

UNIVERGE SV9500

FP95-115 V5

Peripheral Equipment Description (UG50)

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UNIVERGE SV9500 Peripheral Equipment Description (UG50)

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INTRODUCTION

1. Explanation of Terms

In this manual, the following terms are used to describe each operation mode and device type of the UG50.

Operation Mode	Device Type	Protocol Type	Mounting Card
Multi-slot mode	UG50 (DLC)	Proprietary Protocol	GCD-8DLCA GPZ-8DLCB GCD-16DLCA
	UG50 (LC) [Proprietary Protocol/SIP]	Proprietary Protocol/SIP	GCD-8LCA GPZ-8LCE
	UG50 (PRT 1.5M) [Proprietary Protocol/SIP]	Proprietary Protocol/SIP	GCD-PRTA
	UG50 (PRT 2M) [Proprietary Protocol/SIP]		
	UG50 (COT-TYPE1)	Proprietary Protocol	GCD-4COTA/B/C
	UG50 (COT-TYPE2) [Proprietary Protocol/SIP]	Proprietary Protocol/SIP	GPZ-4COTE/F/G
	UG50 (PGT-TYPE1)	Proprietary Protocol	GCD-PGTA
UG50 (PGT-TYPE2) [Proprietary Protocol/SIP]	Proprietary Protocol/SIP		
IPG mode	UG50-IPG(Digital)	Proprietary Protocol	GCD-16DLCA
	UG50-IPG(Analog)	Proprietary Protocol	GCD-8LCA GPZ-8LCE
Retrofit mode	UG50-8LC	SIP	GCD-8LCA
	UG50-2MC	Proprietary Protocol	GCD-8LCA
	UG50-24PRIA [Proprietary Protocol/SIP]	Proprietary Protocol/SIP	GCD-PRTA
	UG50-30PRIA [Proprietary Protocol/SIP]		
	UG50-4LC2COTA (COT)	Proprietary Protocol	GCD-8LCA GCD-4COTA/B/C
	UG50-4LC2COTA (PGT)	Proprietary Protocol	GCD-8LCA GCD-PGTA
	UG50-6COT [Proprietary Protocol/SIP]	Proprietary Protocol/SIP	GCD-4COTA/B/C GPZ-4COTE/F/G

2. Work Flow of the UG50 Installation



3. Work Flow of System Startup

Start

1. **Preparation for PRT Card** ⇒ [Precautions for PRT