit data assignment)
UNIT 0: 1/2 (Unit 0 is used/not used)
NIT 1: 1/2 (Unit 1 is used/not used
UNIT 2: 1/2 (Unit 2 is used/not used)
UNIT 3: 1/2 (Unit 3 is used/not used)

Note: System initialization is required for the data change to take effect.

2.2 Initial Data Assignment

Here explains how to assign data with PCPro to enable terminal use. Assign data in order as below. Refer to Command Manual for the detailed explanation on each command.

Note that the following data assignment is not required if the system consists only of digital and/or analog devices.

(a) If using IP Terminal and/or SIP Multiple Line Terminal

(b) If using SP Controlled Standard SIP Voice Terminal, Standard SIP Video Terminal and WLAN Handset (MH Series)

(c) If using SIP Handler Controlled SIP Voice Terminal and SIP Video Terminal

Note: The following are required for the Telephony Server with dual CPU cards.

- Each of the data assignment in (a), (b) and (c) is required for the system where terminals mentioned in (a), (b) and (c) coexist.
- To change the ToS value on messages from SP to the devices/terminals in SIP mode, Steps 3, 7, and 8 in (b) 2.2.2 If using SP Controlled Standard SIP Voice Terminal, Standard SIP Video Terminal and WLAN Handset (MH Series) are required. As for Steps 7 and 8, however, they are not required if set already.
- Before starting the following data assignment, clear the SIP server ID of system #0 and #1 with the ASPC command. Reassign the SIP server ID after completing the following assignment.

2.2.1 If using IP Terminal and/or SIP Multiple Line Terminal

Step1: ASYDL: System data (LDM)

SYS1, Index 880, Bit 3 = 1 (Internal PHE is valid)

SYS1, Index 885, Bit 7 = 1 (Signaling Protocol (SP) is valid)

Step2: ALIDL: LAN information (LDM)

<Internal PHE Accommodation data>

PH LENS:	Specify an even-numbered Group No. other than those 24 through 31. The LENS can be allocated on either a Virtual PIR or a Physical PIR.
PH TYPE:	Internal PHE
REGMAX:	Registration capacity [1-6144]

<MPH Accommodation data>

PH LENS:	Specify an even-numbered Group No. other than those 24 through 31. The LENS can be allocated on either a Virtual PIR or a Physical PIR.
PH TYPE:	MPH
MPH-ID:	MPH identification number

Note: MPH-ID=1 (fixed) is assigned in single CPU configuration, MPH-ID=1 and 2 (fixed) are assigned in dual CPU configuration. Assign 1 for CPU #0 and 2 for CPU #1: Do not assign any other value.

PH Kind: PHD

Use this PH: Check the box and specify the following parameters.

PH LENS: MPH accommodation location [5-digit number (MG/U/G)]

Note: Cannot duplicate the LENS for Internal PHE.

REGMAX: Registration capacity [1-4095]

Note:

- To decrease an assigned value of REGMAX, first delete the registered data and assign a new value; to increase, no data deletion is required.
- If SP-PHD and SP-PHI are both accommodated on a single Telephony Server, the following data is also required: "PH Kind: PHI". You can assign on REGMAX the maximum capacity of each PH (no limitation for the total).

MGC PORT: Control port for TP [1-65535 (default: 64102)]

TERM PORT: Control port for IP devices [1-65535 (default: 60090)]

Note: MGC PORT and TERM PORT cannot have the same port number.

Step3: ASDIL/ASDIN: SIP domain name index data

Assign all the domain names controlled by the Telephony Server. Up to 1020 domains can be registered per system. **Note 1**

SIP Server ID: Displays the SIP Server ID assigned with the ASSDL/ASSDN command.

Domain Name: Domain name consisting of up to 128 alphanumeric characters (including dot (.) and hyphen (-))

Note 1: SIP terminals use SIPURIs as their identifications, which are similar to extension numbers. The SIPURI format is "*extension-number@domain-name*". The following examples may help you to design domain names.

(a) If using a single domain name in the entire system

All the SIP terminals use a single domain name, which makes the management easier.

e.g. *extension-number*@SIPSERVER-Hostname.com

(b) If using several domain names in the system

It enables grouping domains according to the positions of SIP terminal users.

e.g. *extension-number*@xxx.yyy.zzz.com, *extension-number*@vvv.yyy.zzz.com

Step4: ASSDL/ASSDN: SIP server operating data

Note: Assign virtual speech channels on a LENS range where consecutive four or more Groups are not in use.
When PHC has been registered already, check the condition of the registered virtual speech channels before assigning *CHANNEL* of the ASSDL/ASSDN command. If the LENS range where the virtual speech channels are registered does not reach consecutive four Groups, perform the ATRK command to assign four Groups in advance.
Also when registering PHC on the system where you have already assigned *CHANNEL* of the ASSDL/ASSDN command, perform the ATRK command so that the virtual speech channels are assigned on consecutive four Groups.

Assign office data for the SIP server.

FPC: Fusion Point Code [1-253] (only for ASSDN)

SIP Server ID: Unique SIP Server ID [1-127]

Note: Must be the same value as the SIP server ID to be assigned with the ASPC command later.

<BASE DATA tab>

CHANNEL: Number of speech channels between TP and SP [3-1200]

If neither of WLAN Handsets (MH Series) nor standard SIP terminals are used, assign the minimum number of channels, or 3; if used, assign multiples of 3 (if 4 or 5 is assigned, 6 is set).

Up to 402 channels can be set on each 2-MG unit (**Note 2**). If you want to set more than 402 channels, first enter "402" and set; then change the MG, enter the number of channels you want to set, and click the Modify button.

Refer to [Configuration Example for Setting the Minimum Number of Virtual Speech Channels].

Note 2:

- A 2-MG unit is either of the following combinations: MG00-MG01, MG02-MG03, MG04-MG05, MG06-MG07.
- When SIP Wireless Terminal Backup [S-154] is in service, up to 804 channels can be set on each 2-MG unit (as for a single SIP server ID, though, up to 402 channels can be set on each 2-MG unit).

If the number of speech channels are changed during operation, the Telephony Server needs to be initialized. After initialization, a terminal is disabled to make and receive a new call until the terminal sends a REGISTER message to, and get registered on SP again: Initialize (turn off and on) terminals as well.

NAME: SIP server name (up to 16 alphanumeric characters)

SIP server name helps manage and identify SP parts.

TN: Tenant Number [1-63]

LENS: Accommodated location of the SIP server

MG: START and END points of the MG range to be registered

UNIT: START and END points of the UNIT range to be registered

GROUP: START and END points of the GROUP range to be registered

LEVEL: START and END points of the LEVEL range to be registered (only "0" and "4" can be specified)

Assign on virtual speech channels, that is, on virtual PIRs where no stations and trunks are accommodated. You cannot overwrite stations and trunks which have been already registered.

DETAIL: Detailed settings on SP

No settings are required.

[Configuration Example for Setting the Minimum Number of Virtual Speech Channels]

The following is a configuration example where three virtual speech channels are assigned on LENS 021000 to 021007.

Step1: Assign virtual speech channels on system #0.

CHANNEL: 3

LENS: Accommodated location of the SIP server

MG: Module Group (START=2, END=2)

UNIT: UNIT (START=1, END=1)

GROUP: GROUP (START=0, END=0)

LEVEL: LEVEL (START=0, END=0)

Step2: Assign virtual speech channels on system #1.

CHANNEL: 3

LENS: Accommodated location of the SIP server

MG: Module Group (START=2, END=2)

UNIT: UNIT (START=1, END=1)

GROUP: GROUP (START=0, END=0)

LEVEL: LEVEL (START=4, END=4)

<DOMAIN tab>

Register the domain names of domains controlled by the specified SP. On the "DOMAIN NAME LIST" window (list of all the domain names the CPU card permits connection), click the Addition button; the "DOMAIN NAME Selection LIST" window appears to show domain names registered with ASDIL/ASDIN command; select and set domains to be controlled by the Telephony Server.

<PRESENCE SERVER tab>

No settings are required.

<REDUNDANCY tab>

Register the SIP server ID of the paired CPU card if the Telephony Server is built with dual CPU cards.

Pair SIP Server ID: SIP server ID of the paired CPU card [1-127]

Note:

- Must be set when the Telephony Server is built with dual CPU cards. If an SR-MGC connects to the Telephony Server built with dual CPU cards, operation switching to the SR-MGC occurs only when both of systems #0 and #1 fail.
- Once changed, the data are notified to SP. If the notification cannot be performed because of any causes such as no operation of SP or network conditions, data discrepancy in the system occurs. In this case, it is required to initialize the Telephony Server.
  When data change cannot be notified to SP, PCPro displays “There is no response from SP.”
- To check the SP’s operating state and the channel settings in the system, use the COSSL/COSSN command. For details, refer to the Command Manual.

2.2.2 If using SP Controlled Standard SIP Voice Terminal, Standard SIP Video Terminal and WLAN Handset (MH Series)

Step1: ASYDL: System data (LDM)

Assign the memory block required to save registered data. A single memory block is 2Mbytes.

SYS1, Index 513 = LDM usage (Set the bit representing a memory block to be used.)

SYS1, Index 514 = NDM usage (Set the bit representing a memory block to be used.)

SYS1, Index 880, Bit 3 = 1 (Internal PHE is valid)

Step2: ASYD: System data

SYS1, Index 30 = 0x06 (Mounting capacity of DM)

SYS1, Index 186, Bit 6 = 1 (CCIS is in service)

SYS1, Index 220, Bit 6 = 0 (ISDN is in service)

The system data for CCIS and ISDN need to be enabled though optional software for CCIS and ISDN is not required if these services are not used.

SYS1, Index 420, Bit 0 = 1 (Access code operation by preset dialing from a PS)

Step3: ALOCL: IP location ID data (LDM)

Assign the ToS value for the interface between TP and SP.

IP ADDRESS = 0.0.0.0 **Note 1**

LOC-ID = 0 (set automatically.)

Check the Signal Packet box, and assign the ToS value for SP. (Default: “IP PRECEDENCE”, Priority (PRECEDENCE /DSCP) = “6”)

Note 1: Perform the ADPM command to initialize Internal PHE after changing the data.

Note: The ToS value is set on messages from TP to SP, from SP to TP, and from SP to SIP terminals, but not set on messages from SIP terminals to SP.

Step4: ADTM: TCP/IP module-related data

Assign the port number of Internal PHE.

Note: Not required if you use the default port number.

Step5: ALIDL: LAN information (LDM)

Assign the accommodated location of Internal PHE.

PH LENS: Specify an even-numbered Group No. other than those 24 through 31. The LENS can be allocated on either a Virtual PIR or a Physical PIR.

PH TYPE: Internal PHE

REGMAX: Registration capacity (1-6144)

Note: Four ports need to be assigned per three speech channels set between TP and SP.

Step6: ADPM: PH module-related data

Initialize Internal PHE.

PH Type: Internal PHE

Menu: Module Initialize

Step7: ASDIL/ASDIN: SIP domain name index data

Assign all the domain names controlled by the Telephony Server. Up to 1020 domains can be registered per system. **Note 2**

SIP Server ID: Displays the SIP Server ID assigned with the ASSDL/ASSDN command.

Domain Name: Domain name consisting of up to 128 alphanumeric characters (including dot (.) and hyphen (-))

Note 2: SIP terminals use SIPURIs as their identifications, which are similar to extension numbers. The SIPURI format is "*extension-number@domain-name*". The following examples may help you to design domain names.

(a) If using a single domain name in the entire system.

All the SIP terminals use a single domain name, which makes the management easier.

e.g. *extension-number*@SIPSERVER-Hostname.com

(b) If using several domain names in the system.

It enables grouping domains according to the positions of SIP terminal users.

e.g. *extension-number*@xxx.yyy.zzz.com, *extension-number*@vvv.yyy.zzz.com

Step8: ASSDL/ASSDN: SIP server operating data

Note: Assign virtual speech channels on a LENS range where consecutive four or more Groups are not in use.
When PHC has been registered already, check the condition of the registered virtual speech channels before assigning *CHANNEL* of the ASSDL/ASSDN command. If the LENS range where the virtual speech channels are registered does not reach consecutive four Groups, perform the ATRK command to assign four Groups in advance.
Also when registering PHC on the system where you have already assigned *CHANNEL* of the ASSDL/ASSDN command, perform the ATRK command so that the virtual speech channels are assigned on consecutive four Groups.

Assign office data for the SIP server.

FPC: Fusion Point Code [1-253] (only for ASSDN)

SIP Server ID: Unique SIP Server ID [1-127]

Note: Must be the same value as the SIP server ID to be assigned with the ASPC command later.

<BASE DATA tab>

CHANNEL: Number of speech channels between TP and SP [3-1200]

Assign multiples of the minimum value, or 3 (if 4 or 5 is assigned, 6 is set).

Up to 402 channels can be set on each 2-MG unit (**Note 3**). If you want to set more than 402 channels, first enter "402" and set; then change the MG, enter the number of channels you want to set, and click the Modify button.

Refer to [Configuration Example for Setting the Maximum Number of Virtual Speech Channels].

Note 3:

- A 2-MG unit is either of the following combinations: MG00-MG01, MG02-MG03, MG04-MG05, MG06-MG07.
- When SIP Wireless Terminal Backup [S-154] is in service, up to 804 channels can be set on each 2-MG unit (as for a single SIP server ID, though, up to 402 channels can be set on each 2-MG unit).

If the number of speech channels are changed during operation, the Telephony Server needs to be initialized. After initialization, a terminal is disabled to make and receive a new call until the terminal sends a REGISTER message to, and get registered on SP again: Initialize (turn off and on) terminals as well.

NAME: SIP server name (up to 16 alphanumeric characters)

SIP server name helps manage and identify SP parts.

TN: Tenant Number [1-63]

LENS: Accommodated location of the SIP server

MG: START and END points of the MG range to be registered

UNIT: START and END points of the UNIT range to be registered

GROUP: START and END points of the GROUP range to be registered

LEVEL: START and END points of the LEVEL range to be registered (only "0" and "4" can be specified)

Assign on virtual speech channels, that is, on virtual PIRs where no stations and trunks are accommodated. You cannot overwrite stations and trunks which have been already registered.

DETAIL: Detailed settings on SP

The terminal authentication per call is omitted:

Disables the setting that SIP terminals registered on the Telephony Server are authenticated every time making a call. Authentication is enabled by default to prevent unauthorized terminals from connecting.

Change in SIP Server port number:

Used to change the port number of SP (default: 5060). *Initialize the Telephony Server after changing SP's port number.

[Configuration Example for Setting the Maximum Number of Virtual Speech Channels]

The following is a configuration example where 1200 virtual speech channels are assigned.

Step1: Assign the first 402 channels.

CHANNEL: 402

LENS: Accommodated location of the SIP server

MG: Module Group (START=2, END=3)

UNIT: UNIT (START=1, END=3)

GROUP: GROUP (START=0, END=23)

LEVEL: LEVEL (START=0, END=4)

Step2: Assign up to 804 channels.

CHANNEL: 804

LENS: Accommodated location of the SIP server

MG: Module Group (START=4, END=5)

UNIT: UNIT (START=1, END=3)

GROUP: GROUP (START=0, END=23)

LEVEL: LEVEL (START=0, END=4)

Step3: Assign up to 1200 channels.

CHANNEL: 1200

LENS: Accommodated location of the SIP server

MG: Module Group (START=6, END=7)

UNIT: UNIT (START=1, END=3)

GROUP: GROUP (START=0, END=23)

LEVEL: LEVEL (START=0, END=4)

Perform the following Steps specifying the SIP server ID of the paired CPU card (register to the SIP server ID of CPU for SYS1) if using SIP Wireless Terminal Backup [S-154].

Step4: Assign the first 402 channels.

CHANNEL: 402

LENS: Accommodated location of the SIP server

MG: Module Group (START=2, END=3)

UNIT: UNIT (START=1, END=3)

GROUP: GROUP (START=0, END=23)

LEVEL: LEVEL (START=0, END=4)

Step5: Assign up to 804 channels.

CHANNEL: 804

LENS: Accommodated location of the SIP server

MG: Module Group (START=4, END=5)

UNIT: UNIT (START=1, END=3)

GROUP: GROUP (START=0, END=23)

LEVEL: LEVEL (START=0, END=4)

Step6: Assign up to 1200 channels.

CHANNEL: 1200

LENS: Accommodated location of the SIP server

MG: Module Group (START=6, END=7)

UNIT: UNIT (START=1, END=3)

GROUP: GROUP (START=0, END=23)

LEVEL: LEVEL (START=0, END=4)

<DOMAIN tab>

Register the domain names of domains controlled by the specified SP. On the "DOMAIN NAME LIST" window (list of all the domain names SP permits connection), click the Addition button; the "DOMAIN NAME Selection LIST" window appears to show domain names registered with ASDIL/ASDIN command; select and set domains to be controlled by the Telephony Server.

<PRESENCE SERVER tab>

Assign SIP presence server data. (When any cooperating presence server does not exist, data assignment is not required.)

IP Address: IP address of the cooperating presence server

Port Number: Port number the cooperating presence server uses

<REDUNDANCY tab>

Register the SIP server ID of the paired CPU card if the Telephony Server is built with dual CPU cards.

Pair SIP Server ID: SIP server ID of the paired CPU card [1-127]

Note:

- Must be set when the Telephony Server is built with dual CPU cards. If an SR-MGC connects to the Telephony Server built with dual CPU cards, operation switching to the SR-MGC occurs only when both of systems #0 and #1 fail.
- Once changed, the data are notified to SP. If the notification cannot be performed because of any causes such as no operation of SP or network conditions, data discrepancy in the system occurs. In this case, it is required to initialize the Telephony Server.
  When data change cannot be notified to SP, PCPro displays “There is no response from SP.”
- To check the SP’s operating state and the channel settings in the system, use the COSSL/COSSN command. For details, refer to the Command Manual.

2.2.3 If using SIP Handler Controlled SIP Voice Terminal and SIP Video Terminal

Step1: ASYDL: System data (LDM)

Assign the memory block required to save registered data. A single memory block is 2Mbytes.

SYS1, Index 513 = LDM usage (Set the bit representing a memory block to be used.)

SYS1, Index 514 = NDM usage (Set the bit representing a memory block to be used.)

SYS1, Index 811 (Tone Code by countries) **Note 2**

SYS1, Index 880, Bit 3 = 1 (Internal PHE is valid)

SYS1, Index 880, Bit 5 = 1 (SIP Handler activation is valid) **Note 1**

SYS1, Index 1353, Bit 1=1: Enable Software Digital Tone Generator (IP-DTG) **Note 3**

Note 1: After enabling SIP Handler, execute Program Non Load Initialization with the ADPM command or System Initialization with the SINZ command to start SIP Handler operation.

Note 2: IP-DTG sends tones of Tone Code assigned with this system data to Standard SIP terminals.

Note 3: After changing Index 1353 from Bit 1=0 (Disabled) to Bit 1=1 (Enabled), execute System Initialization with the SINZ command to apply the data change.

Step2: ALOCL: IP location ID data (LDM)

Assign the ToS value for packets sent from SIP Handler such as SIP messages, preparation completion, and DRS messages.

IP ADDRESS = 0.0.0.0

LOC-ID = 0 (set automatically.) **Note 4**

Check the Signal Packet box, and assign the ToS value for SP. (Default: "IP Precedence", Priority (PRECEDENCE /DSCP) = "6")

Note: After changing the data, execute either of the following operations.
- Execute Non Load Initialization with the ADPM command.
- Initialize TCP/IP Module with the ADTM command.
- Execute System Initialization with the SINZ command.

Note 4: LOC-ID = 0 is set in common with other Internal PHs and IPPAD, so executing System Initialization with the SINZ command is recommended after data change.

Step3: ADTM: TCP/IP module-related data

Assign the port number of Internal PHE and SIP Handler. **Note 5**, **Note 6**

Assign IP Address2 (ACT). **Note 7**

Select LAN Interface: LAN1

Place a check mark in the Add IP Address (ACT) check box.

IP Address 2 (ACT): Assign an IP address to IP Address2 (ACT).

Note: If you change the settings of Internal SIP Handler's LAN port, Application port or IP address2 (ACT) while the Internal SIP Handler is in operation, use the ADPM command to initialize the handler after initialization of TCP/IP Module is completed.

Note 5: Not required if you use the default port number.

Note 6: We recommend using the default LAN port and port number for SIP Handler. If you change this data, you need to initialize TCP/IP Module.

Note 7: After this data is changed, TCP/IP Module is initialized.

Step4: ALIDL: LAN information (LDM)

Assign the accommodated locations of Internal PHE, SIP Handler and IP-DTG.

PH LENS: Specify an even-numbered Group No. other than those 24 through 31. The LENS can be allocated on either a Virtual PIR or a Physical PIR.

<Internal PHE>

PH TYPE: Internal PHE

REGMAX: Registration capacity (1-6144)

<SIP Handler>

PH TYPE: Internal SIP Handler

REGMAX: Registration capacity (1-4095)

<IP-DTG>

PH TYPE: IP-DTG

DTG-ID: IP-DTG Identification Number (1-16)

Single-CPU System: Assign DTG-ID = 1 (fixed)

Dual-CPU System: Assign DTG-ID = 1 and 2 (fixed)

Note : For UMGi/RNIP System IP-DTG data assignment see the Initial Data section in the System Startup chapter of UMGi Configuration and Maintenance Guide and Configuration and Maintenance Guide for Remote Node over IP manuals.

MAX_CONN: Maximum Number of Concurrent Connections (1-4095 (default: 256))

Step5: ADPM: PH module-related data

Initialize Internal PHE and SIP Handler.

<Internal PHE>

PH Type: Internal PHE

Menu: Module Initialize

<SIP Handler>

PH Type: Internal SIP Handler

Menu: Program Non Load Initial

2.3 FAQ About Startup

This section explains instructions on how to solve troubles including errors.

[About 10 minutes has passed after turning on the switch of Telephony Server with no initial setting data installed, but ON LINE lamp has not flashed fast yet]

<Causes>

The causes may be the following:

- The CF cards are not ones provided by NEC.
- The CF cards are not inserted in the CF slots properly.
- There are invalid data written on the CF cards.

<Solutions>

Verify the following:

- The CF cards are provided by NEC.
- The CF cards are inserted in the CF slots properly.

If the preceding solutions do not solve your problems, initialize the CF cards referring to 1.5 CF Card Initialization.

[Failed to receive responses properly after executing PING to LAN1 and LAN2 (on each of System #0 and System #1 for dual configuration)]

<Causes>

The causes may be the following:

- The network settings are not configured properly.
- The cables are not connected properly.

<Solutions>

Check the network settings and cable connections.

[About 15 minutes has passed after turning on the switch of Telephony Server with initial setting data installed, but ON LINE lamp has not flashed slowly yet]

<Causes>

The causes may be the following:

- Initial setting data are not installed properly.

<Solutions>

Verify that the install DVD/CD “GENERIC SOFTWARE” and license file you are using are correct.

Then, install the correct initial setting data again. Follow the procedures in 1.6 Program Installation.

If the initial setting data is not successfully installed, initialize the CF cards referring to 1.5 CF Card Initialization.

[Failed to backup the Office Data by executing MEM_HDD command]

<Causes>

The causes may be the following:

- Another command has been executed on the Telephony Server.

<Solutions>

Check if your maintenance PC or other PCs are executing another command on the Telephony Server.

If one is executing, wait for a while for the command process to complete. Check whether the command execution has completed and backup again.

3. Power-ON Test



Perform the power-on test before starting up the system to check the system can receive power supply and work normally.

CAUTION: Follow the procedures below when alarm lamp lights and unusual smell, smoke, etc. is found:

(1) Power OFF the system.

(2) Diagnose the cause of failure.

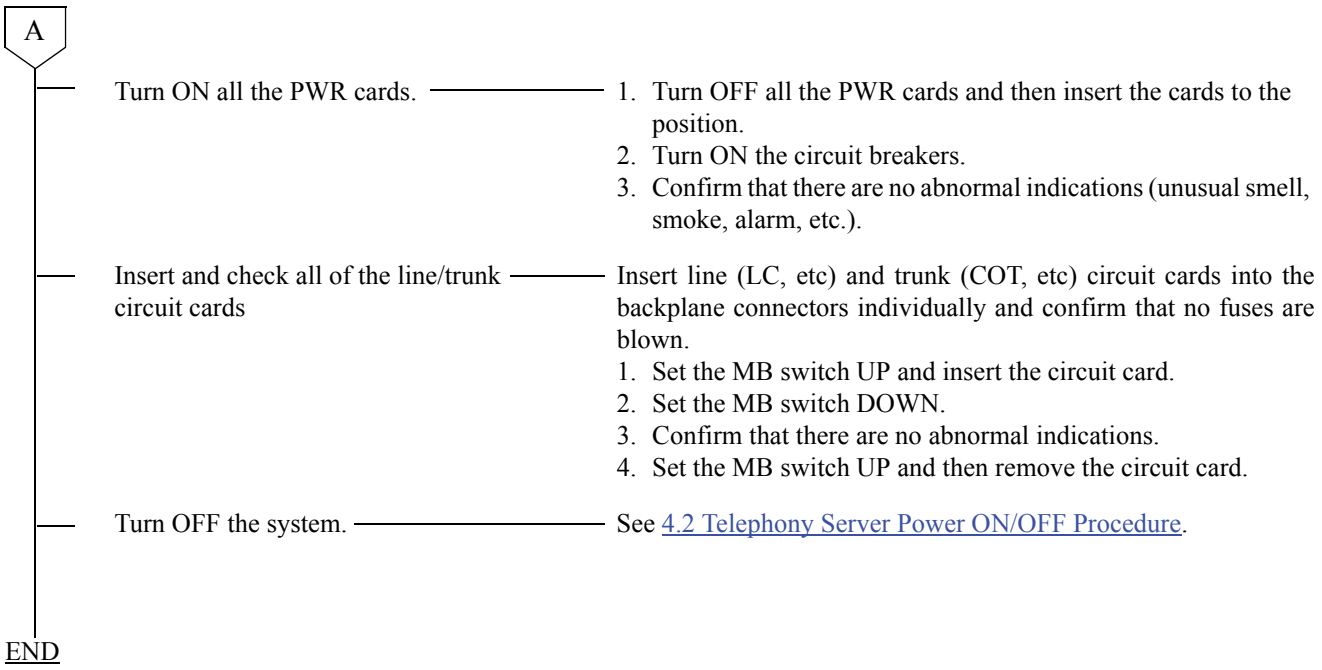
(3) Do not power on the system until the cause is cleared and the failure is recovered.

Make sure that all the circuit cards are disconnected before starting the power-on test.

START

- Perform a visual inspection.
  - Check whether any pins on the backplane of each module are bent and caused a short.
  - Check whether any foreign matter, such as a cleaning fluid residue, is left on the circuit cards' connectors.
  - Check whether any ROM pins, on each circuit card equipped with ROM (CPU, etc.), is bent or improperly seated.
- Leave all of the circuit cards inserted half-way.
  - Mount all of the circuit cards in the PIR, leaving them inserted only half-way (not inserted into their connectors).
- Check the input voltage.
  - Check the insulation across DC -48V and G terminals on DC power receiving terminals.
  - Turn ON the power to the rectifier and check the voltage and its polarity.
- Check the power supplies.
  - Individually check the PWR card(s) on each module.
    1. Turn OFF the circuit breaker on the PWR card.
    2. Insert the PWR card to the backplane connector.
    3. Turn ON circuit breaker ON.
    4. Check the lamps light green.
    5. Observe the PWR card(s) for a while and confirm that nothing abnormal (unusual smell, smoke, etc.) occurs.
    6. Turn ON/OFF the circuit breaker several times and observe the condition.
    7. Turn OFF the PWR card and pull the card about 50 mm (2 inches) frontward to disconnect the PWR card from the backplane connectors (partial insertion).

A


A
Turn ON all the PWR cards.
1. Turn OFF all the PWR cards and then insert the cards to the position.
2. Turn ON the circuit breakers.
3. Confirm that there are no abnormal indications (unusual smell, smoke, alarm, etc.).
Insert and check all of the line/trunk circuit cards
Insert line (LC, etc) and trunk (COT, etc) circuit cards into the backplane connectors individually and confirm that no fuses are blown.
1. Set the MB switch UP and insert the circuit card.
2. Set the MB switch DOWN.
3. Confirm that there are no abnormal indications.
4. Set the MB switch UP and then remove the circuit card.
Turn OFF the system.
See 4.2 Telephony Server Power ON/OFF Procedure.
END

4. Power ON/OFF Procedure



Be sure to follow the procedures below to power on/off the system.

4.1 Power ON/OFF Procedure for the Telephony Server

[System Power ON]

Turn on the components of the system in accordance with numbers given in the parentheses in the following figure.

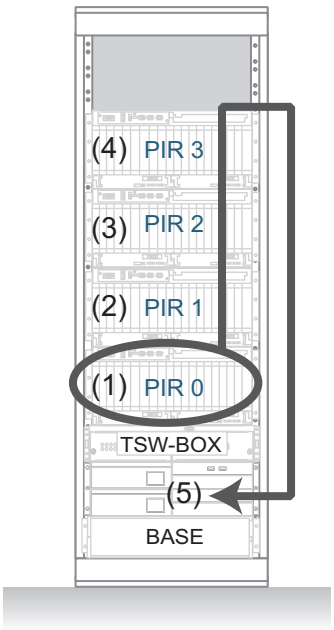
Note: Note the following conditions:
- PIR modules should be turned on in ascending order of PIR number (PIR 0 → PIR 1 → PIR 2.....).
- When mounting PA-CFTV or PA-CFTW, move the MB switch from up (ON) to down (OFF) position and then initialize PA-CFTV/PA-CFTW after turning the Telephony Server power on. If not, the switch settings of PA-CFTV/PA-CFTW may not be configured correctly.
  For CH-CFTA card, initialization is not required.

(a) 1-IMG configuration

7U-PIR power unit or PWR/DPWR circuit card on 8U-PIR → Power module on Telephony Server

Note: For the detailed procedure, see 4.3 PIR Power ON/OFF Procedure, and 4.2 Telephony Server Power ON/OFF Procedure.

1-IMG Configuration



(b) 4-IMG configuration

- In the case of TSW-BOX

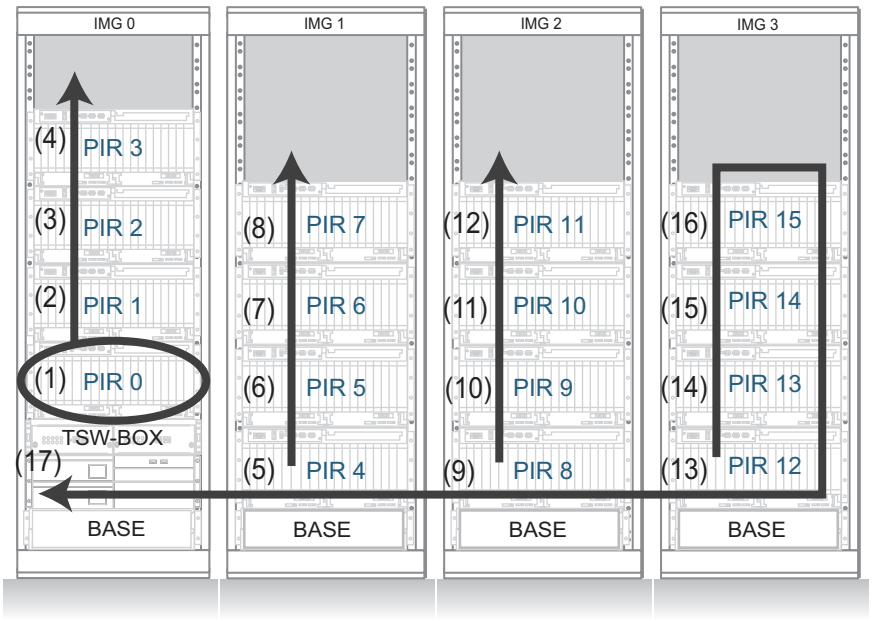
  7U-PIR power unit or PWR/DPWR card on 8U-PIR → Power module on Telephony Server

- In the case of TSWR

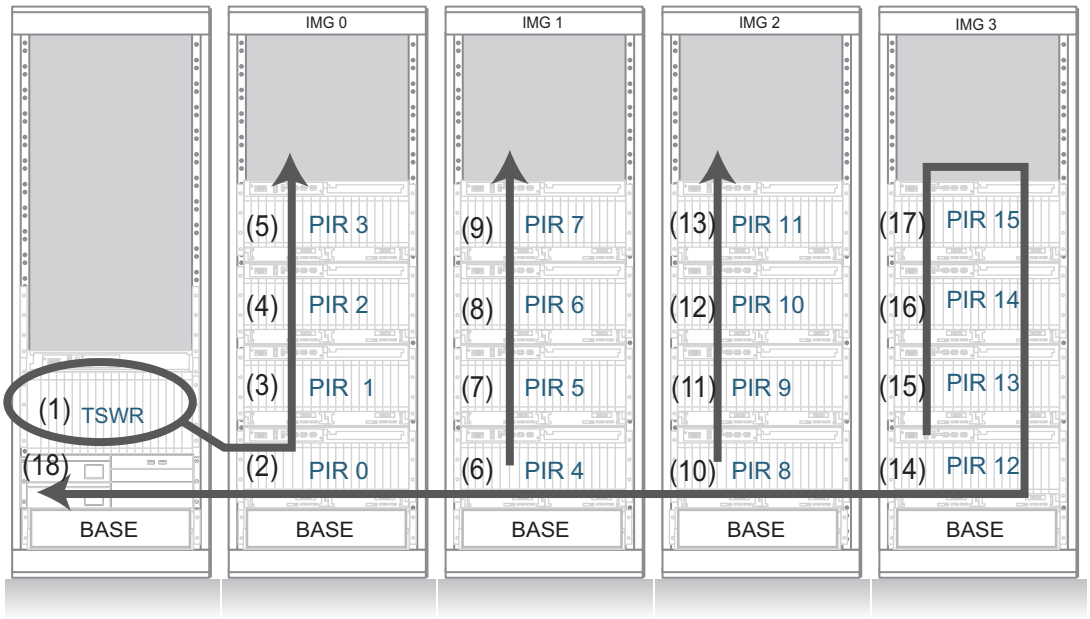
  PWR card on TSWR → 7U-PIR power unit or PWR/DPWR card on 8U-PIR → Power module on Telephony Server

Note: For the detailed procedure, see 4.4 TSWR Power ON/OFF Procedure, 4.3 PIR Power ON/OFF Procedure, and 4.2 Telephony Server Power ON/OFF Procedure.

4-IMG configuration (When using TSW-BOX)



4-IMG configuration (When using TSWR)



[System Power OFF]

Turn off the components of the system in accordance with numbers given in the parentheses in the following figure.

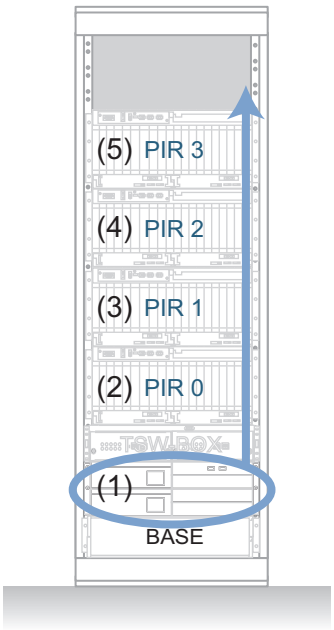
Note: PIR modules should be turned off in ascending order of PIR number (PIR 0 → PIR 1 → PIR 2.....).

(a) 1-IMG configuration

Power module on Telephony Server → 7U-PIR power unit or PWR/DPWR card on 8U-PIR

Note: For the detailed procedure, see 4.2 Telephony Server Power ON/OFF Procedure, and 4.3 PIR Power ON/OFF Procedure.

1-IMG Configuration



(b) 4-IMG configuration

- In the case of TSW-BOX

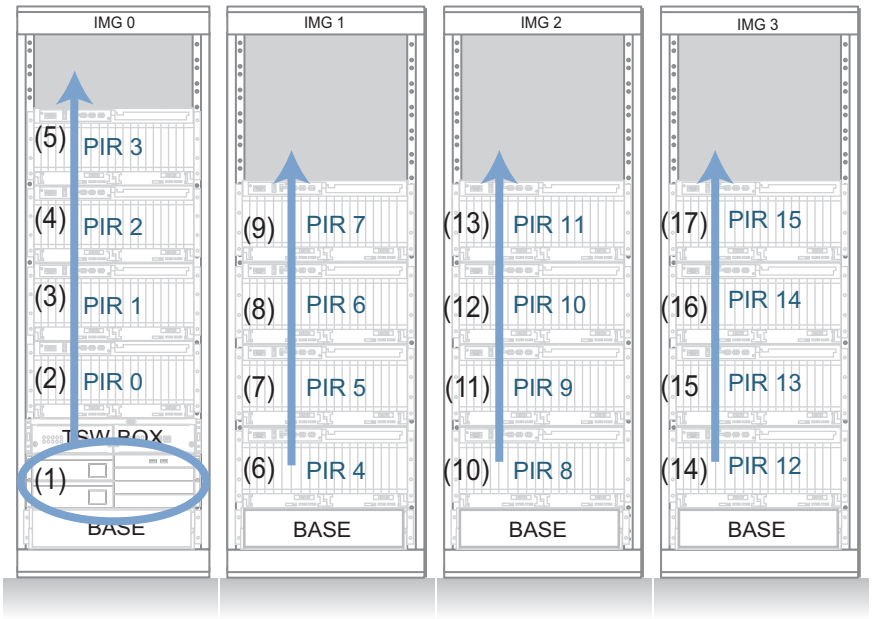
  Power module on Telephony Server → 7U-PIR power unit or PWR/DPWR circuit card on 8U-PIR

- In the case of TSWR

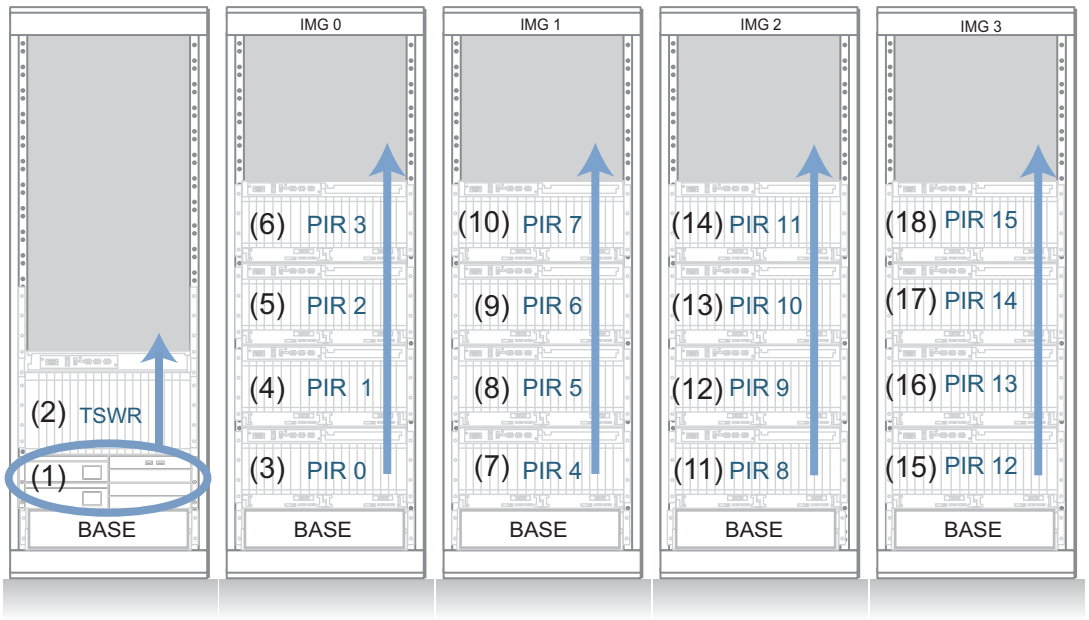
  Power module on Telephony Server → PWR circuit card on TSWR → 7U-PIR power unit or PWR/DPWR circuit card on 8U-PIR

Note: For the detailed procedure, see 4.2 Telephony Server Power ON/OFF Procedure, 4.4 TSWR Power ON/OFF Procedure, and 4.3 PIR Power ON/OFF Procedure.

4-IMG configuration (When using TSW-BOX)



4-IMG configuration (When using TSWR)



4.2 Telephony Server Power ON/OFF Procedure



<AC-Powered Model of Telephony Server>

Turn ON:

(1) Connect an AC power cord to AC inlet on Power module (on the rear panel of Telephony Server module).

(2) Turn on the PWR switch (to left) (**Note 1**). PWR lamp (on the left of Power switch) lights green.

Turn OFF:

(1) On the **Telephony Server Maintenance Menu** screen, click the **Shutdown** button n the **SYSTEM CONTROL** area. The **Shutdown** dialog box appears in the lower right portion of the screen.

(2) Click the **Shutdown** button in the **Shutdown** dialog box.

(3) Make sure that "PWR" lamp is off on the CPU card. **Note 2**

(4) Turn off the Power switch (to right) on the Power module.

(5) Disconnect the AC power cord.

<DC-Powered Model of Telephony Server>

Turn ON:

(1) Supply the power to BASEU. When the power cable between BASEU and Telephony Server is connected, BASEU starts supplying the power to Telephony Server here.

(2) Turn on the Power switch (to left) on the Power module (on the rear panel of Telephony Server module) (**Note 1**). PWR lamp (on the left of Power switch) lights green.

Turn OFF:

(1) On the Telephony Server Maintenance Menu screen, click the **Shutdown** button in the **SYSTEM CONTROL** area. The **Shutdown** dialog box appears in the lower right portion of the screen.
(2) Click the **Shutdown** button in the **Shutdown** dialog box.

(3) Make sure that "PWR" lamp is off on the CPU card. **Note 2**

(4) Turn off the Power switch (to right) on the Power module.

(5) Stop supplying the power to BASEU.

Note 1: When you want to turn on Telephony Server right after turning off the powered system, wait for a while (about 10 seconds) before powering on the system again.

Note 2: Check the PWR lamp on the front panel of CPU card turns off. When the system is in a dual configuration, check the PWR lamp goes off on both #0 and #1 CPU cards.

4.3 PIR Power ON/OFF Procedure



Turn ON:

(1) Connect an AC power cord to AC inlet on 7U-PIR. Now 7U-PIR power (AC-DC) unit is powered on (OPE lamp lights and fans start turning).

(2) Turn on the PWR switch (to right) on the front of the 7U-PIR power (AC-DC) unit.

Turn OFF:

(1) Turn off the PWR switch (to left) on the front of the 7U-PIR power (AC-DC) unit.

(2) Disconnect the AC power cord.

<Turn ON/OFF Procedure: AC-Powered Model of 8U-PIR>

Turn ON:

(1) Connect an AC power cord to AC inlet on AC-DC Power unit. Now AC-DC Power unit is powered on (OPE lamp lights and fans start turning).

(2) Turn on the PWR switch (to right) on the front right of AC-DC Power unit. Now AC-DC Power unit starts supplying power to 8U-PIR.

(3) On the PWR/DPWR circuit card on 8U-PIR, flip the -48 V SW switch up to the ON position.

Turn OFF:

(1) On the PWR/DPWR circuit card on 8U-PIR, flip the -48 V SW switch down to the OFF position.

(2) Turn off the PWR switch (to left) on the front right of AC-DC Power unit.

(3) Disconnect the AC power cord.

<Turn ON/OFF Procedure: DC-Powered Model of 7U-PIR>

Turn ON:

(1) Supply power to the BASEU. When the power cable connection between the BASEU and 7U-PIR is completed, the BASEU starts supplying power to 7U-PIR.

(2) On the 7U-PIR power (DC-DC) unit, turn on the power switch.

Turn OFF:

(1) Turn off the PWR switch (to left) on the front of the 7U-PIR power (DC-DC) unit.

(2) Stop supplying power to the BASEU.

4.4 TSWR Power ON/OFF Procedure



Turn ON:

(1) Supply the power to BASEU. When the power cable between BASEU and TSWR is connected, BASEU starts supplying the power to TSWR.

(2) On the PWR circuit card for TSWR, flip the -48 V SW switch up to the ON position.

Turn OFF:

(1) On the PWR circuit card for TSWR, flip the -48 V SW switch down to the OFF position.

(2) Stop supplying the power to BASEU.

5. Program Version Upgrade

This section explains the procedure to upgrade the version of the system program.

There are the following procedures to upgrade the version of the system program. Perform the upgrade with the appropriate procedure according to the concrete environment of your system currently used.

[Version Upgrade with CF Card Change]

This procedure changes the CF card of the system currently used.

Note: Please note the following:
- Because it is necessary to shut down the system, consider in advance the time that the system currently used is stopped.
- This procedure is for a software major version upgrade and minor version upgrade.

[Version Upgrade with WORK/TEMP Switch]

This procedure prepares the old and new versions with WORK side and TEMP side, and switches the system program currently used.

Note: Please note the following:
- This procedure is only for minor version up. With this procedure it is not possible a major version up. Perform it with the procedure of Version Upgrade with CF Card Change.
- When the software is switched, the system is automatically restarted.

Software major version upgrade and minor version upgrade are defined as follows.

- Major version upgrade: An update that follows a change of software version.
- Minor version upgrade: An update only of issue change of software version.

Major Version Upgrade					Minor Version Upgrade				
Before Version Upgrade			After Version Upgrade		Before Version Upgrade			After Version Upgrade	
Version	Issue		Version	Issue	Version	Issue		Version	Issue
V1	1.00	→	V2	1.00	V1	1.00	→	V1	2.00
V2	2.10	→	V3	1.00	V2	2.00	→	V2	2.10

5.1 Version Upgrade with CF Card Change

This section explains the procedure to upgrade the version with the change of the CF card.

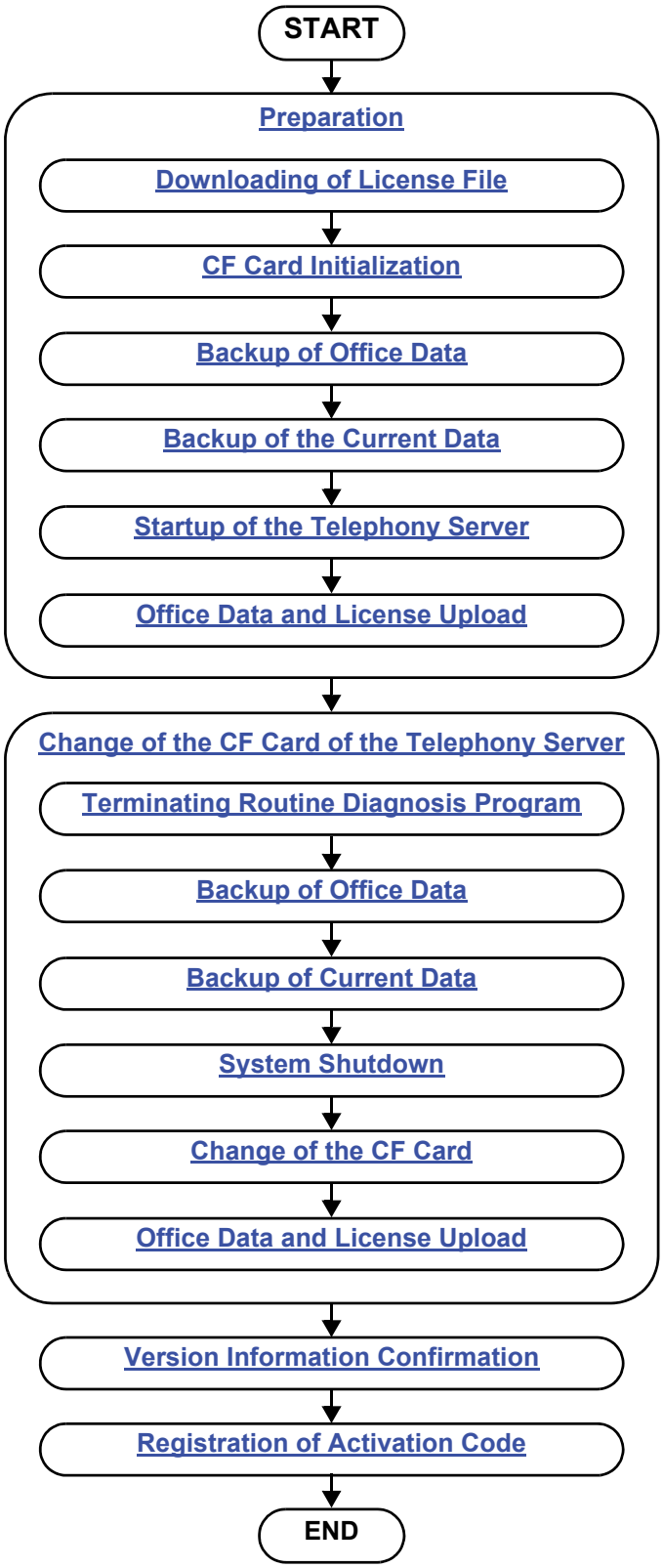
With the preparation of a spare Telephony Server and CF card (besides the Telephony Server and the CF card currently used), it is possible to shorten the time that the system is stopped during the upgrade of the version.

This procedure presupposes that a spare Telephony Server and CF card are prepared for allowing a shorter upgrade of the version. If they are not prepared, only the procedure flow is given.

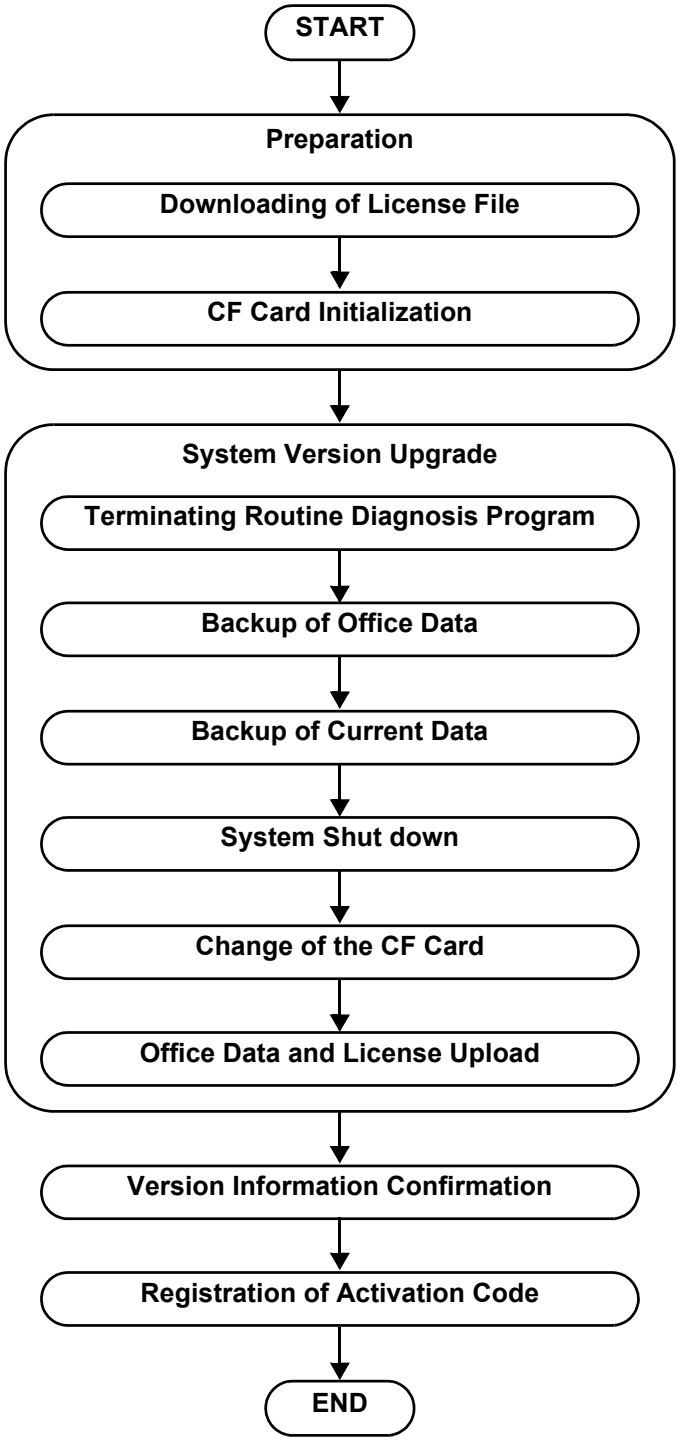
Note: With the preparation of a spare Telephony Server and CF card, the initialization of CF card, and the uploading of office data and license can be performed in advance. For that reason, when the version upgrade is performed, the time the system is stopped can be shortened.

	Procedure 1	Procedure 2	Procedure 3
Time the system is stopped	Short	◄——►	Long
Spare Telephony Server	Available	Not available	Not available
Spare CF card	Available	Available	Not available

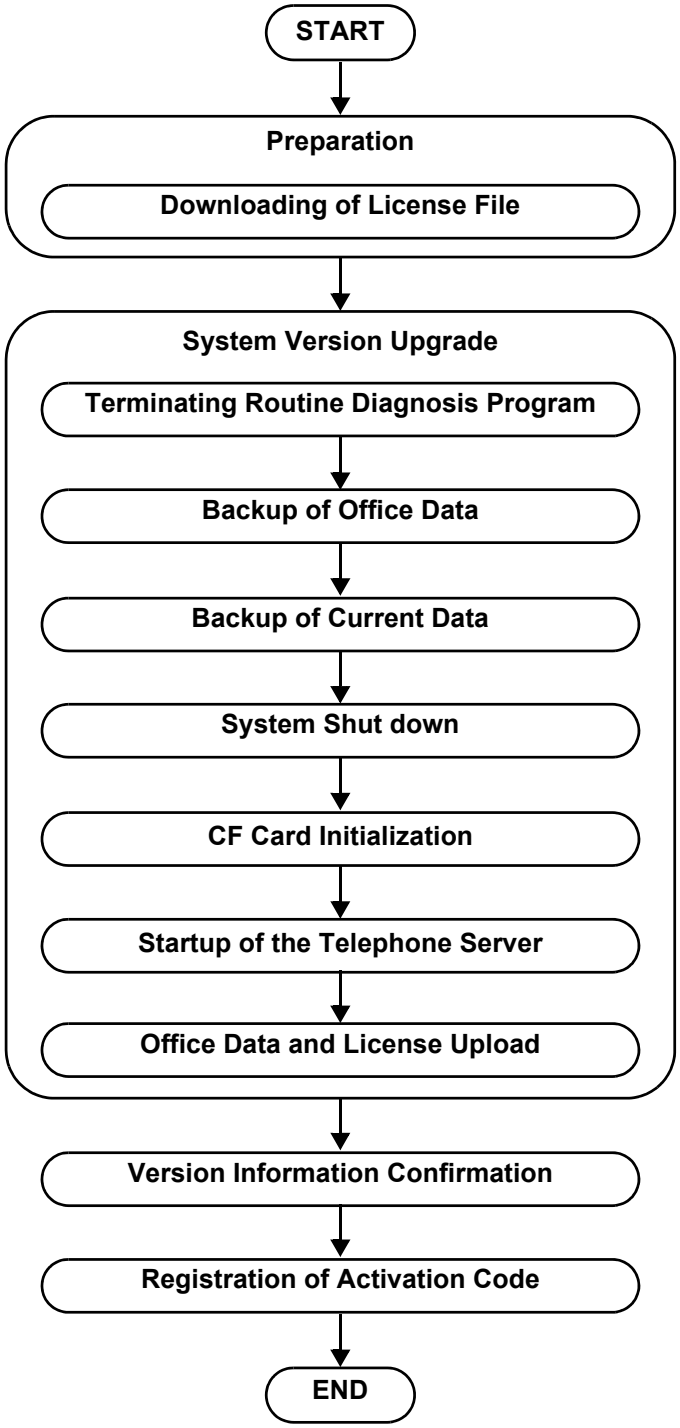
Procedure 1


START
Preparation
Downloading of License File
CF Card Initialization
Backup of Office Data
Backup of the Current Data
Startup of the Telephony Server
Office Data and License Upload
Change of the CF Card of the Telephony Server
Terminating Routine Diagnosis Program
Backup of Office Data
Backup of Current Data
System Shutdown
Change of the CF Card
Office Data and License Upload
Version Information Confirmation
Registration of Activation Code
END

Procedure 2


START
Preparation
Downloading of License File
CF Card Initialization
System Version Upgrade
Terminating Routine Diagnosis Program
Backup of Office Data
Backup of Current Data
System Shut down
Change of the CF Card
Office Data and License Upload
Version Information Confirmation
Registration of Activation Code
END

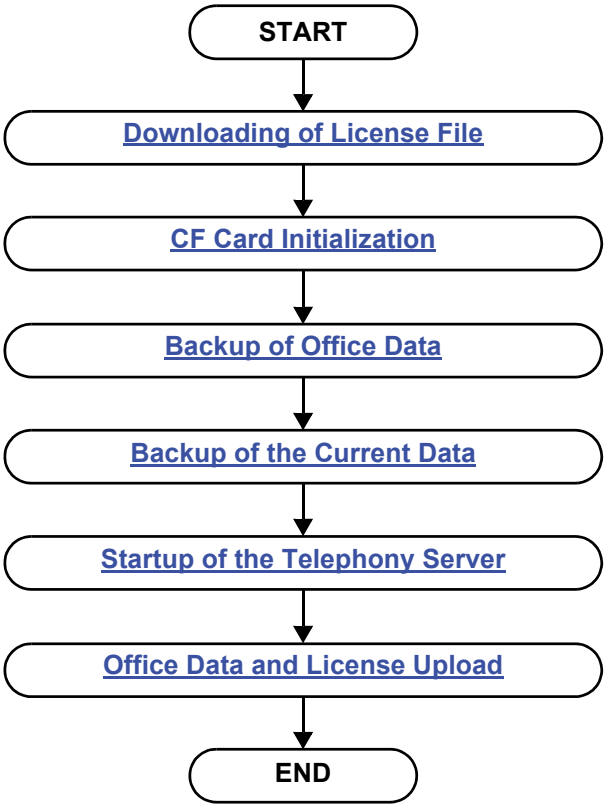
Procedure 3


START
Preparation
Downloading of License File
System Version Upgrade
Terminating Routine Diagnosis Program
Backup of Office Data
Backup of Current Data
System Shut down
CF Card Initialization
Startup of the Telephone Server
Office Data and License Upload
Version Information Confirmation
Registration of Activation Code
END

5.1.1 Preparation

This section explains the procedure of initializing the spare CF card used after the version upgrade and a preparation in advance required before beginning the system version upgrade.

Follow the flow chart below for the preparation procedure.



5.1.1.1 Downloading of License File

As a first step, access the License Management Server (LMS) to download a license file (svi.zip) and obtain Activation Code.

Note: Be sure to note the following conditions.

- A new Registration Activation code is necessary when the license is upgraded.
- The SVI file is downloaded in a zip format. Do not unzip the SVI file since this file is used as is.
- You can rename the saved SVI file, but do not change the extension of the file.
- For a major version upgrade, download the license file. However, for a minor version upgrade, depending on the case, is not necessary to download a file. Download only if needed.

5.1.1.2 CF Card Initialization

Initialize the spare CF card and install OS, SV9500 program and default office data into the card.

1 See 1.5 CF Card Initialization in 1.3 Initial Startup Procedure and perform the CF card initialization.

Note:
In dual system configuration, perform the initialization for both two cards.

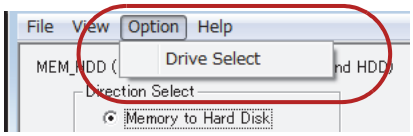
CF Card initialization is completed.

5.1.1.3 Backup of Office Data

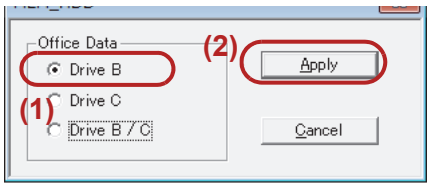
This section explains the procedure to backup the office data of the Telephony Server currently used with the MEM_HDD command.

1 Execute the MEM_HDD command.

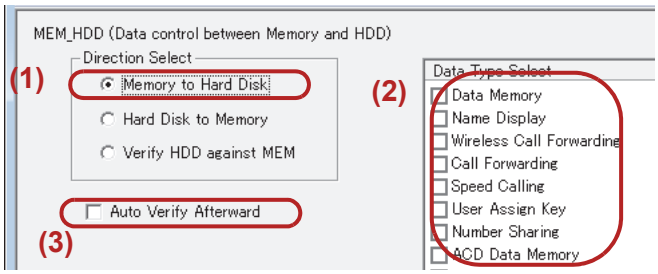
2 Select **Drive Select** from **Option** menu.



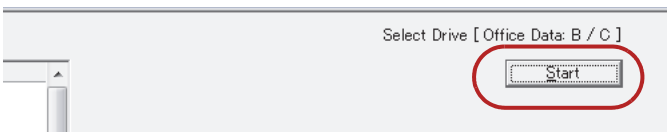
3 (1) Select the drive which is currently used from **Office Data**. Which drive to select depends on your configuration. As an example, office data will be saved in **Drive B** in the figure below.
(2) Click the **Apply** button.



4 (1) Select **Memory to Hard Disk** for **Direction Select**.
(2) Place a check mark for used data type on **Data Type Select**. (for the used data type, see [Operations and Maintenance Manual] - [Maintenance Commands] - [MEM_HDD].)
(3) Place a check mark on **Auto Verify Afterward**.

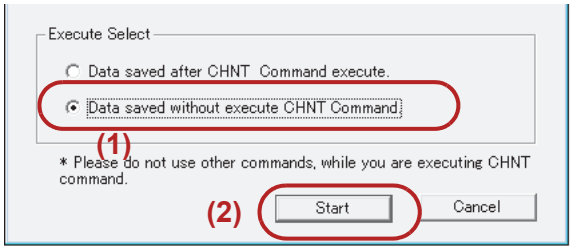


5 Click the **Start** button.
CHNT Execution Select screen appears.



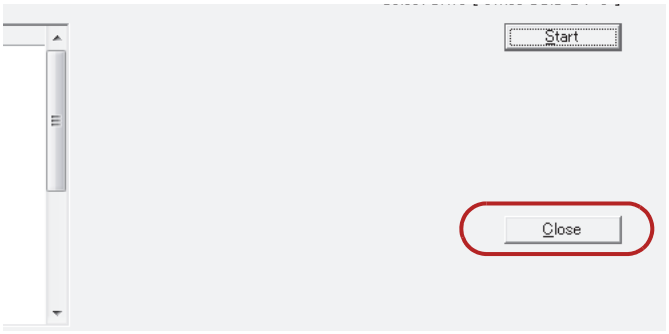
6

(1) Select **Data saved without execute CHNT Command** for **Execute Select**.
(2) Click the **Start** button.
The data backup begins.



7

After the backup is completed, click the **Close** button to exit the MEM_HDD command.



Backup of office data is completed.

5.1.1.4 Backup of the Current Data

After the backup of the office data of the Telephony Server currently used, use the Telephony Server Maintenance Menu and, for the posterior upload to the spare CF card, save the current data (office data and license data) to a maintenance PC.

Note: When performing a minor version upgrade, download the license from the system currently used as needed. If a new license is added, see 5.1.1.1 Downloading of License File and download it from the License Management Server (LMS). In case of major version upgrade, it is not necessary to download the license as explained in this section.

1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar of the maintenance PC.
“xxx.xxx.xxx.xxx” represents the LAN1 IP address (ex. 10.100.1.11).

Note:
Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2 (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

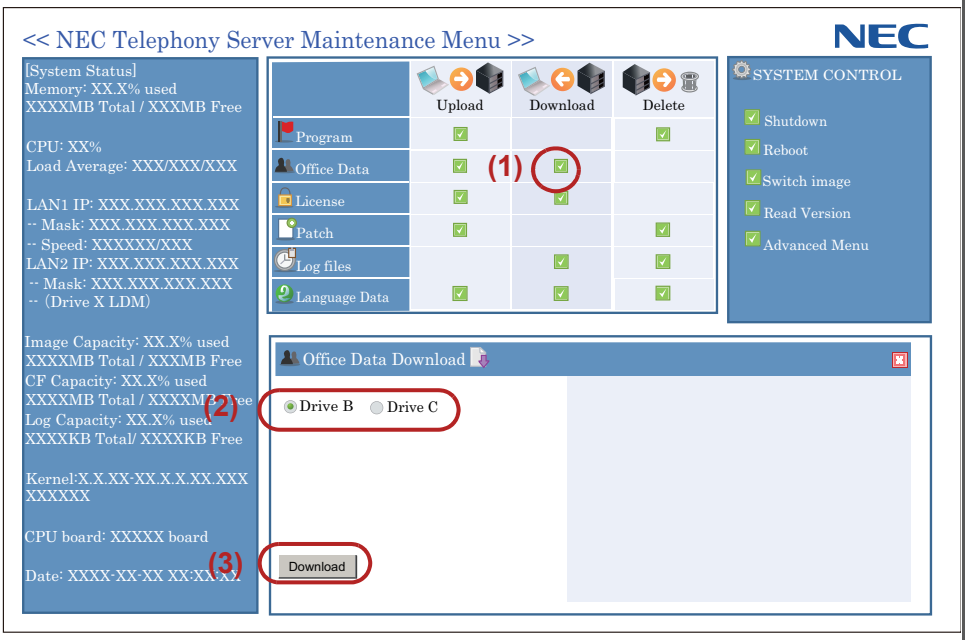
Note:
After logging in to Telephony Server Maintenance Menu, do not use **Back** button on browser.

3

(1) Click the **Download** button for **Office Data**. The **Office Data Download** dialog box appears in the lower right portion of the screen.

(2) Choose a drive (Drive B or Drive C) which you specified at STEP3 of 5.1.1.3 Back-up of Office Data.

(3) Click the **Download** button on the dialog box and save the data in the desired folder.

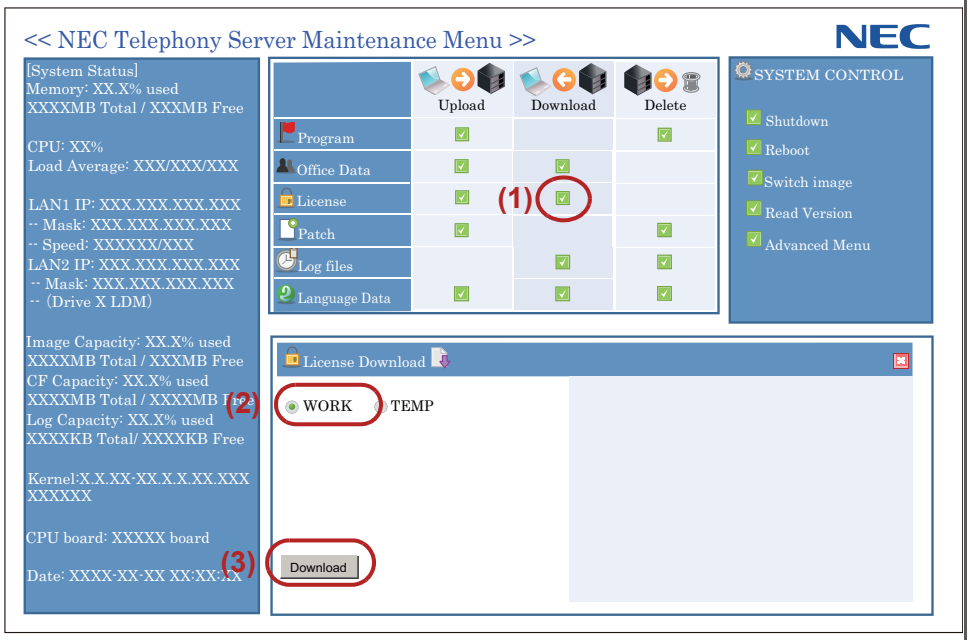


Note:

When the download of office data ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

4

(1) Click the **Download** button for **License**. The **License Download** dialog box appears in the lower right portion of the screen.
(2) Select **WORK** on the **License Download** dialog box.
(3) Click the **Download** button on the dialog box and save the license file in the desired folder.



Note:
When the download of license file ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

The backup process of the current data is completed.

However, if your system provides the OPTIONAL LANGUAGE PACK LOADING [O-42] service, backing up the following language data is also required:

<When customized language file is used for Extension Language>

- Extension Language file (for example, “English_0001.txt”)
- Information file of Extension Languages (exlang_info)

For further information, see [Data Programming Manual - Business] - [BUSINESS FEATURES] - [OPTIONAL LANGUAGE PACK LOADING [O-42] - [Updating Extension Language File (Customized Language File)].

<When Sample Language file is used for Extension Language>

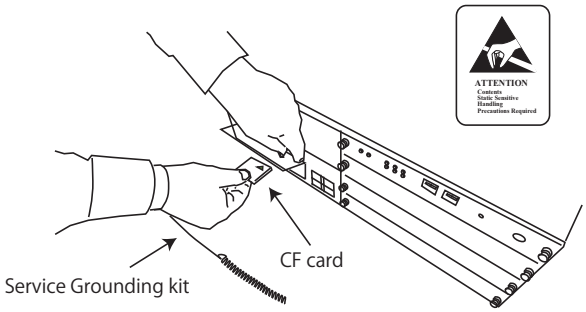
- Information file of Extension Languages (exlang_info)

For further information, see [Data Programming Manual - Business] - [BUSINESS FEATURES] - [OPTIONAL LANGUAGE PACK LOADING [O-42] - [Updating Extension Language File (Sample Language File)].

5.1.1.5 Startup of the Telephony Server

Use the spare CF card that has been initialized and install it in the spare Telephony Server.

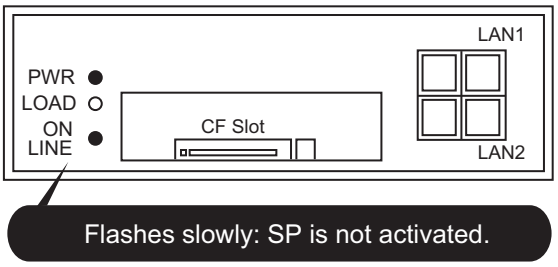
1 Insert the initialized CF card into CF slot on CPU card.



Point:
Only the CF cards provided by NEC are supported.

2 Turn on the power switch on the rear panel of the Telephony Server.

3 Verify that ON LINE lamp on the front panel of CPU card flashes slowly after a few minutes.



Point:
For detailed information on ON LINE lamp, refer to 2.2.1 CPU Card in 1. WHAT IS SV9500? of CHAPTER 1 GENERAL.

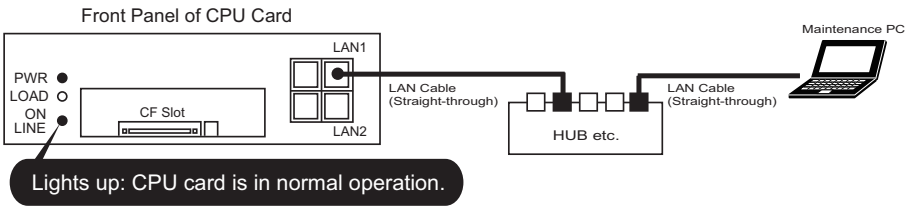
The startup of the Telephony Server is completed.

5.1.1.6 Office Data and License Upload

Upload the license data and office data downloaded from the Telephony Server currently used.

Note: For a dual configuration, upload the office data and license data to both CF cards of System #0 and System #1.

1 Connect LAN1 connector on CPU card and the maintenance PC with a LAN cable.



Note: Do not connect a cable to any LAN connector other than LAN1 connector.

2 Execute ping command from the maintenance PC to the LAN1 IP address (ex. 10.100.1.11/24) set at 5.1.1.2 CF Card Initialization. and verify that a response is sent back.

3 Start Internet Explorer and type “https://xxx.xxx.xxx.xxx:9801/” into the address bar. (xxx.xxx.xxx.xxx represents the LAN1 IP address (ex. 10.100.1.11).

Note: Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

4 (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click **OK** to log in to **Telephony Server Maintenance Menu**.

Note:
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to Telephony Server Maintenance Menu, do not use Back button on browser.

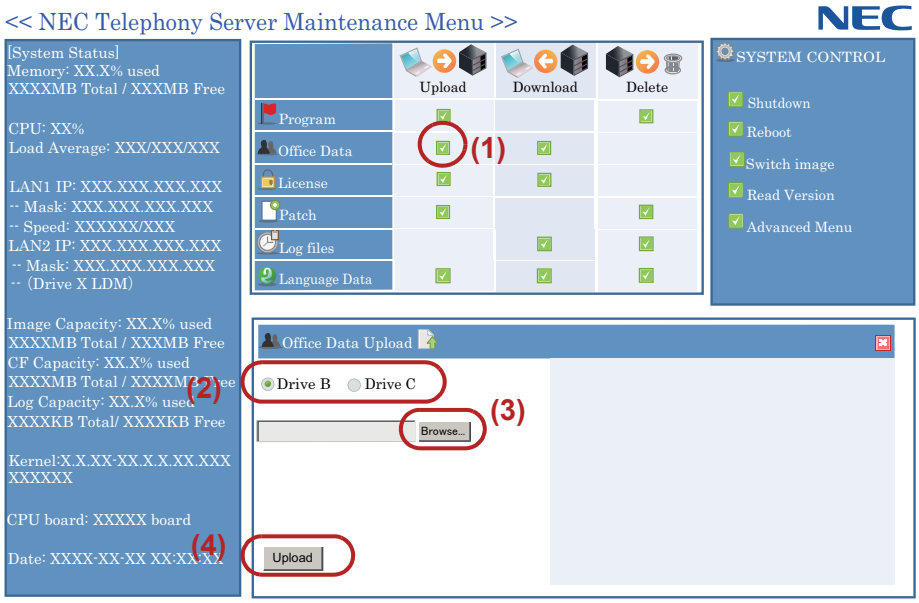
5

(1) Click the **Upload** button for **Office Data**. The **Office Data** dialog box appears in the lower right portion of the screen.

(2) Select the drive for uploading the office data (Drive B/C).

(3) Click the **Browse** button on the dialog box and then specify the data downloaded in STEP3 of 5.1.1.4 Backup of the Current Data.

(4) Click the **Upload** button. When the uploading is complete, **Operation successfully completed** will be displayed. Click **OK**.



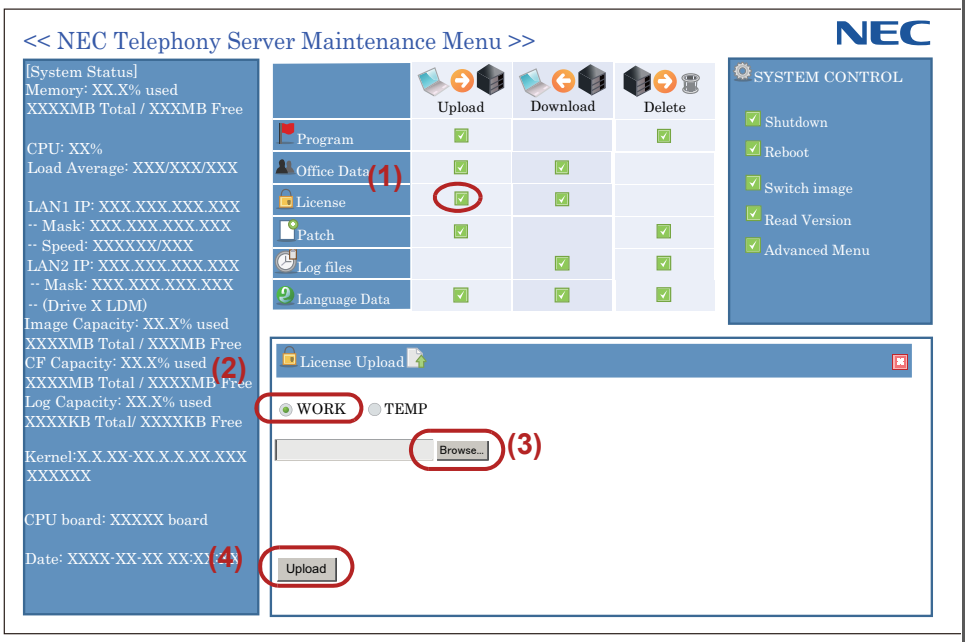
6

(1) Click the **Upload** button for **License**. The **License Upload** dialog box appears in the lower right portion of the screen.

(2) Select **Work** on the **License Upload** dialog box.

(3) Click the **Browse** button on the dialog box and then specify the license file downloaded in STEP4 of 5.1.1.4 Backup of the Current Data. If the License to be used has been downloaded from the License Management Server, specify such license.

(4) Click the **Upload** button. When the uploading is completed, **Operation successfully completed** will be displayed. Click **OK**.



Point:

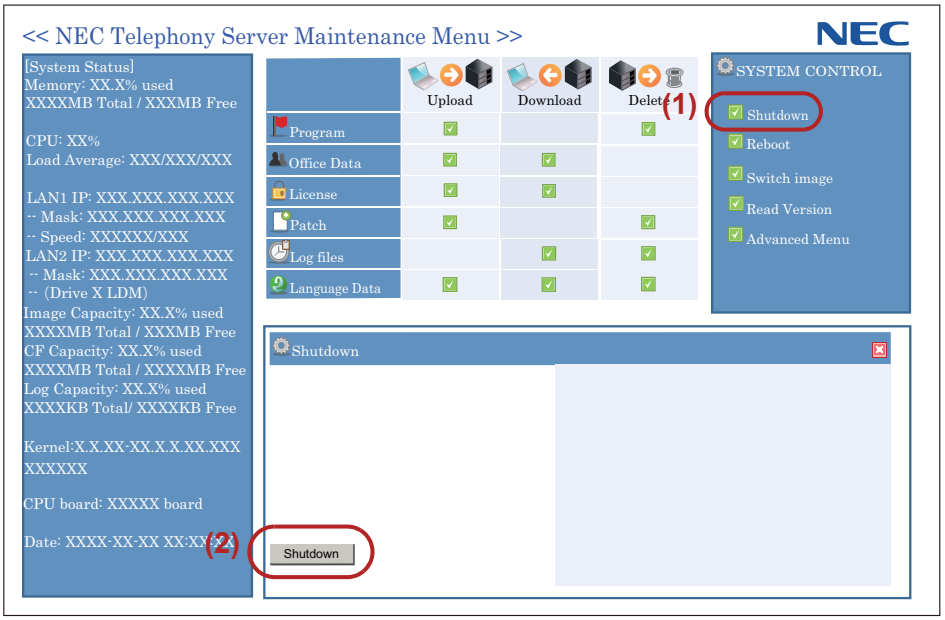
The Language Data button needs to be clicked only when OPTIONAL LANGUAGE PACK LOADING [O-42] is used. For more details on OPTIONAL LANGUAGE PACK LOADING [O-42], see [Data Programming Manual - Business] - [BUSINESS FEATURES] - [OPTIONAL LANGUAGE PACK LOADING [O-42].

Note:

When the writing of license file ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

7

(1) Click the **Shutdown** button in the **SYSTEM CONTROL** area. The **Shutdown** dialog box appears.
(2) Click the **Shutdown** button on the dialog box.
(3) A confirmation message appears. Click **OK** to shutdown the Telephony Server.
(4) When the shutting down is complete, **Operation successfully completed. Please close the browser.** will be displayed. Click **OK**.

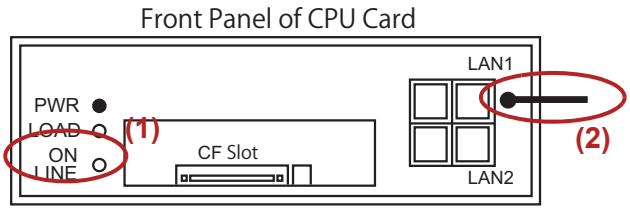


Point:
Only the CPU of the Telephony Server will shutdown by executing the procedure explained here. Therefore, the power of Telephony Server will not be turned off.

Note:
When the system shutdown ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

8

(1) Verify that ON LINE lamp on the front panel of CPU card goes off. After verifying the lights out, turn off the power switch on the rear panel of the Telephony Server.
(2) Disconnect the LAN cable from LAN1 connector.



Note:
Power off the Telephony Server after verifying that ON LINE lamp is completely turned off.

Point:
For detailed information on ON LINE lamp, refer to 2.2.1 CPU Card in 1. WHAT IS SV9500? of CHAPTER 1 GENERAL.

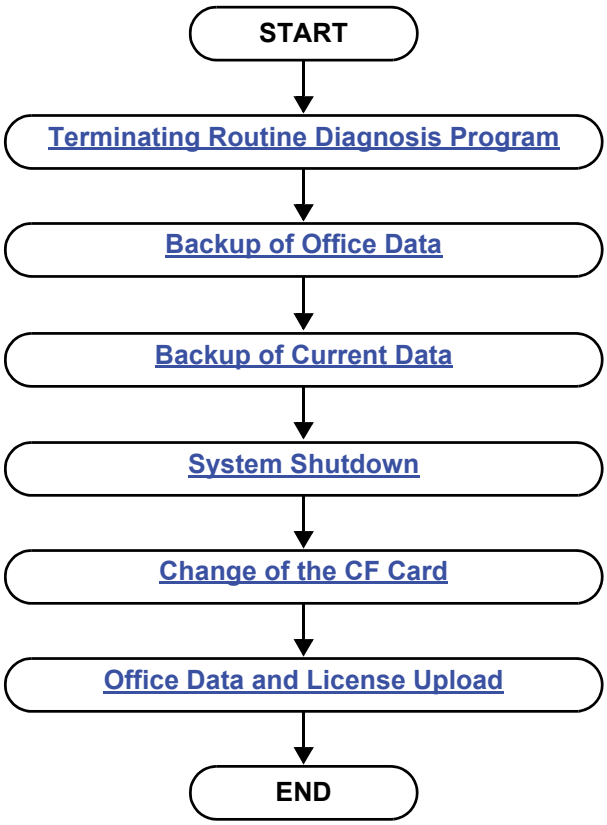
9

Extract the CF card from the Telephony Server.

Office data and license upload are completed.

5.1.2 Change of the CF Card of the Telephony Server

This section explains the procedure of version upgrade of the Telephone Server currently used.
Follow the flow chart below for performing the settings.



5.1.2.1 Terminating Routine Diagnosis Program

In case of a system in dual configuration, it is necessary to suspend the Routine Diagnosis Program.

Note: This procedure is only required for a dual configuration system.

1

(1) Execute the ASYD command.
(2) Check whether the data is set as follows.
If the data is set to a different value, modify the data as shown below.

SYS1 Index 87 = FF
SYS1 Index 88 = FF

(3) Exit the ASYD command.

Point:
In normal cases, no modification is required since these data are set as the default value. Set the value as given only if the data differ from the default value.

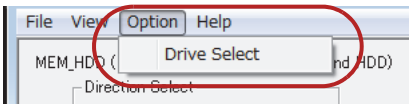
Terminating Routine Diagnosis Program is completed.

5.1.2.2 Backup of Office Data

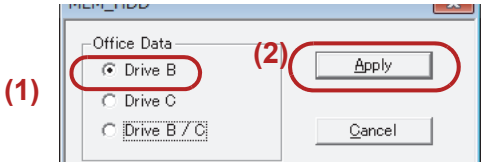
For saving the latest office data in the Telephony Server, use the MEM_HDD command and backup the office data.

1 Execute the MEM_HDD command.

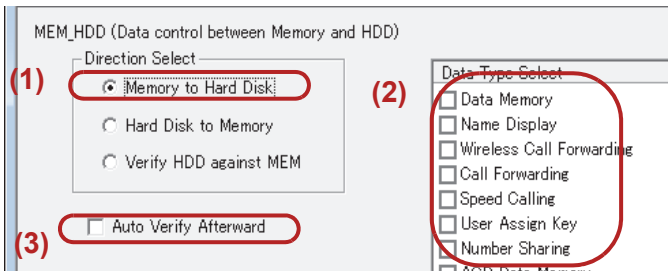
2 Select **Drive Select** from **Option menu**.



3 (1) Select the drive which is currently used from **Office Data**. Which drive to select depends on your configuration. As an example, office data will be saved in **Drive B** in the figure below.
(2) Click the **Apply** button.



4 (1) Select **Memory to Hard Disk** for **Direction Select**.
(2) Place a check mark for used data type on **Data Type Select**. (for the used data type, see [Operations and Maintenance Manual] - [Maintenance Commands] - [MEM_HDD].)
(3) Place a check mark on **Auto Verify Afterward**.

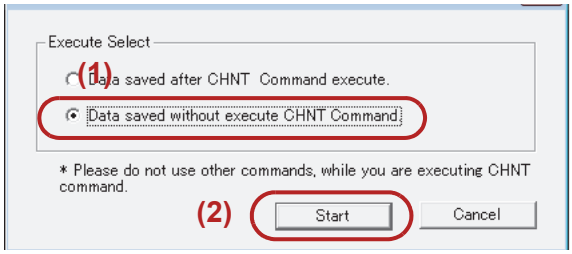


5 Click the **Start** button.
CHNT Execution Select screen appears.



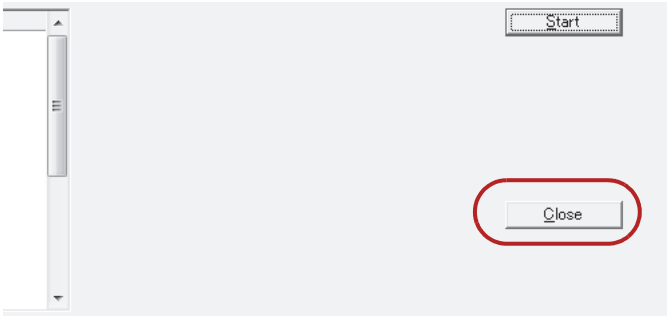
6

(1) Select **Data saved without execute CHNT Command** for **Execute Select**.
(2) Click the **Start** button.
The data backup begins.



7

After the backup is completed, click the **Close** button to exit the MEM_HDD command.



Backup of office data is completed.

5.1.2.3 Backup of Current Data

After the backup of the office data of the Telephony Server currently used, use the Telephony Server Maintenance Menu and, for the posterior upload to the spare CF card, save the latest current data (office data and license data) to a maintenance PC.

Note: When performing a minor version upgrade, download the license from the system currently used as needed. If a new license is added, see 5.1.1.1 Downloading of License File and download it from the License Management Server (LMS). In case of major version upgrade, it is not necessary to download the license as explained in this section.

1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. “xxx.xxx.xxx.xxx” represents the LAN1 IP address (ex. 10.100.1.11).

Note: Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2 (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

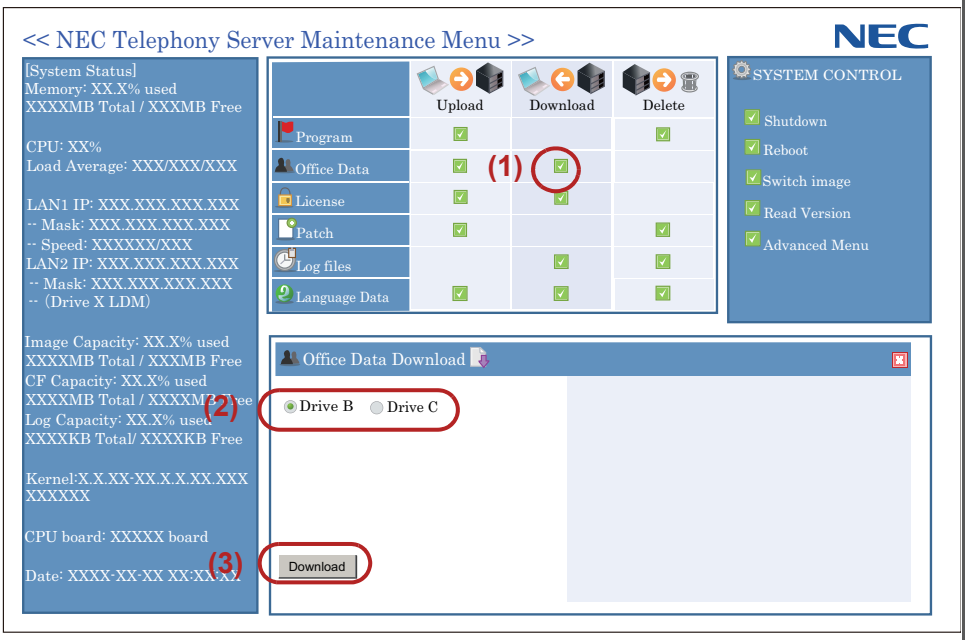
Note: After logging in to Telephony Server Maintenance Menu, do not use **Back** button on browser.

3

(1) Click the **Download** button for **Office Data**. The **Office Data Download** dialog box appears in the lower right portion of the screen.

(2) Choose a drive (Drive B or Drive C) which you specified at STEP3 of 5.1.2.2 Back-up of Office Data.

(3) Click the **Download** button on the dialog box and save the data in the desired folder.

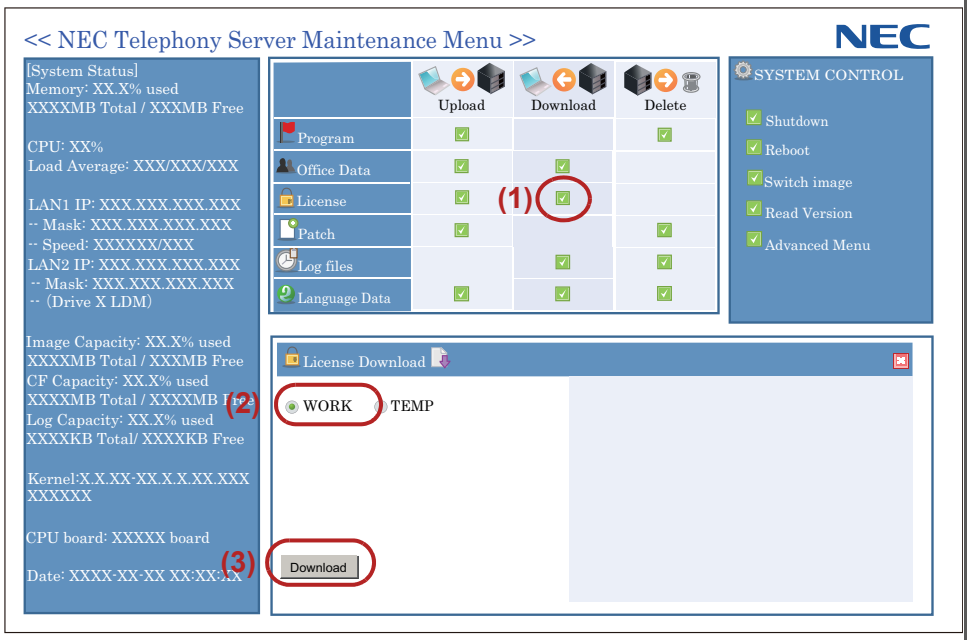


Note:

When the download of office data ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

4

(1) Click the **Download** button for **License**. The **License Download** dialog box appears in the lower right portion of the screen.
(2) Select **WORK** on the **License Download** dialog box.
(3) Click the **Download** button on the dialog box and save the license file in the desired folder.



Note:
When the download of license file ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

The backup process of the current data is completed.

However, if your system provides the OPTIONAL LANGUAGE PACK LOADING [O-42] service, backing up the following language data is also required:

<When customized language file is used for Extension Language>

- Extension Language file (for example, “English_0001.txt”)
- Information file of Extension Languages (exlang_info)

For further information, see [Data Programming Manual - Business] - [BUSINESS FEATURES] - [OPTIONAL LANGUAGE PACK LOADING [O-42] - [Updating Extension Language File (Customized Language File)].

<When Sample Language file is used for Extension Language>

- Information file of Extension Languages (exlang_info)

For further information, see [Data Programming Manual - Business] - [BUSINESS FEATURES] - [OPTIONAL LANGUAGE PACK LOADING [O-42] - [Updating Extension Language File (Sample Language File)].

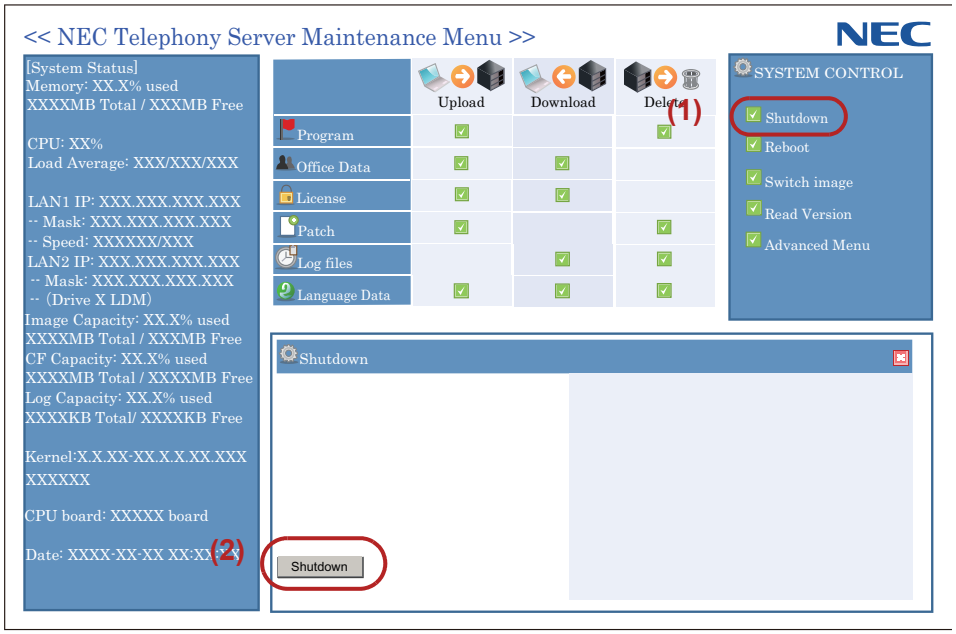
5.1.2.4 System Shutdown

Shutdown the Telephony Server currently used.

Note: For a dual configuration, shutdown starting from the ST-BY both System #0 and System #1.

1

(1) Click the **Shutdown** button in the **SYSTEM CONTROL** area. The **Shutdown** dialog box appears.
(2) Click the **Shutdown** button on the dialog box.
(3) A confirmation message appears. Click **OK** to shutdown the Telephony Server.
(4) When the shutting down is complete, **Operation successfully completed. Please close the browser.** will be displayed. Click **OK**.

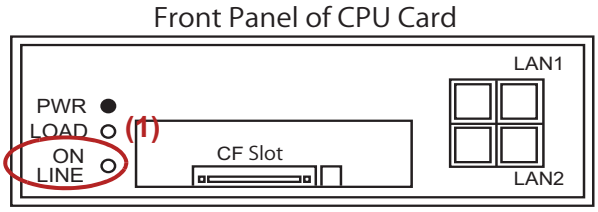


Point:
- Only the CPU of the Telephony Server will shutdown by executing the procedure explained here. Therefore, the power of Telephony Server will not be turned off.

Note:
When the system shutdown ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

2

(1) Verify that ON LINE lamp on the front panel of CPU card goes off.
(2) After verifying the lights out, turn off the power switch on the rear panel of the Telephony Server.



Note:
Power off the Telephony Server after verifying that ON LINE lamp is completely turned off.

Point:
For detailed information on ON LINE lamp, refer to 2.2.1 CPU Card in 1. WHAT IS SV9500? of CHAPTER 1 GENERAL.

3 Click the **Close** button on the browser.

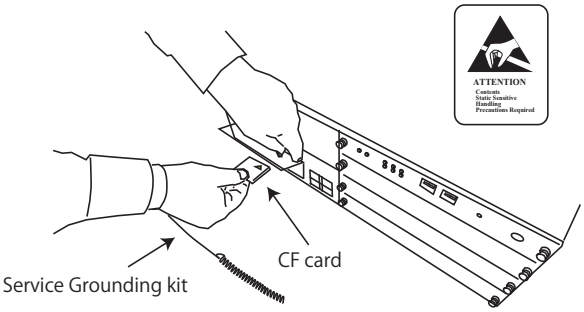
System shutdown is completed.

5.1.2.5 Change of the CF Card

Change the CF card of the Telephony Server currently in use with the spare CF card that has been prepared in advance.

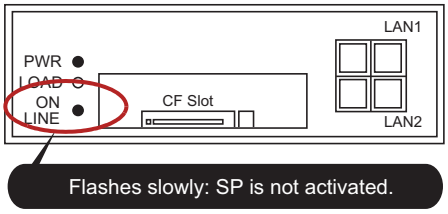
Note: For a dual configuration, change the CF cards both for System #0 and System #1.

1 Extract the CF card currently used and insert the spare CF card.



2 Turn on the power switch on the rear panel of the Telephony Server.

3 Verify that ON LINE lamp on the front panel of CPU card flashes slowly after a few minutes.



Point:
For detailed information on ON LINE lamp, refer to 2.2.1 CPU Card in 1. WHAT IS SV9500? of CHAPTER 1 GENERAL.

Change of the CF card is completed.

5.1.2.6 Office Data and License Upload

Upload the latest office data and license data downloaded before performing the system shutdown to the Telephony Server of after the CF card change.

Note: For a dual configuration, upload the office data and license data to both CF cards of System #0 and System #1.

1 Start Internet Explorer and type “https://xxx.xxx.xxx.xxx:9801/” into the address bar. (xxx.xxx.xxx.xxx represents the LAN1 IP address (ex. 10.100.1.11).

Note: Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2 (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click **OK** to log in to **Telephony Server Maintenance Menu**.

Note:
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to Telephony Server Maintenance Menu, do not use Back button on browser.

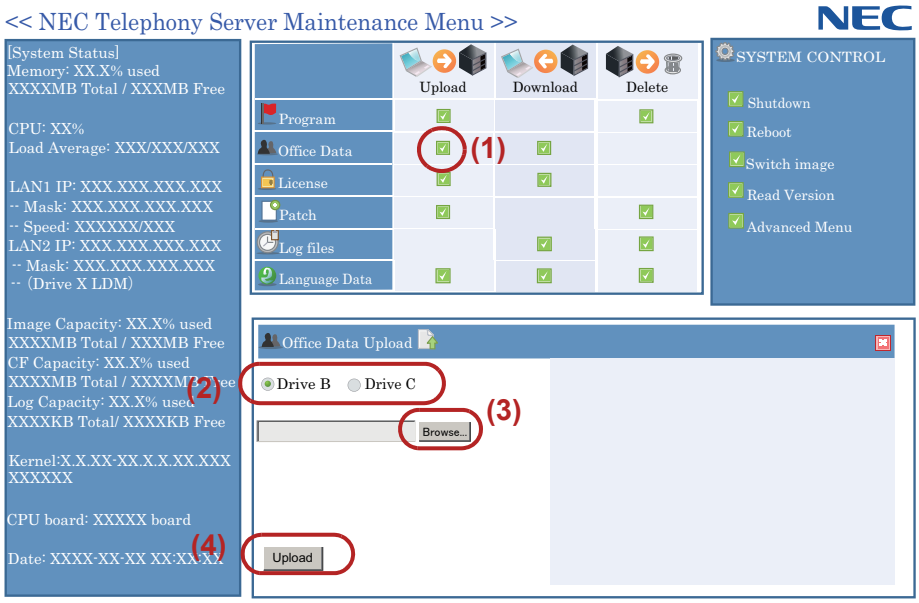
3

(1) Click the **Upload** button for **Office Data**. The **Office Data** dialog box appears in the lower right portion of the screen.

(2) Select the drive for uploading the office data (Drive B/C).

(3) Click the **Browse** button on the dialog box and then specify the data downloaded in STEP3 of 5.1.2.3 Backup of Current Data.

(4) Click the **Upload** button. When the uploading is complete, **Operation successfully completed** will be displayed. Click **OK**.



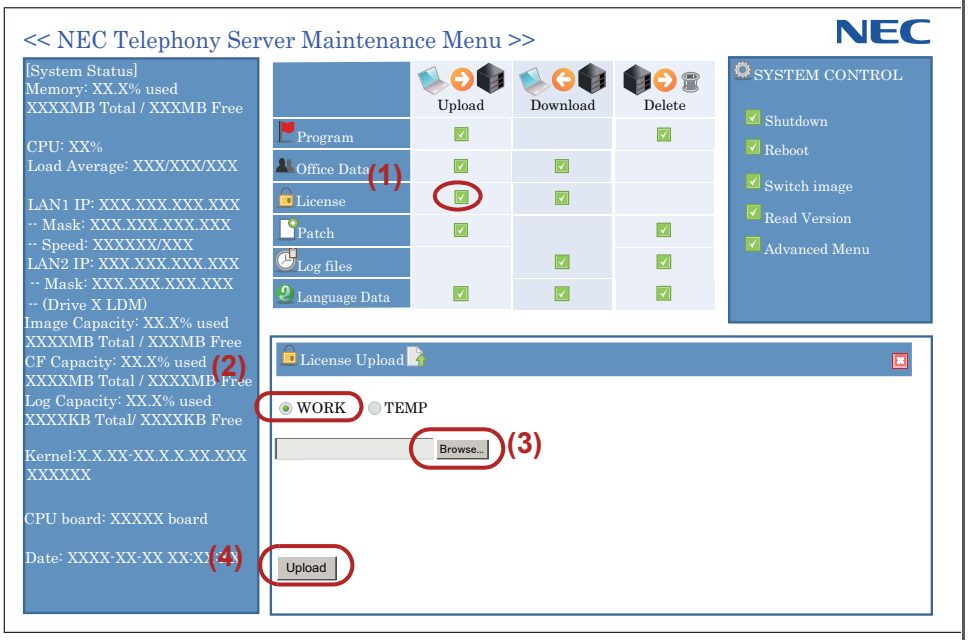
4

(1) Click the **Upload** button for **License**. The **License Upload** dialog box appears in the lower right portion of the screen.

(2) Select **WORK** on the **License Upload** dialog box.

(3) Click the **Browse** button on the dialog box and then specify the License file downloaded in STEP4 of 5.1.2.3 Backup of Current Data.

(4) Click the **Upload** button. When the uploading is complete, **Operation successfully completed** will be displayed. Click **OK**.



Point:

The Language Data button needs to be clicked only when OPTIONAL LANGUAGE PACK LOADING [O-42] is used. For more details on OPTIONAL LANGUAGE PACK LOADING [O-42], see [Data Programming Manual - Business] - [BUSINESS FEATURES] - [OPTIONAL LANGUAGE PACK LOADING [O-42].

Note:

When the writing of license file ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

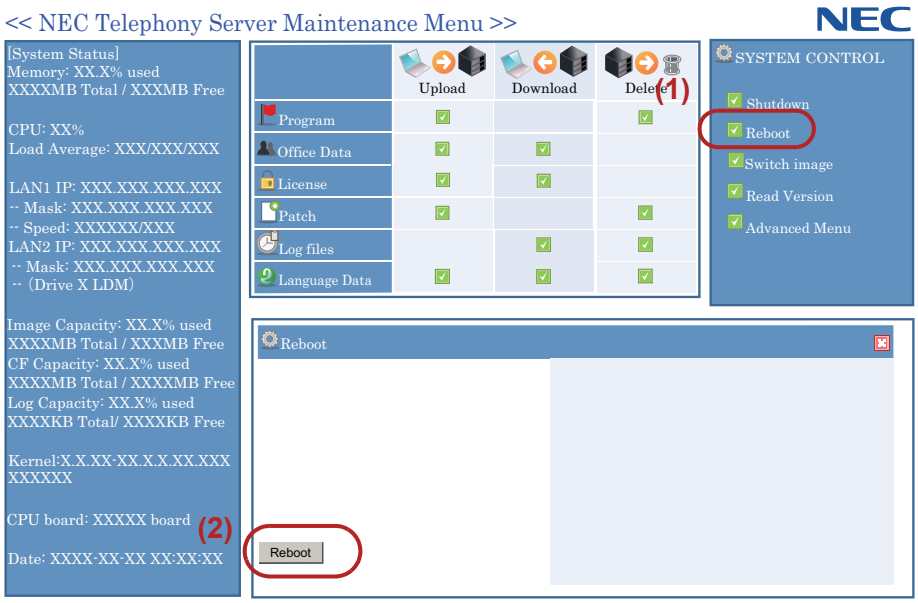
5 Reboot the Telephone Server. The procedure for rebooting is different depending on the system being on single or dual configuration.

(1) Click the **Reboot** button in the **SYSTEM CONTROL** area. The **Reboot** dialog box appears.

(2) Click the **Reboot** button on the dialog box.

(3) A confirmation message appears. Click **OK** to shutdown the Telephony Server.

(4) When the shutting down is completed, **Operation successfully completed. Please close the browser.** will be displayed. Click **OK**.



6 After the rebooting, verify that the lamps are light green for [PWR], [LINK] and [ACT] in the EMA card.

Office data and license upload are completed.

Note:
For a dual configuration it is necessary for both systems CPUs to be rebooted at the same time.

5.1.3 Version Information Confirmation

Use the Telephony Server Maintenance Menu to confirm that the version upgrade has been successfully performed.

Note: For a dual configuration, confirm the version upgrade for both System #0 and System #1.

1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. “xxx.xxx.xxx.xxx” represents the LAN 1 IP address of System #1 (ex. 10.100.1.31).

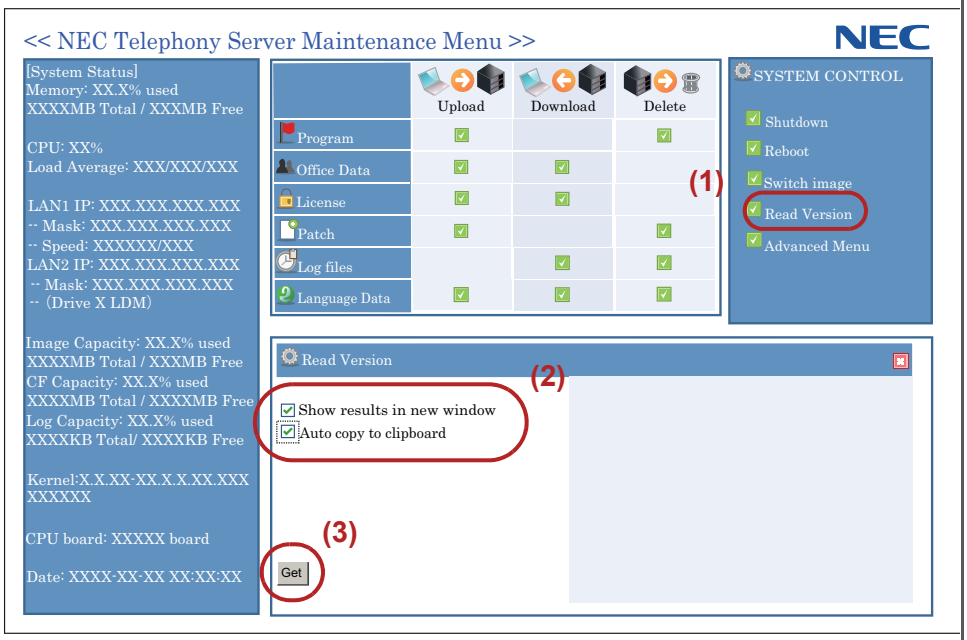
Note:
Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2
(1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

Note:
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.

3

(1) Click the **Read Version** button in the **SYSTEM CONTROL** area. The **Read Version** dialog box appears in the lower right portion of the screen.
(2) Select both the **Show results in new window** and the **Auto copy to clipboard** check boxes.
(3) Click the **Get** button to display the program version list.



4

A new screen is opened where the program version is displayed. Check the software version (currently-operated program version) for MAIN in the WORK section and make sure that the displayed version is the same with the version printed on the Install DVD label.

Note:
From Internet Explorer 10 **Auto copy to clipboard** is not displayed. If it is necessary to attach the results to a clipboard, copy them from the new window opened with **Show results in new window** using the mouse right button.

Version confirmation is completed.

After version upgrade, Linux administrator (root) password is reset to default. If you had customized this setting prior to the upgrade, you will need to set the login information again.

5.1.4 Registration of Activation Code

Once the license file has been uploaded and the SV9500 has been reset, the SV9500 must be registered before you will be granted PCPro access.

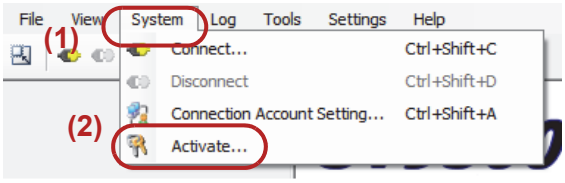
The following section explains how to register the SV9500.

Note: You cannot be logged in to the PCPro to use these steps. For dual CPUs, both CPUs must be on-line to enter the Activation Code.

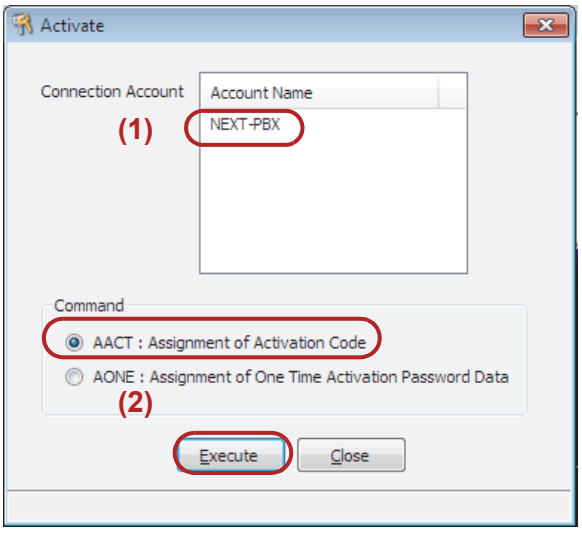
1 Configure a **Connection Account** in PCPro for the LAN2 IP Address for your SV9500.

2 Configure the maintenance PC to connect to the LAN2 IP Address of your SV9500. Verify connectivity to the SV9500 by pinging the LAN2 IP Address.

3 Launch PCPro.
(1) Select **System**.
(2) Select **Activate**.



4 The **Activate** screen will launch.
(1) Highlight the **Connection Account** configured for your LAN2 IP Address.
(2) Select the AACT radio button and press **Execute**.



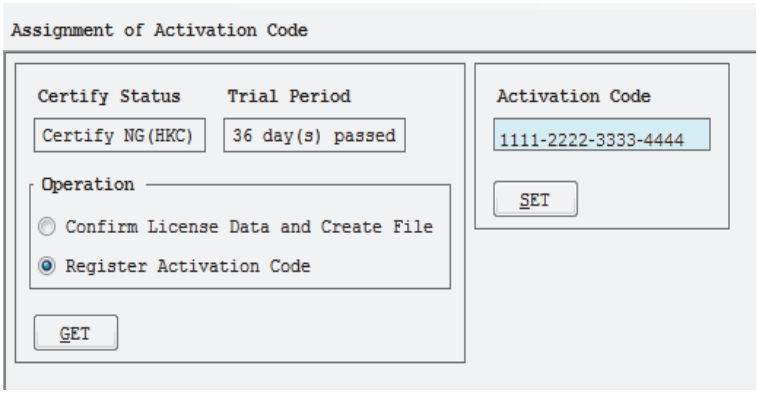
5 The AACT command will launch.

(1) Select the **Register Activation Code** radio button and press Get.

(2) Enter the **Activation Code** you have received from the LMS server, into the **Activation Code** field and press **Set**.

(3) Verify you receive the **Certify OK** confirmation message.

(4) Close the **AACT** command and the **Activate** screen.



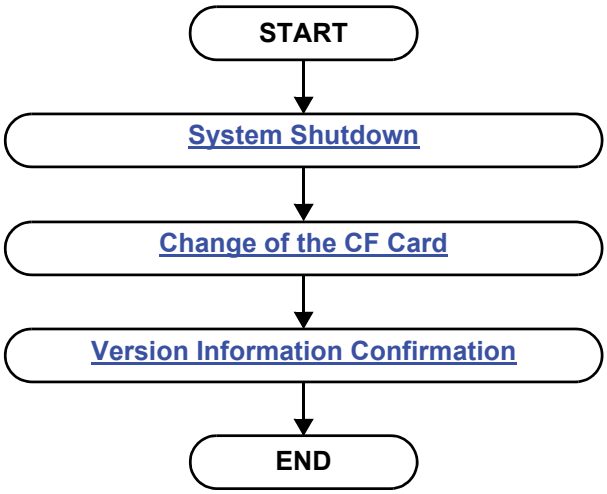
6 You can now log in to PCPro; remember to backup the Activation Code using the MEM_HDD command.

Registration of activation code is completed.

Note: If the Activation Code is not available, the SV9500 may be unlocked by selecting the **AONE** option instead of the **AACT** option. Once unlocked using the **AONE** option, the PCPro connection will be valid for 7 days. After 7 days, PCPro access will be denied until the SV9500 is registered. Please note that the AONE option can only be used once.

5.1.5 Switch Back

If you encounter any troubles, and you need to switch back the upgraded program to the original, follow the flow chart below.



5.1.5.1 System Shutdown

Shutdown the Telephony Server to put back the CF card used before the change which includes the original program.

Note: For a dual configuration, shutdown starting from the ST-BY both System #0 and System #1.

1 Shutdown the Telephony Server as explained in 5.1.2.4 System Shutdown.

System shutdown is completed.

5.1.5.2 Change of the CF Card

Insert in the Telephony Server the CF card used before the version upgrade.

Note: For a dual configuration, change the CF cards both for System #0 and System #1.

1 Extract from the Telephony Server the new CF card after the version upgrade, insert again the old CF card before the version upgrade and start the Telephony Server. For details, see 5.1.2.5 Change of the CF Card.

Change of the CF card is completed.

5.1.5.3 Version Information Confirmation

Use the Telephony Server Maintenance Menu to confirm that the switch back has been successfully performed.

Note: For a dual configuration, confirm the version switch back for both System #0 and System #1.

1 After starting the Telephony Server, confirm that the program switched back to the version before the upgrade. For details, see 5.1.3 Version Information Confirmation.

Version information confirmation is completed.

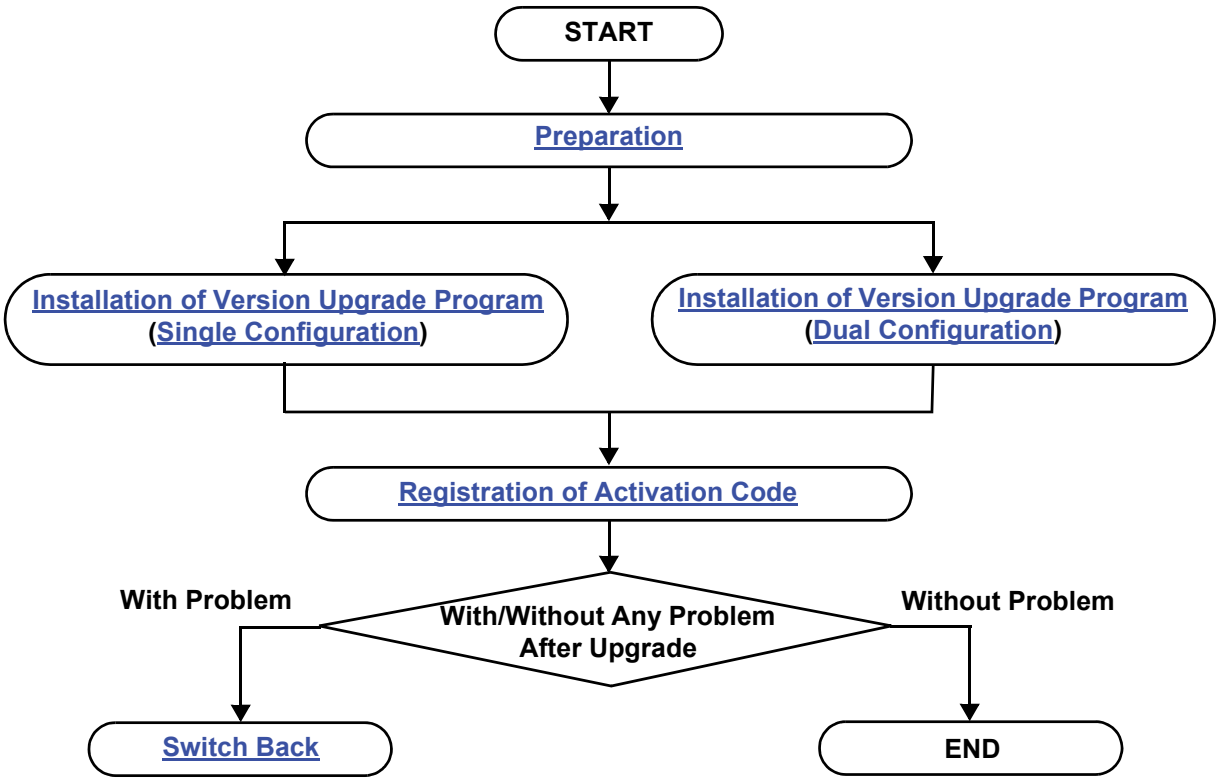
5.2 Version Upgrade with WORK/TEMP Switch

This section explains the procedure of system version upgrade changing the WORK side and TEMP side program.

Follow the flow chart below for the procedure.

The procedure is divided depending on the system configuration (single configuration or dual configuration).

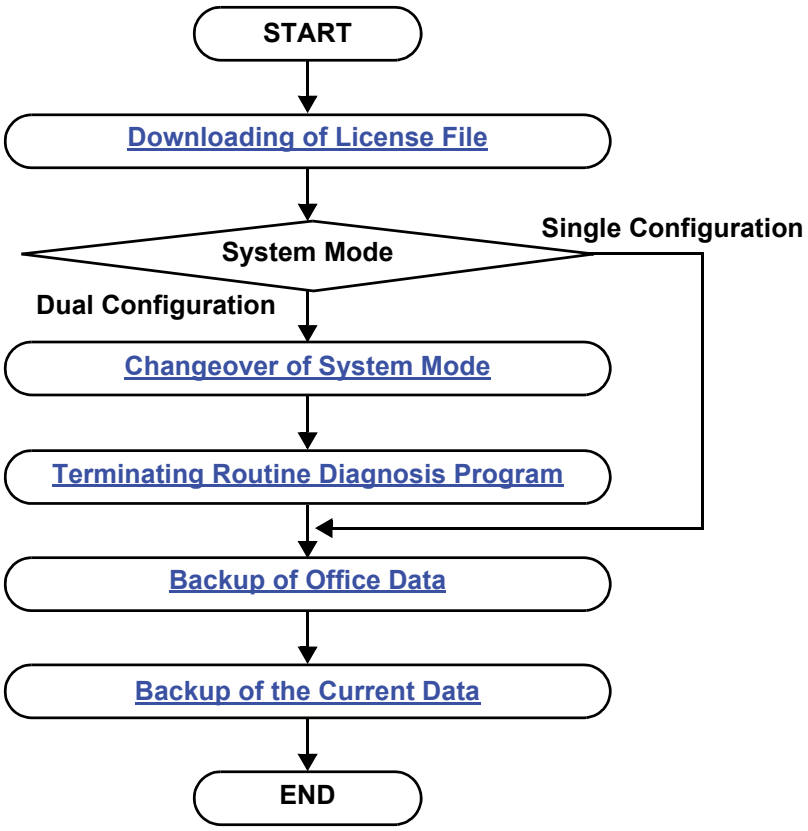
Note: This procedure is only for minor version upgrade. With this procedure it is not possible a major version upgrade. Perform it with the procedure of Version Upgrade with CF Card Change.



5.2.1 Preparation

This section explains the procedure of an advance preparation required before beginning the system version upgrade.

Follow the flow chart below for preparation procedure.



5.2.1.1 Downloading of License File

As a first step, access the License Management Server (LMS) to download a license file (svi.zip) and obtain Activation Code.

Note: Be sure to note the following conditions.

- A new Registration Activation code is necessary when the license is upgraded.
- The SVI file is downloaded in a zip format. Do not unzip the SVI file since this file is used as is.
- You can rename the saved SVI file, but do not change the extension of the file.
- For a minor version upgrade, depending on the case, is not necessary to download a file. Download only if needed.

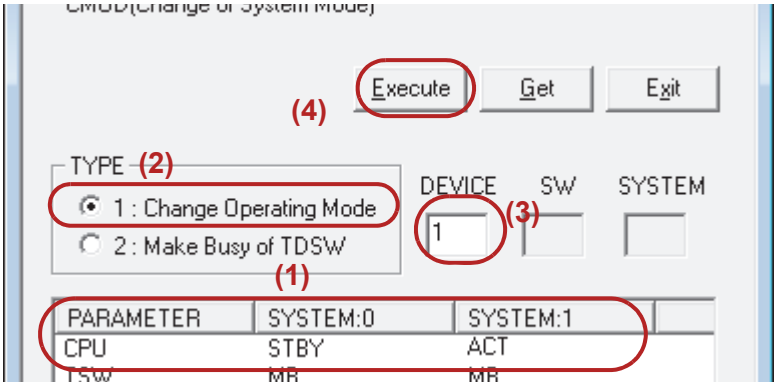
5.2.1.2 Changeover of System Mode

In a dual configuration, if the present ACT is System #1, it must be changed to System #0. This section explains the procedure to change over the ACT side from System #1 to System #0.

Note: This procedure is required only if ACT lamp of SYS1 on the front panel of EMA card is lighting when the system is in dual configuration. Skip this procedure for single configuration system.

1 Execute CMOD command.

2 (1) Verify that **STBY** is indicated for **SYSTEM:0** and **ACT** for **SYSTEM:1** in the line **CPU**.
(2) Select **1: Change Operating Mode** for **TYPE**.
(3) Enter **1** for **DEVICE**.
(4) Click the **Execute** button.

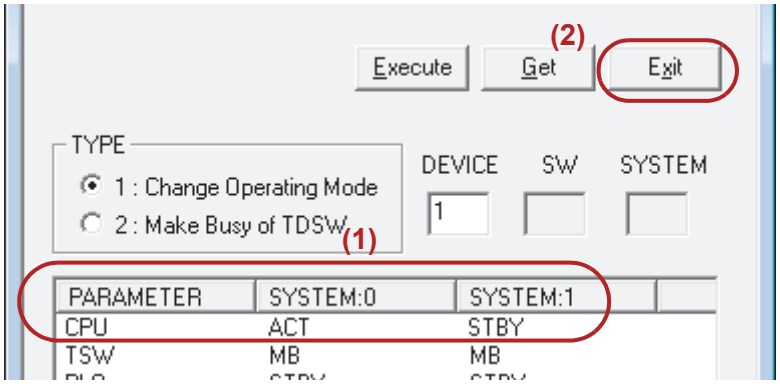


3 **Now executing!** will be indicated during the changeover.

Point:
Always enter **1** (1=CPU) for **DEVICE** to changeover the ACT side of CPU.

4

(1) Verify that **ACT** is indicated for **SYSTEM: 0**.
(2) Click the **Exit** button to exit CMOD command.



Point:
The changeover of ACT side has completed successfully when **ACT** is indicated for **SYSTEM:0** and **STBY** for **SYSTEM:1**. This can be verified by checking whether the ACT lamp for SYS0 on the front panel of EMA card is lighting.

The changeover process of system mode is completed.

5.2.1.3 Terminating Routine Diagnosis Program

This section explains the procedure to suspend the Routine Diagnosis Program temporarily for a system in dual configuration.

Note: This procedure is only required for a dual configuration system. Skip this procedure for a single configuration system.

1

(1) Execute the ASYD command.
(2) Check whether the data is set as follows.
If the data is set to a different value, modify the data as shown below.

SYS1 Index 87 = FF
SYS1 Index 88 = FF

(3) Exit the ASYD command.

Point:
In normal cases, no modification is required since these data are set as the default value. Set the value as given only if the data differ from the default value.

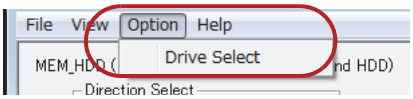
The terminating process of Routine Diagnosis Program is completed.

5.2.1.4 Backup of Office Data

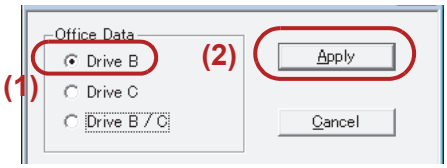
This section explains the procedure to backup the office data using the MEM_HDD command.

1 Execute the MEM_HDD command.

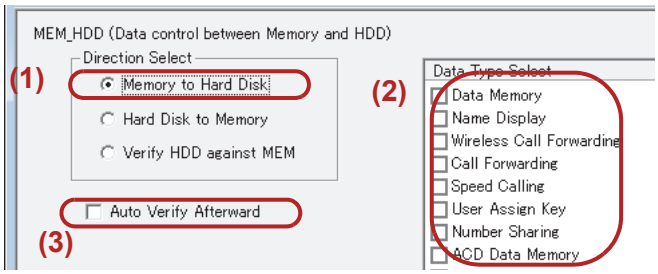
2 Select **Drive Select** from **Option** menu.



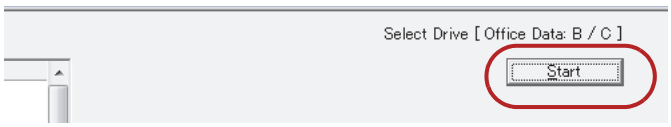
3 (1) Select the drive which is currently used from **Office Data**. Which drive to select depends on your configuration. As an example, office data will be saved in **Drive B** in the figure below.
(2) Click the **Apply** button.



4 (1) Select **Memory to Hard Disk** for **Direction Select**.
(2) Place a check mark for used data type on **Data Type Select**. (for the used data type, see [Operations and Maintenance Manual] - [Maintenance Commands] - [MEM_HDD].)
(3) Place a check mark on **Auto Verify Afterward**.

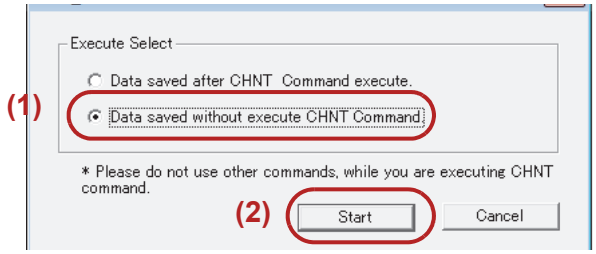


5 Click the **Start** button.
CHNT Execution Select screen appears.



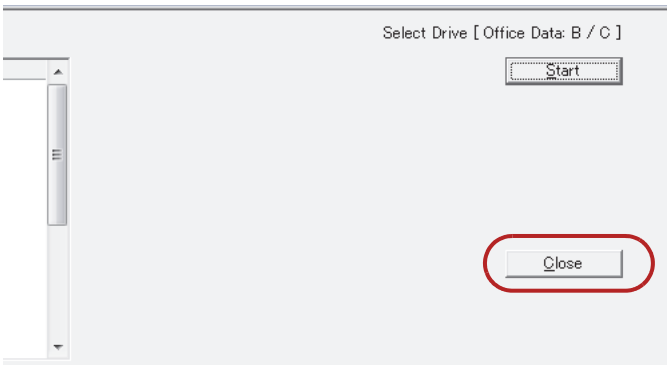
6

(1) Select **Data saved without execute CHNT Command** for **Execute Select**.
(2) Click the **Start** button.
The data backup begins.



7

After the backup is completed, click the **Close** button to exit the MEM_HDD command.



The backup process of office data is completed.

5.2.1.5 Backup of the Current Data

This section explains the procedure to back up the data (including the program, office data and license) currently used for operation to the maintenance PC in case of an emergency (such as when restoring the program).

1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. “xxx.xxx.xxx.xxx” represents the LAN1 IP address (ex. 10.100.1.11).

Note:
- Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2 (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

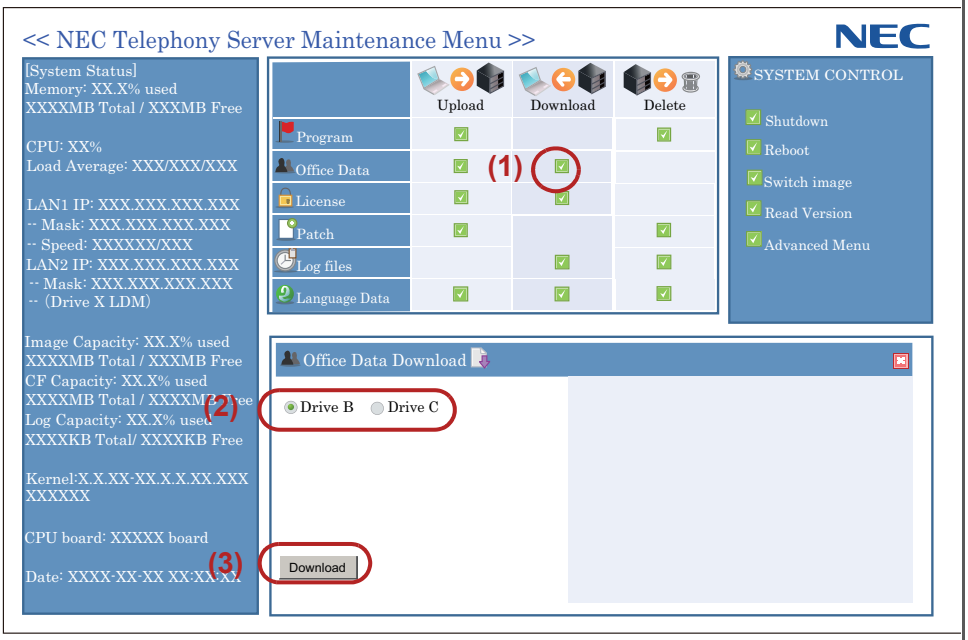
Note:
- The default for both user name and password is “admin”. You are recommended to change user name and password from **Advanced Menu**.
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to Telephony Server Maintenance Menu, do not use **Back** button on browser.

3

(1) Click the **Download** button for **Office Data**. The **Office Data Download** dialog box appears in the lower right portion of the screen.

(2) Choose a drive (Drive B or Drive C) which you specified at STEP3 of 5.2.1.4 Back-up of Office Data.

(3) Click the **Download** button on the dialog box and save the data in the desired folder.

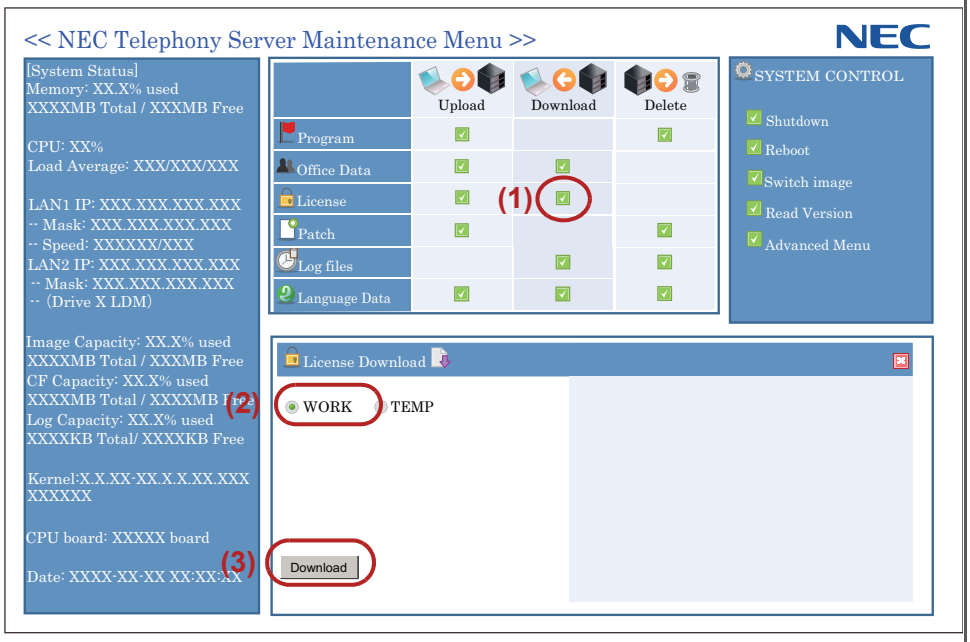


Note:

When the download of office data ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

4

(1) Click the **Download** button for **License**. The **License Download** dialog box appears in the lower right portion of the screen.
(2) Select **WORK** on the **License Download** dialog box.
(3) Click the **Download** button on the dialog box and save the license file in the desired folder.



Note:
When the download of license file ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

The backup process of the current data is completed.

However, if your system provides the OPTIONAL LANGUAGE PACK LOADING [O-42] service, backing up the following language data is also required:

<When customized language file is used for Extension Language>

- Extension Language file (for example, “English_0001.txt”)
- Information file of Extension Languages (exlang_info)

For further information, see [Data Programming Manual - Business] - [BUSINESS FEATURES] - [OPTIONAL LANGUAGE PACK LOADING [O-42] - [Updating Extension Language File (Customized Language File)].

<When Sample Language file is used for Extension Language>

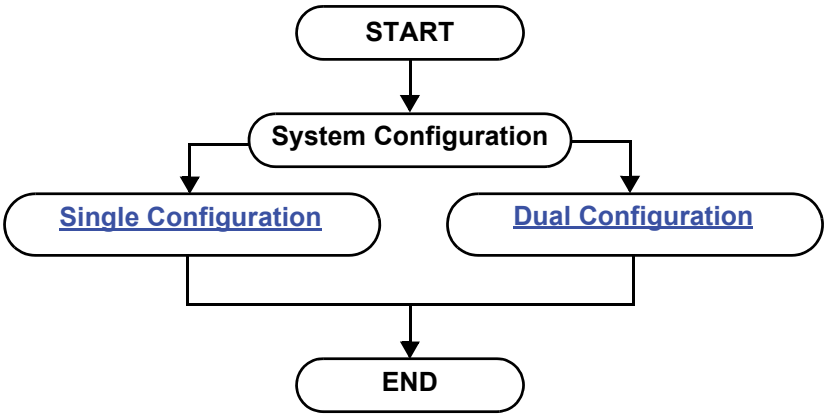
- Information file of Extension Languages (exlang_info)

For further information, see [Data Programming Manual - Business] - [BUSINESS FEATURES] - [OPTIONAL LANGUAGE PACK LOADING [O-42] - [Updating Extension Language File (Sample Language File)].

5.2.2 Installation of Version Upgrade Program

This section explains the procedure to install a version upgrade program in the Telephony Server.

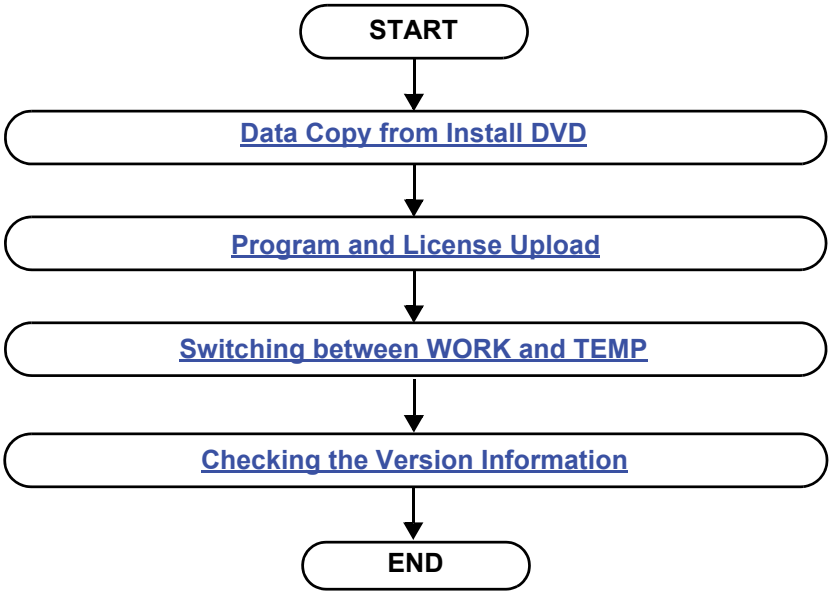
This procedure is different according to the system configuration. Follow the flow chart below for the installation.



5.2.2.1 Single Configuration

This section explains the procedure for upgrading the program version (upgrading of BASE system (OS) is not necessary) of the Telephony Server in single configuration.

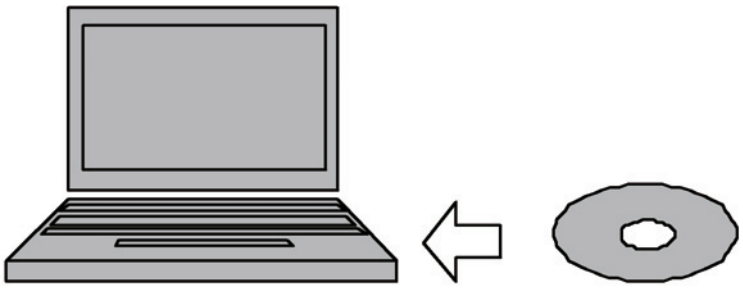
Follow the flow chart below.



Data Copy from Install DVD

Copy the files in Install DVD to the maintenance PC.

1 Set the Install DVD “GENERIC SOFTWARE” with the new version in the disk drive.



2 Copy all the files in the Install DVD into a desired folder on the maintenance PC.

The data copy from the Install DVD is completed.

Program and License Upload

This section explains the procedure for uploading the new version program and licenses.

1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. “xxx.xxx.xxx.xxx” represents the LAN1 IP address (ex. 10.100.1.11).

Note:
- Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2
(1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

Note:
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.

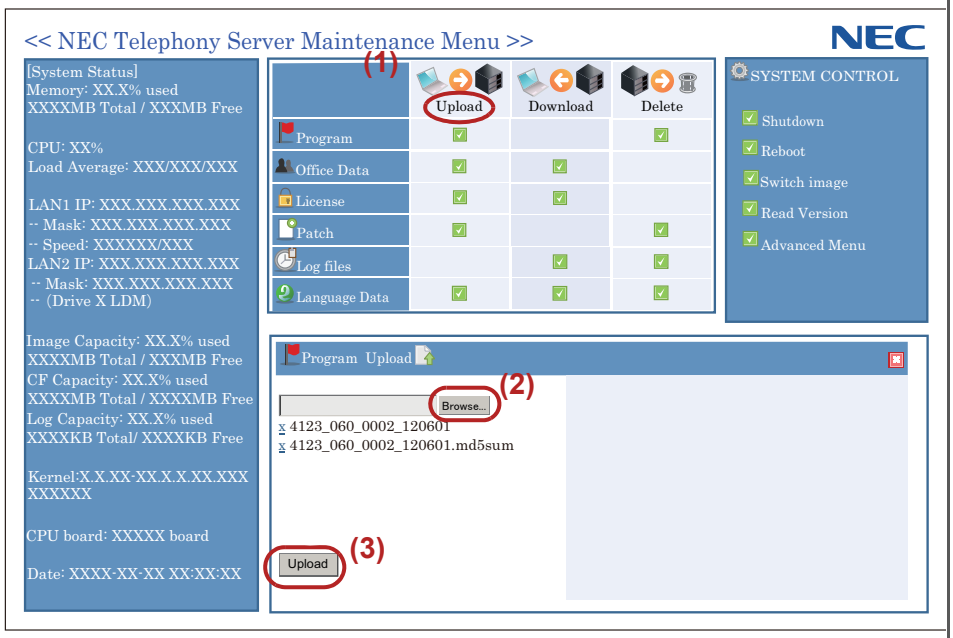
3

(1) Click the **Upload** button for **Program**. The **Program Upload** dialog box appears in the lower right portion of the screen.

(2) Click the **Browse** button on the dialog box and then specify the following two files in "image" folder (located in the folder in which you copied Install DVD files at STEP2 of Data Copy from Install DVD).

- SC Number_Major Version_Issue Number_the data on which the file is created (Ex: 4123_060_0002_120601)
- SC Number_Major Version_Issue Number_the data on which the file is created.md5sum (Ex: 4123_060_0002_120601.md5sum)

(3) Click the **Upload** button on the dialog box. When the upload is complete, **Operation successfully completed.** will be displayed. Click **OK**.

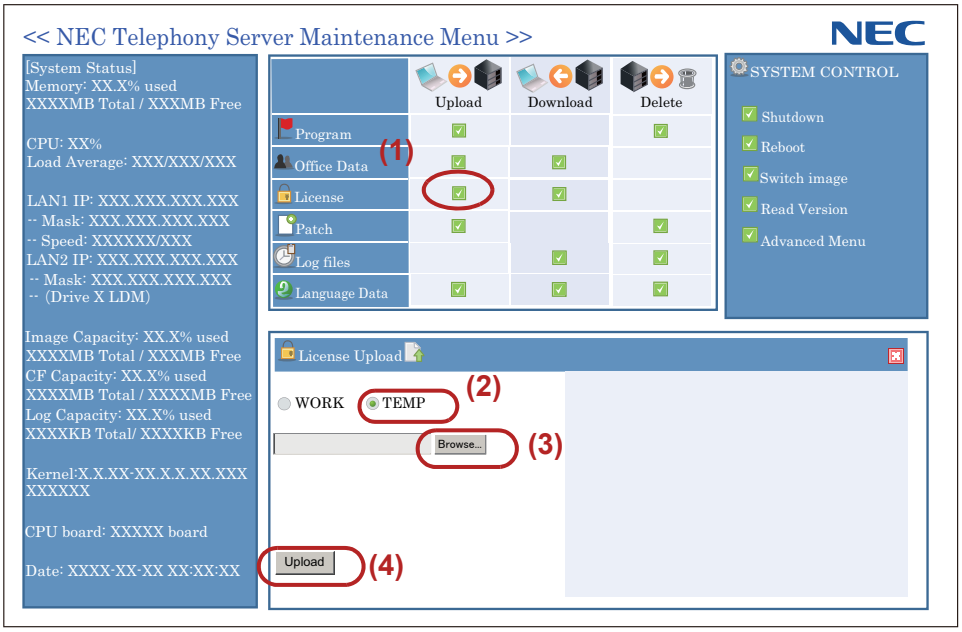


Note:

- From Internet Explorer 10, you can select at once several files with control key and Shift key or drag and drop. However, if it is necessary to erase or add files, since you cannot do it one by one, select several files at once.
- When the program upload ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

4

(1) Click the **Upload** button for **License**. The **License Upload** dialog box appears in the lower right portion of the screen.
(2) Select **TEMP** on the **License Upload** dialog box.
(3) Click the **Browse** button on the dialog box and then specify the License file downloaded in STEP4 of 5.2.1.5 Backup of the Current Data or 5.2.1.1 Downloading of License File.
(4) Click the **Upload** button. When the uploading is complete, **Operation successfully completed** will be displayed. Click **OK**.

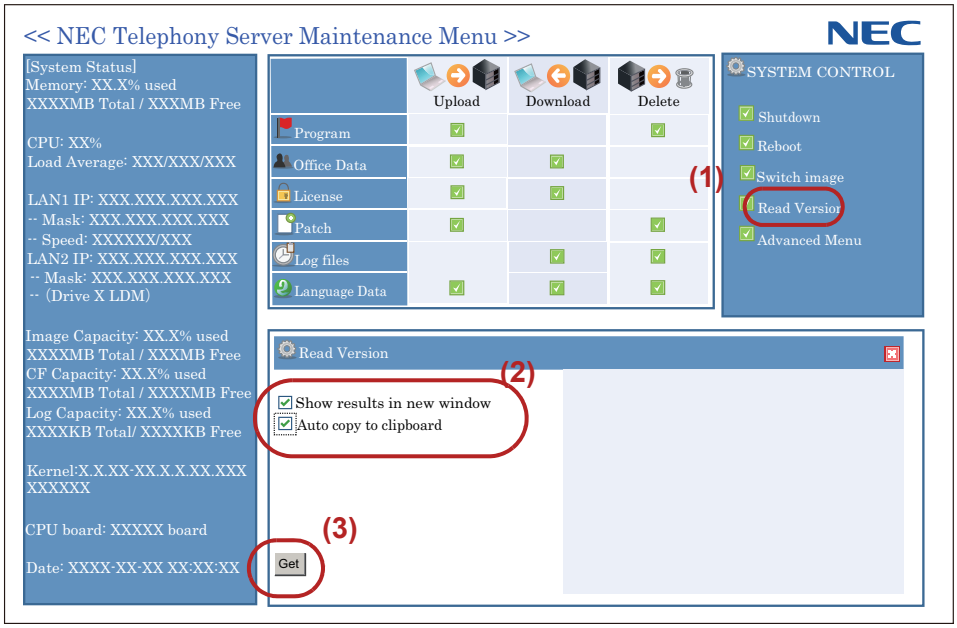


Point:
The Language Data button needs to be clicked only when OPTIONAL LANGUAGE PACK LOADING [O-42] is used. For more details on OPTIONAL LANGUAGE PACK LOADING [O-42], see [Data Programming Manual - Business] - [BUSINESS FEATURES] - [OPTIONAL LANGUAGE PACK LOADING [O-42].

Note:
When the writing of license file ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

5

(1) Click the **Read Version** button in the **SYSTEM CONTROL** area. The **Read Version** dialog box appears in the lower right portion of the screen.
(2) Select both the **Show results in new window** and the **Auto copy to clipboard** check boxes.
(3) Click the **Get** button to display the program version list.



A new screen is opened where the program version is displayed.

Note:
From Internet Explorer 10 **Auto copy to clipboard** is not displayed. If it is necessary to attach the results to a clipboard, copy them from the new window opened with **Show results in new window** using the mouse right button.

6

(1) Check the software version (currently-operated program version) for MAIN in the WORK section.

(2) Check the software version for MAIN in the TEMP section. Make sure that the displayed version is the same with the version printed on the Install DVD label.

(1)

(2)

```
## Read Version
--- WORK -------------------------------
          MAIN   V01 01.00 000 20131028
          ACDP   V01 01.00 000 20130731
      MISCLIBS   V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
    B2BUA_MAIN   V01 01.00 000 20130927
       SP_BOOT   V01 01.00 000 20130927
     SIPSV_PHE   V01 01.00 000 20130927
     SIPSV_SIP   V01 01.00 000 20130927
        LIBCMN   V01 01.00 000 20130927
     LIBFSMTL   V01 01.00 000 20130927
      LIBOSIP   V01 01.00 000 20130927
       IP_DTG   V01 01.00 000 20130717
      SV_GATE   V01 01.00 000 20130729
    SV_TSKCTL   V01 01.00 000 20130729
       SV_EMA   V01 01.00 000 20130729
       SV_IOC   V01 01.00 000 20130729
      SV_CPLD   V01 01.00 000 20130729
    PBXWATCHD   V01 01.00 000 20130801
     SVSYSSUB   V01 01.00 000 20130801
     BASE_SYS   V01 01.00 000 20130918
   95SYS_First  V01 01.00 000 20131012
--- TEMP -------------------------------
          MAIN   V01 02.00 000 20131010
          ACDP   V01 01.00 000 20130731
      MISCLIBS   V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
    B2BUA_MAIN   V01 01.00 000 20130927
       SP_BOOT   V01 01.00 000 20130927
     SIPSV_PHE   V01 01.00 000 20130927
     SIPSV_SIP   V01 01.00 000 20130927
        LIBCMN   V01 01.00 000 20130927
     LIBFSMTL   V01 01.00 000 20130927
      LIBOSIP   V01 01.00 000 20130927
```

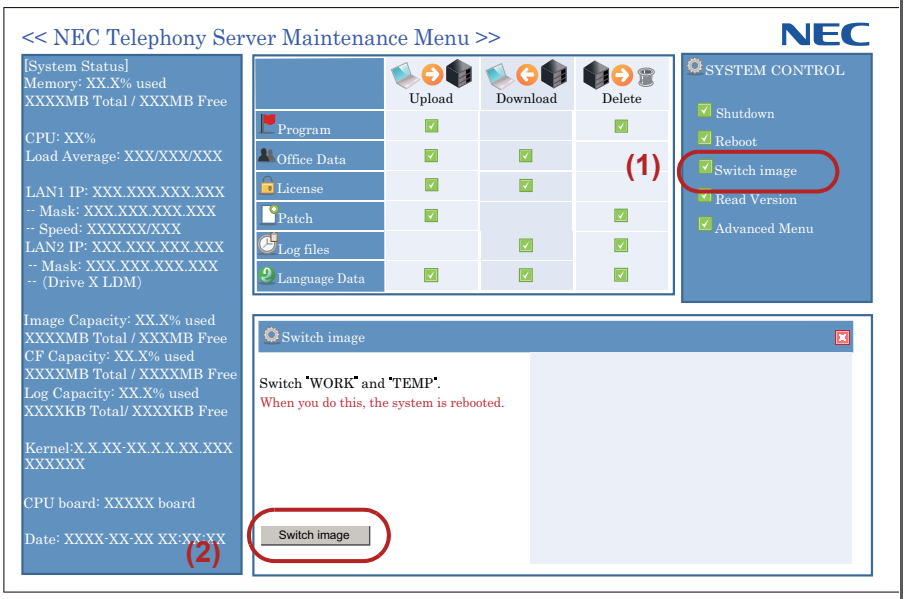
The uploading of Program and License files is completed.

Switching between WORK and TEMP

This section explains how to switch between WORK side and TEMP side. For details on WORK/TEMP side, see 1.2 Telephony Server Maintenance Menu in this chapter.

1

(1) Click the **Switch image** button in the **SYSTEM CONTROL** area. The **Switch image** dialog box appears.
(2) Click the **Switch image** button on the dialog box.
(3) A confirmation message appears. Click **OK** to switch between WORK and TEMP.
(4) The Telephony Server will be automatically restarted. After **Operation successfully completed. Please close the browser.** appears, click **OK** to exit from Telephony Server Maintenance Menu.



2

Verify that ON LINE lamp on the front panel of CPU card changes in the following order.
"Turned OFF" → "Fast Flashing" → "Slow Flashing" → "Turned ON".

Note:
When the switching ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

Switching between WORK and TEMP is completed.

Checking the Version Information

This section explains how to check that the version upgrading is completed successfully.

1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. “xxx.xxx.xxx.xxx” represents the LAN1 IP address (ex. 10.100.1.11).

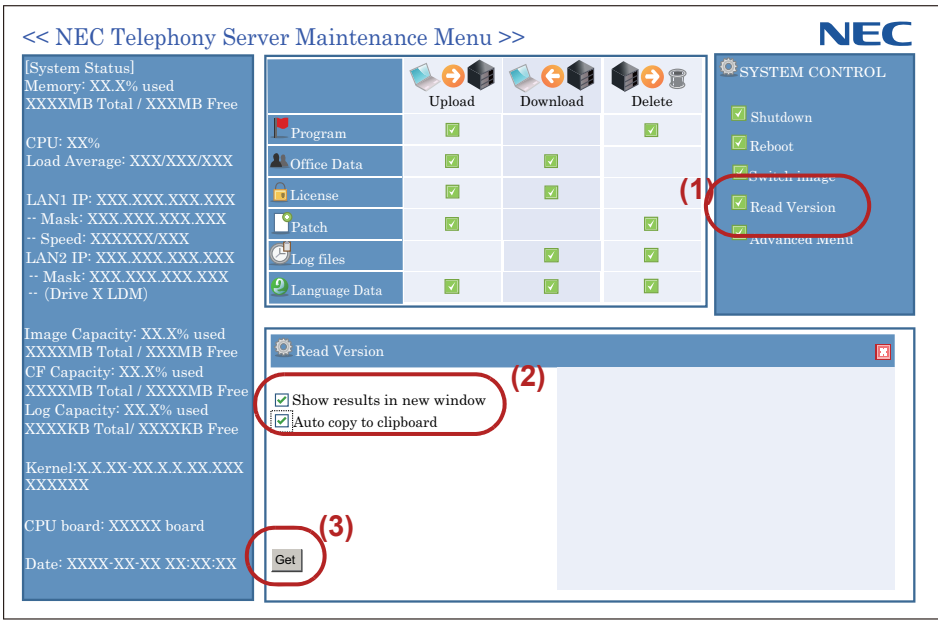
Note:
- Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2
(1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

Note:
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.

3

(1) Click the **Read Version** button in the **SYSTEM CONTROL** area. The **Read Version** dialog box appears in the lower right portion of the screen.
(2) Select both the **Show results in new window** and the **Auto copy to clipboard** check boxes.
(3) Click the **Get** button to display the program version list.



A new screen is opened where the program version is displayed.

Note:
From Internet Explorer 10 **Auto copy to clipboard** is not displayed. If it is necessary to attach the results to a clipboard, copy them from the new window opened with **Show results in new window** using the mouse right button.

4

(1) Check the software version (currently-operated program version) for MAIN in the WORK section. Make sure that the displayed version is the same with the version printed on the Install DVD label.

(2) Check the software version for MAIN in the TEMP section. Make sure that the program version before upgrading is displayed.

(1)

(2)

```
## Read Version
--- WORK --------------------------------
          MAIN   V01 02.00 000 20131010
          ACDP   V01 01.00 000 20130731
      MISCLIBS   V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
    B2BUA_MAIN   V01 01.00 000 20130927
       SP_BOOT   V01 01.00 000 20130927
     SIPSV_PHE   V01 01.00 000 20130927
     SIPSV_SIP   V01 01.00 000 20130927
        LIBCMN   V01 01.00 000 20130927
      LIBFSMTL   V01 01.00 000 20130927
       LIBOSIP   V01 01.00 000 20130927
        IP_DTG   V01 01.00 000 20130717
       SV_GATE   V01 01.00 000 20130729
     SV_TSKCTL   V01 01.00 000 20130729
        SV_EMA   V01 01.00 000 20130729
        SV_IOC   V01 01.00 000 20130729
       SV_CPLD   V01 01.00 000 20130729
     PBXWATCHD   V01 01.00 000 20130801
      SVSYSSUB   V01 01.00 000 20130801
      BASE_SYS   V01 01.00 000 20130918
   95SYS_First   V01 01.00 000 20131012
--- TEMP --------------------------------
          MAIN   V01 01.00 000 20131028
          ACDP   V01 01.00 000 20130731
```

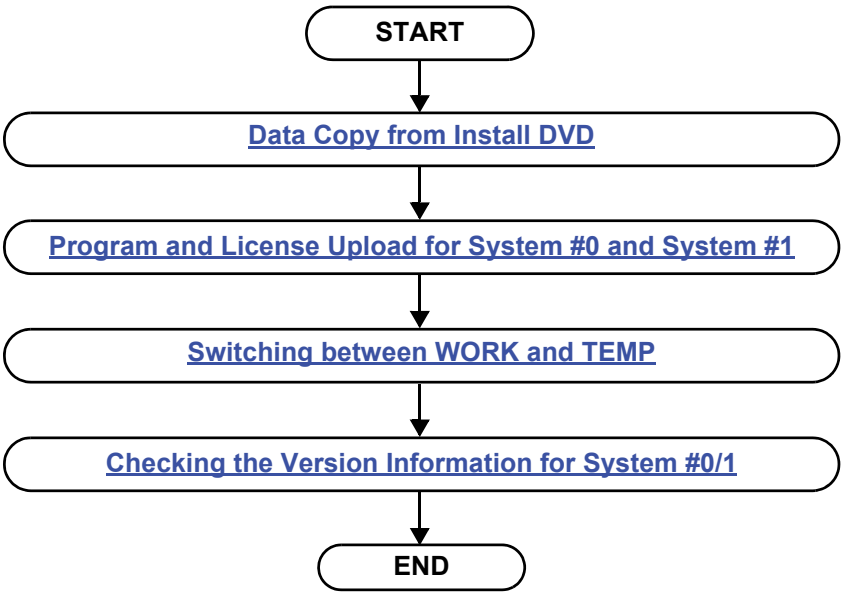
The version upgrading of the program for the single system configuration is completed.

After version upgrade, Linux administrator (root) password is reset to default. If you had customized this setting prior to the upgrade, you will need to set the login information again.

5.2.2.2 Dual Configuration

This section explains the procedure for upgrading the program version (BASE system (OS) is not necessary) of the Telephony Server in dual configuration.

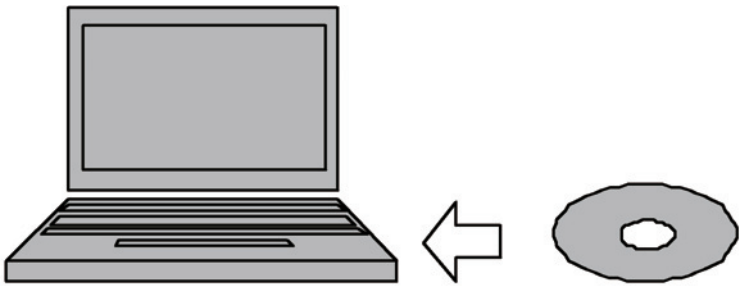
Follow the flow chart below.



Data Copy from Install DVD

Copy the files in Install DVD to the maintenance PC.

1 Set the Install DVD “GENERIC SOFTWARE” with the new version in the disk drive.



2 Copy all the files in the Install DVD into a desired folder on the maintenance PC.

The data copy from the Install DVD is completed.

Program and License Upload for System #0 and System #1

This section explains the procedure for uploading new version program and licenses.

1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. “xxx.xxx.xxx.xxx” represents the LAN 1 IP address of System #1 (ex. 10.100.1.31).

Note:
Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2 (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

Note:
- The default for both user name and password is “admin”. You are recommended to change user name and password from **Advanced Menu**.
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.

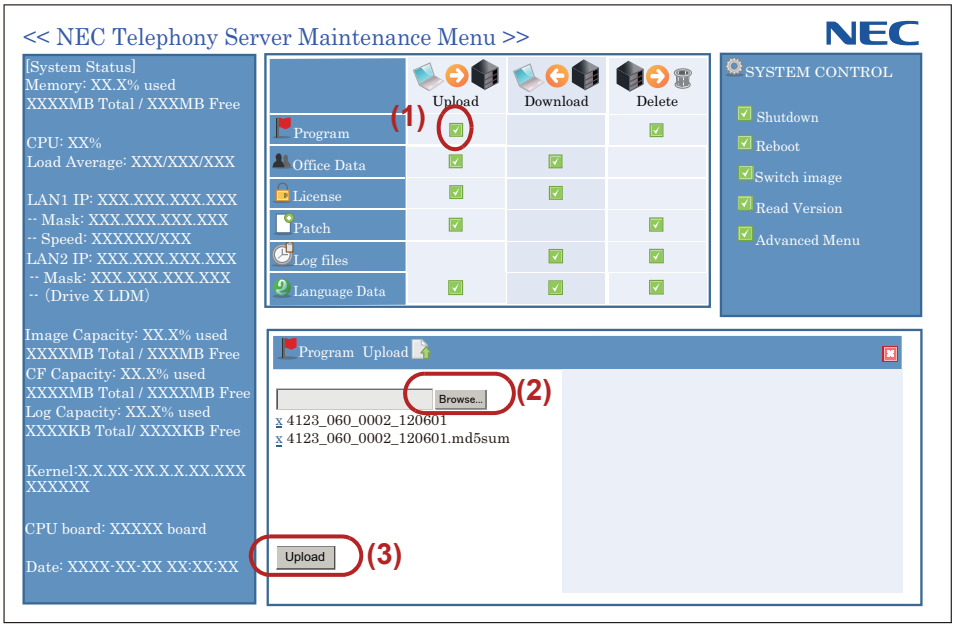
3

(1) Click the **Upload** button for **Program**. The **Program Upload** dialog box appears in the lower right portion of the screen.

(2) Click the **Browse** button on the dialog box and then specify the following two files in "image" folder (located in the folder in which you copied Install DVD files at STEP2 of Data Copy from Install DVD).

- SC Number_Major Version_Issue Number_the data on which the file is created (Ex: 4123_060_0002_120601)
- SC Number_Major Version_Issue Number_the data on which the file is created.md5sum (Ex.4123_060_0001_120601.md5sum)

(3) Click the **Upload** button on the dialog box. When the upload is complete, **Operation successfully completed.** will be displayed. Click **OK**.



Note:

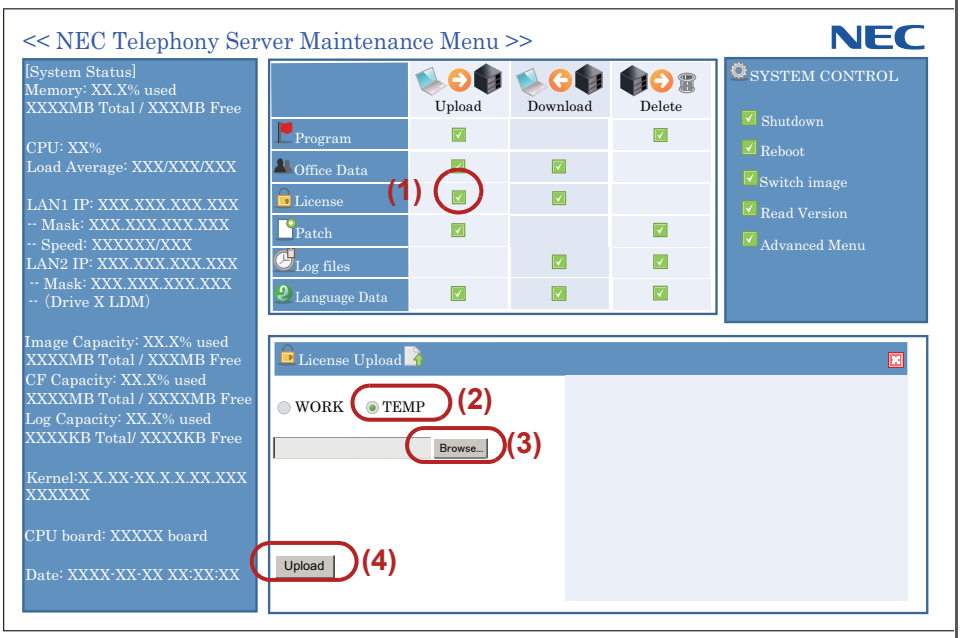
When the program upload ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

Note:

From Internet Explorer 10, you can select at once several files with control key and Shift key or drag and drop. However, if it is necessary to erase or add files, since you cannot do it one by one, select several files at once.

4

(1) Click the **Upload** button for **License**. The **License Upload** dialog box appears in the lower right portion of the screen.
(2) Select **TEMP** on the **License Upload** dialog box.
(3) Click the **Browse** button on the dialog box and then specify the License file downloaded in STEP4 of 5.2.1.5 Backup of the Current Data or 5.2.1.1 Downloading of License File.
(4) Click the **Upload** button. When the uploading is complete, **Operation successfully completed** will be displayed. Click **OK**

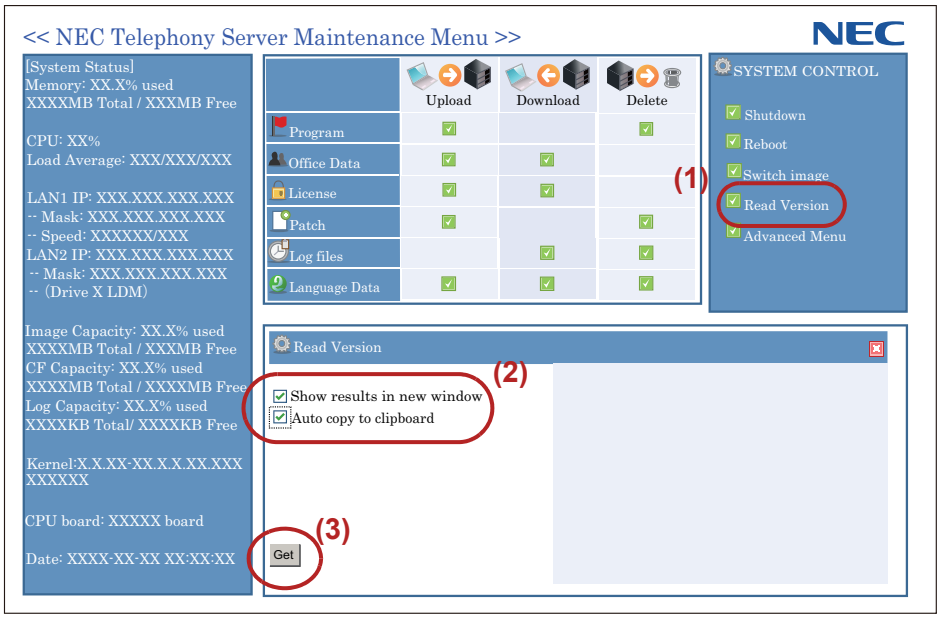


Point:
The Language Data button needs to be clicked only when OPTIONAL LANGUAGE PACK LOADING [O-42] is used. For more details on OPTIONAL LANGUAGE PACK LOADING [O-42], see [Data Programming Manual - Business] - [BUSINESS FEATURES] - [OPTIONAL LANGUAGE PACK LOADING [O-42].

Note:
When the writing of license file ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

5

(1) Click the **Read Version** button in the **SYSTEM CONTROL** area. The **Read Version** dialog box appears in the lower right portion of the screen.
(2) Select both the **Show results in new window** and the **Auto copy to clipboard** check boxes.
(3) Click the **Get** button to display the program version list.



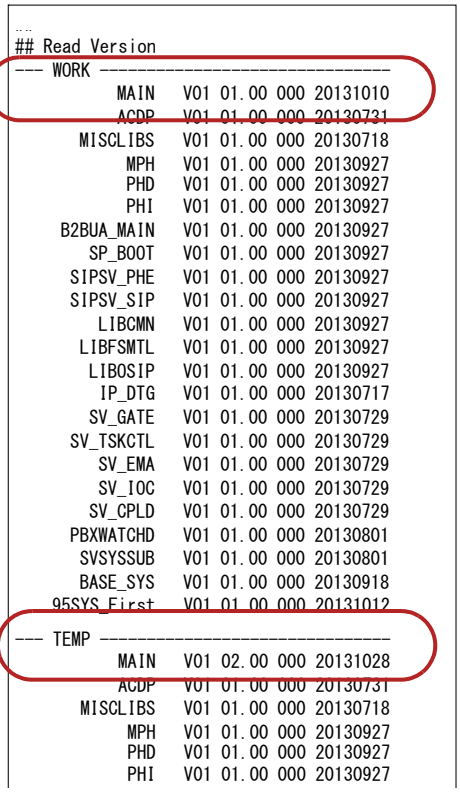
A new screen is opened where the program version is displayed.

Note:
From Internet Explorer 10 “Auto copy to clipboard” is not displayed. If it is necessary to attach the results to a clipboard, copy them from the new window opened with **Show results in new window** using the mouse right button.

6

(1) Check the software version (currently-operated program version) for MAIN in the WORK section.

(2) Check the software version for MAIN in the TEMP section. Make sure that the displayed version is the same with the version printed on the Install DVD label.



7

Start another Internet Explorer window and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar.
“xxx.xxx.xxx.xxx” represents the LAN 1 IP address of System #0 (ex. 10.100.1.21).

Note:
Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

8

Repeat the procedures from STEP2 to STEP6 for System #0.

The uploading of Program and License files is completed.

Switching between WORK and TEMP

This section explains how to switch between WORK side and TEMP side. For details on WORK/TEMP side, see 1.2 Telephony Server Maintenance Menu in this chapter.

Note: The following procedure assumes that System #0 is ACT-side.

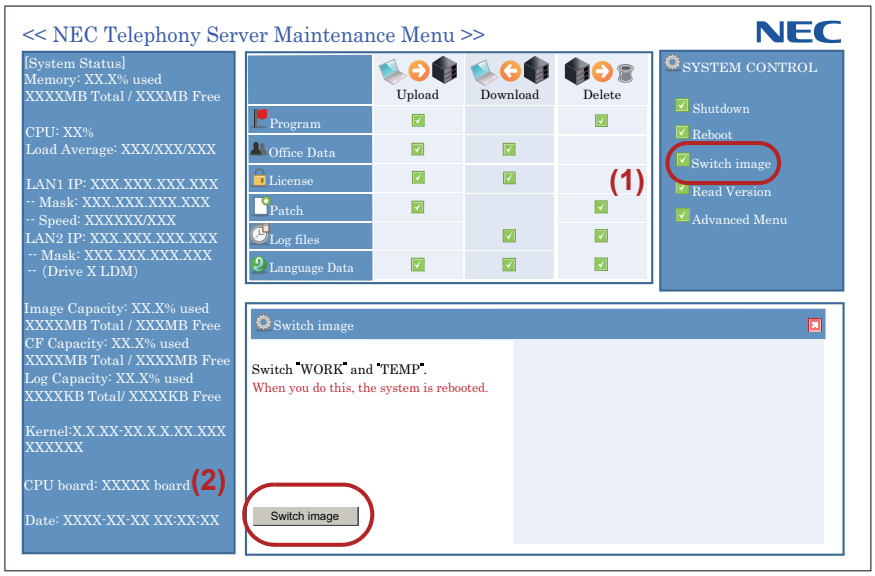
1

(1) On Telephony Server Maintenance Menu connected to LAN 1 IP address (ex. 10.100.1.31) of System #1, click the **Switch image** button in the **SYSTEM CONTROL** area. The **Switch image** dialog box appears.

(2) Click the **Switch image** button on the dialog box.

(3) A confirmation message appears. Click the **OK** button to switch between WORK and TEMP.

(4) The Telephony Server will be automatically restarted. After **Operation successfully completed. Please close the browser.** appears, click the **OK** button to exit from Telephony Server Maintenance Menu.



Note:

- Go to Step 2 promptly after Step 1, without performing any other operations.
- When the switching between WORK and TEMP failed, **An error occurred! Please check the logs.** appears and error logs is displayed in the lower right portion of the screen.

Point:

Only the CPU of the Telephony Server will shut down by executing the procedure explained here. Therefore, the power of the Telephony Server will not be turned off.

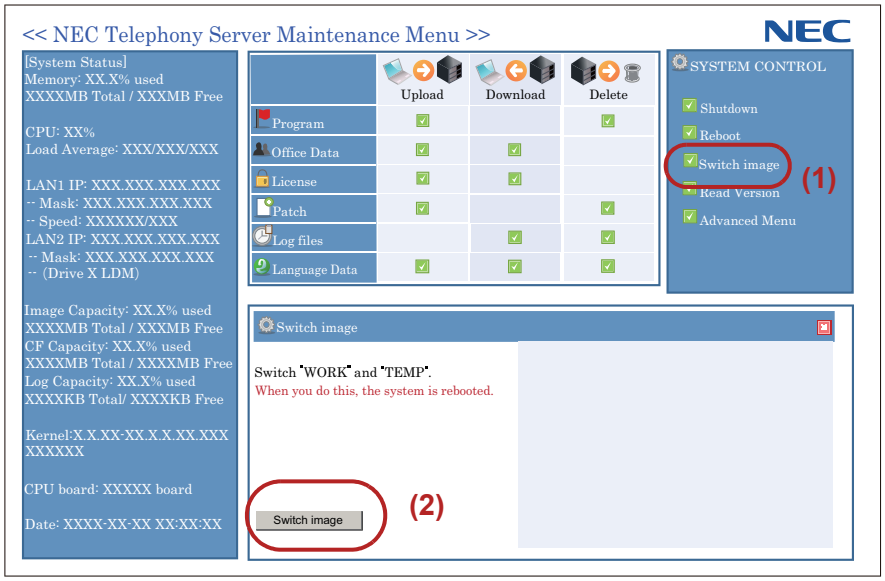
2

(1) On Telephony Server Maintenance Menu connected to LAN 1 IP address (ex. 10.100.1.21) of System #0, click the **Switch image** button in the **SYSTEM CONTROL** area. The **Switch image** dialog box appears.

(2) Click the **Switch image** button on the dialog box.

(3) A confirmation message appears. Click the **OK** button to switch between WORK and TEMP.

(4) The Telephony Server will be automatically restarted. When **Operation successfully completed. Please close the browser.** appears, click the **OK** button to exit from Telephony Server Maintenance Menu.



Switching between WORK and TEMP is completed.

Note:

- When the switching between WORK and TEMP failed, **An error occurred! Please check the logs.** appears and error logs is displayed in the lower right portion of the screen.
- Even after the Telephony Server is restarted, do not perform CPU system changeover (ACT/STBY) until after you check the software version at Checking the Version Information for System #0/1.

Point:

Only the CPU of Telephony Server will shut down by executing the procedure explained here. Therefore, the power of the Telephony Server will not be turned off.

Checking the Version Information for System #0/1

Check the version information to confirm if the version upgrading succeeded.

1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. “xxx.xxx.xxx.xxx” represents the LAN1 IP address (ex. 10.100.1.31) of System #1.

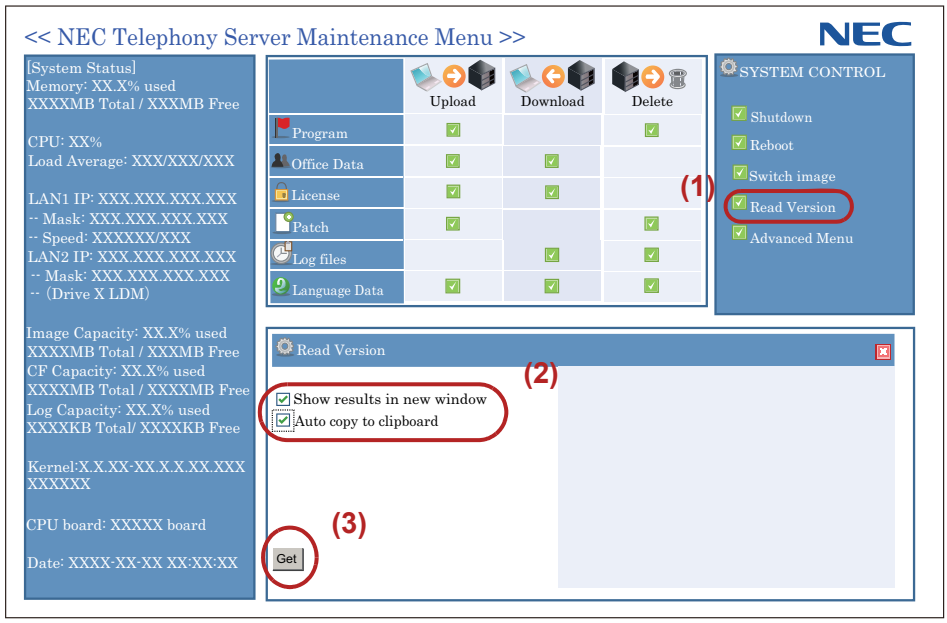
Note:
Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2 (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click **OK** to log in to **Telephony Server Maintenance Menu**.

Note:
- The default for both user name and password is “admin”. You are recommended to change user name and password from **Advanced Menu**.
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.

3

(1) Click the **Read Version** button in the **SYSTEM CONTROL** area. The **Read Version** dialog box appears in the lower right portion of the screen.
(2) Select both the **Show results in new window** and the **Auto copy to clipboard** check boxes.
(3) Click the **Get** button to display the program version list.



A new screen is opened where the program version is displayed.

Note:
From Internet Explorer 10 **Auto copy to clipboard** is not displayed. If it is necessary to attach the results to a clipboard, copy them from the new window opened with **Show results in new window** using the mouse right button.

4

(1) Check the software version for MAIN in the WORK section. Make sure that the displayed version is the same with the version printed on the Install DVD label.

(2) Check the software version for MAIN in the TEMP section. Make sure that the program version before upgrading is displayed.

(1)

(2)

```
## Read Version
--- WORK ------------------------------
          MAIN   V01 02.00 000 20131010
          ACDP   V01 01.00 000 20130731
       MISCLIBS  V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
    B2BUA_MAIN   V01 01.00 000 20130927
       SP_BOOT   V01 01.00 000 20130927
     SIPSV_PHE   V01 01.00 000 20130927
     SIPSV_SIP   V01 01.00 000 20130927
        LIBCMN   V01 01.00 000 20130927
     LIBFSMTL   V01 01.00 000 20130927
      LIBOSIP   V01 01.00 000 20130927
       IP_DTG   V01 01.00 000 20130717
      SV_GATE   V01 01.00 000 20130729
     SV_TSKCTL  V01 01.00 000 20130729
       SV_EMA   V01 01.00 000 20130729
       SV_IOC   V01 01.00 000 20130729
      SV_CPLD   V01 01.00 000 20130729
    PBXWATCHD   V01 01.00 000 20130801
     SVSYSSUB   V01 01.00 000 20130801
     BASE_SYS   V01 01.00 000 20130918
   95SYS_First  V01 01.00 000 20131012
--- TEMP ------------------------------
          MAIN   V01 01.00 000 20131028
          ACDP   V01 01.00 000 20130731
```

5

Start another Internet Explorer window and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar.
“xxx.xxx.xxx.xxx” represents the LAN 1 IP address of System #0 (ex. 10.100.1.21).

Note:
Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

6

Repeat the procedures from STEP2 to STEP4 for System #0.

The version upgrading for the dual system configuration is completed.

After version upgrade, Linux administrator (root) password is reset to default. If you had customized this setting prior to the upgrade, you will need to set the login information again.

5.2.3 Registration of Activation Code

Once the license file has been uploaded and the SV9500 has been reset, the SV9500 must be registered before you will be granted PCPro access.

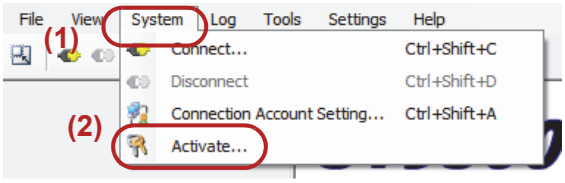
The following section explains how to register the SV9500.

Note: You cannot be logged in to the PCPro to use these steps. For dual CPUs, both CPUs must be on-line to enter the Activation Code.

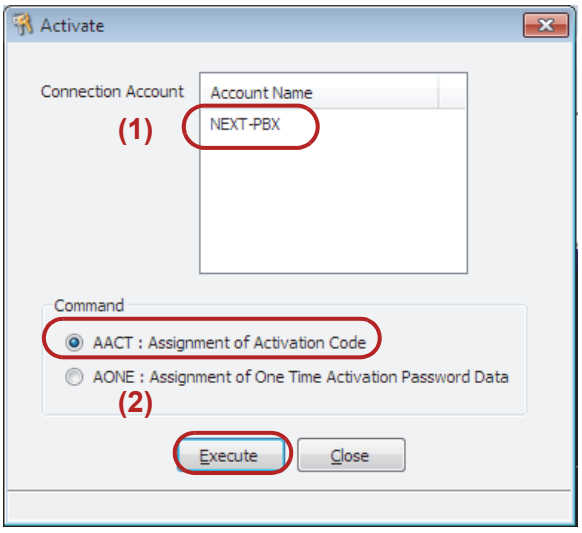
1 Configure a **Connection Account** in PCPro for the LAN2 IP Address for your SV9500.

2 Configure the maintenance PC to connect to the LAN2 IP Address of your SV9500. Verify connectivity to the SV9500 by pinging the LAN2 IP Address.

3 Launch PCPro.
(1) Select **System**.
(2) Select **Activate**.



4 The **Activate** screen will launch.
(1) Highlight the **Connection Account** configured for your LAN2 IP Address.
(2) Select the AACT radio button and press **Execute**.



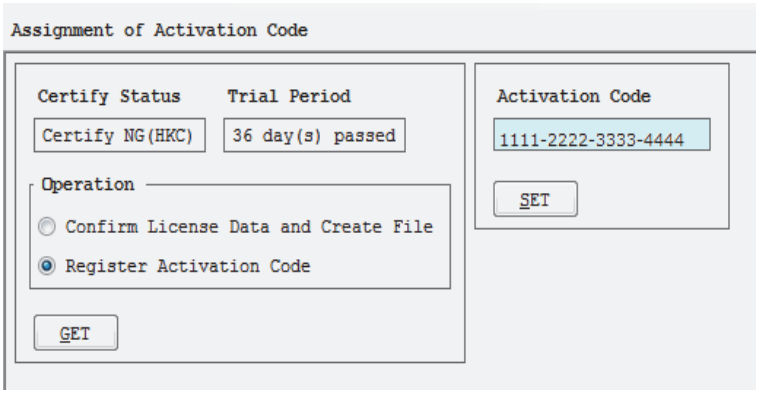
5 The AACT command will launch.

(1) Select the **Register Activation Code** radio button and press Get.

(2) Enter the **Activation Code** you have received from the LMS server, into the **Activation Code** field and press **Set**.

(3) Verify you receive the **Certify OK** confirmation message.

(4) Close the **AACT** command and the **Activate** screen.



6 You can now log in to PCPro; remember to backup the Activation Code using the MEM_HDD command.

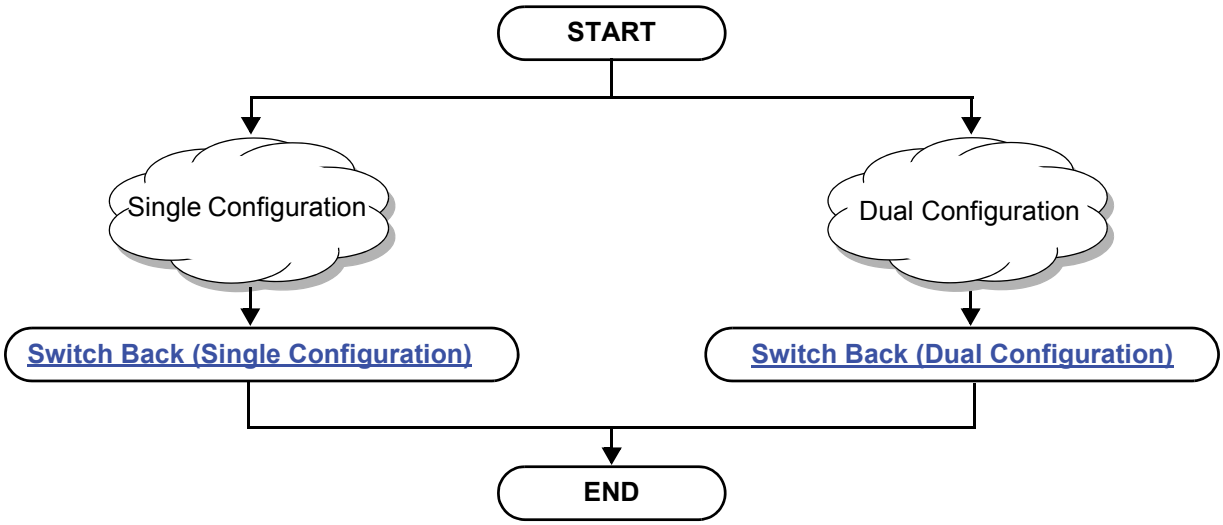
Registration of activation code is completed.

Note: If the Activation Code is not available, the SV9500 may be unlocked by selecting the **AONE** option instead of the **AACT** option. Once unlocked using the **AONE** option, the PCPro connection will be valid for 7 days. After 7 days, PCPro access will be denied until the SV9500 is registered. Please note that the AONE option can only be used once.

5.2.4 Switch Back

If you encounter any troubles, and you need to switch back the upgraded program to the original, follow the flow chart below.

The procedures differ according to the Telephony Server configuration (Single system or Dual system).



5.2.4.1 Switch Back (Single Configuration)

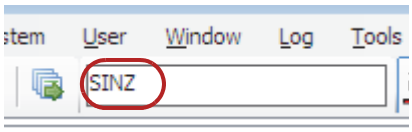
This is the procedure to switch back the program in a single configuration. The procedure for switching back the program differs depending on whether PCPro or Telephony Server Maintenance Menu is used.

- When PCPro is Available
- When PCPro is not Available, but Telephony Server Maintenance Menu is Available
- When Neither PCPro nor Telephony Server Maintenance Menu are Available

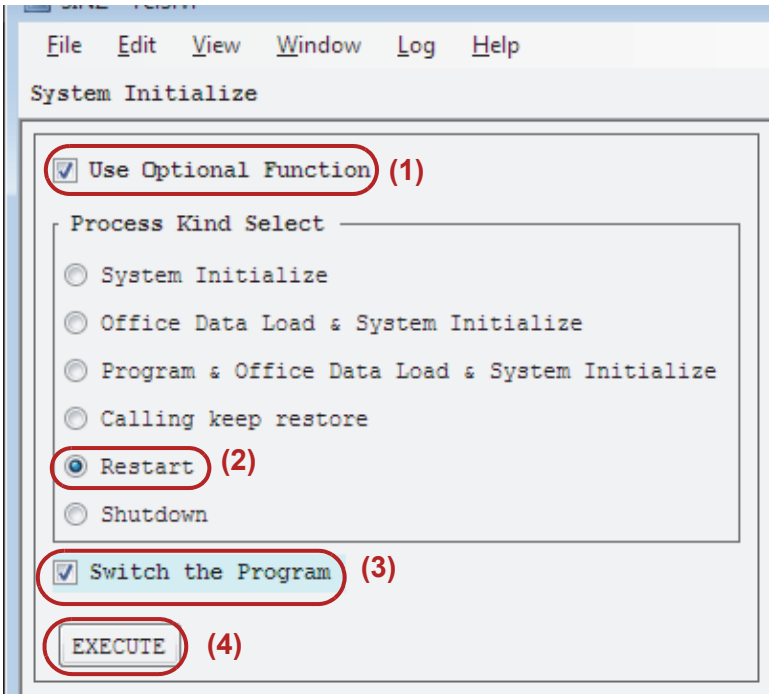
When PCPro is Available

This is the procedure of switching back of the program when PCPro is available.

1 Execute SINZ command from PCPro.



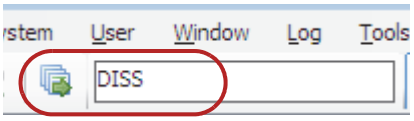
2
(1) Select the **Use Optional Function** check box.
(2) Select **Restart** for **Process Kind Select**.
(3) Select the **Switch the Program** check box.
(4) Click the **Execute** button.



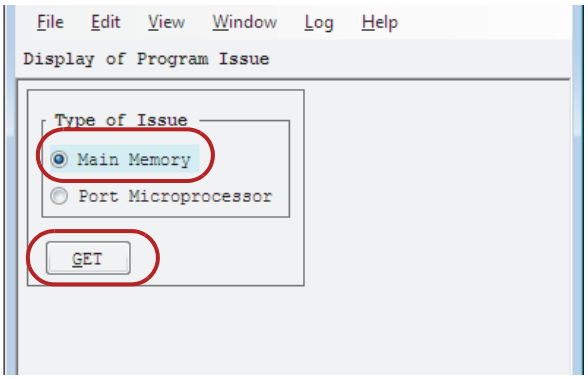
3 Check that the ON LINE lamp on the Telephony Server turns on. (ON LINE lamp changes from “Turned OFF” → “Fast Flashing” → “Slow Flashing” → “Turned ON”.

Note:
It takes about five minutes from turning on the power to switching to “fast flashing”. It takes five more minutes from that state to “slow flashing”.

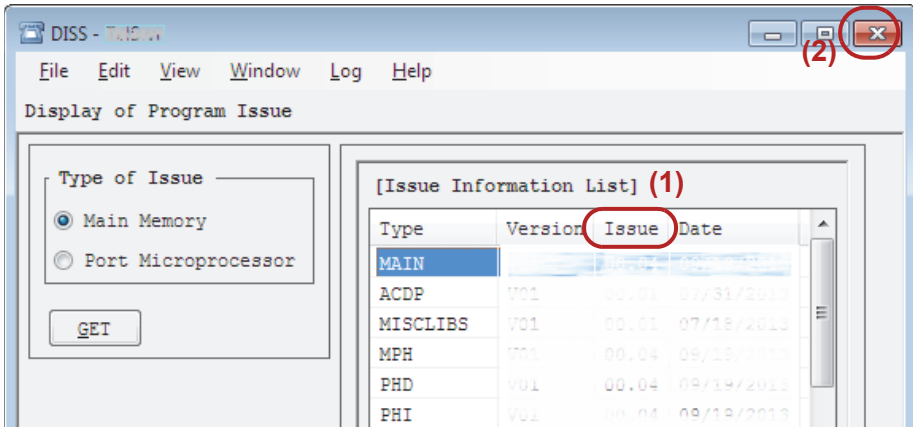
4 Execute DISS command from PCPro.



5
(1) Select **Main Memory** for **Type of Issue**.
(2) Click the **Get** button.



6
(1) Check if the operating program version (see "Type" → "MAIN" → "Issue") is returned to the pre-upgrade version.
(2) Click the **X** button to exit from the DISS command



7
(1) Execute ATIM command from PCPro to set the time.
(2) Perform connection tests.

Point:
"Connection tests" refer to the basic tests performed to each device after installation such as checking the station-to-station call.

Switching back is completed.

When PCPro is not Available, but Telephony Server Maintenance Menu is Available

When PCPro is not available, but Telephony Server Maintenance Menu is available, follow the steps below.

1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. “xxx.xxx.xxx.xxx” represents the LAN 1 IP address of the Telephony Server (ex. 10.100.1.11).

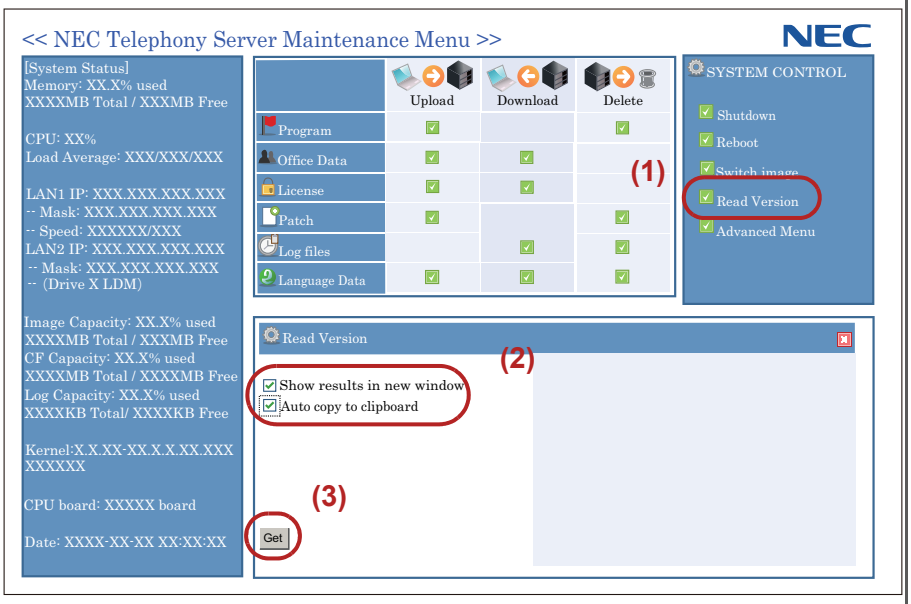
Note:
Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2
(1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

Note:
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.

3

(1) Click the **Read Version** button in the **SYSTEM CONTROL** area. The **Read Version** dialog box appears in the lower right portion of the screen.
(2) Select both the **Show results in new window** and the **Auto copy to clipboard** check boxes.
(3) Click the **Get** button to display the program version list.



A new screen is opened where the program version is displayed.

4

(1) Check the software version for MAIN in the WORK section. Make sure that the version of the upgraded program is displayed.

(2) Check the software version for MAIN in the TEMP section. Make sure that the program version before upgrading is displayed.

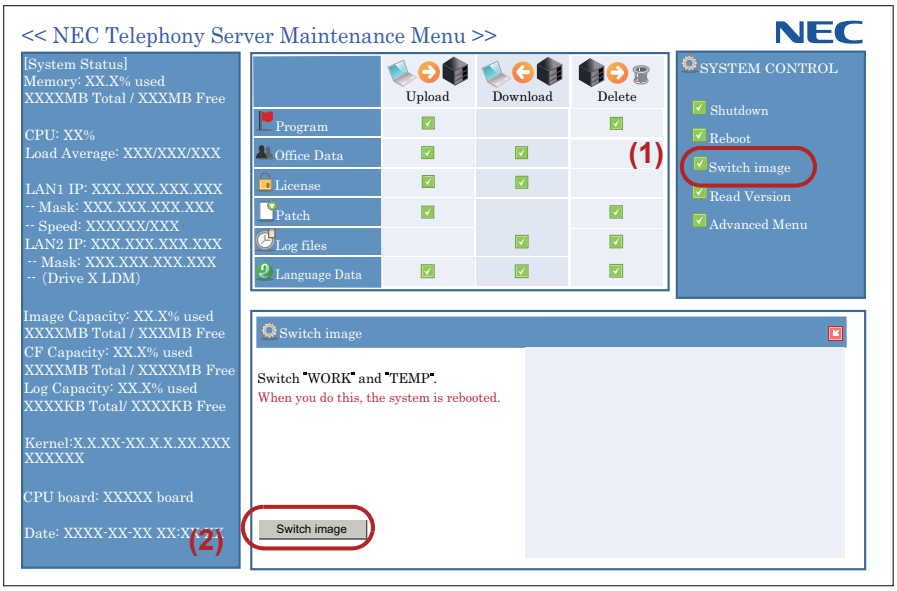
(1)

(2)

```
...
## Read Version
--- WORK -------------------------------
          MAIN   V01 02.00 000 20131010
          ACDP   V01 01.00 000 20130731
      MISCLIBS   V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
    B2BUA_MAIN   V01 01.00 000 20130927
       SP_BOOT   V01 01.00 000 20130927
     SIPSV_PHE   V01 01.00 000 20130927
     SIPSV_SIP   V01 01.00 000 20130927
        LIBCMN   V01 01.00 000 20130927
     LIBFSMTL   V01 01.00 000 20130927
      LIBOSIP   V01 01.00 000 20130927
       IP_DTG   V01 01.00 000 20130717
      SV_GATE   V01 01.00 000 20130729
    SV_TSKCTL   V01 01.00 000 20130729
       SV_EMA   V01 01.00 000 20130729
       SV_IOC   V01 01.00 000 20130729
      SV_CPLD   V01 01.00 000 20130729
    PBXWATCHD   V01 01.00 000 20130801
     SVSYSSUB   V01 01.00 000 20130801
     BASE_SYS   V01 01.00 000 20130918
   95SYS_First  V01 01.00 000 20131012
--- TEMP -------------------------------
          MAIN   V01 01.00 000 20131028
          ACDP   V01 01.00 000 20130731
      MISCLIBS   V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
    B2BUA_MAIN   V01 01.00 000 20130927
       SP_BOOT   V01 01.00 000 20130927
     SIPSV_PHE   V01 01.00 000 20130927
     SIPSV_SIP   V01 01.00 000 20130927
        LIBCMN   V01 01.00 000 20130927
     LIBFSMTL   V01 01.00 000 20130927
      LIBOSIP   V01 01.00 000 20130927
       IP_DTG   V01 01.00 000 20130717
      SV_GATE   V01 01.00 000 20130729
```

5

(1) Click the **Switch image** button in the **SYSTEM CONTROL** area. The **Switch image** dialog box appears.
(2) Click the **Switch image** button on the dialog box.
(3) A confirmation message appears. Click the **OK** button to switch between WORK and TEMP for program and licenses.
(4) The Telephony Server will be automatically restarted. When **Operation successfully completed. Please close the browser.** appears, click the **OK** button to exit from Telephony Server Maintenance Menu.



6

Verify that ON LINE lamp on the front panel of CPU card changes in the following order.
"Turned OFF" → "Fast Flashing" → "Slow Flashing" → "Turned ON".

7

Start Internet Explorer and type "http://xxx.xxx.xxx.xxx:9801/" into the address bar. "xxx.xxx.xxx.xxx" represents the LAN 1 IP address of the Telephony Server (ex. 10.100.1.11).

Note:
When the switching ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

Note:
Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

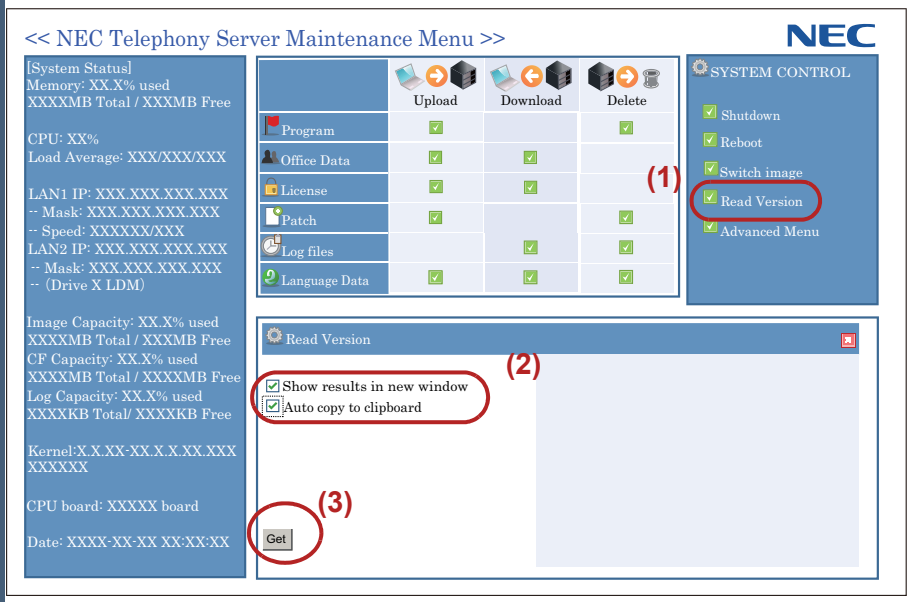
8

(1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click **OK** to log in to **Telephony Server Maintenance Menu**.

Note:
- The default for both user name and password is “admin”. You are recommended to change user name and password from **Advanced Menu**.
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.

9

(1) Click the **Read Version** button in the **SYSTEM CONTROL** area. The **Read Version** dialog box appears in the lower right portion of the screen.
(2) Select both the **Show results in new window** and the **Auto copy to clipboard** check boxes.
(3) Click the **Get** button to display the program version list.



A new screen is opened where the program version is displayed.

Note:
From Internet Explorer 10 **Auto copy to clipboard** is not displayed. If it is necessary to attach the results to a clipboard, copy them from the new window opened with **Show results in new window** using the mouse right button.

10 Check the software version for MAIN in the WORK section. Make sure that the program version before upgrading is displayed.

```
## Read Version
---- WORK ------------------------------
          MAIN   V01 01.00 000 20131010
          ACDP   V01 01.00 000 20130731
      MISCLIBS   V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
    B2BUA_MAIN   V01 01.00 000 20130927
       SP_BOOT   V01 01.00 000 20130927
     SIPSV_PHE   V01 01.00 000 20130927
     SIPSV_SIP   V01 01.00 000 20130927
        LIBCMN   V01 01.00 000 20130927
      LIBFSMTL   V01 01.00 000 20130927
       LIBOSIP   V01 01.00 000 20130927
        IP_DTG   V01 01.00 000 20130717
       SV_GATE   V01 01.00 000 20130729
     SV_TSKCTL   V01 01.00 000 20130729
        SV_EMA   V01 01.00 000 20130729
        SV_IOC   V01 01.00 000 20130729
       SV_CPLD   V01 01.00 000 20130729
    PBXWATCHD   V01 01.00 000 20130801
     SVSYSSUB   V01 01.00 000 20130801
     BASE_SYS   V01 01.00 000 20130918
   95SYS_First   V01 01.00 000 20131012
```

11 (1) Execute the **ATIM** command to set the time.
(2) Perform connection tests.

Point:
"Connection tests" refer to the basic tests performed to each device after installation such as checking the station-to-station call.

Switching back of the program is completed.

When Neither PCPro nor Telephony Server Maintenance Menu are Available

ATTENTION
Contents
Static Sensitive
Handling
Precautions Required

When neither PCPro nor Telephony Server Maintenance Menu are available, follow the steps below.

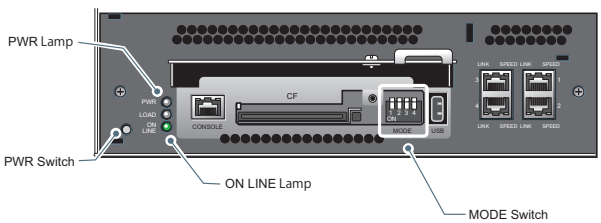
Note: Disconnect the Telephony Server and Maintenance PC from other networks, because IP address of LAN1 is the default value.

1

(1) Turn to ON the SW1 of MODE switches located on the right of the CF card slot on the front panel of the CPU card.

(2) Turn off the power of the CPU card.
Press the PWR switch on the front panel of the CPU card to execute auto-shutdown of the CPU card. Confirm the PWR lamp turns off.
When auto-shutdown does not work, press and hold the PWR switch for four seconds to turn off the CPU card forcibly.

(3) Press the PWR switch on the front panel of the CPU card. Confirm that the ON LINE lamp flashes fast.



2

The default value of the IP address of LAN1 is 192.168.0.2. Change the IP address of Maintenance PC, and connect.

3

Start Internet Explorer on the maintenance PC and type “http://192.168.0.2:9801/” into the address bar.

Note:
Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

4

(1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.

(2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

Note:
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.

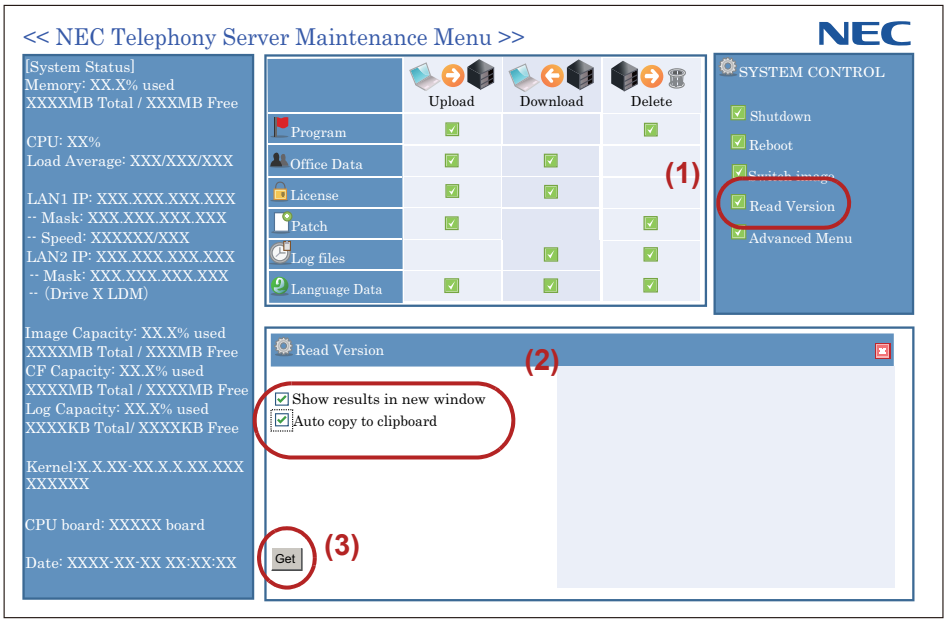
5 Turn the MODE switch to the original state (from ON to OFF), and connect to network.

6

(1) Click the **Read Version** button in the **SYSTEM CONTROL** area. The **Read Version** dialog box appears in the lower right portion of the screen.

(2) Select both the **Show results in new window** and the **Auto copy to clipboard** check boxes.

(3) Click the **Get** button to display the program version list.



A new screen is opened where the program version is displayed.

7

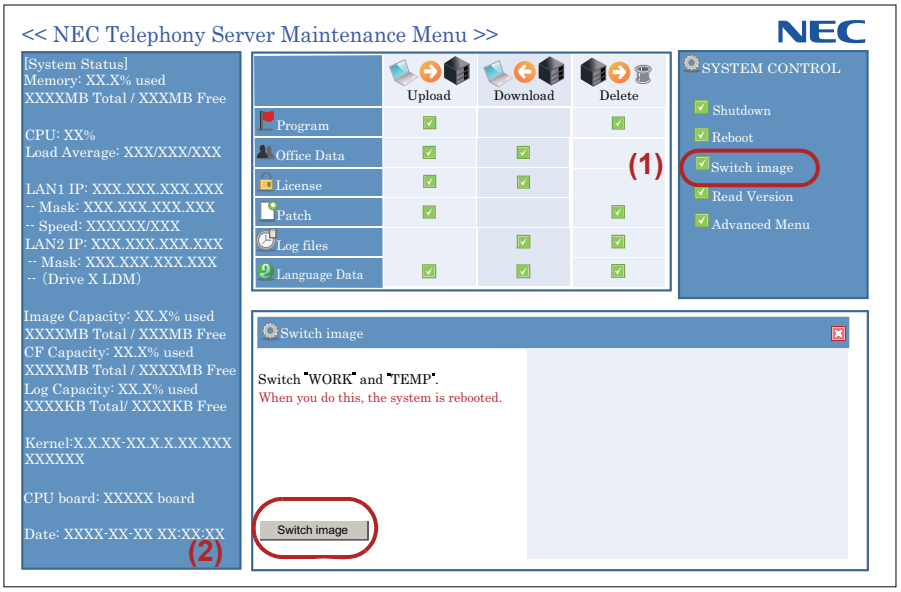
(1) Check the software version for MAIN in the WORK section. Make sure that the version of the upgraded program is displayed.

(2) Check the software version for MAIN in the TEMP section. Make sure that the program version before upgrading is displayed.

```
(1) ## Read Version
--- WORK -------------------------------
          MAIN   V01 02.00 000 20131010
          ACDP   V01 01.00 000 20130731
      MISCLIBS   V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
    B2BUA_MAIN   V01 01.00 000 20130927
       SP_BOOT   V01 01.00 000 20130927
     SIPSV_PHE   V01 01.00 000 20130927
     SIPSV_SIP   V01 01.00 000 20130927
        LIBCMN   V01 01.00 000 20130927
      LIBFSMTL   V01 01.00 000 20130927
       LIBOSIP   V01 01.00 000 20130927
        IP_DTG   V01 01.00 000 20130717
       SV_GATE   V01 01.00 000 20130729
     SV_TSKCTL   V01 01.00 000 20130729
        SV_EMA   V01 01.00 000 20130729
        SV_IOC   V01 01.00 000 20130729
       SV_CPLD   V01 01.00 000 20130729
    PBXWATCHD   V01 01.00 000 20130801
     SVSYSSUB   V01 01.00 000 20130801
     BASE_SYS   V01 01.00 000 20130918
   95SYS First  V01 01.00 000 20131012
(2)
--- TEMP -------------------------------
          MAIN   V01 01.00 000 20131028
          ACDP   V01 01.00 000 20130731
      MISCLIBS   V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
    B2BUA_MAIN   V01 01.00 000 20130927
       SP_BOOT   V01 01.00 000 20130927
     SIPSV_PHE   V01 01.00 000 20130927
     SIPSV_SIP   V01 01.00 000 20130927
```

8

(1) Click the **Switch image** button in the **SYSTEM CONTROL** area. The **Switch image** dialog box appears.
(2) Click the **Switch image** button on the dialog box.
(3) A confirmation message appears. Click the **OK** button to switch between WORK and TEMP for program and licenses.
(4) The Telephony Server will be automatically restarted. When **Operation successfully completed. Please close the browser.** appears, click **OK** to exit from the Telephony Server Maintenance Menu.



Note:
When the switching ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.

9

Verify that ON LINE lamp on the front panel of CPU card changes in the following order. "Turned OFF" → "Fast Flashing" → "Slow Flashing" → "Turned ON".

Note:
It takes about five minutes from turning on the power to switching to "fast flashing". It takes five more minutes from that state to "slow flashing".

10

Make a connection between the Telephony Server and the maintenance PC and then change the network to the original settings.

11

Start Internet Explorer and type "http://xxx.xxx.xxx.xxx:9801/" into the address bar. "xxx.xxx.xxx.xxx" represents the LAN 1 IP address of the Telephony Server (ex. 10.100.1.11).

Note:
Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

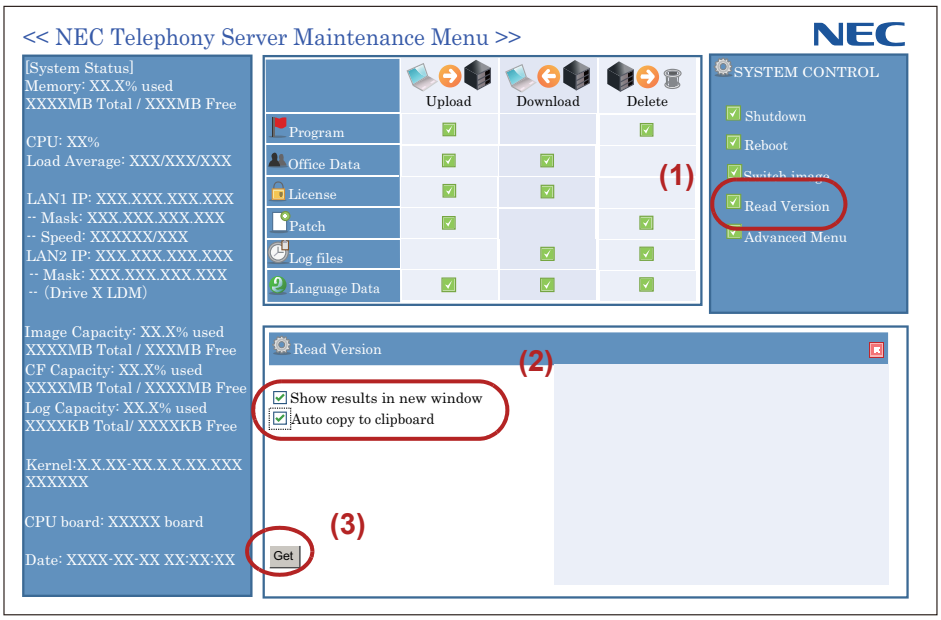
12

(1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

Note:
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.

13

(1) Click the **Read Version** button in the **SYSTEM CONTROL** area. The **Read Version** dialog box appears in the lower right portion of the screen.
(2) Select both the **Show results in new window** and the **Auto copy to clipboard** check boxes.
(3) Click the **Get** button to display the program version list.



A new screen is opened where the program version is displayed.

Note:
From Internet Explorer 10 **Auto copy to clipboard** is not displayed. If it is necessary to attach the results to a clipboard, copy them from the new window opened with **Show results in new window** using the mouse right button.

14 Check the software version for MAIN in the WORK section. Make sure that the program version before upgrading is displayed.

```
...
## Read Version
--- WORK -------------------------------
          MAIN   V01 01.00 000 20131010
          ACDP   V01 01.00 000 20130731
      MISCLIBS   V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
    B2BUA_MAIN   V01 01.00 000 20130927
       SP_BOOT   V01 01.00 000 20130927
     SIPSV_PHE   V01 01.00 000 20130927
     SIPSV_SIP   V01 01.00 000 20130927
        LIBCMN   V01 01.00 000 20130927
      LIBFSMTL   V01 01.00 000 20130927
       LIBOSIP   V01 01.00 000 20130927
         IP_DTG   V01 01.00 000 20130717
       SV_GATE   V01 01.00 000 20130729
     SV_TSKCTL   V01 01.00 000 20130729
        SV_EMA   V01 01.00 000 20130729
        SV_IOC   V01 01.00 000 20130729
       SV_CPLD   V01 01.00 000 20130729
     PBXWATCHD   V01 01.00 000 20130801
      SVSYSSUB   V01 01.00 000 20130801
      BASE_SYS   V01 01.00 000 20130918
   95SYS_First   V01 01.00 000 20131012
...
```

15 (1) Execute the **ATIM** command to set the time.
(2) Perform connection tests.

Point:
"Connection tests" refer to the basic tests performed to each device after installation such as checking the station-to-station call.

Switching back of the program is completed.

5.2.4.2 Switch Back (Dual Configuration)

This is the procedures to switch back the program in a dual configuration. The procedure for switching back the program differs depending on whether PCPro or Telephony Server Maintenance Menu is used.

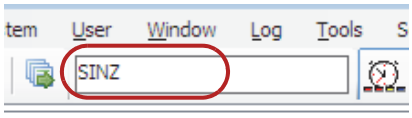
- When PCPro is Available
- When PCPro is not Available, but Telephony Server Maintenance Menu is Available
- When Neither PCPro nor Telephony Server Maintenance Menu are Available

When PCPro is Available

This is the procedure of switching back of the program when PCPro is available.

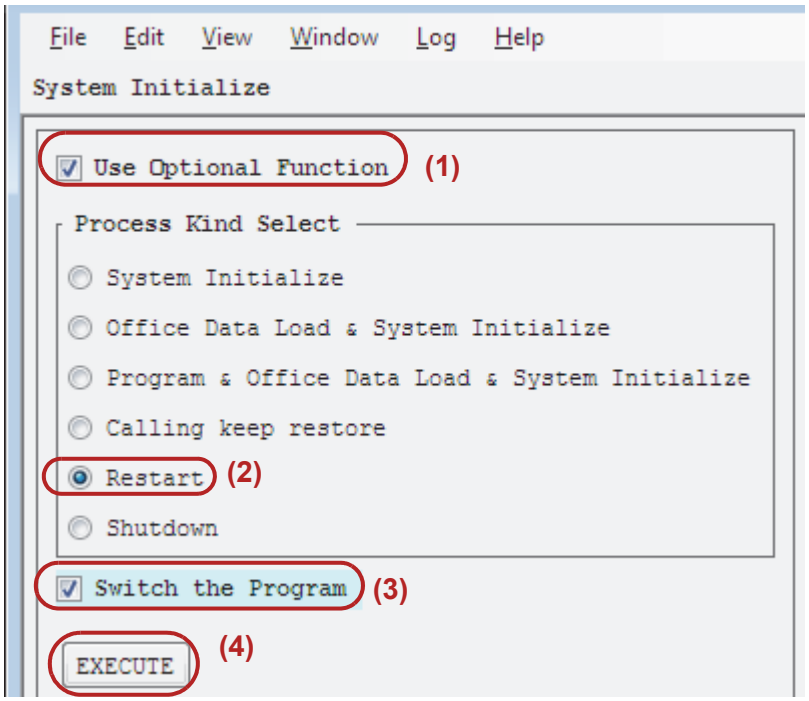
Note: The following procedure assumes that System #0 is ACT-side.

1 Execute SINZ command from PCPro.



2

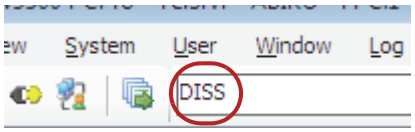
(1) Select the **Use Optional Function** check box.
(2) Select **Restart** for **Process Kind Select**.
(3) Select the **Switch the Program** check box.
(4) Click the **Execute** button.



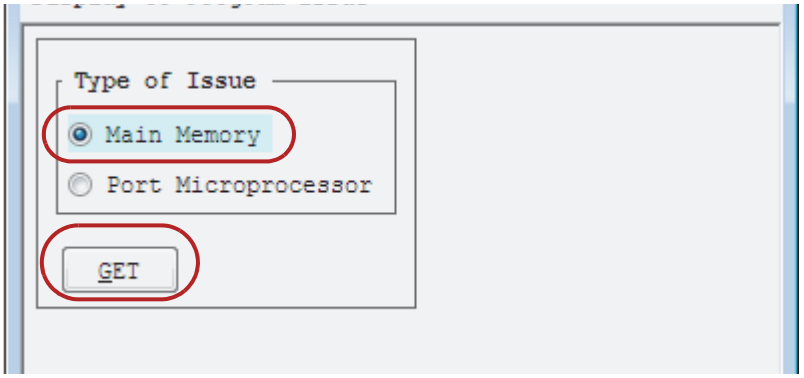
3 Check that the ON LINE lamp on the Telephony Server turns on. (ON LINE lamp changes from “Turned OFF” → “Fast Flashing” → “Slow Flashing” → “Turned ON”.

Note:
It takes about five minutes from turning on the power to switching to “fast flashing”. It takes five more minutes from that state to “slow flashing”.

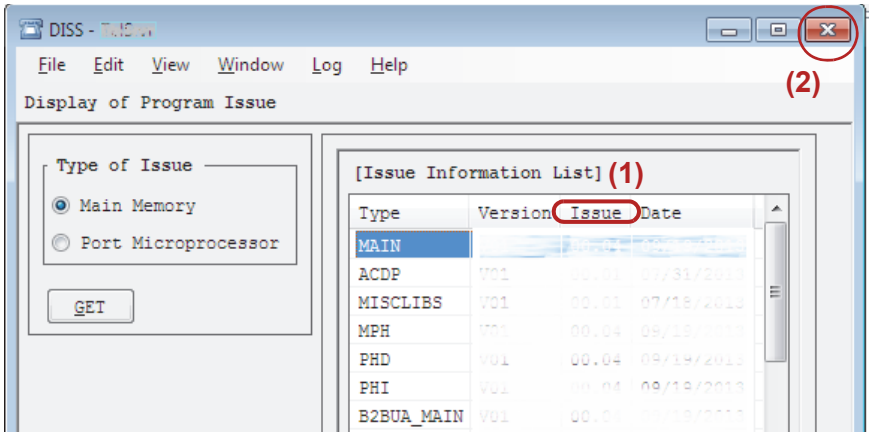
4 Execute DISS command from PCPro.



5
(1) Select “Main Memory” for [Type of Issue].
(2) Click **Get**.



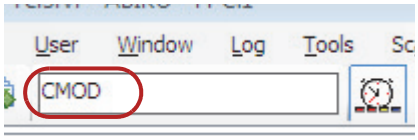
6
(1) Check if the operating program version (see “Type” → “MAIN” → “Issue”) is returned to the pre-upgrade version.
(2) Click the X button to exit from the DISS command.



7
(1) Execute ATIM command from PCPro to set the time.
(2) Perform connection tests.

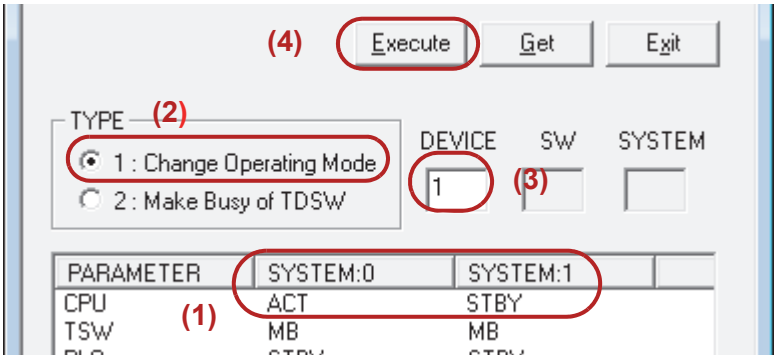
Point:
“Connection tests” refer to the basic tests performed to each device after installation such as checking the station-to-station call.

8 Execute the CMOD command.



9

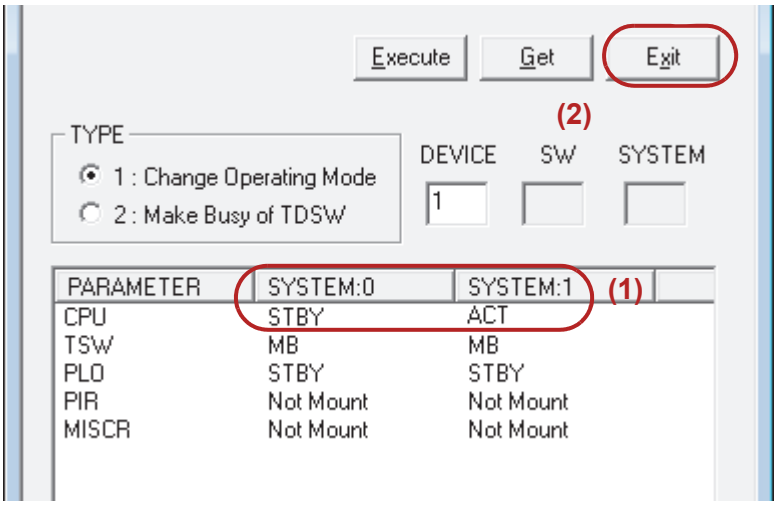
(1) Check that CPU's **SYSTEM: 0** is **ACT**, and **SYSTEM: 1** is **STBY**.
(2) Select **1: Change Operating Mode** for **TYPE**.
(3) Enter **1** for **DEVICE**.
(4) Click the **Execute** button.



Point:
Always enter 1 (1=CPU) for [DEVICE] to changeover the ACT side of CPU.

10

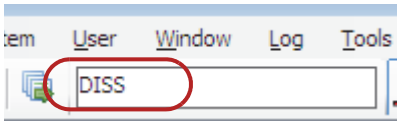
(1) Check that ACT-side switched to System #1.
(2) Click the **Exit** button to close the screen.



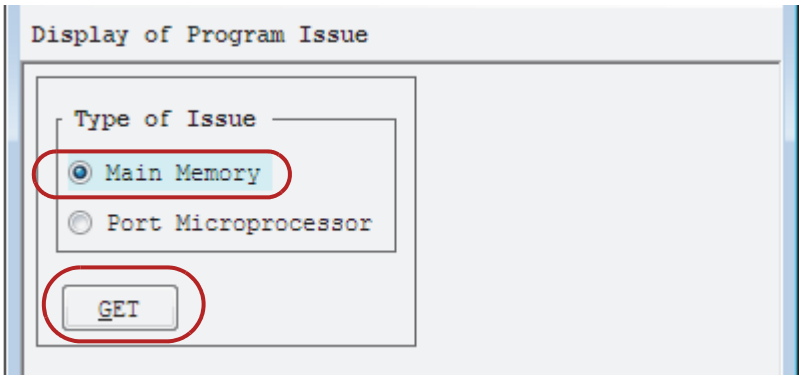
Point:

- The system whose CPU is indicated as **ACT** is ACT system. For the example on the left, System #1 is ACT system, because the figure indicates that **SYSTEM: 0** is **STBY**, and **SYSTEM: 1** is **ACT**.
- You can also check the ACT lamp on the front panel of EMA MAIN card. When System #1 is ACT, the ACT lamp for SYS1 turns on.

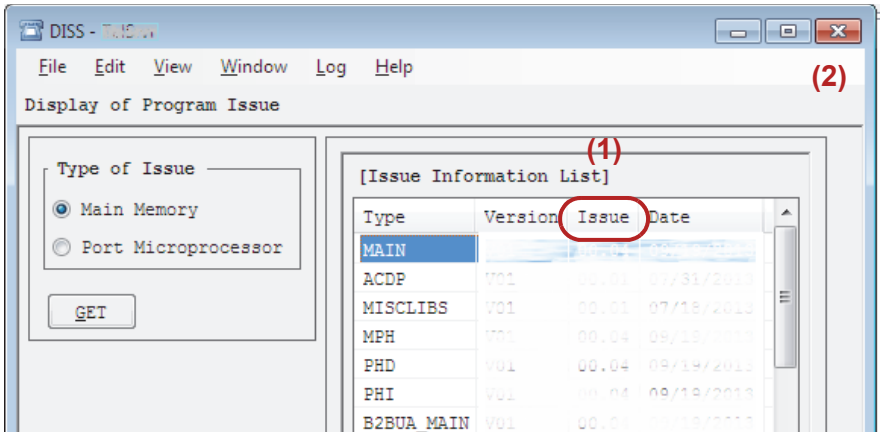
11 Execute DISS command from PCPro.



12 (1) Select **Main Memory** for **Type of Issue**.
(2) Click the **Get** button.



13 (1) Check if the operating program version (see "Type" → "MAIN" → "Issue") is returned to the pre-upgrade version.
(2) Click the Close button to exit from the DISS command.



14 (1) Execute ATIM command from PCPro to set the time.
(2) Perform connection tests.

Point:
"Connection tests" refer to the basic tests performed to each device after installation such as checking the station-to-station call.

Switching back of the program is completed.

When PCPro is not Available, but Telephony Server Maintenance Menu is Available

When PCPro is not available but Telephony Server Maintenance Menu is available, follow the steps below.

Note: The following procedure assumes that System #0 is ACT-side.

1 Start Internet Explorer and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. “xxx.xxx.xxx.xxx” represents the LAN1 IP address for System #1 (ex. 10.100.1.31).

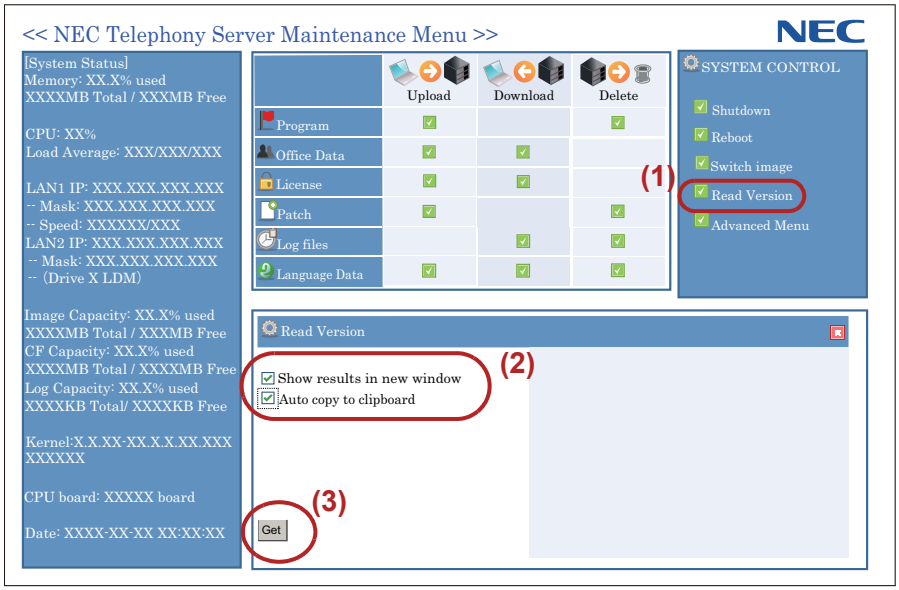
Note:
Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

2 (1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

Note:
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.

3

(1) Click the **Read Version** button in the **SYSTEM CONTROL** area. The **Read Version** dialog box appears in the lower right portion of the screen.
(2) Select both the **Show results in new window** and the **Auto copy to clipboard** check boxes.
(3) Click the **Get** button to display the program version list.

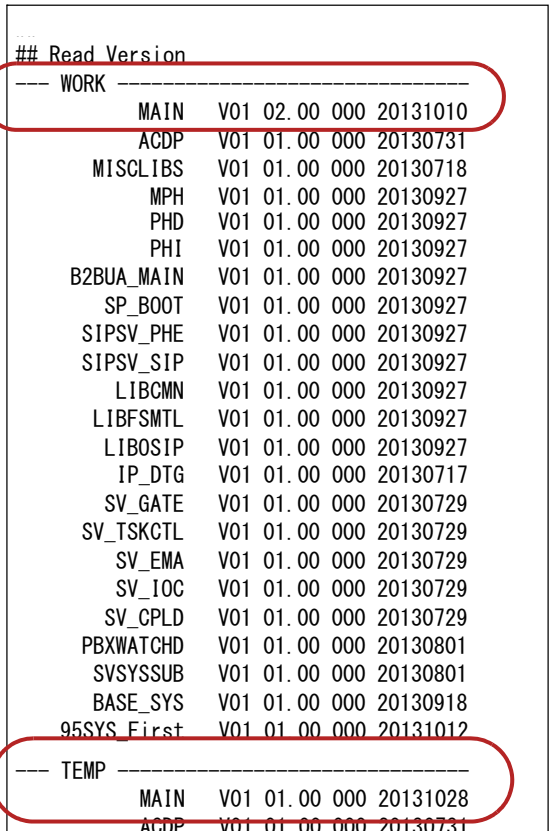


A new screen is opened where the program version is displayed.

Note:
From Internet Explorer 10 **Auto copy to clipboard** is not displayed. If it is necessary to attach the results to a clipboard, copy them from the new window opened with **Show results in new window** using the mouse right button.

4

(1) Check the software version for MAIN in the WORK section. Make sure that the version of the upgraded program is displayed.
(2) Check the software version for MAIN in the TEMP section. Make sure that the program version before upgrading is displayed.



5

Start another Internet Explorer window and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar.
“xxx.xxx.xxx.xxx” represents the LAN 1 IP address of System #0 (ex. 10.100.1.21).

6

Repeat the procedures from STEP2 to STEP4 for System #0.

7

(1) On Telephony Server Maintenance Menu connected to LAN 1 IP address (ex. 10.100.1.31) of System #1, click the **Switch image** button in the **SYSTEM CONTROL** area. The **Switch image** dialog box appears.

(2) Click the **Switch image** button on the dialog box.

(3) A confirmation message appears. Click the **OK** button to switch between WORK and TEMP.

(4) Telephony Server will be automatically restarted. When **Operation successfully completed. Please close the browser.** appears, click **OK** to exit from Telephony Server Maintenance Menu.

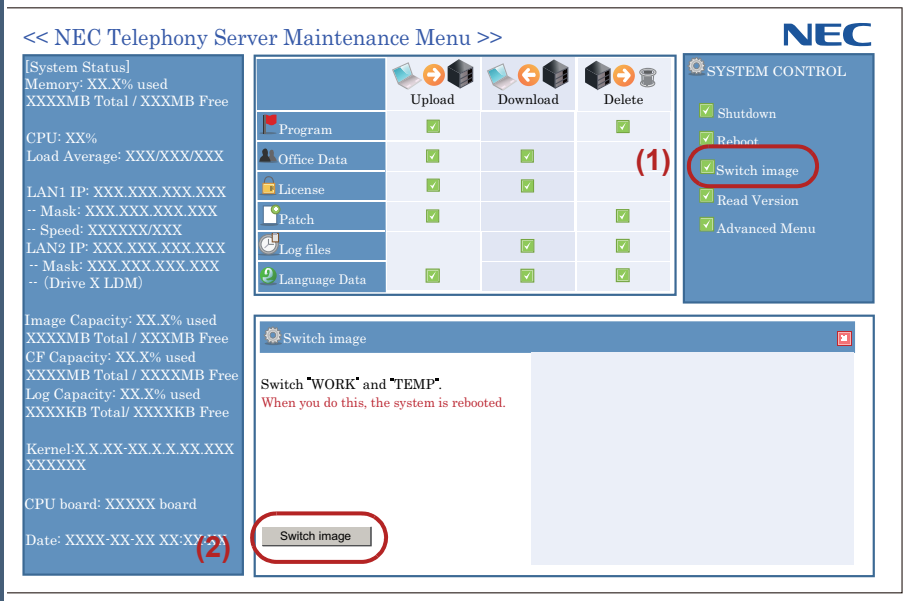


Note:

- Go to the next step promptly after this step, without performing any other operations.
- When the switching between WORK and TEMP failed, the message **An error occurred! Please check the logs.** appears and error logs is displayed in the lower right portion of the screen.
- Switching between WORK and TEMP is not available while Call Control program is running.

8

(1) On Telephony Server Maintenance Menu connected to LAN 1 IP address (ex. 10.100.1.21) of System #0, click the **Switch image** button in the **SYSTEM CONTROL** area. The **Switch image** dialog box appears.
(2) Click the **Switch image** button on the dialog box.
(3) A confirmation message appears. Click the **OK** button to switch between WORK and TEMP.
(4) Telephony Server will be automatically restarted. When **Operation successfully completed. Please close the browser.** appears, click **OK** to exit from Telephony Server Maintenance Menu.



9

Verify that ON LINE lamp on the front panel of CPU card changes in the following order.
"Turned OFF" → "Fast Flashing" → "Slow Flashing" → "Turned ON".

10

Start another Internet Explorer window and type "http://xxx.xxx.xxx.xxx:9801/" into the address bar.
"xxx.xxx.xxx.xxx" represents the LAN 1 IP address of System #1 (ex. 10.100.1.31).

Note:

- When the switching between WORK and TEMP failed, **An error occurred! Please check the logs.** appears and error logs is displayed in the lower right portion of the screen.
- Switching between WORK and TEMP is not available while Call Control program is running.

Note:

Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

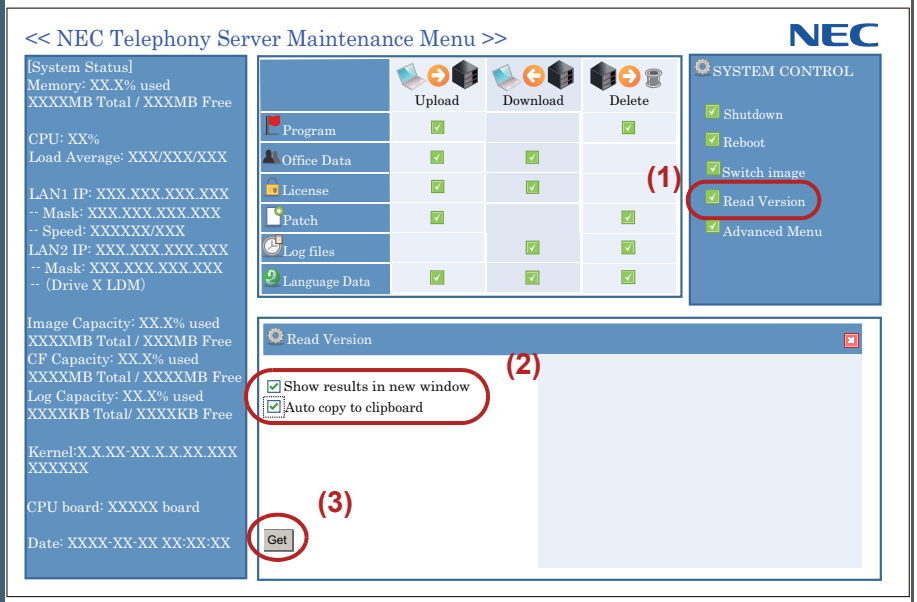
11

(1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click **OK** to log in to **Telephony Server Maintenance Menu**.

Note:
- The default for both user name and password is “admin”. You are recommended to change user name and password from **Advanced Menu**.
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.

12

(1) Click the **Read Version** button in the **SYSTEM CONTROL** area. The **Read Version** dialog box appears in the lower right portion of the screen.
(2) Select both the **Show results in new window** and the **Auto copy to clipboard** check boxes.
(3) Click the **Get** button to display the program version list.



A new screen is opened where the program version is displayed.

Note:
From Internet Explorer 10 **Auto copy to clipboard** is not displayed. If it is necessary to attach the results to a clipboard, copy them from the new window opened with **Show results in new window** using the mouse right button.

13 Check the software version for MAIN in the WORK section. Make sure that the program version before upgrading is displayed.

```
...
## Read Version
--- WORK -------------------------------
          MAIN   V01 01.00 000 20131010
          ACDP   V01 01.00 000 20130731
       MISCLIBS  V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
     B2BUA_MAIN  V01 01.00 000 20130927
        SP_BOOT  V01 01.00 000 20130927
      SIPSV_PHE  V01 01.00 000 20130927
      SIPSV_SIP  V01 01.00 000 20130927
         LIBCMN  V01 01.00 000 20130927
       LIBFSMTL  V01 01.00 000 20130927
        LIBOSIP  V01 01.00 000 20130927
          IP_DTG  V01 01.00 000 20130717
        SV_GATE  V01 01.00 000 20130729
      SV_TSKCTL  V01 01.00 000 20130729
         SV_EMA  V01 01.00 000 20130729
         SV_IOC  V01 01.00 000 20130729
        SV_CPLD  V01 01.00 000 20130729
      PBXWATCHD  V01 01.00 000 20130801
       SVSYSSUB  V01 01.00 000 20130801
       BASE_SYS  V01 01.00 000 20130918
    95SYS_First  V01 01.00 000 20131012
--- TEMP -------------------------------
```

14 Start another Internet Explorer window and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar.
“xxx.xxx.xxx.xxx” represents the LAN 1 IP address of System #0 (ex. 10.100.1.21).

15 Repeat the procedures from STEP11 to STEP13 for System #0.

16 (1) Execute the ATIM command to set the time.
(2) Perform connection tests.

Point:
“Connection tests” refer to the basic tests performed to each device after installation such as checking the station-to-station call.

Switching back of the program is completed.

When Neither PCPro nor Telephony Server Maintenance Menu are Available



When neither PCPro nor Telephony Server Maintenance Menu are available, follow the steps below.

Note: The following procedure must be performed for System #0 and System #1 at different times to avoid duplication of IP addresses. It does not matter which of the systems, System #0 or System #1, is switched back first. The following procedure assumes that System #1 is switched back first.

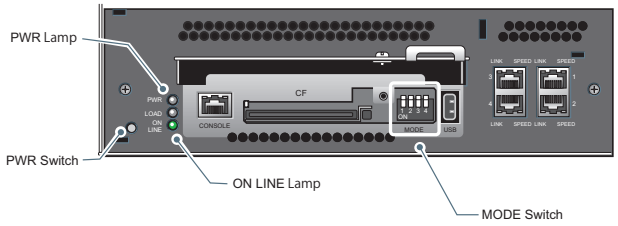
Note: Disconnect the Telephony Server and Maintenance PC from other networks, because IP address of LAN1 is the default value.

1

(1) Turn to ON the SW1 of MODE switches located on the right of the CF card slot on the front panel of CPU card for System #1

(2) Turn off the power of System #1.
Press the PWR switch on the front panel of the CPU card to execute auto-shutdown of the CPU card. Confirm the PWR lamp turns off.
When auto-shutdown does not work, press and hold the PWR switch for four seconds to turn off the CPU card forcibly.

(3) Press the PWR switch again and check that the ON LINE lamp flashes fast.



2

The default value of the IP address of LAN1 is 192.168.0.2. Change the IP address of the maintenance PC, and connect LAN1 connector of System #1 and the maintenance PC with a LAN cable.

3

Start Internet Explorer on the maintenance PC and type “http://192.168.0.2:9801/” into the address bar.

Note:
Microsoft Internet Explorer® 7.0 or higher is required to access Telephony Server Maintenance Menu.

4

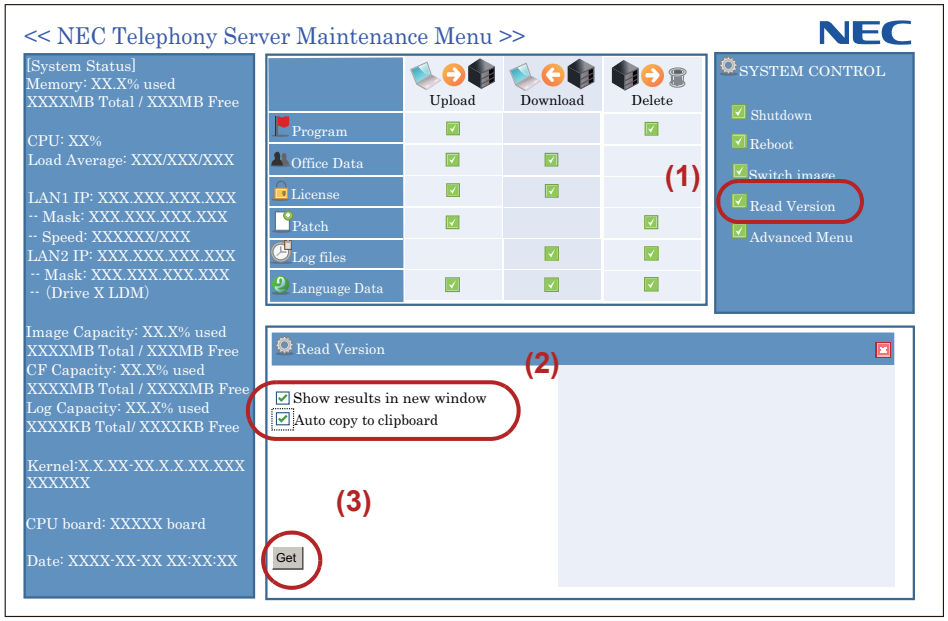
(1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

5

Turn the MODE switch on the CPU card of System #1 to the original state (from ON to OFF), and connect to network.

6

(1) Click the **Read Version** button in the **SYSTEM CONTROL** area. The **Read Version** dialog box appears in the lower right portion of the screen.
(2) Select both the **Show results in new window** and the **Auto copy to clipboard** check boxes.
(3) Click the **Get** button to display the program version list.



A new screen is opened where the program version is displayed.

Note:

- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.

7

(1) Check the software version for MAIN in the WORK section. Make sure that the version of the upgraded program is displayed.

(2) Check the software version for MAIN in the TEMP section. Make sure that the program version before upgrading is displayed.

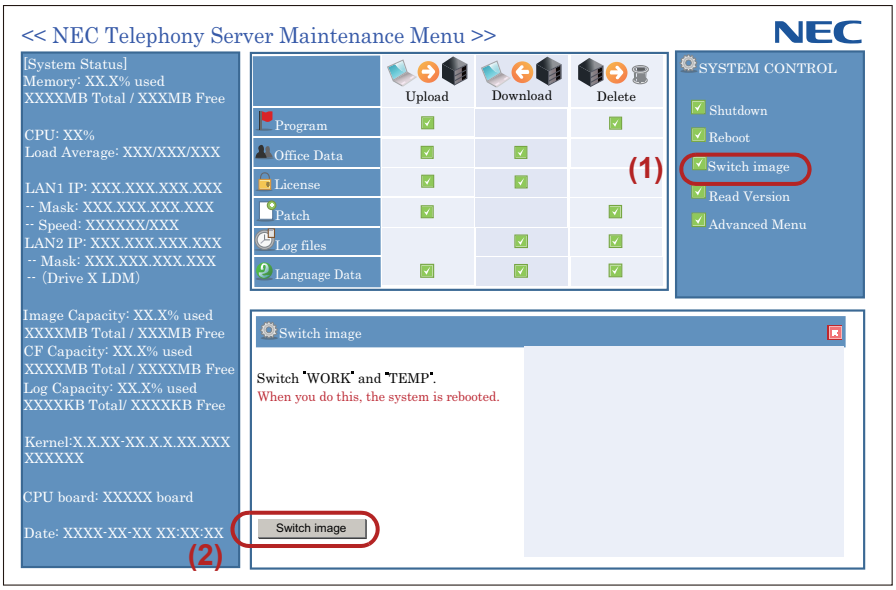
(1)

(2)

```
...
## Read Version
--- WORK -------------------------------
          MAIN   V01 02.00 000 20131010
          ACDP   V01 01.00 000 20130731
      MISCLIBS   V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
    B2BUA_MAIN   V01 01.00 000 20130927
       SP_BOOT   V01 01.00 000 20130927
     SIPSV_PHE   V01 01.00 000 20130927
     SIPSV_SIP   V01 01.00 000 20130927
       LIBCMN   V01 01.00 000 20130927
     LIBFSMTL   V01 01.00 000 20130927
      LIBOSIP   V01 01.00 000 20130927
       IP_DTG   V01 01.00 000 20130717
      SV_GATE   V01 01.00 000 20130729
     SV_TSKCTL   V01 01.00 000 20130729
       SV_EMA   V01 01.00 000 20130729
       SV_IOC   V01 01.00 000 20130729
      SV_CPLD   V01 01.00 000 20130729
    PBXWATCHD   V01 01.00 000 20130801
     SVSYSSUB   V01 01.00 000 20130801
     BASE_SYS   V01 01.00 000 20130918
  95SYS_First   V01 01.00 000 20131012
--- TEMP -------------------------------
          MAIN   V01 01.00 000 20131028
          ACDP   V01 01.00 000 20130731
      MISCLIBS   V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
    B2BUA_MAIN   V01 01.00 000 20130927
       SP_BOOT   V01 01.00 000 20130927
     SIPSV_PHE   V01 01.00 000 20130927
     SIPSV_SIP   V01 01.00 000 20130927
       LIBCMN   V01 01.00 000 20130927
     LIBFSMTL   V01 01.00 000 20130927
```

8

(1) Click the **Switch image** button in the **SYSTEM CONTROL** area. The **Switch image** dialog box appears.
(2) Click the **Switch image** button on the dialog box.
(3) A confirmation message appears. Click the **OK** button to switch between WORK and TEMP for program and licenses.
(4) The Telephony Server will be automatically restarted. When **Operation successfully completed. Please close the browser.** appears, click the **OK** button to exit from Telephony Server Maintenance Menu.



Note:
- When the switching ends in failure, **An error occurred! Please check the logs.** is displayed and the details are displayed in the lower right portion of the screen.
- Switching between WORK and TEMP is not available while Call Control program is running.

9

Verify that ON LINE lamp on the front panel of CPU card changes in the following order. “Turned OFF” → “Fast Flashing” → “Slow Flashing” → “Turned ON”.

Note:
It takes about five minutes from turning on the power to switching to “fast flashing”. It takes five more minutes from that state to “slow flashing”.

10

Make a connection between System #1 and the maintenance PC and then change the network setting to the original.

11

Start Internet Explorer window and type “http://xxx.xxx.xxx.xxx:9801/” into the address bar. “xxx.xxx.xxx.xxx” represents the LAN 1 IP address of System #1.

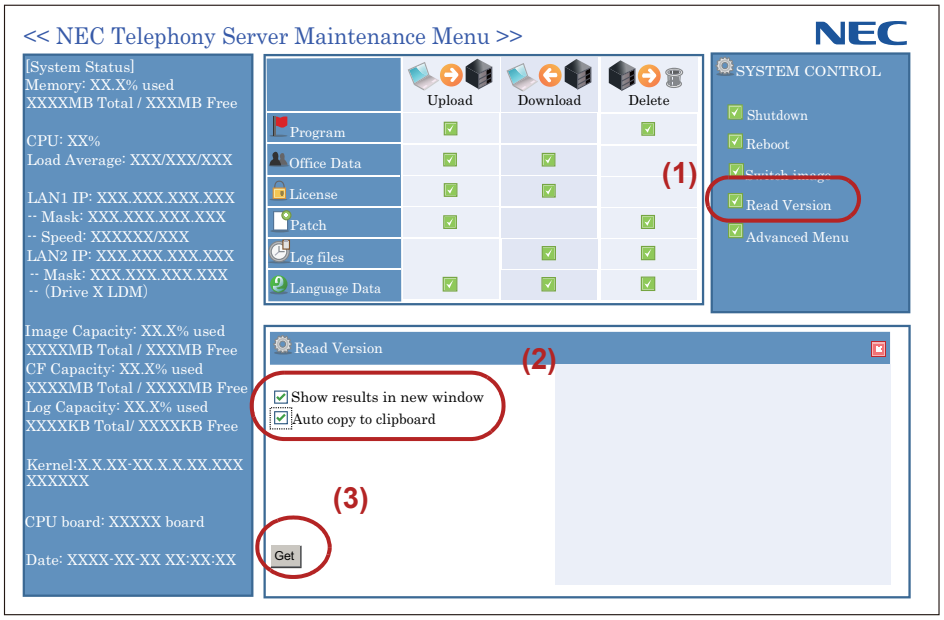
12

(1) **Telephony Server Maintenance Menu Login** screen appears. Type a user name and password.
(2) Click the **OK** button to log in to **Telephony Server Maintenance Menu**.

Note:
- Contact NEC maintenance personnel if you forget your User Name and Password.
- After logging in to SV9500 Maintenance Menu, do not use **Back** button on a browser.

13

(1) Click the **Read Version** button in the **SYSTEM CONTROL** area. The **Read Version** dialog box appears in the lower right portion of the screen.
(2) Select both the **Show results in new window** and the **Auto copy to clipboard** check boxes.
(3) Click the **Get** button to display the program version list.



A new screen is opened where the program version is displayed.

Note:
From Internet Explorer 10 **Auto copy to clipboard** is not displayed. If it is necessary to attach the results to a clipboard, copy them from the new window opened with **Show results in new window** using the mouse right button.

14 Check the software version for MAIN in the WORK section. Make sure that the program version before upgrading is displayed.

```
...
## Read Version
--- WORK ------------------------------
          MAIN   V01 01.00 000 20131010
          ACDP   V01 01.00 000 20130731
      MISCLIBS   V01 01.00 000 20130718
           MPH   V01 01.00 000 20130927
           PHD   V01 01.00 000 20130927
           PHI   V01 01.00 000 20130927
    B2BUA_MAIN   V01 01.00 000 20130927
       SP_BOOT   V01 01.00 000 20130927
      SIPSV_PHE   V01 01.00 000 20130927
      SIPSV_SIP   V01 01.00 000 20130927
         LIBCMN   V01 01.00 000 20130927
       LIBFSMTL   V01 01.00 000 20130927
        LIBOSIP   V01 01.00 000 20130927
         IP_DTG   V01 01.00 000 20130717
        SV_GATE   V01 01.00 000 20130729
      SV_TSKCTL   V01 01.00 000 20130729
         SV_EMA   V01 01.00 000 20130729
         SV_IOC   V01 01.00 000 20130729
        SV_CPLD   V01 01.00 000 20130729
      PBXWATCHD   V01 01.00 000 20130801
       SVSYSSUB   V01 01.00 000 20130801
       BASE_SYS   V01 01.00 000 20130918
   95SYS_First    V01 01.00 000 20131012
```

15 (1) Execute the ATIM command to set the time.
(2) Perform connection tests.

Point:
"Connection tests" refer to the basic tests performed to each device after installation such as checking the station-to-station call.

16 Disconnect the Telephony Server (System #1) and the maintenance PC from the network established at STEP10.

17 Repeat the procedure from STEP1 to STEP15 for another System (System #0).

Switching back of the program is completed.

CHAPTER 7
INSTALLATION TEST

This chapter explains the installation test procedure to check that the Telephony Server operates properly and the connection between stations/trunks have been established. After starting up the system, establish some basic connections and verify the system operates normally.

START

1.	Operation Check	• SV9500 operation check • Circuit card operation check
2.	System Initialization Test	• System initialization by switch operation • Circuit card operation check
3.	Basic Connection Test	• Dial Tone connection test • Station-to-Station connection test
4.	System Changeover Test	Refer to Operation and Maintenance Manual.
5.	Speech Path Test	• Speech path (PCM signal route) connection check
6.	Port Connection Test	• Connection test for line, trunk, and power circuit cards
7.	Overall Test	• Connection test for C.O. line and Tie line on trunk basis
8.	IPPAD Connection Test	• IPPAD card operation check • Connection test between IP terminals and Digital terminals/Analog TELs

END

Note: Operation tests concerning circuit card are supposed to be performed on the SV9500 system with PIR.

1. Operation Check



Check the lamps on the front panel to see that the Telephony Server is operating normally.

START

Is the ON LINE lamp lighting green?

If the ON LINE lamp remains OFF, the Telephony Server is not operating normally.
Check the followings:

Is the PWR lamp lighting green?

- Is the power cable firmly connected?
- Is the Power switch turned ON?
- Is the electricity supplied?

Is the LAN1 LINK lamp lighting green?

the Telephony Server may not be physically connected to the LAN. Check the LAN cable between the Telephony Server and the network device such as switching HUB/router.

- Use a LAN cable (straight-through).
- Test the continuity in the LAN cable.
- If the LOAD lamp also remains OFF, CF card might not be installed. Check the CF card.

Make sure the network device (switching HUB or router) is turned ON.
If the problem is not cleared, change the LAN cable or change the network device.

END

2. System Initialization Test



Check whether the system initialization can be executed.

2.1 System Initialization Test

Perform the system initialization test by switch operation and SINZ command.

System initialization test by INIT switch (Non-load initialization)

The Telephony Server reboots with the current main memory and the office data exist in DRAM.

START

- Press the INIT button on the front panel of EMA card.
- Check the lamps on the front panel of EMA card.
  - PWR: Lights green
  - LINK: Lights green
  - ACT: Lights green
- Set the current date and time on PCPro.

END

System Initialization test by power ON/OFF (Program and office data load initialization)

The Telephony Server reboots loading the program and the office data saved in CF card.

START

- Referring to 4.2 Telephony Server Power ON/OFF Procedure in CHAPTER 6 SYSTEM STARTUP of this manual, turn OFF the power of the Telephony Server.
- Turn ON the power of the Telephony Server.
- Check the lamp on the front panel of CPU card.
  - ON LINE: Lights green

END

System Initialization test by SINZ command

Telephony Server (both #0 and #1 in dual configuration) reboots.

START

- Run the SINZ command on PCPro.
- Click **All Processors** for **Execution Range**.
- Click the **Use Optional Function** check box.
- Click **Shutdown** for **Process Kind Select**, and then click the Execute button.

  The system will shut down approximately 30 seconds later. Turn the power OFF.

  Note: Both systems #0 and #1 shut down.

  Turn the power ON.

  Check the lamps on the front panel of EMA card.

  - PWR: Lights green
  - LINK: Lights green
  - ACT: Lights green
- When the system is initialized, System Message 7-B is output to PCPro.

END

System Initialization test by Telephony Server Maintenance Menu

START

Note:

- The following procedure is for emergency use in the occasion that PCPro is not available to access. Usually use SINZ command for system initialization.
- Execute the following procedure for system #0 first, and then for #1 in order.

Start Internet Explore.
Type "http://xxx.xxx.xxx.xxx:9801/" into the address bar to access Initialization by Telephony Server Maintenance Menu. **Telephony Server Maintenance Menu Login** screen appears. After the login, **Telephony Server Maintenance Menu** screen appears. (**"**xxx.xxx.xxx.xxx**"** can be LAN1 IP address of the destination Telephony Server.)

Click the **Reboot** button in the **SYSTEM CONTROL** area (in the upper right-hand part of the screen). The **Reboot** dialog box appears. Click the **Reboot** button in the dialog Box.

Office Data Load & Program Load (& OS Load) Initialization is executed (the system is restarted). Make sure that the following lamps light green on the EMA card.

- PWR: Lights green
- LINK: Lights green
- ACT: Lights green

END

2.2 Circuit Card Initialization Test

Perform the following switch operation on all the line/trunk circuit cards mounted on each PIR to check the cards are operating normally.

START

- Flip the MB key UP on the selected line/trunk circuit card.
  - The OPE lamp goes OFF.
  - System Message 7-K is output.
- Flip the MB key DOWN.
  - The OPE lamp lights.
  - System Message 7-L is output.
- Clear the alarm indication by executing RALM command on PCPro.

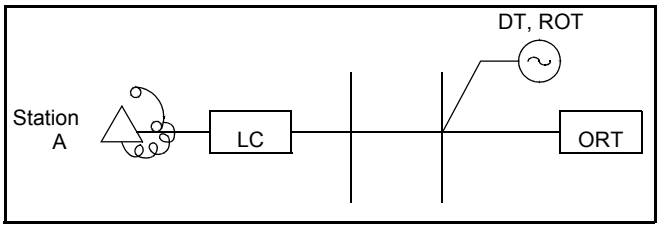
END

3. Basic Connection Test



3.1 Dial Tone Connection Test

Follow the testing procedure below to check the tone and the lamp indication on the circuit card when an station hangs up.



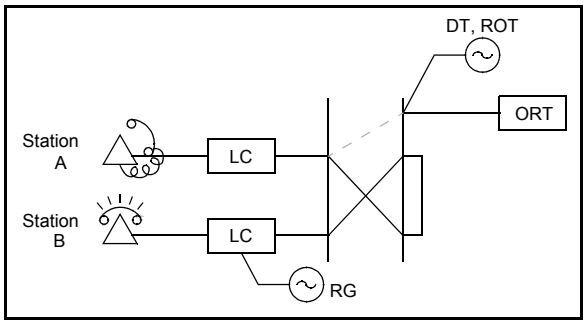
START

- Check whether the OPE lamp (G) is lighting on the RST circuit card.
- Check whether the OPE lamp (G) is lighting on the LC circuit card.
- Station A lifts the handset.
  - Confirm that Station A receives Dial Tone (DT).
  - Check whether the Busy lamp (R) is lighting on the connected ORT and LC.
- Keep listening DT for about 12 seconds on Station A.
  - Confirm that DT changes to Reorder Tone (ROT).
- Keep listening to ROT for about 30 seconds.
  - When ASYD, SYS1, Index 64, Bit 3=0 and Bit 4=0 are assigned.
    → Confirm that ROT changes to no tone.
  - When ASYD, SYS1, Index 64, Bit 3=0 and Bit 4=1, or Bit 3=1 and Bit 4=0 are assigned.
    → Confirm that howler tone is heard after ROT stops (analog ports only).
- Hang up Station A to release the connection.

END

3.2 Station-to-Station Connection Test

Confirm that Station-to-Station connection can be established between Station A and Station B.



START

- Station A goes off-hook.
  - Station A hears Dial Tone (DT).
- Station A dials the station number of Station B.
  - Station A confirms that DT stops when the first digit is dialed.
  - Station A confirms that Ringback Tone (RBT) is heard after completing the dialing.
- Station B hears a ringing tone on the telephone set.
- Station B lifts the handset to answer the call.
- Station-to-Station connection between Station A and Station B is established.
- Both stations hang up. The connection is released.

END

4. System Changeover Test

Operation and Maintenance Manual covers the following system changeover procedure for dual configuration:

- CPU system changeover
- TSW and speech path changeover for 1-IMG and 4-IMG
- PLO changeover

5. Speech Path Test



Perform the following test procedure to check the speech path (PCM signal route) is established between all the PIRs.

START

- Turn the #0 side of TSW to active state by using the MB00/MBR key on TSW card or using CMOD command on PCPro.
- Originating station-to-station calls on stations, check the speech condition, such as speech level, noise, one-way speech, or no speech, between every PIR.

			Called Modules							
			PIR0		PIR1		PIR2		PIR3	
			U=0	U=1	U=2	U=3	U=0	U=1	U=2	U=3
Originating Modules	PIR0	U=0								
		U=1								
	PIR1	U=2								
		U=3								
	PIR2	U=0								
		U=1								
	PIR3	U=2								
		U=3								

- Turn the #1 side of TSW to active state. Repeat the above test procedure to all the PIRs via the #1 side of TSW.

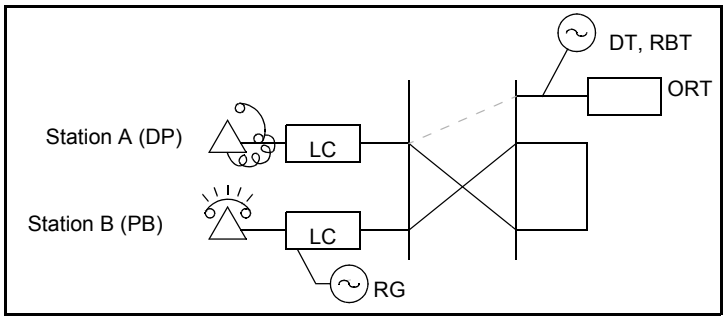
END

6. Port Connection Test

This section describes the connection test procedure for line, trunk, and PWR cards according to the kind of connection and the feature of each circuit card.



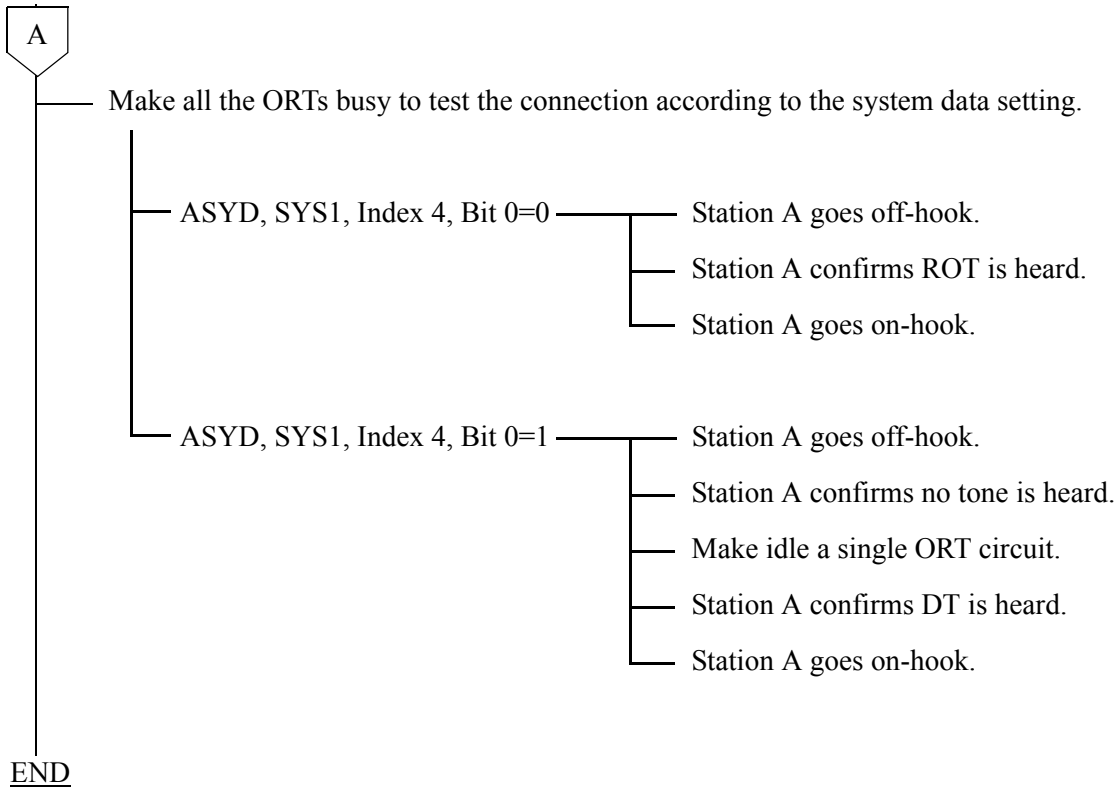
6.1 ORT (RST Card) Connection Test



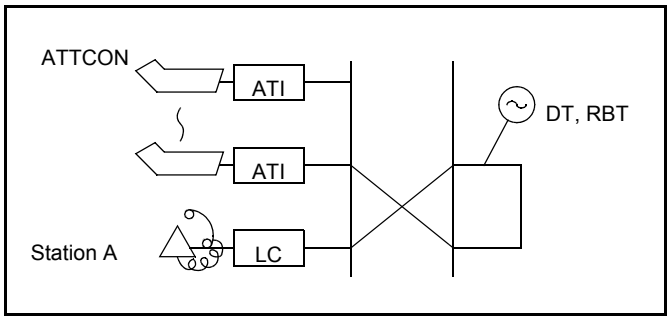
START

- Make busy all the ORTs
  - On the front of the RST card, set all MBT switches (0-7) to OFF to make all the ORTs busy.
- From Station A (DP), test ORTs one circuit at a time.
  - Make idle the only one ORT to be tested.
  - Station A goes off-hook, and after hearing DT, dials the station number of Station B.
  - Station A confirms ringing to Station B, and Station B answers.
  - Stations A and B go on-hook.
- From Station B (PB), test ORTs one circuit at a time.
  - Make idle the only one ORT to be tested.
  - Station A goes off-hook, and after hearing DT, dials the station number of Station B.
  - Station A confirms ringing to Station B, and Station B answers.
  - Stations A and B go on-hook.

A


A
Make all the ORTs busy to test the connection according to the system data setting.
ASYD, SYS1, Index 4, Bit 0=0
Station A goes off-hook.
Station A confirms ROT is heard.
Station A goes on-hook.
ASYD, SYS1, Index 4, Bit 0=1
Station A goes off-hook.
Station A confirms no tone is heard.
Make idle a single ORT circuit.
Station A confirms DT is heard.
Station A goes on-hook.
END

6.2 ATTCON (ATI Card) Connection Test

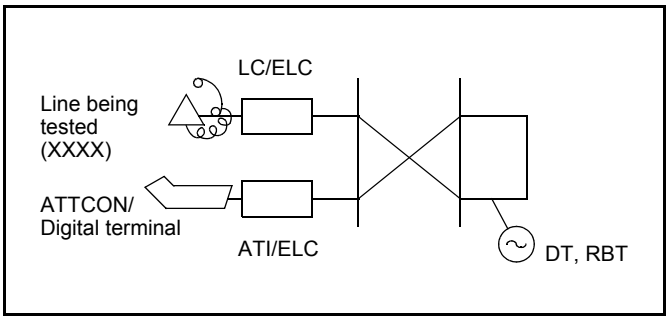


START

- An station repeats an ATTCON call. Each ATTCON answers the call.
  - Station A dials the operator access code (normally 0).
  - At each ATTCON, the operator confirms the ATT lamp flashes and ringing tone sounds.
  - At each ATTCON, the operator answers the call by pressing the ATND key.
  - Station A confirms speech with each ATTCON.
  - The operator at each ATTCON releases by pressing the CANCEL key.
  - Station A goes on-hook.
- Each ATTCON calls an station by pressing LOOP keys individually.
  - At each ATTCON, the operator dials the station number of Station A by using the LOOP keys (L1-L6) individually.
  - Ringing tone sounds on Station A.
  - Station A answers the call and confirms speech.
  - The operator at the ATTCON releases by pressing the CANCEL key.
  - Station A goes on-hook.

END

6.3 Line (LC, ELC Cards) Connection Test



START

- An ATTCON or Digital terminal is called from each station. The called party confirms the station number.
  - On the Main Distributed Frame (MDF), connect an analog telephone to the line circuit to be tested.
  - The test station (XXXX) goes off-hook and hears Dial Tone (DT).
  - The test station (XXXX) calls an ATTCON or Digital terminal.
  - The called ATTCON or Digital terminal answers the call, and confirms speech and the station number of the calling station.
  - The call is released.
- The ATTCON or Digital terminal calls the test station.
  - The ATTCON or Digital terminal dials the station number of the test station.
  - The called station answers and confirms speech.
  - The ATTCON or Digital terminal confirms that the dialed number and the test station number is the same.
  - The call is released.
- The station involved is assigned as a Hot Line or a House Phone.
  - The test station goes off-hook and hears Ringback Tone (RBT).
  - The test station checks whether the call is routed to the predetermined station/ATTCON or the call is originated to the predetermined trunk.
  - The called party answers the call and confirms speech.
  - The call is released.

END

6.4 Outgoing Trunk (COT, TLT, DTI Cards) Connection Test

The purpose of this test is to confirm, by setting up an outgoing test connection for each outgoing trunk, that speech is established and that the call can be released.
Test the outgoing trunks individually, using the sequence of Routes and Trunk numbers assigned at each office.

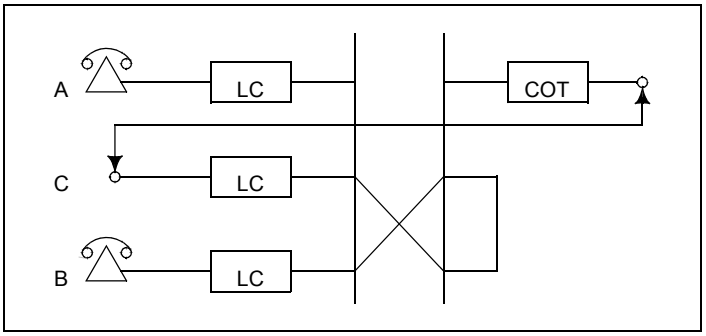
START

- When a C.O. line or Tie line is not connected with a trunk circuit, set up a temporary cross connection, as a loop-back circuit on the MDF between the outgoing trunk to be tested and the terminating trunk.
  - Referring to the figures on the next page, setup a temporary cross connection as a loop-back circuit on the MDF.
  - Temporarily assign the office data on the PCPro to establish a loop-back connection from the test trunk.
- Make busy all the outgoing trunks.
  - Flip the MB key on the front panel of trunk cards to turn all the outgoing trunks make-busy state.
- Test the trunk circuits individually by establishing access from an station.
  - Make idle the only trunk to be tested.
  - Dial the access code of the testing trunk and the destination number on a station.
  - The called party answers.
  - The station confirms speech.
  - The call is released.
  - Set up a temporary cross connection for the next trunk to be tested.
- Restore the temporary connections and the office data to their original state.

END

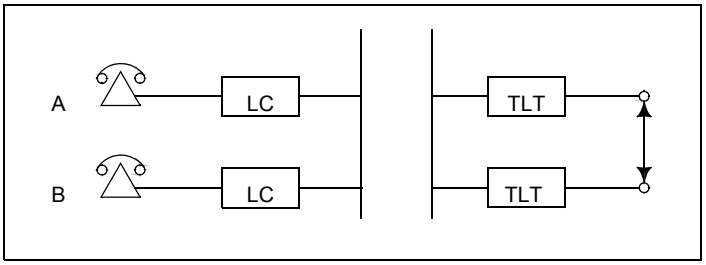
- Set up a loop-back connection between the C.O. trunk (COT) to be tested and an station line.

COT Test Configuration

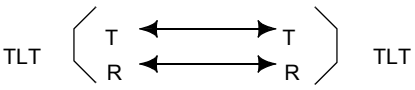


- The trunk route must be assigned for Loop Start.

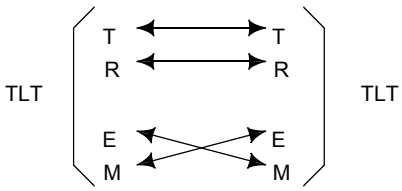
TLT Test Configuration



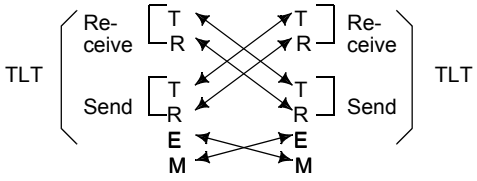
- Set up a loop-back connection between the TIE Line Trunk (TLT) to be tested and another EMT.
- If the TLT is a Direct Inward Dialing (DID) trunk, connect the related leads as shown below:



- If the TLT is a 2W E&M system, connect the related leads as shown below:

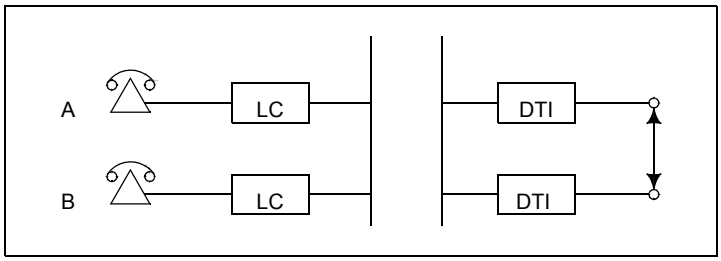


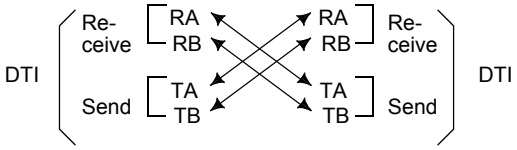
- If the TLT is a 4W E&M system, connect the related leads as shown below:



- Set up a loop-back connection between the DTI trunk to be tested and another DTI trunk as shown below:

DTI Test Configuration





- If the office is the primary office (clock-source-office), perform the tests by disconnecting the PLO and the M-OSC. (The mode of the PLO becomes self operation mode.)

6.5 Incoming Trunk (COT, TLT, DTI Cards) Connection Test

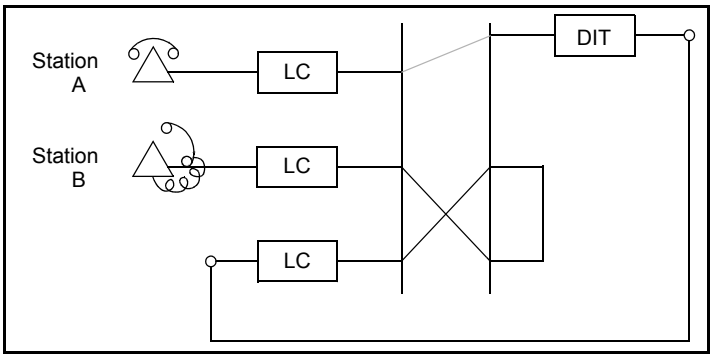
The purpose of this test is to confirm, by setting up a test connection for each incoming trunk, that speech is possible with the ATTCON when a Ringdown Signal Interface is used, or with an station when a Dial-In Signal Interface is used. This test also confirms that the call can be released. Incoming trunks test the incoming trunks, individually using the sequence of Route and Trunk Numbers assigned at each office.

START

- Set up a temporary cross connection, as a loop-back circuit on the MDF, between the incoming trunk to be tested and an outgoing trunk.
  - Set up a temporary MDF cross connections on the MDF for a loop-back circuit.
  - Temporarily assign the office data on PCPro to establish a loop-back connection from the test trunk.
- Make busy all of the outgoing trunks other than the cross-connected trunk.
- Test the incoming trunk individually.
  - For a Ringdown Signal Interface.
    - Station A dials the station number of Station C.
    - The call terminates to an ATTCON.
    - The ATTCON answers the call and confirms speech.
    - The call is released.
    - Set up temporary connections for the next trunk to be tested.
  - For a Dial-In Signal Interface.
    - Station A dials the access code for the outgoing trunk and the station number of Station B.
    - Station B answer the call and confirms speech.
    - The call is released.
    - Set up temporary connections for the next trunk to be tested.
- Restore the temporary cross connections and the office data to their original state.

END

6.6 Direct-In Termination Trunk (COT) Connection Test



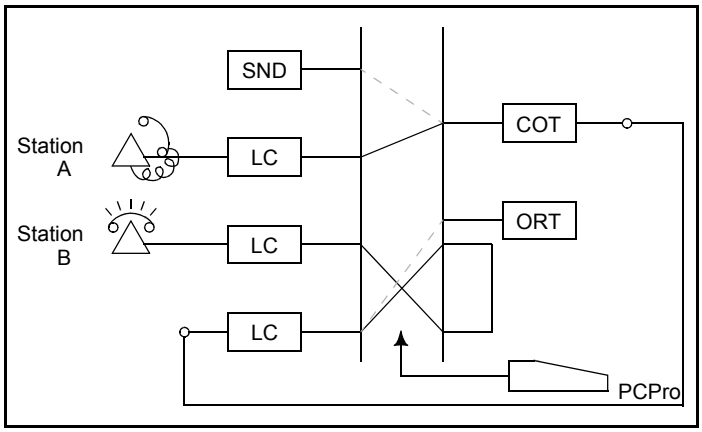
START

- On the MDF, set up a temporary cross connection between the Direct-In Termination (DIT) trunk and a Line Circuit (LC).
- C.O. line incoming call. — Station B dials the number of Line Circuit C (Station C).
- Incoming call to station via DIT trunk.
  - The call terminates to Station A. Station A rings.
  - Confirm that the ringing is district from that of an intra-office call or an ordinary C.O. call.

  **The ringing signal for DIT calls can be the same as that for C.O. calls if the related office data is assigned.*
  ASYD, SYS1, Index 72/ SYS3, Index 0, and DR parameter of ARTD command.
- Answer and talk
  - Station A goes off-hook.
  - Station A and B talk with each other.
- Release — Station A and B both go on-hook.
- Restore the temporary cross connection.

END

6.7 SND (RST Card) Connection Test

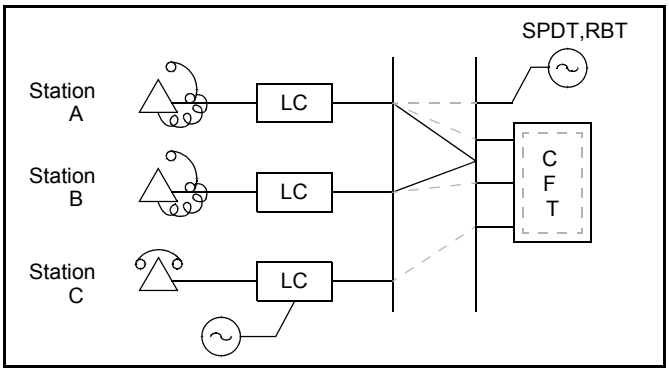


START

- When a C.O. line or Tie line is not connected with a trunk circuit, arrange the trunk loop-back connection illustrated above.
  - On the MDF, set up a temporary cross connection for a loop-back circuit.
  - Temporarily assign the office data on the PCPro to establish a connection with Station B through SND.
- Make busy all the SNDs.
  - Set all the MBR switches (0-7) to OFF on the RST cards to make busy all the SNDs.
- Test the SNDs individually.
  - Make idle the only one SND to be tested.
  - Station A dials the access code of the trunk and the station number of Station B.
  - Station B answers and the speech connection is established.
  - Both Station A and B go on-hook to release the call.
- Restore the temporary connections and the office data to their original state.

END

6.8 Three-Party Conference Trunk Function Test

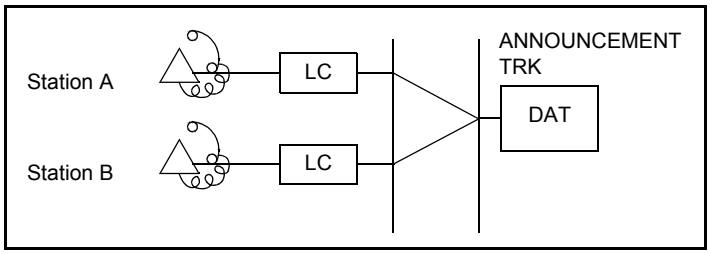


START

- Make busy all the CFTs. — Turn all the CFT card to make-busy state using MBTK command.
- Test the CFTs individually.
  - Make idle the only the CFT to be tested.
  - Establish station-to station call between Station A and B.
  - Station A performs a switch hook flash and after hearing DT, dials the station number of Station C.
  - Station C answers the call.
  - Station A, after having a talk with Station C, performs a switch-hook flash and confirms a three-way connection is established.
  - All the stations go on-hook to release the call.
- Release the make-busy of CFTs. — Make idle the CFTs using MBTK command.

END

6.9 Connection Test-Digital Announcement Trunk for Announcement Service

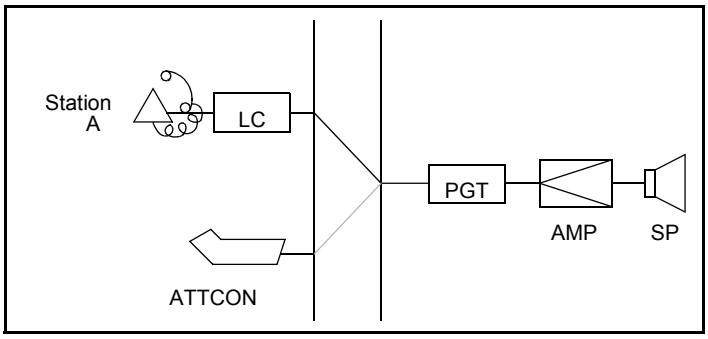


START

Dial the announcement service code.	Station A dials the announcement service code.
Check the announcement.	Station A is connected to the announcement trunk and hears the announcement.
Dial the announcement service code.	Station B dials the announcement service code.
Check the announcement.	Station B is connected to the announcement trunk and hears the announcement.
Release	Confirm the announcement stops when both stations go on-hook.

END

6.10 Connection Test-Paging Trunk for Paging Access Service

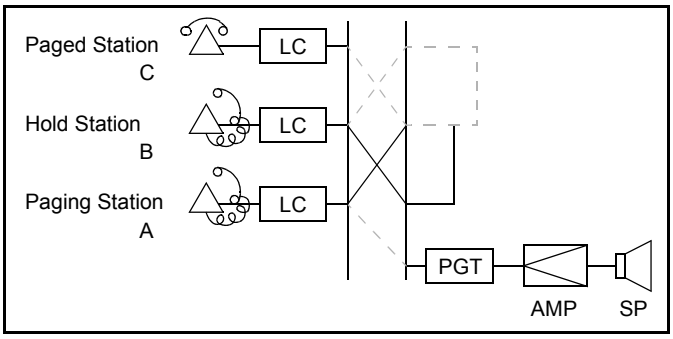


START

- Dial the paging access code.
  - Station A/ATTCON dials the paging access code and hears Continuous Ring-back Tone.
  - The Continuous Ring-back Tone stops in approximately one second.
- Check the speaker paging.
  - Check whether speaker paging sounds after the Continuous Ring-back Tone stopped.
- Release
  - Station A goes on-hook or ATTCON presses the CANCEL key.

END

6.11 Connection Test-Paging Trunk for Paging Transfer Service



Select Paging Transfer service as per system data, ASYD, SYS1, Index 73.

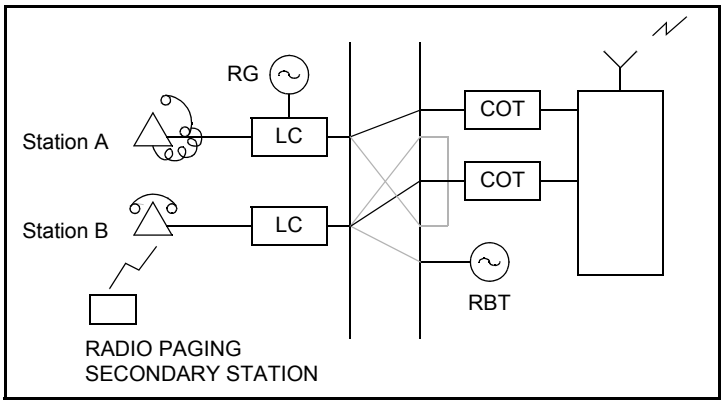
- Non-Delay System
- Delay and Non-Delay System
- Paging Transfer Supervision

START

- Call the paging trunk.
  - Station A and B establish station-to-station connection.
  - Station A performs a switch-hook flash and hears Special DT. Station B is held on the line.
  - Station A dials the paging access code and hears Continuous Ringback Tone. The tone stops in approximately one second, and Station A can page over the speaker.
- The paging party
  - For Non-Delay: Station A remains on hold.
  - For Delay with Paging Transfer Supervision: Station A hangs up.
- The paged party answers
  - Station C (the paged party) dials the paging access code to answer.
- Connect
  - Non-Delay
    - Station C is connected to Station A.
    - When Station A hangs up, Station B and C are automatically connected.
  - Delay
    - A rings and picks up the headset.
    - Station A is connected to Station C.
    - When Station A hangs up, Station B and C are automatically connected.
  - Paging Transfer Supervision
    - Station C is connected to Station B.

END

6.12 Connection Test-Radio Paging Trunk (COT)



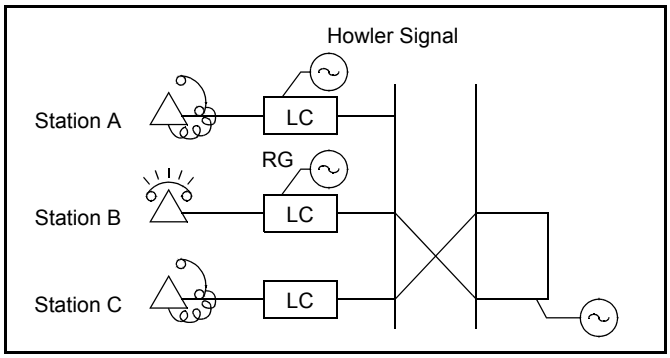
START

- Call the Radio Paging equipment
  - By hearing Continuous Ringback Tone from the Radio Paging equipment, Station A confirms the secondary station is being paged, then goes on-hook.
  - The paging radio of the secondary station starts ringing.
  - Station A dials the radio paging access code and hears Special DT from the Radio Paging equipment, and then dials the secondary station number.
- The paged party answer
  - The secondary station (the radio-pages party) dials the paging answer code at nearby Station B, hears Special DT through the Radio Paging equipment, then dials the paging answer code.
  - Station A rings and picks up the handset.
  - Confirm Station A and B can talk.
- Release
  - Station A and B both go on-hook.

END

6.13 Howler and Ringing Signal Test

The Howler Tone Generator and the Ringing Generator are equipped on the 7U-PIR Power Unit/DC-DC power card (PA-PW55-C/54-C). The purpose of this test is to confirm the ringing signal by setting up an station-to-station connection and a howler tone connection from an station accommodated in any PIR.



START

- Check the PWR unit/PWR card #0 is ON.
  - Check the howler tone.
    - An station on the PIR of testing PWR unit/PWR card is mounted goes off-hook. (Analog port only)
    - The station hears Dial Tone (DT).
    - In approximately 12 seconds, the station hears Reorder Tone (ROT).
    - Approximately 30 seconds later, the station should confirm hearing howler tone.
  - Check the ringing signal.
    - Establish an station-to-station call between two stations on the PIR of testing PWR unit/PWR card is mounted. (Analog port only)
    - Confirm the Ringing signal is sent out.
- Changeover the PWR to PWR unit/PWR card #1 and perform the test above.

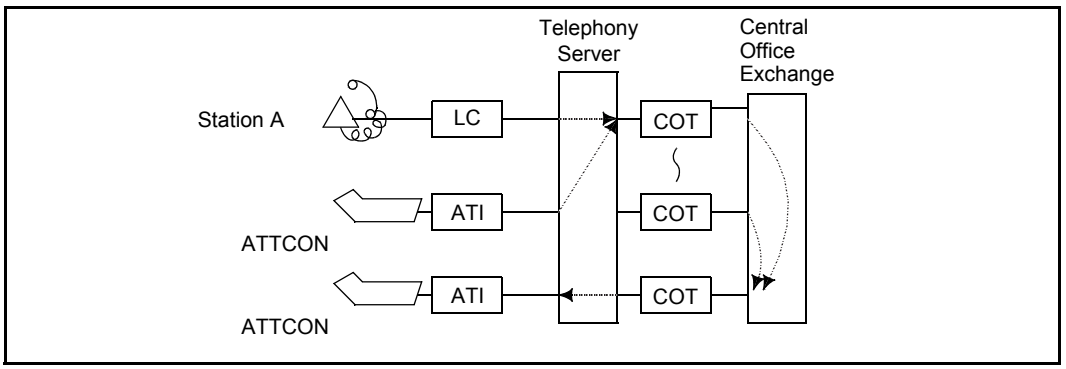
END

7. Overall Test



Perform the overall test to check C.O. line and Tie Line by connecting to COT/TLT trunks on individual trunk basis. Check the speech conditions (speech level, presence of noise, one-way speech, no speech, etc.) over the connection to the distant office.

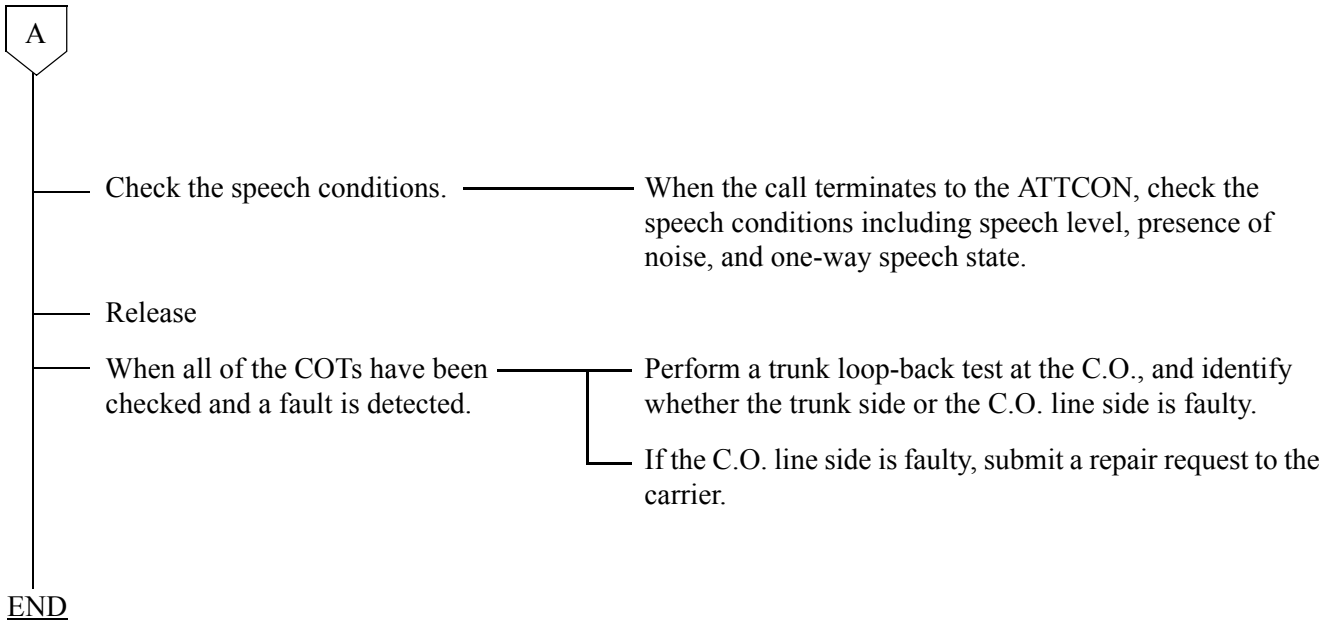
7.1 Overall Test for C.O. Line Outgoing Call



START

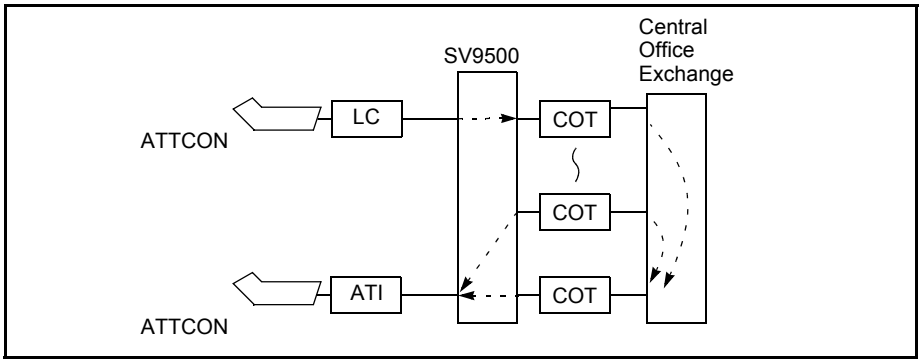
- Seize the trunk to be tested.
  - When seizing from an station.
    - Place the trunk to be tested to idle state, and make all the other trunks busy.
    - Station A dials the trunk access code.
    - Station A, after hearing DT from the C.O. line, dials the pilot number for the local office to terminate the call to the office through the loop-back at the C.O..
  - When seizing from an ATTCON.
    - An ATTCON sets up the connection with a specific trunk designated through Individual Trunk Access service.
    - The ATTCON, after hearing DT from the C.O. line, dials the pilot number for the local office to terminate the call to the office through the loop-back at the C.O..
- The call terminates to an ATTCON.
  - The call terminates to the ATTCON looped-back at the C.O..

A


A
Check the speech conditions.
When the call terminates to the ATTCON, check the speech conditions including speech level, presence of noise, and one-way speech state.
Release
When all of the COTs have been checked and a fault is detected.
Perform a trunk loop-back test at the C.O., and identify whether the trunk side or the C.O. line side is faulty.
If the C.O. line side is faulty, submit a repair request to the carrier.
END

7.2 Overall Test for C.O. Line Incoming Call

Perform the test according to the C.O. Line Number Table that is provided by the carrier. If the C.O. line numbers are not known, these tests cannot be performed because a loop-back at the C.O. cannot be executed that involves Direct Inward Dialing cannot be performed. Under such circumstances, ask the carrier to perform an incoming test.

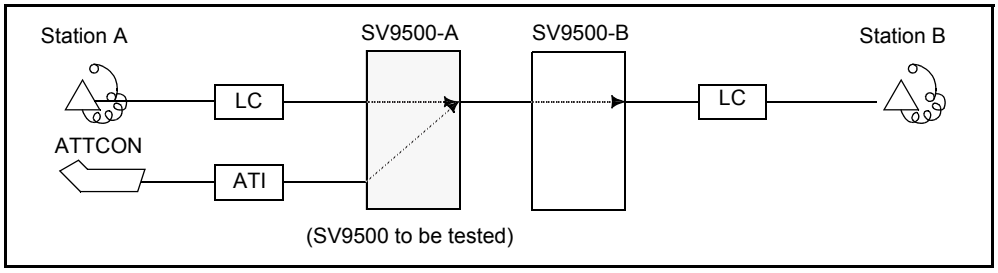


START

- Seize the trunk to be tested.
  - An ATTCON sets up the connection with a specific trunk designated through Individual Trunk Access service.
  - After hearing DT from the C.O. line, dials the C.O. line number of the testing trunk on the ATTCON.
- The call terminates to an ATTCON.
  - The call terminates to the ATTCON looped-back at the C.O..
- Check the speech conditions.
  - When the call terminates to the ATTCON, check the speech conditions including speech level, presence of noise, and one-way speech state.
- Release
- When all of the COTs have been checked and a fault is detected.
  - Perform a trunk loop-back test at the C.O., and identify whether the trunk side or the C.O. line side is faulty.
  - If the C.O. line side is faulty, submit a repair request to the carrier.

END

7.3 Overall Test for CCIS Tie Line Outgoing Call



START

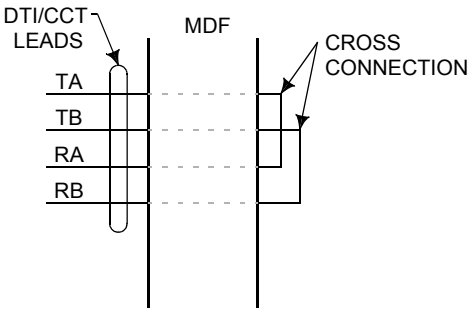
- Seize the trunk to be tested.
  - When seizing from a station. — Place the trunk to be tested to idle state, and make all the other trunks busy.
  - When seizing from an ATTCON. — Station A dials station number of Station B in SV9500-B.
- The call terminates to Station B in SV9500-B. — The call terminates to Station B, via CCIS Tie line.
- Check the speech conditions. — When the call terminates to Station B, check the speech conditions including speech level, presence of noise, and one-way speech state.
- Release
- When all of the CCIS Tie line trunks have been checked and a fault is detected.
  - Perform the fault localization procedure when a CCIS Tie line fault occurs. (See Procedure A on the next page.)
  - If the distant office is faulty, submit a repair request to the distant office.

END

<Procedure A>

START

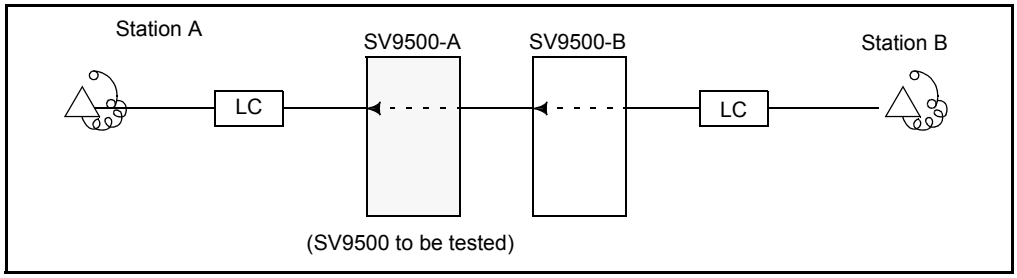
- Flip the MB key UP on the DTI/CCT circuit card.
- In any office other than the primary office (clock-source-office), disconnect the DTI/CCT cable connector at the DTI/CCT side (PIR backplane).
  - PLO alarm is generated. Ignore it.
  - PLO starts running by itself.
- Use a paired wire to make the following connection at the MDF.



- The DTI does not recover. (CCH/CCT link failure may occur, but ignore it.)
  - System Message 3-J is not displayed.
  - The DTI/CCT is faulty.
- The DTI does not recover. (CCH/CCT link failure may occur, but ignore it.)
  - System Message 3-J is displayed.
  - The DTI/CCT is normal.
  - Submit a repair request to the distant office.

END

7.4 Overall Test for CCIS Tie Line Incoming Call



START

- Seize the trunk to be tested. — Turn the trunk to be tested to idle state, and make all the other trunks busy.
- Terminate the incoming call to Station A in the self-office. — An incoming call from the distant office terminates to Station A.
- Check the speech conditions. — When Station A answers, check the speech conditions including speech level, presence of noise, and one-way speech state.
- Release
- When all of the CCIS Tie line trunks have been checked and a fault is detected. — Perform the fault localization procedure when a CCIS Tie line fault occurs (see Procedure A in 7.3 Overall Test for CCIS Tie Line Outgoing Call).

  If the distant office is faulty, submit a repair request to the distant office.

END

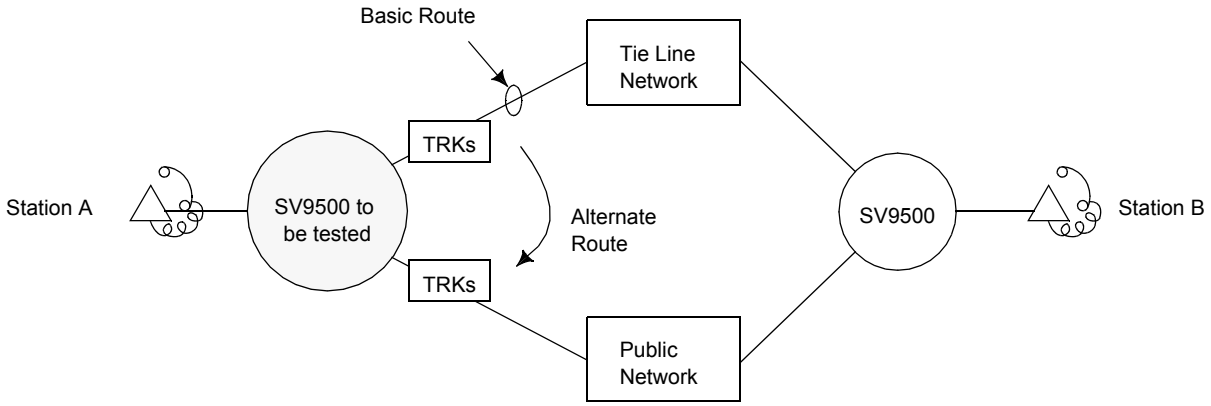
7.5 Connection and Alternate Routing Test to Tie Line

START

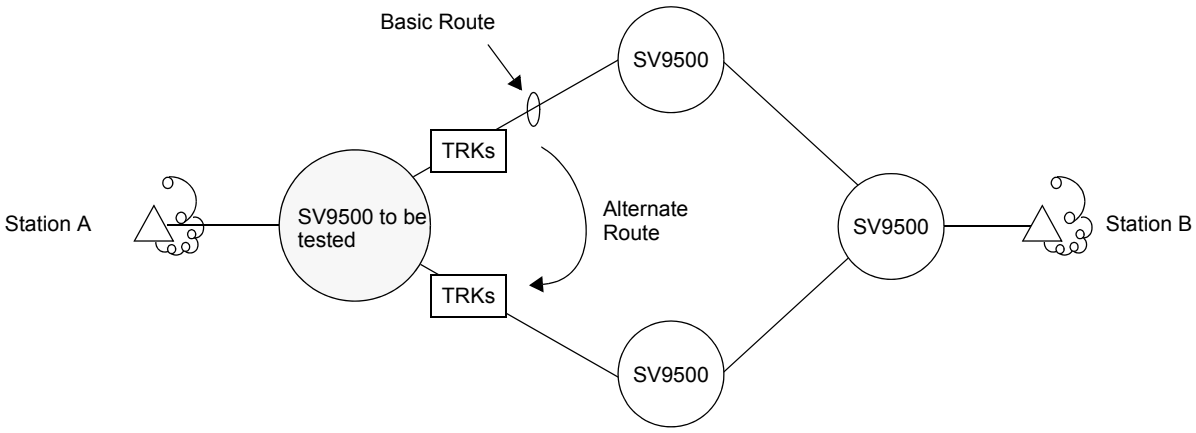
- Individually test the trunks in the primary route.
  - Make busy all of the trunks in the primary route except the trunk to be tested.
  - Station A calls Station B via the primary route.
  - After Station B answers, check the speech conditions including the speech level, presence of noise, and one-way speech.
  - Release.
- Make busy all the trunks in the primary route.
- Individually test the trunks in the alternate route.
  - Make busy all of the trunks in the primary route except the trunk to be tested.
  - Station A calls Station B via the primary route.
  - After Station B answers, check the speech conditions including the speech level, presence of noise, and one-way speech.
  - Release.
- Release the trunks' make-busy.

END

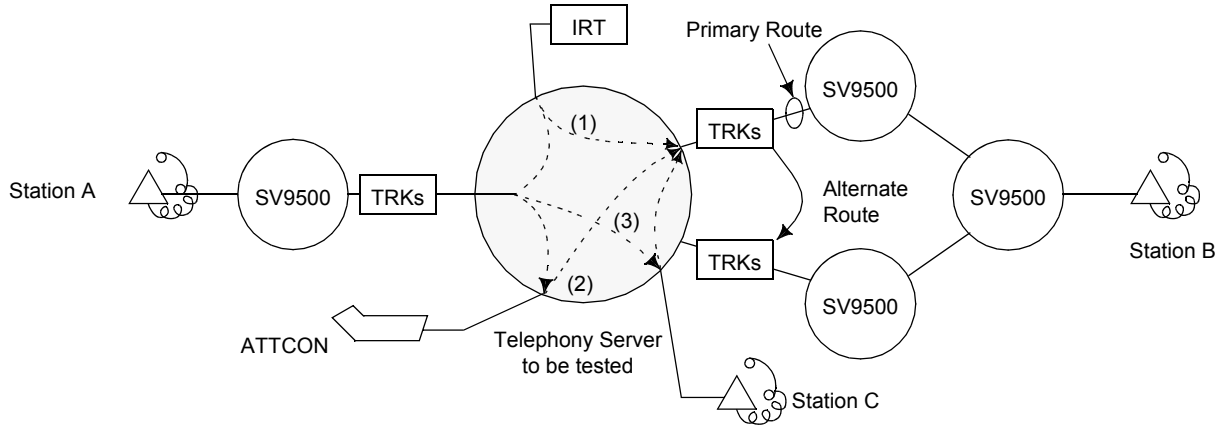
Tie Line Network and Public Network Combination



Tie Line Network



7.6 Tandem Connection Test to Tie Line

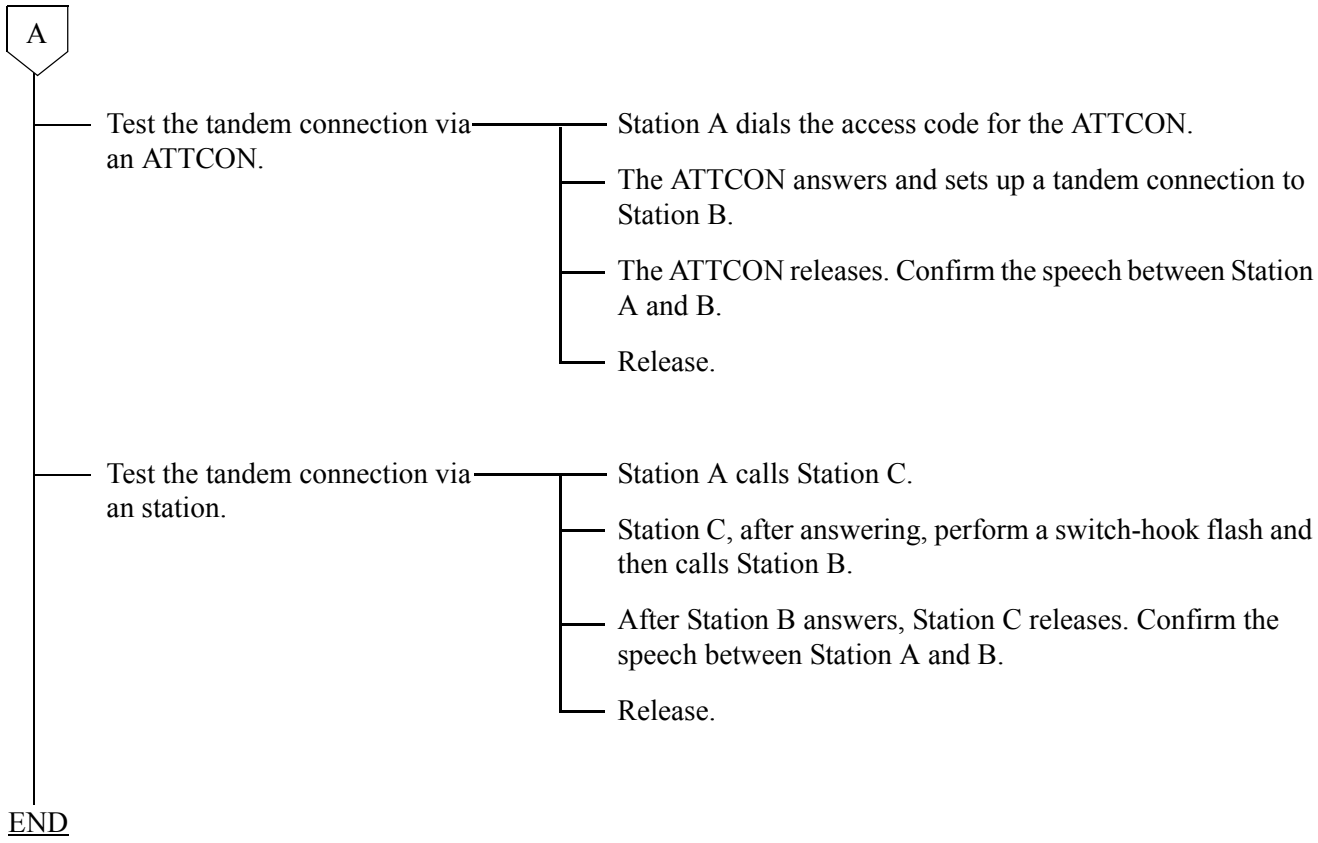


(1): Direct tandem connection by dial-in
(2): Tandem connection via ATTCON
(3): Tandem connection via Station

START

- Test the Direct Dial-in tandem connection
  - Test the Primary Route.
    - Station A and Station B.
    - Confirm the speech between Station A calls Station B.
    - Release.
  - Test the Alternate Route.
    - Make busy all the trunks in the primary route.
    - Station A calls Station B.
    - Confirm the speech between Station A and B.
    - Release.
    - Make idle all the trunks.

A


A
Test the tandem connection via an ATTCON.
Station A dials the access code for the ATTCON.
The ATTCON answers and sets up a tandem connection to Station B.
The ATTCON releases. Confirm the speech between Station A and B.
Release.
Test the tandem connection via an station.
Station A calls Station C.
Station C, after answering, perform a switch-hook flash and then calls Station B.
After Station B answers, Station C releases. Confirm the speech between Station A and B.
Release.
END

7.7 PAD Setting

For the system, Packet Assemblers and Disassemblers (PADs) can be set according to the Tie line's connecting status.

(a) For an outgoing/incoming call via a TIE Line:

Through the PCPro command, ARTD, or through the switch settings on the TLT circuit card.

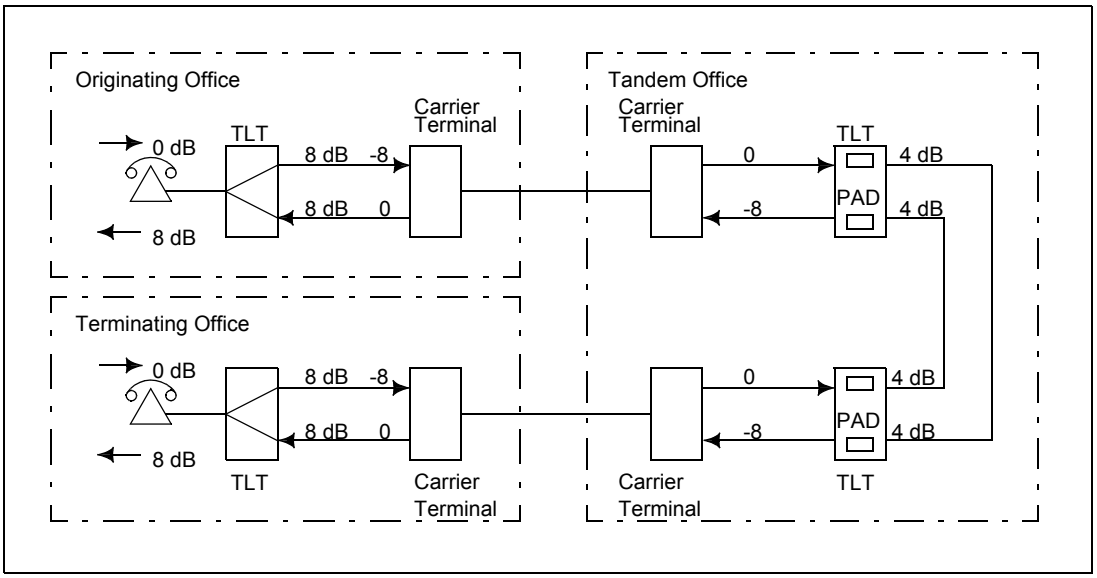
(b) For a tandem TIE Line connection:

Through the PCPro command, APAD or through the switch settings on the TLT circuit card(s).

At both the originating and terminating offices, an 8 dB PAD is set for the TLT route through the ARTD command or through the switch settings. At the tandem office, a 4 dB PAD is set for the terminating and originating sides of each TLT route through the APAD command.

Through this arrangement, an 8 dB PAD is in service for outgoing and incoming connections, and 4 dB PADs are in service for each line in a tandem connection (total: 8 dB). PAD Setting Example shows this arrangement.

PAD Setting Example



When setting up a CCIS Network, the PAD setting differ from those in an analog network.

(c) For an outgoing call to/incoming call from a Tie line:

Through the ARTD command.

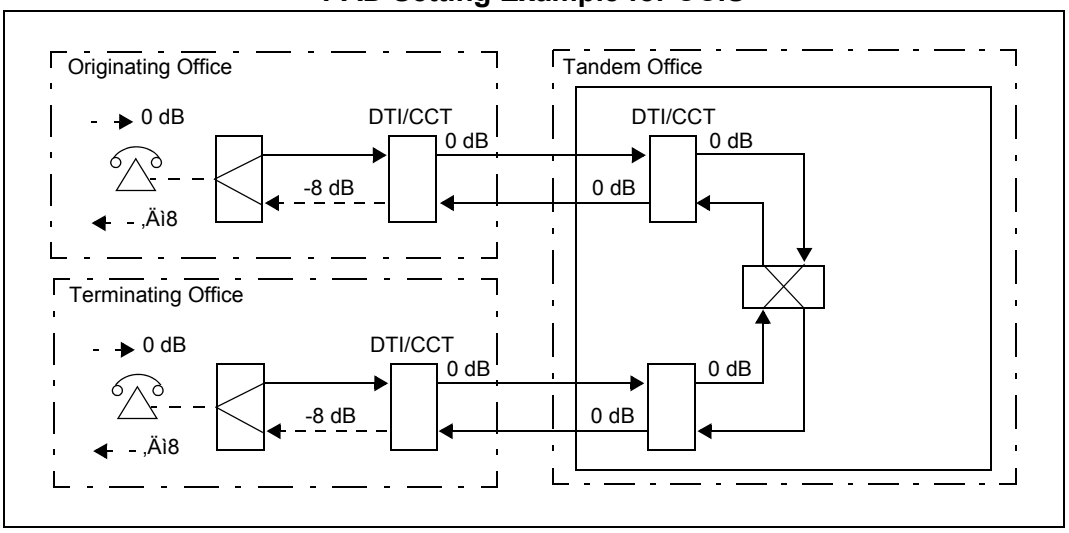
(d) For a tandem Tie line connection:

Through the APAD command.

At both the originating and terminating offices, 0 dB is set to the outgoing side and 8 dB is set to the terminating side of the DTI/CCT route through the ARTD command.

At the tandem office, 0 dB is set for both the terminating and originating sides of each DTI/CCT route through the APAD command.
The figure below shows this arrangement.

PAD Setting Example for CCIS

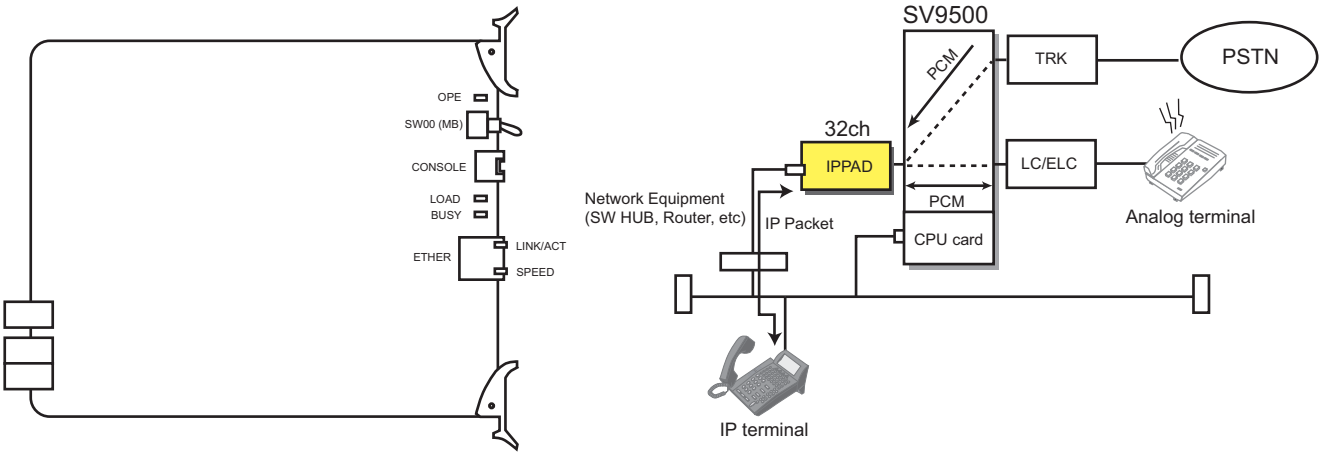


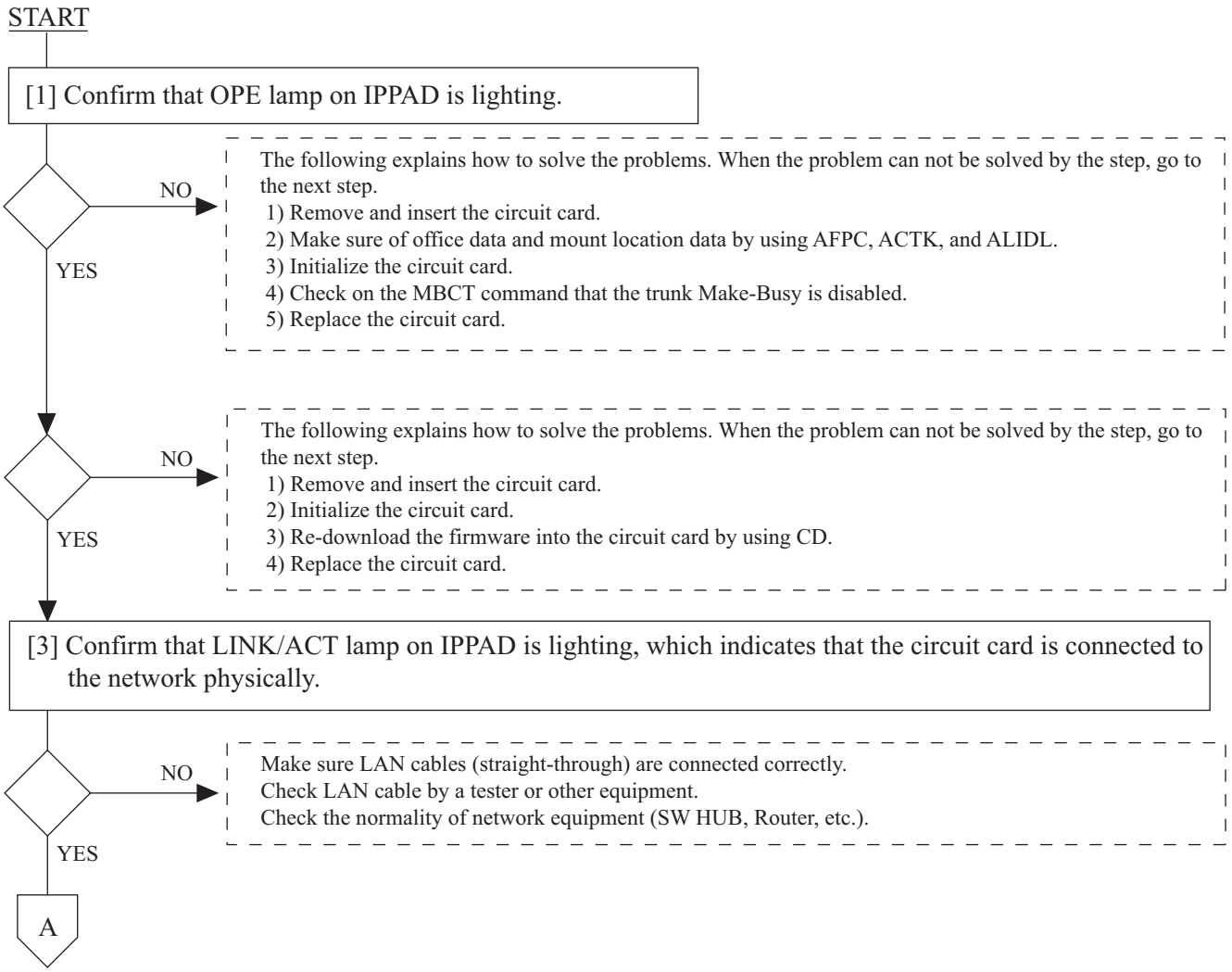
8. IPPAD Connection Test

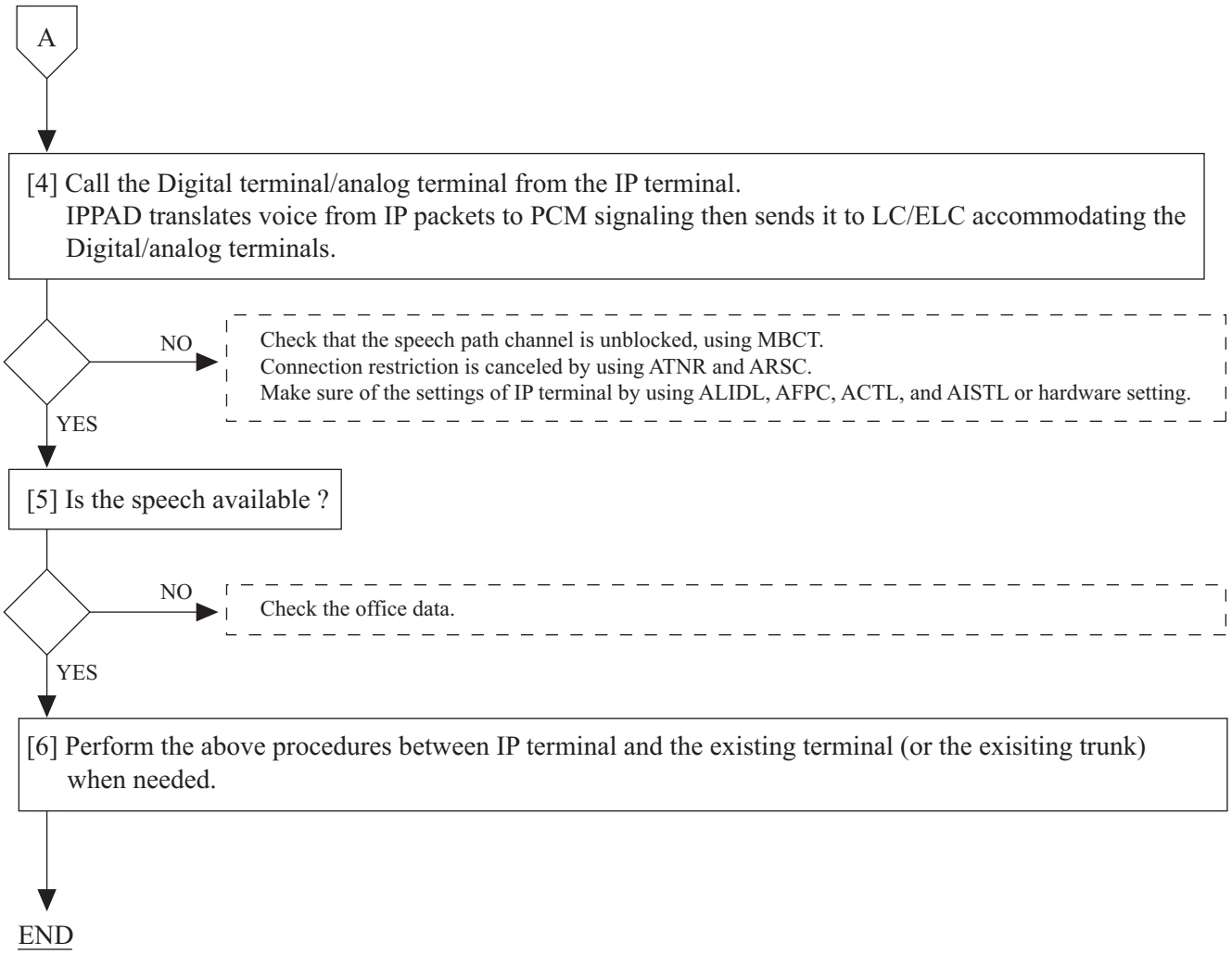


This section describes the procedures to confirm the normal operation of the IPPAD card. In this section we will use CH-IPDA card as example. Perform the connection test between IP terminals and digital terminals/analog terminals or COT, TLT, etc. mounted on PIR. Perform the test with other combinations of terminals, as needed.

IPPAD Connection Test Diagram




START
[1] Confirm that OPE lamp on IPPAD is lighting.
NO
YES
The following explains how to solve the problems. When the problem can not be solved by the step, go to the next step.
1) Remove and insert the circuit card.
2) Make sure of office data and mount location data by using AFPC, ACTK, and ALIDL.
3) Initialize the circuit card.
4) Check on the MBCT command that the trunk Make-Busy is disabled.
5) Replace the circuit card.
NO
YES
The following explains how to solve the problems. When the problem can not be solved by the step, go to the next step.
1) Remove and insert the circuit card.
2) Initialize the circuit card.
3) Re-download the firmware into the circuit card by using CD.
4) Replace the circuit card.
[3] Confirm that LINK/ACT lamp on IPPAD is lighting, which indicates that the circuit card is connected to the network physically.
NO
YES
Make sure LAN cables (straight-through) are connected correctly.
Check LAN cable by a tester or other equipment.
Check the normality of network equipment (SW HUB, Router, etc.).
A


A
[4] Call the Digital terminal/analog terminal from the IP terminal.
IPPAD translates voice from IP packets to PCM signaling then sends it to LC/ELC accommodating the Digital/analog terminals.
NO
Check that the speech path channel is unblocked, using MBCT.
Connection restriction is canceled by using ATNR and ARSC.
Make sure of the settings of IP terminal by using ALIDL, AFPC, ACTL, and AISTL or hardware setting.
YES
[5] Is the speech available ?
NO
Check the office data.
YES
[6] Perform the above procedures between IP terminal and the existing terminal (or the exisiting trunk) when needed.
END

CHAPTER 8
FAULT RECOVERY DURING TESTS

Use the fault recovery procedures in this chapter when a connection cannot be established in the normal manner or when an abnormal connection is discovered as a result of the installation test.

- Connection Error on IP Terminals/SIP Multiple Line Terminals
- Irregular Lamp Indications on Circuit Cards
- Dial Tone Connection Error
- Station-to-Station Connection Error on Digital Terminals/Analog TELs

1. Connection Error on IP Terminals/SIP Multiple Line Terminals

1.1 IP Terminals Connection Error

START

- IP terminal's LCD displays "DHCP Connecting..." for 30 seconds and login error occurs after connection timeout.
  - When login error occurs on a particular IP terminal:
    - Perform the login operation when the LCD indicates login menu.
    - Make sure a LAN cable is connected.
  - When login error occurs on every IP terminal:
    - Check the Telephony Server's operation (lamp and alarm check).
    - When IP terminals are connected to the network for the first time, configuration setting is required on each station.
- Check the communication status between the Telephony Server and IP terminals.
  - Execute Ping command on the IP terminals, entering the IP address of the Telephony Server as the destination.
- Error message is displayed on IP terminals' LCD.
  - Refer to Peripheral Equipment Description for the explanation on the error messages.

END

1.2 SIP Multiple Line Terminals Connection Error

START

SIP Multiple Line terminal's LCD displays "Connecting..." for 30 seconds and login error occurs after connection timeout.

When login error occurs on a particular SIP Multiple Line terminal:

- Connect the terminal with the same network with the Telephony Server.

When login error occurs on every SIP Multiple Line terminal:

- Check the parameters on the data sheet (data_sheet.xls/csv) are correctly assigned for generating PAC file.

Error message is displayed on IP terminal's LCD.

Refer to Peripheral Equipment Description for the explanation on error messages.

END

2. Irregular Lamp Indications on Circuit Cards



START

- Conduct this check when the green OPE lamps do not illuminate on any circuit cards mounted in a PIR.
  - Use AUNT command to check that the UNIT data has been assigned.
  - Replace the TSW/MUX card with a spare.
  - Check that the cable connected to the “BUSXX” terminal on the PIR backplane is securely connected.
  - A PIR will occasionally malfunction due to a single circuit card that is mounted in the PIR. Therefore, check the circuit cards using the following steps.
    - Extract all the circuit cards from the PIR, other than the TSW/MUX and the PWR cards.
    - Insert one circuit card into its mounting slot and see if its OPE lamp illuminates. Repeat this procedure for the remaining circuit cards.
- Conduct this check when the green OPE lamp does not illuminate on a line card.
  - Confirm that the circuit card’s MB switch is DOWN.
  - Use ASDT command to check that the station data is assigned to the circuits on the circuit card.
  - Replace the circuit card with a spare.
- Conduct this check when the OPE lamp on a line circuit card illuminates, but the BL lamp for an individual line flashes.
  - Use MBST command to confirm that the specific line is not in the Make Busy state.
  - Use ASDT command to check that the station data has been assigned to the line circuit.
  - Replace the circuit card with a spare.

A

A

- Conduct this check when the green OPE lamp does not illuminate on a trunk circuit card.
  - Confirm that the circuit card's MB switch is DOWN.
  - Use ATRK command to check that the trunk data has been assigned for the circuits on the circuit card.
  - Replace the circuit card with a spare.
- Conduct this check when a trunk circuit card's OPE lamp illuminates, but the BL lamp for an individual circuit flashes.
  - Confirm that the MB switch, for each circuit on the circuit card, is OFF.
  - Use MBTK command to confirm that the trunk circuit is not in a make-busy state.
  - Use ATRK command to check that the trunk data has been assigned for the trunk circuit.
  - Replace the circuit card with a spare.
- Perform the following check before replacing a defective circuit card with a spare.
  - Confirm the switch settings on the circuit card.
  - Poor contact at the circuit card's connector portion may be responsible for the malfunction. Check the circuit card again by inserting and extracting it several times.

END

3. Dial Tone Connection Error



START

- Dial Tone is not heard.
  - On the MDF, check the cross connections between the terminal and the corresponding line circuit.
  - Check whether the LT cable is securely connected to the PIR.
  - Replace the LC card with a spare.
- Dial Tone cannot be heard from one or more lines on the same circuit card.
  - Replace the LC card with a spare.
- Dial Tone cannot be heard from the lines in a specific PIR.
  - Check the switch settings on the TSW/MUX card.
  - Replace the TSW/MUX card with a spare.
  - Check the switch settings on the TSW card.
  - Replace the TSW card with a spare.
  - Check whether the cable is securely inserted into the connectors on the front edge of the TSW and MUX cards.

END

4. Station-to-Station Connection Error on Digital Terminals/Analog TELs



START

- Dial Tone is still heard after a digit is dialed (cannot break Dial Tone).
  - A specific RST card is involved. → Replace the RST card with a spare.
  - A specific LC card is involved. → Replace the LC card with a spare.
  - A specific UNIT is involved. → Replace the TSW/MUX card with a spare.
  - The entire System is involved. → Replace the TSW card with a spare.
- Reorder Tone is heard after a station number is dialed.
  - Use ANPD/ANPDL/ANPDN commands to check the Necessary Number of Digits data.
  - Use ASPA/ASPAL/ASPAN commands to check the Special Number data.
  - Use ASDT command to check the Station data.
  - Use ATNR command to check the Tenant Restriction Class data.
- Ringback Tone is heard, but the bell at the called station remains silent.
  - Check that the called station was assigned the correct LENS data through ASDT command.
  - When all the stations which are in a specific PIR do not ring, replace the PWR card with a spare.
  - If the fault involves one or more lines within the same LC card, replace the LC card with a spare.
- After the call has been answered, noise is heard or the speech path is one-way.
  - If the fault involves one or more lines within the same LC card, then replace the LC card with a spare.
  - If the fault involves a specific PIR, then replace either the MUX or TSW card with a spare.
  - If noise is heard throughout the entire system, then replace the TSW card with a spare.

END

CHAPTER 9
WORK AFTER INSTALLATION TEST

This chapter explains the sundry tasks and site cleaning that must be performed after completing the installation tests, pursuant to a normal system cut-over.

After completing all of the required tests, confirm or perform the following:

1. Manage Office Data
2. Test Result Report
3. Attach Covers
4. Cleaning

1. Manage Office Data

This section explains how to backup the office data.

The office data is stored on Data Memory (DM). The Telephony Server executes steps based on the CPU's results when it accesses the DD. If the DM's contents are faulty, or have been changed illegally, then the result could be an erroneous system operation or a system shutdown.

After completing the installation tests, backup the office data and protect it.

1.1 Office Data Backup

After completing the installation tests, keep the following items at the job site to preserve the office data.

(1) Office Data Programming Sheets

Since the Office Data Programming Sheets should always reflect the most recent data, make entries in pencil.

(2) CF Card for Storing Data

If a major change to the office data is made, especially a change involving System Data (ASYD/ASYDL/ASYDN commands), the system may not function as expected. To prepare for such an occurrence, maintain a CF card containing the office data before the change and another CF card containing the office data after the change. The pre-change CF card allows an engineer to restore the system to its previous (running) condition if the system does not operate properly with the new data.

2. Test Result Report

When submitting a test results report to the end user, or when performing tests with the customer's representatives in attendance, prepare a Test Results Report and record the test results.

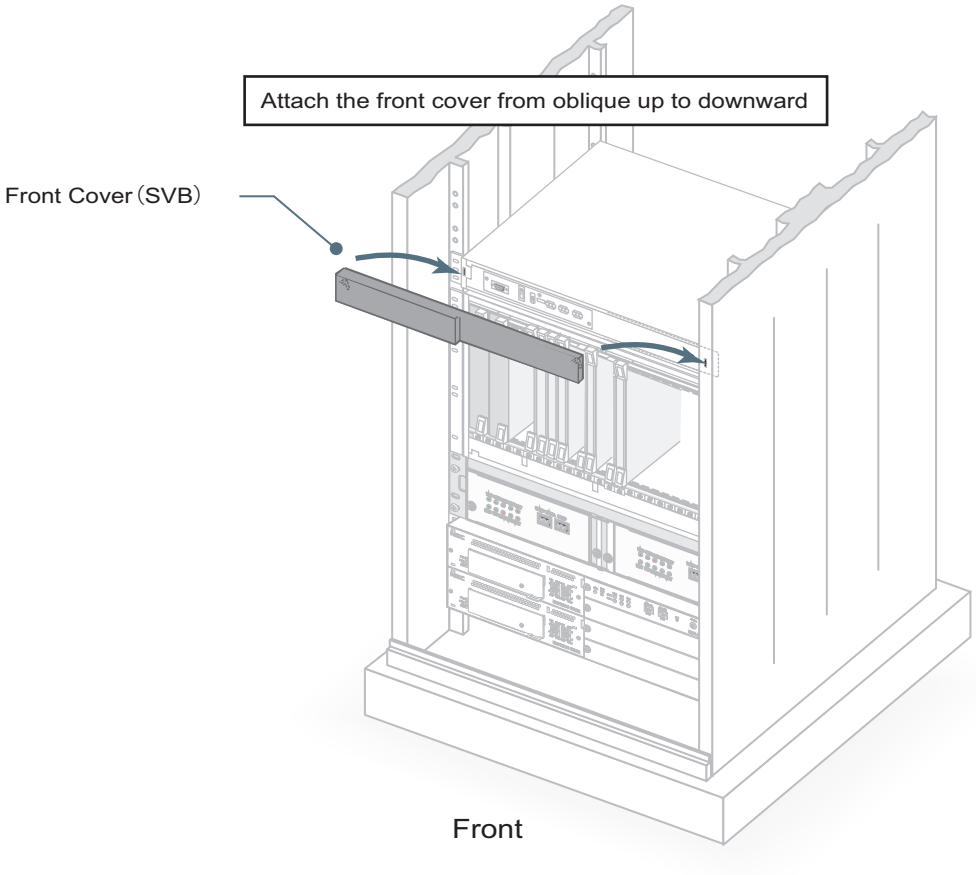
3. Attach Covers

After the installation work, attach the covers for the following modules.

- FANU Front Cover
- 7U-PIR Front Cover
- 8U-PIR Front Cover
- Telephony Server Front Cover
- TSW-BOX (4-IMG) Front Cover

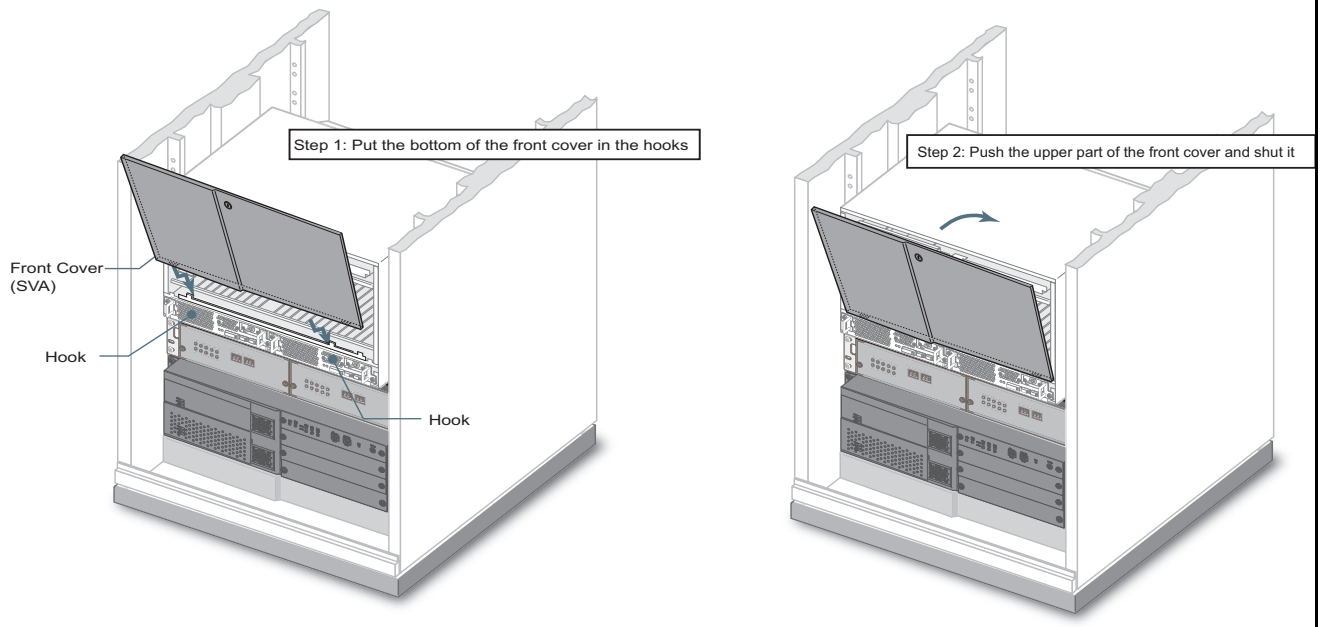
FANU Front Cover

Put in the cover positioning the face and back. FANU front cover is only necessary for 8U-PIR.



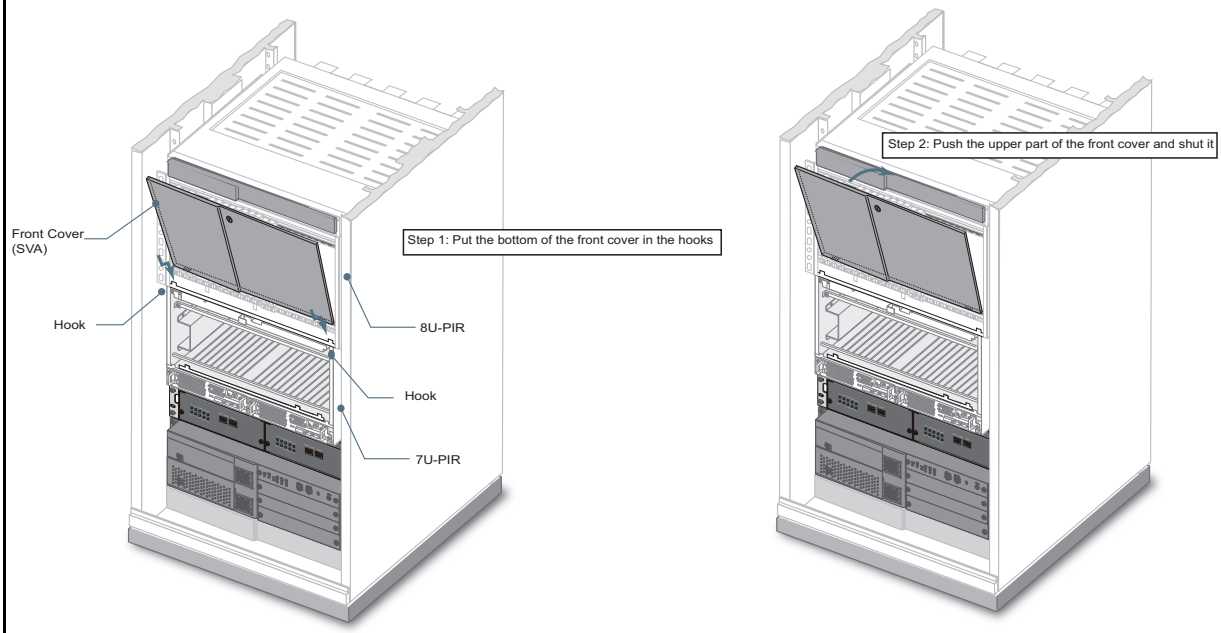
7U-PIR Front Cover

Put the cover to the lower part of the PIR, and then lock the key. Take care not to catch the cables.



8U-PIR Front Cover

Put the cover to the lower part of the PIR, and then lock the key. Take care not to catch the cables.



Note: To attach front covers to TSWR:

1. Attach Front Cover (SVB) (FANU front cover).
2. Attach the same front cover with PIR (Front Cover (SVA)), putting the cover in the lower part of TSWR.
3. Lock the key.

Take care not to catch the cables.

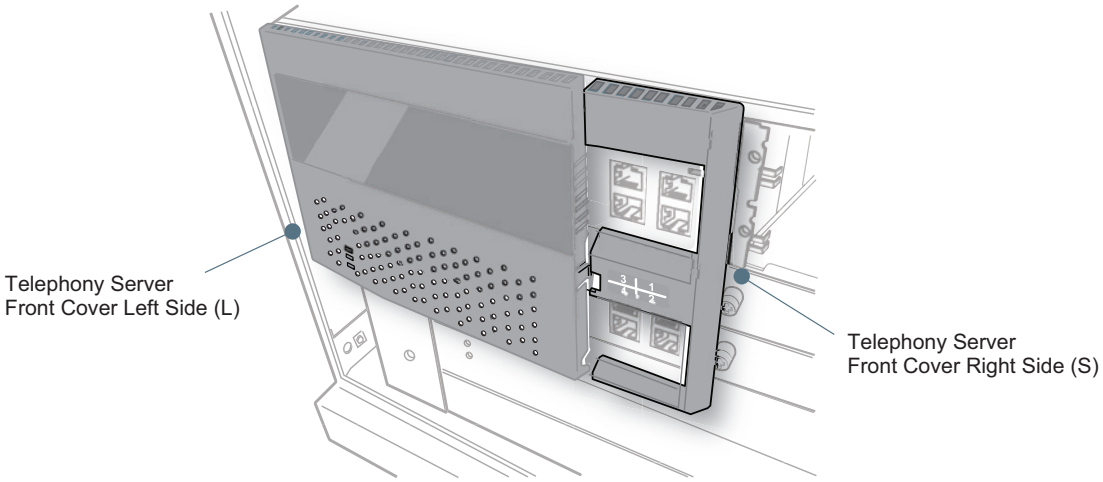
3.1 Telephony Server Front Cover

3.1.1 Front Cover (S) and Front Cover (L)

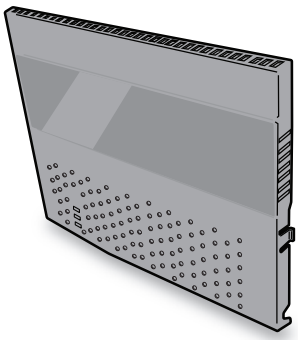
The front cover of the Telephony Server consists of the following two covers.

- Front Cover (S): right side
- Front Cover (L): left side

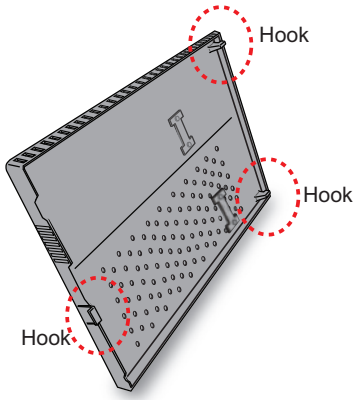
Telephony Server Front Cover



The Location of Hooks on the Front Cover (L)

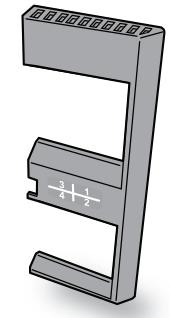


Front Cover (L): Front Side

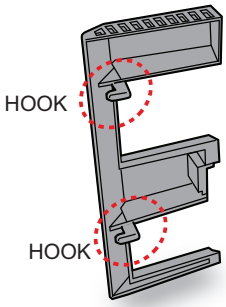


Front Cover (L): Rear Side

The Location of Hooks on the Front Cover (S)



Front Cover (S): Front Side

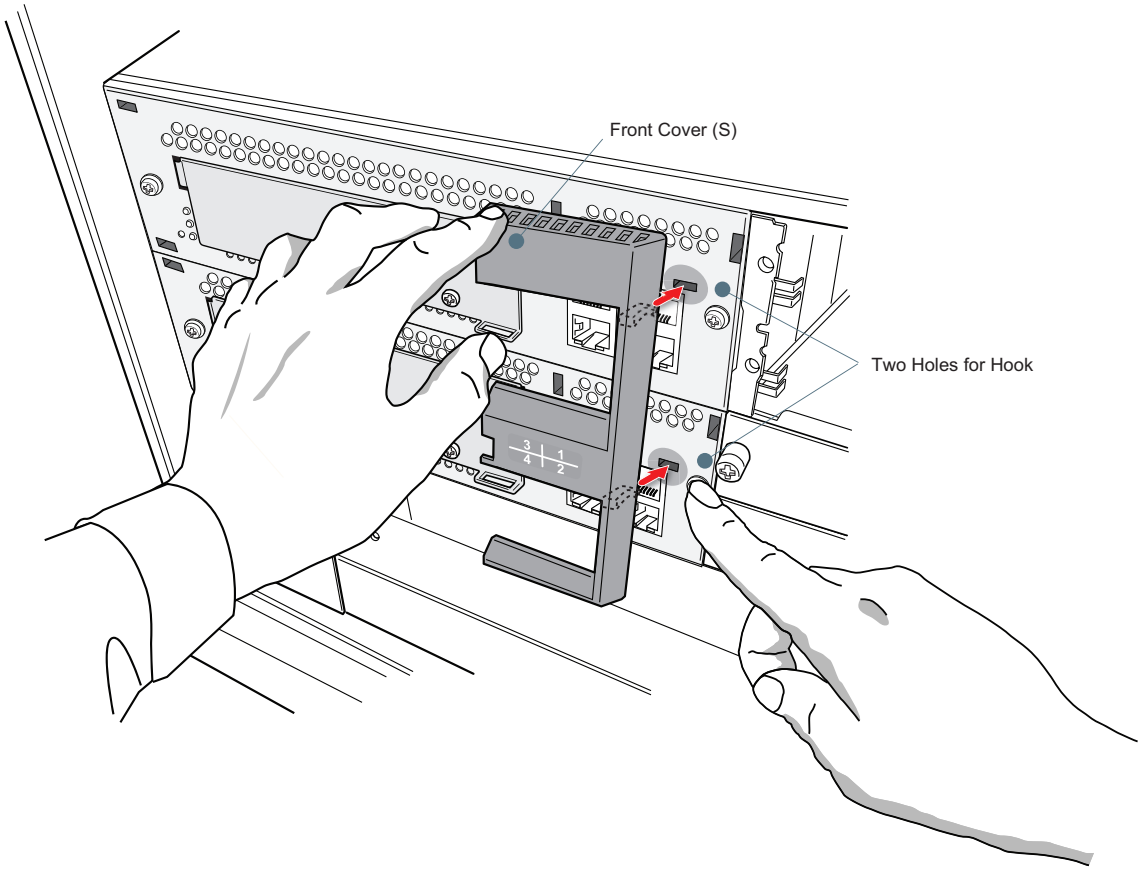


Front Cover (S): Rear Side

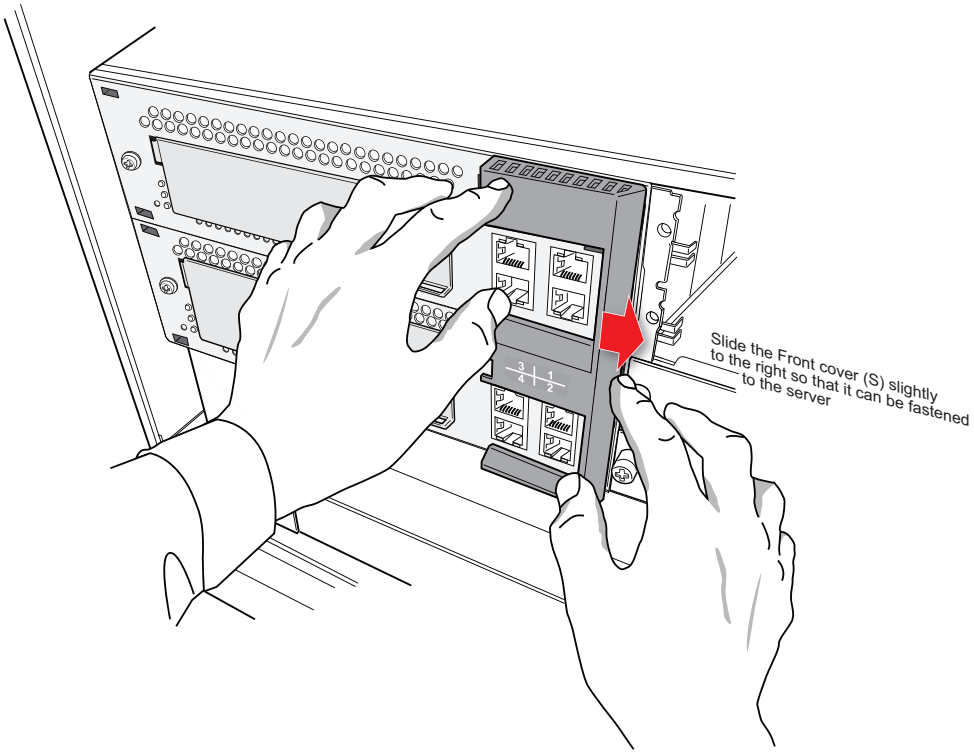
3.1.2 How to Attach Telephony Server Front Cover

- Front Cover (S)

Step1: Insert the two hooks of Front Cover (S) into the holes on the front panel of the Telephony Server.

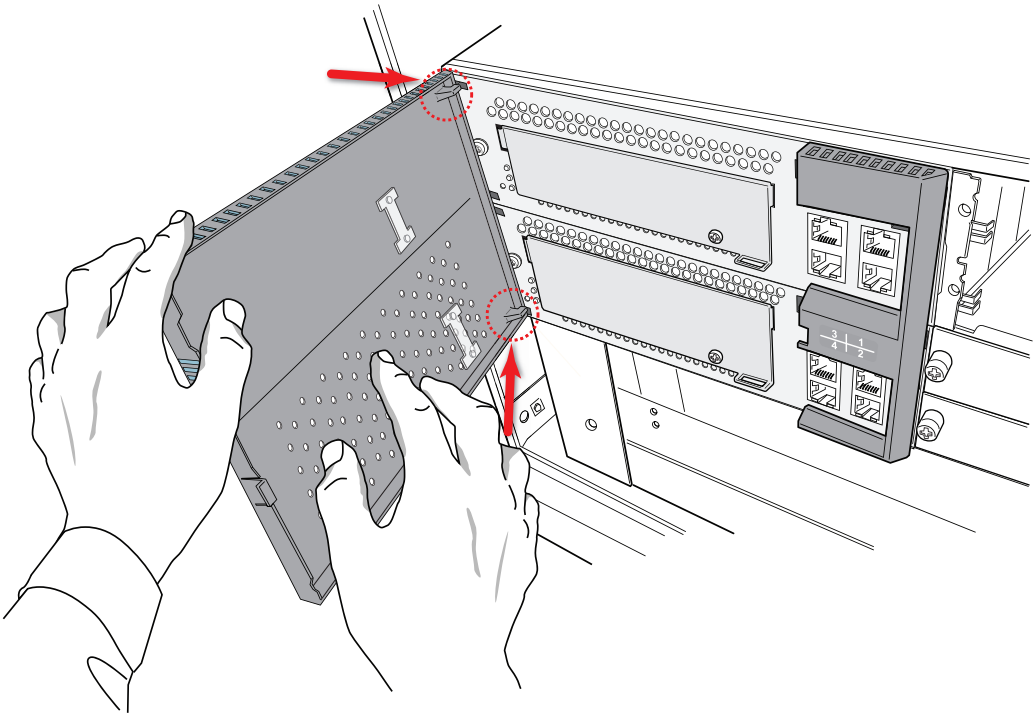


Step2: Slide the Front Cover (S) slightly to the right so that it may fastened onto the Telephony Server.

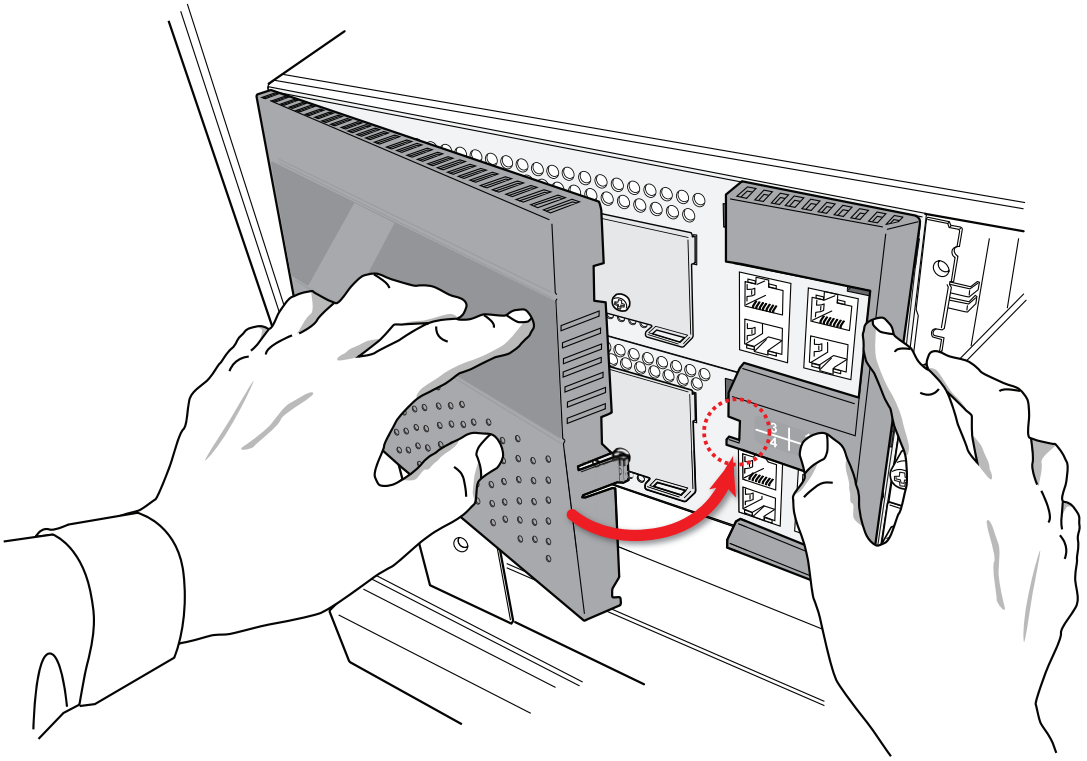


- Front Cover (L)

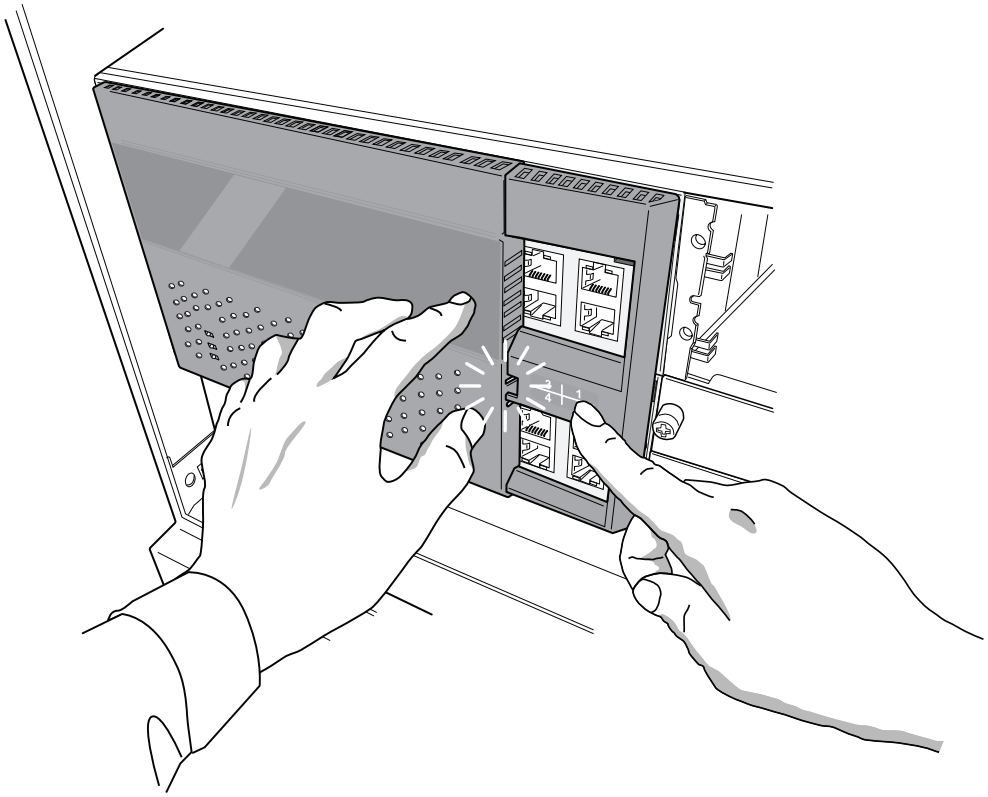
Step1: Insert the left hooks of the Front Cover (L) into the holes on the Telephony Server.



Step2: Slowly turn the cover toward the hook on the Front Cover (S).



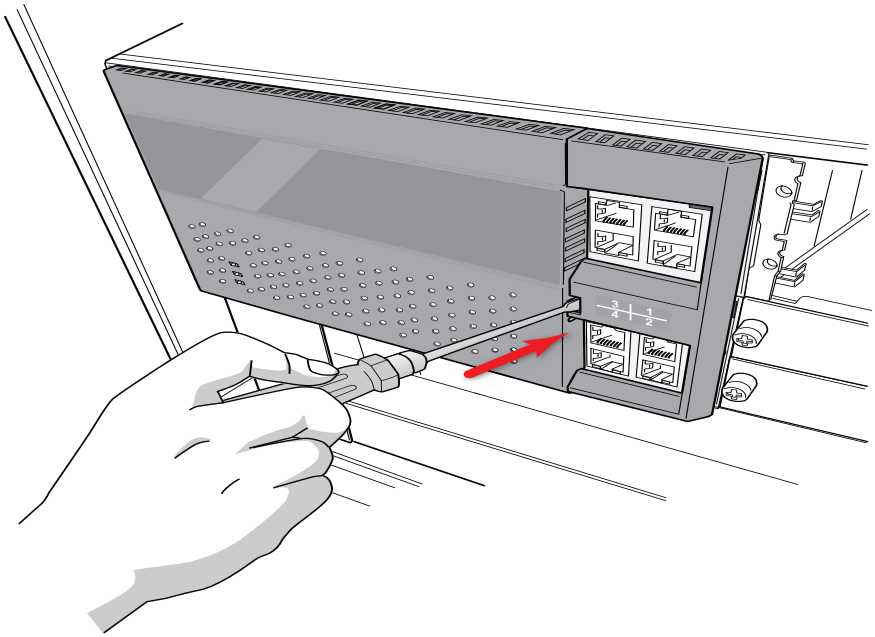
Step3: Check that the Front Cover (L) is firmly locked onto the Front Cover (S).



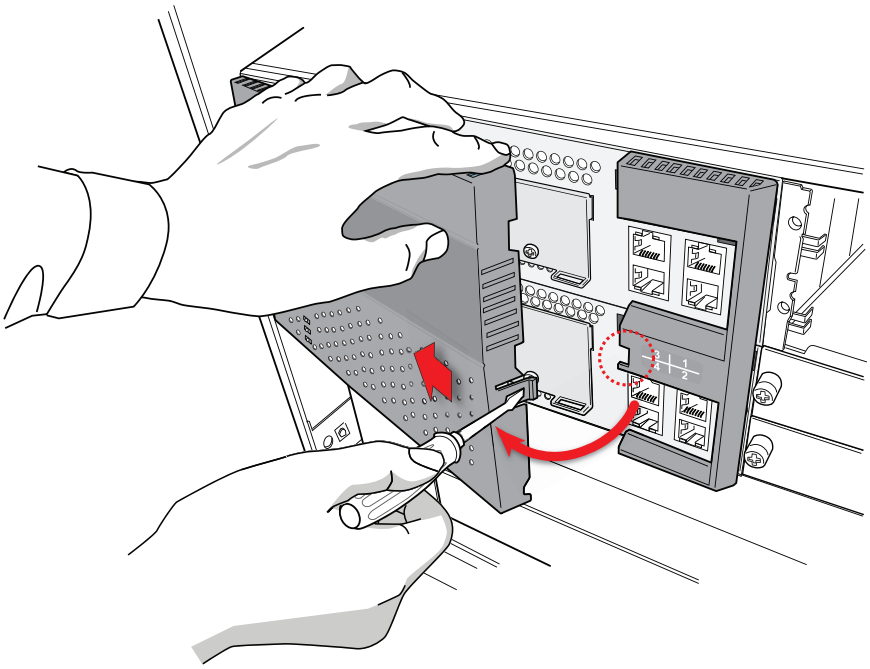
3.1.3 How to Remove the Telephony Server Front Cover

- Front Cover (L)

STEP 1: Insert a flat-bladed screwdriver into the lock.

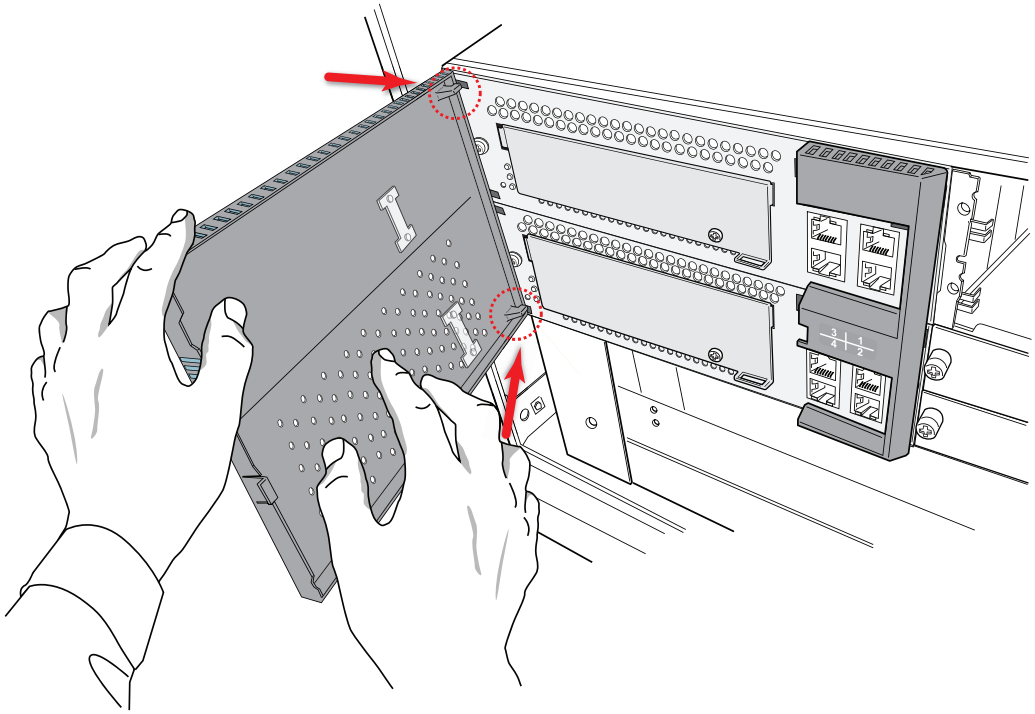


STEP 2: Press the lock toward the arrow direction and pull the Front Cover (L) slowly toward you.



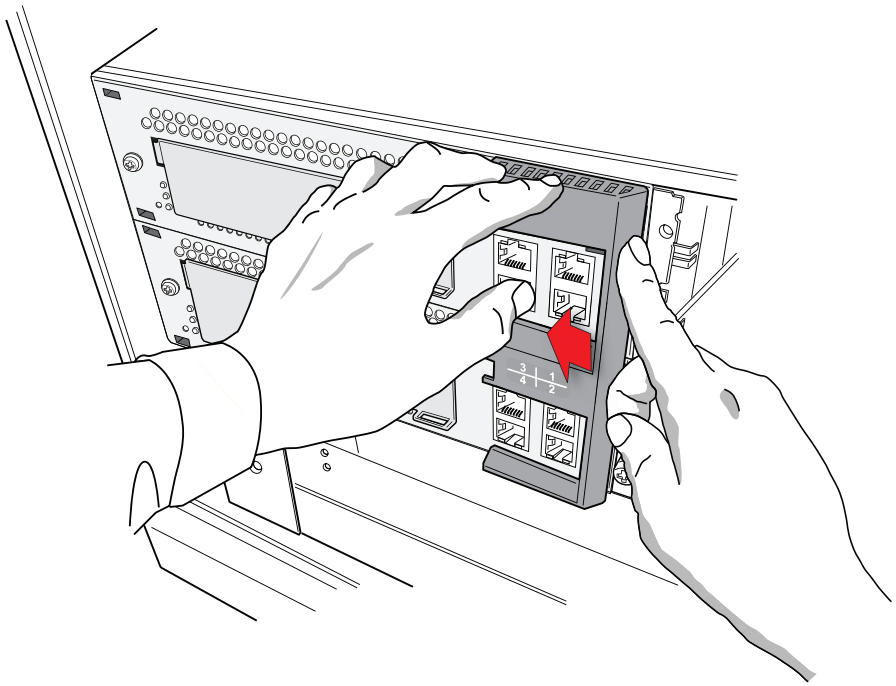
Step4: Remove the Front Cover (L) slowly from the Telephony Server.

Note: Special care should be taken that the hooks on the Front Cover (L) are not broken.

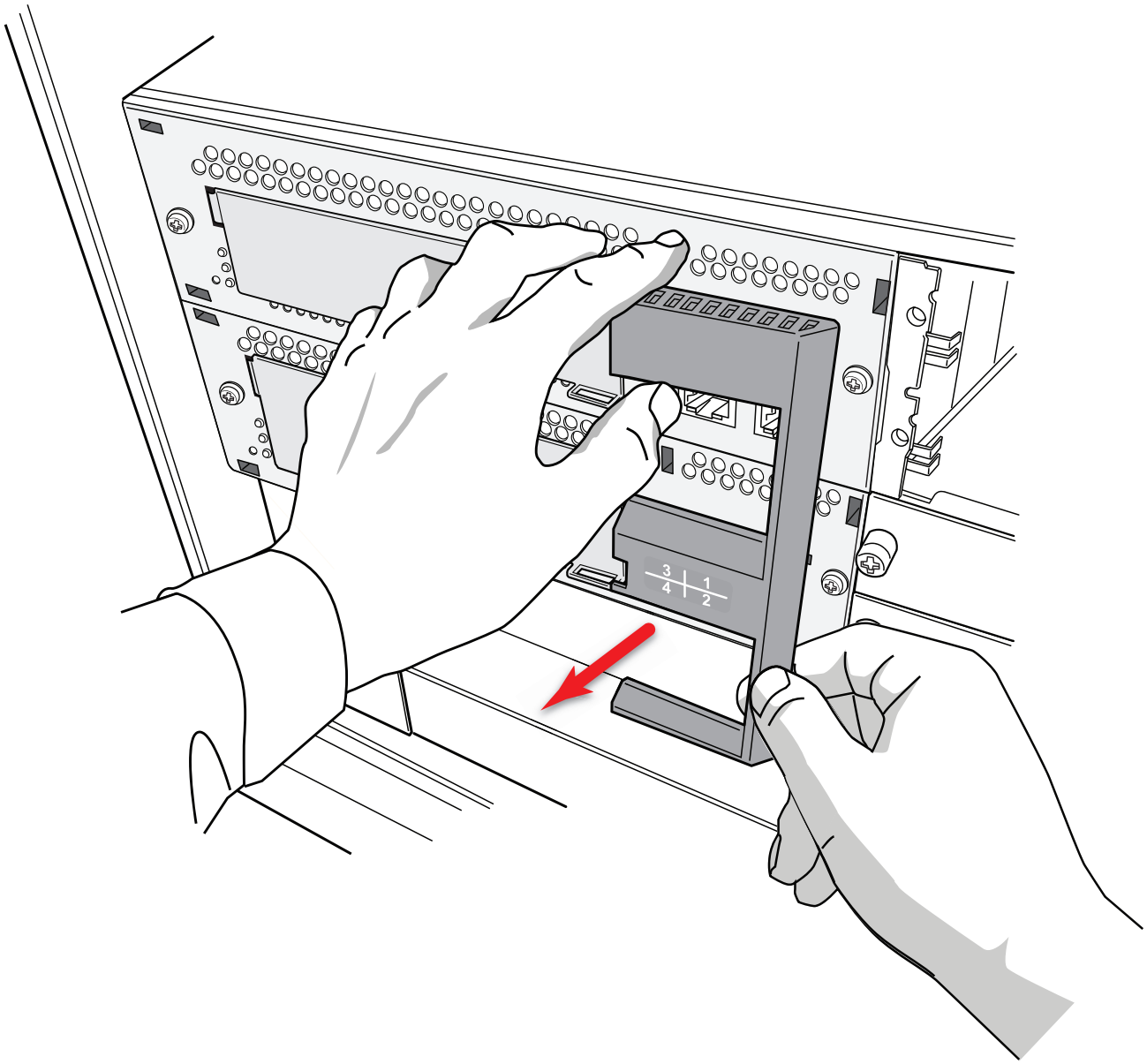


- Front Cover (S)

Step1: Slide the Front Cover (S) slightly to the left until it fit the holes.



Step2: Pull the Front Cover (S) toward you to remove it from the Telephony Server.

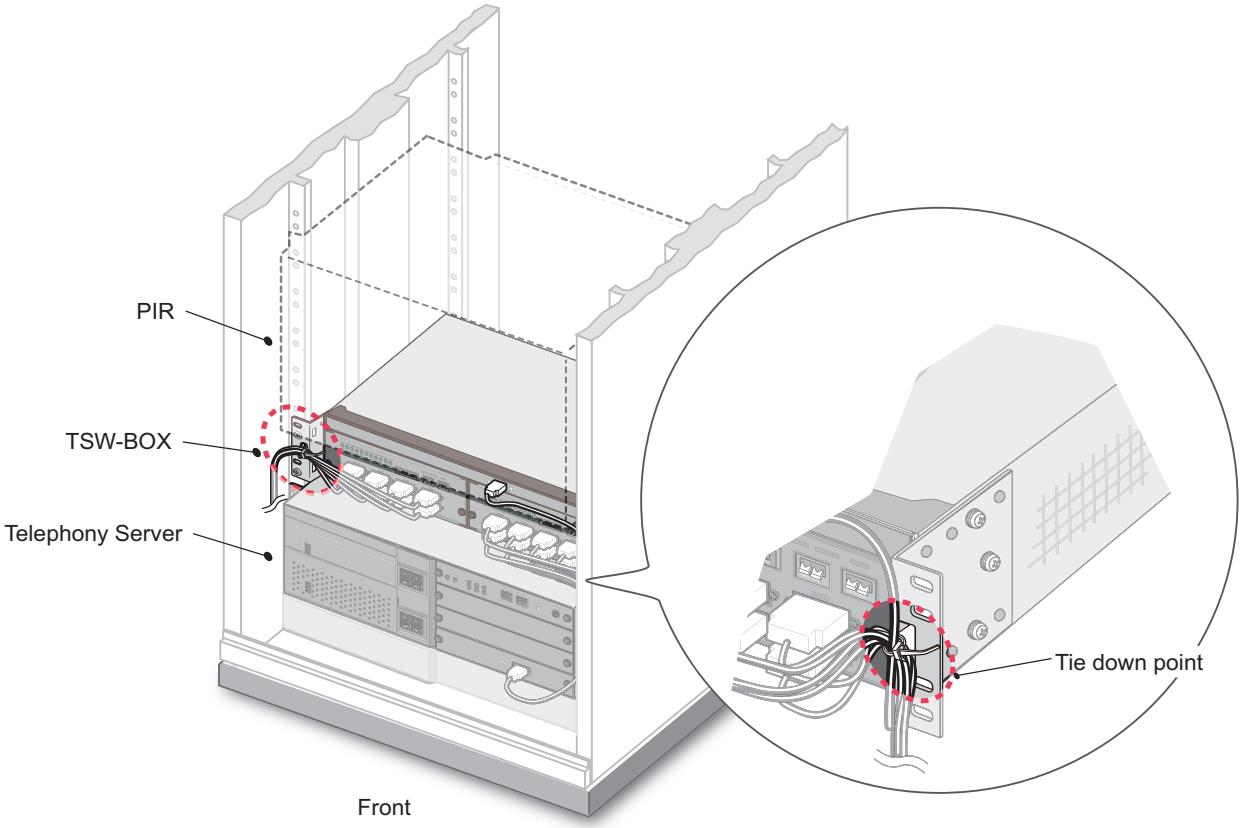


3.1.4 How to Attach TSW-BOX (4-IMG) Front Cover

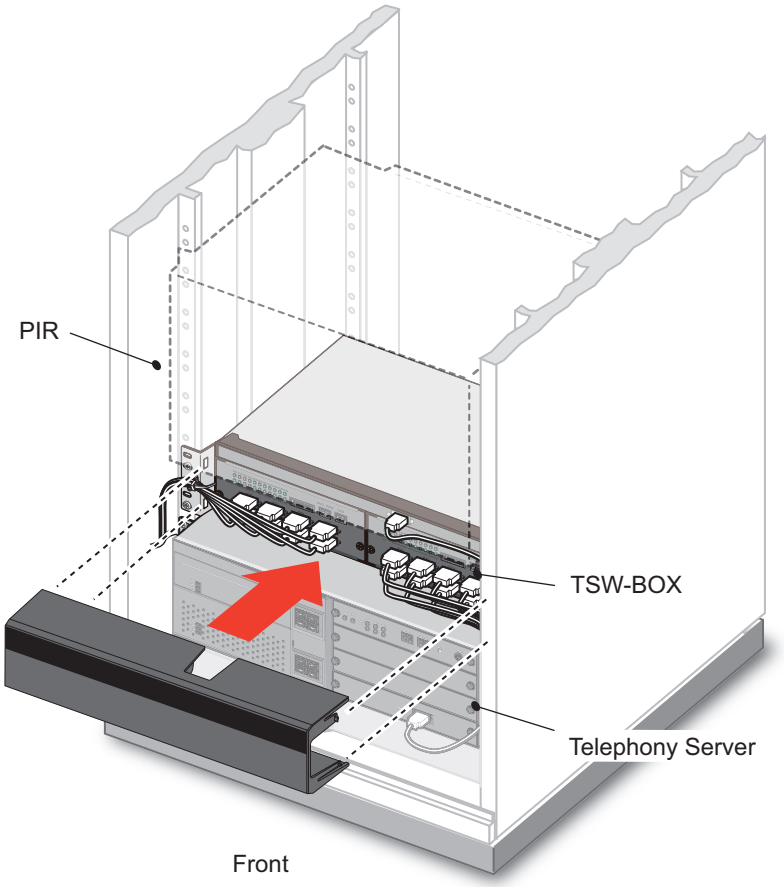
Step1: Make sure that the rack-mount brackets for the TSW-BOX are in the correct position.

Step2: Secure the cables with a tie wrap to the tie down point on the rack mount bracket of the TSW-BOX.

TSW-BOX (4-IMG) Front Cover

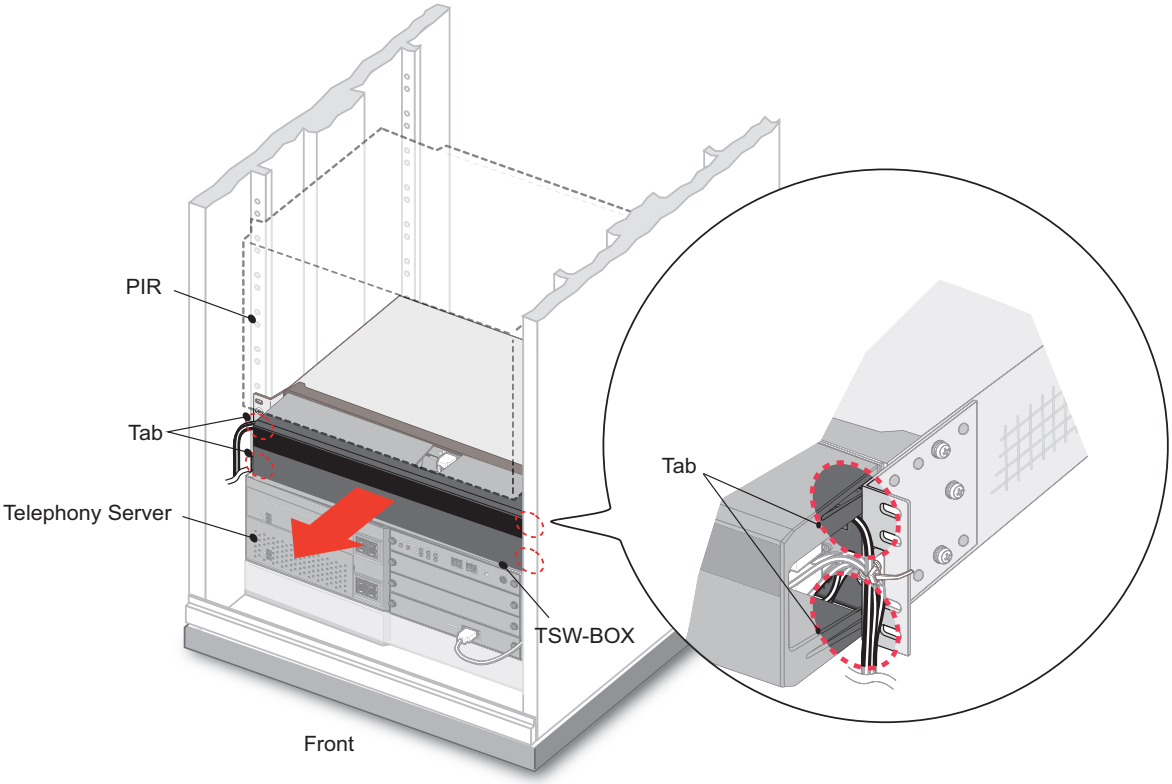


Step3: Install the front cover in the direction of the arrow. Align the four tabs with the corresponding slots of the rack mount brackets and press until the cover snaps into place.



3.1.5 How to Remove TSW-BOX (4-IMG) Front Cover

Pull out the front cover by pushing the four tabs and remove it.



4. Cleaning

- Restore the cross connections that were arranged for test purposes to their original condition.
- Clean around the racks, rectifier, and MDF.
- Gather the test equipment, tools, etc., used during the installation tests.
- Dispose of dust, trash, etc.

APPENDIX A
SYSTEM DATA IN-STALLED IN INITIAL STARTUP

The following tables list the system data installed in initial startup. Refer to Command Manual for the detailed explanation on each INDEX and DATA.

- ASYD SYS1
- ASYD SYS2
- ASYD SYS3

ASYD SYS1

INDEX	DATA
0	01 (00000001)
1	01 (00000001)
2	00 (00000000)
3	00 (00000000)
4	01 (00000001)
5	00 (00000000)
6	00 (00000000)
7	00 (00000000)
8	01 (00000001)
9	00 (00000000)
10	00 (00000000)
11	00 (00000000)
12	00 (00000000)
13	00 (00000000)
14	00 (00000000)
15	00 (00000000)
16	0C (00001100)
17	00 (00000000)
18	00 (00000000)
19	00 (00000000)
20	00 (00000000)
21	00 (00000000)
22	00 (00000000)
23	00 (00000000)
24	00 (00000000)
25	00 (00000000)
26	00 (00000000)
27	00 (00000000)

ASYD SYS1

INDEX	DATA
28	00 (00000000)
29	00 (00000000)
30	06 (00000110)
31	02 (00000010)
32	00 (00000000)
33	00 (00000000)
34	00 (00000000)
35	00 (00000000)
36	00 (00000000)
37	00 (00000000)
38	00 (00000000)
39	00 (00000000)
40	00 (00000000)
41	00 (00000000)
42	00 (00000000)
43	00 (00000000)
44	00 (00000000)
45	00 (00000000)
46	00 (00000000)
47	00 (00000000)
48	00 (00000000)
49	00 (00000000)
50	00 (00000000)
51	00 (00000000)
52	00 (00000000)
53	00 (00000000)
54	00 (00000000)
55	00 (00000000)
56	FF (11111111)
57	FF (11111111)
58	00 (00000000)
59	00 (00000000)
60	00 (00000000)
61	00 (00000000)
62	00 (00000000)

ASYD SYS1

INDEX	DATA
63	00 (00000000)
64	00 (00000000)
65	FF (11111111)
66	00 (00000000)
67	00 (00000000)
68	00 (00000000)
69	00 (00000000)
70	00 (00000000)
71	00 (00000000)
72	00 (00000000)
73	00 (00000000)
74	00 (00000000)
75	00 (00000000)
76	00 (00000000)
77	28 (00101000)
78	00 (00000000)
79	40 (01000000)
80	00 (00000000)
81	00 (00000000)
82	00 (00000000)
83	00 (00000000)
84	FF (11111111)
85	FF (11111111)
86	80 (10000000)
87	FF (11111111)
88	FF (11111111)
89	00 (00000000)
90	00 (00000000)
91	C0 (11000000)
92	00 (00000000)
93	00 (00000000)
94	00 (00000000)
95	00 (00000000)
96	00 (00000000)
97	00 (00000000)

ASYD SYS1

INDEX	DATA
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99	00 (00000000)
100	00 (00000000)
101	00 (00000000)
102	00 (00000000)
103	00 (00000000)
104	00 (00000000)
105	00 (00000000)
106	00 (00000000)
107	00 (00000000)
108	00 (00000000)
109	00 (00000000)
110	00 (00000000)
111	00 (00000000)
112	00 (00000000)
113	00 (00000000)
114	00 (00000000)
115	00 (00000000)
116	02 (00000010)
117	02 (00000010)
118	00 (00000000)
119	00 (00000000)
120	00 (00000000)
121	00 (00000000)
122	00 (00000000)
123	00 (00000000)
124	00 (00000000)
125	00 (00000000)
126	00 (00000000)
127	00 (00000000)
128	00 (00000000)
129	00 (00000000)
130	00 (00000000)
131	00 (00000000)
132	00 (00000000)

ASYD SYS1

INDEX	DATA
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134	00 (00000000)
135	00 (00000000)
136	00 (00000000)
137	00 (00000000)
138	00 (00000000)
139	00 (00000000)
140	00 (00000000)
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143	00 (00000000)
144	00 (00000000)
145	00 (00000000)
146	00 (00000000)
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157	00 (00000000)
158	00 (00000000)
159	00 (00000000)
160	00 (00000000)
161	00 (00000000)
162	00 (00000000)
163	00 (00000000)
164	00 (00000000)
165	00 (00000000)
166	00 (00000000)
167	00 (00000000)

ASYD SYS1

INDEX	DATA
168	00 (00000000)
169	00 (00000000)
170	00 (00000000)
171	00 (00000000)
172	00 (00000000)
173	00 (00000000)
174	00 (00000000)
175	00 (00000000)
176	00 (00000000)
177	00 (00000000)
178	00 (00000000)
179	00 (00000000)
180	00 (00000000)
181	00 (00000000)
182	00 (00000000)
183	00 (00000000)
184	00 (00000000)
185	00 (00000000)
186	20 (00100000)
187	00 (00000000)
188	00 (00000000)
189	00 (00000000)
190	00 (00000000)
191	00 (00000000)
192	00 (00000000)
193	00 (00000000)
194	01 (00000001)
195	00 (00000000)
196	00 (00000000)
197	00 (00000000)
198	03 (00000011)
199	00 (00000000)
200	00 (00000000)
201	00 (00000000)
202	00 (00000000)

ASYD SYS1

INDEX	DATA
203	00 (00000000)
204	00 (00000000)
205	00 (00000000)
206	00 (00000000)
207	00 (00000000)
208	00 (00000000)
209	80 (10000000)
210	00 (00000000)
211	00 (00000000)
212	00 (00000000)
213	00 (00000000)
214	00 (00000000)
215	00 (00000000)
216	00 (00000000)
217	00 (00000000)
218	00 (00000000)
219	00 (00000000)
220	00 (00000000)
221	00 (00000000)
222	00 (00000000)
223	00 (00000000)
224	00 (00000000)
225	00 (00000000)
226	00 (00000000)
227	00 (00000000)
228	00 (00000000)
229	00 (00000000)
230	00 (00000000)
231	00 (00000000)
232	00 (00000000)
233	00 (00000000)
234	00 (00000000)
235	00 (00000000)
236	00 (00000000)
237	00 (00000000)

ASYD SYS1

INDEX	DATA
238	00 (00000000)
239	00 (00000000)
240	00 (00000000)
241	00 (00000000)
242	00 (00000000)
243	00 (00000000)
244	00 (00000000)
245	00 (00000000)
246	00 (00000000)
247	00 (00000000)
248	00 (00000000)
249	00 (00000000)
250	00 (00000000)
251	00 (00000000)
252	00 (00000000)
253	00 (00000000)
254	00 (00000000)
255	00 (00000000)
256	14 (00010100)
257	00 (00000000)
258	00 (00000000)
259	00 (00000000)
260	00 (00000000)
261	00 (00000000)
262	00 (00000000)
263	00 (00000000)
264	00 (00000000)
265	00 (00000000)
266	00 (00000000)
267	00 (00000000)
268	00 (00000000)
269	00 (00000000)
270	00 (00000000)
271	00 (00000000)
272	00 (00000000)

ASYD SYS1

INDEX	DATA
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274	00 (00000000)
275	00 (00000000)
276	00 (00000000)
277	00 (00000000)
278	00 (00000000)
279	00 (00000000)
280	00 (00000000)
281	00 (00000000)
282	00 (00000000)
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284	00 (00000000)
285	00 (00000000)
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288	00 (00000000)
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291	00 (00000000)
292	00 (00000000)
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294	00 (00000000)
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298	00 (00000000)
299	00 (00000000)
300	00 (00000000)
301	00 (00000000)
302	00 (00000000)
303	00 (00000000)
304	00 (00000000)
305	00 (00000000)
306	00 (00000000)
307	00 (00000000)

ASYD SYS1

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APPENDIX B
MOUNTING PA ADAPTER

This appendix explains the procedures for mounting a PA Adapter.

Mounting PA Adapter

This appendix 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:

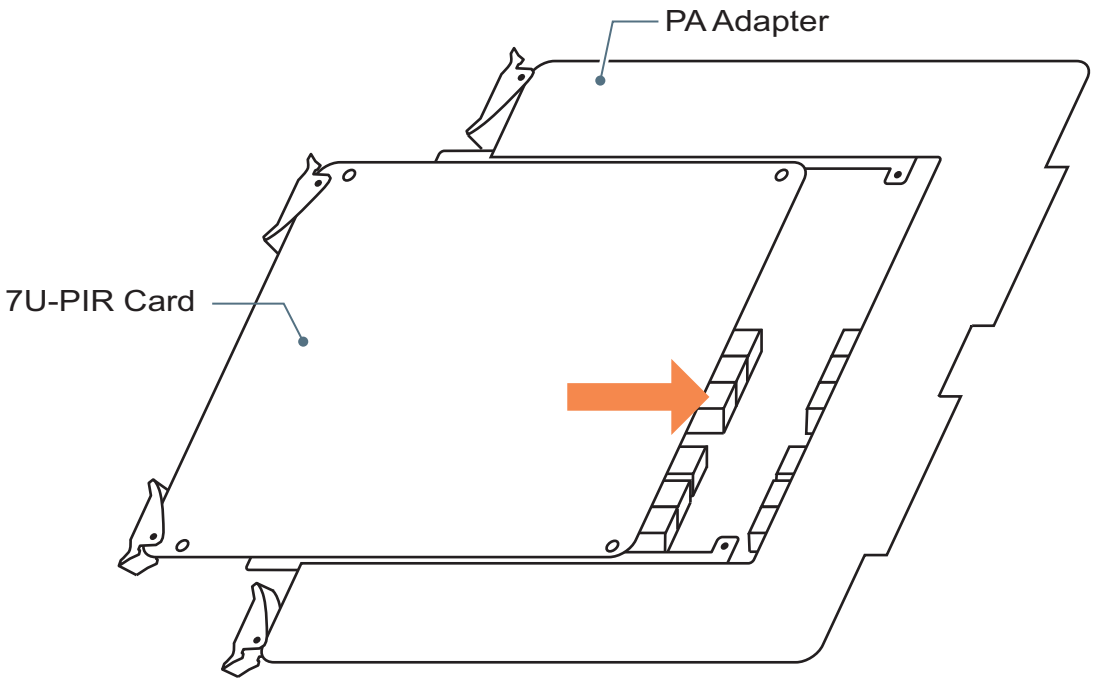
- Do not touch with your bare hands the board area or the metal coated terminals.
- During any operation take electrostatic countermeasures. Refer to How to use Service Grounding Kit in Chapter 2 of the System Description.

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

Step2: Consult Circuit Card Description and set the hardware switches for each card.

Note: The setting can be done only for hardware switches. As for software switches, after power activation, set them using PCPro (CPSW command) or a serial console.

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.

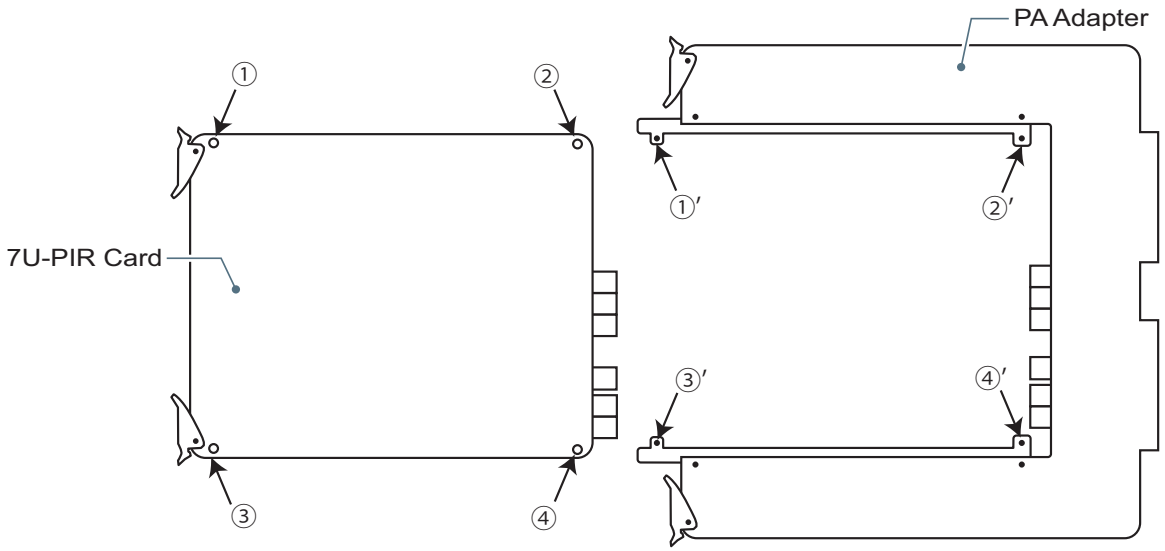


Right Side View

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.

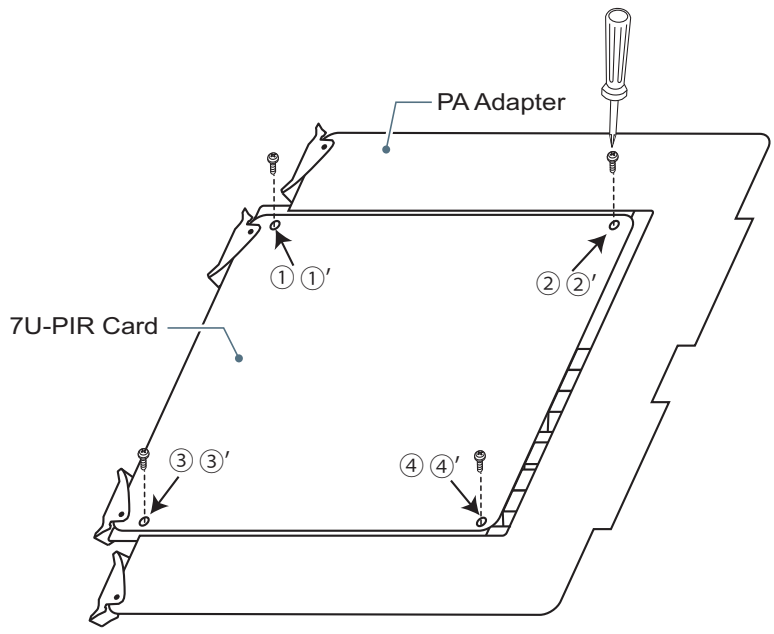
Note: Do not use an electric screwdriver. The fastening torque could be excessive and damage the screws.

Positions of Screws



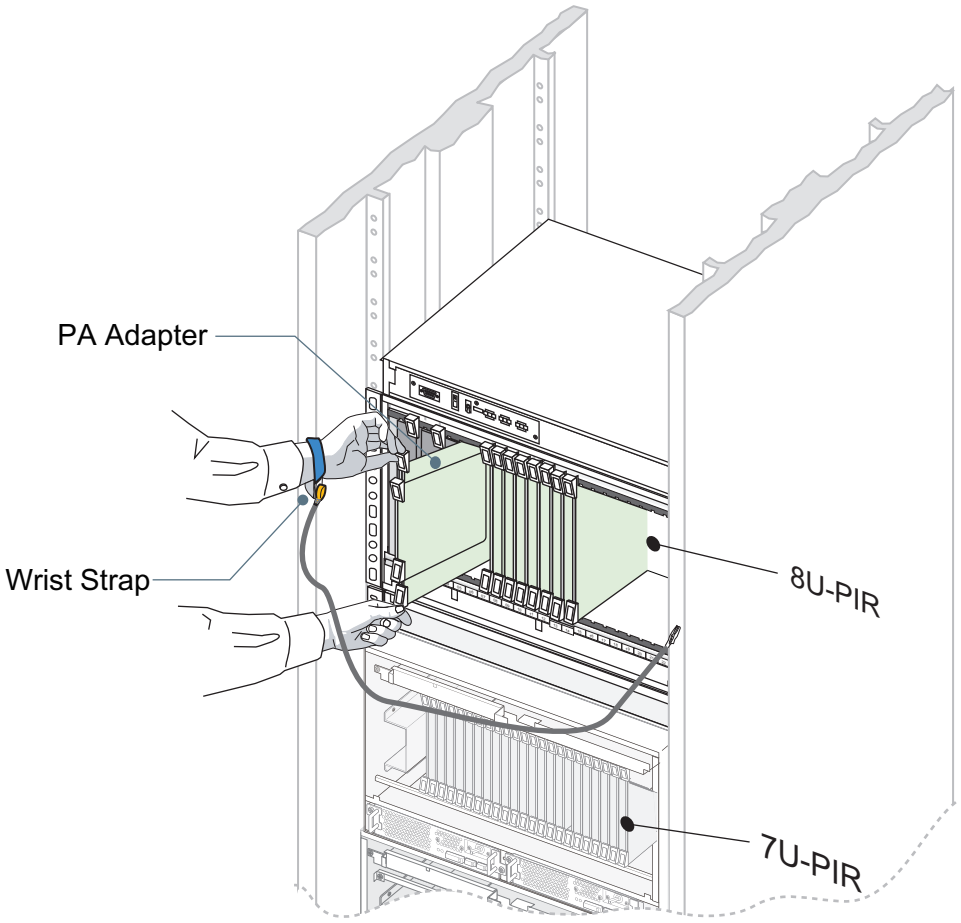
Right Side View

Tightening Screws



Right Side View

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



Front View

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.

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Appliance Model Installation Manual

NWD-171894-001

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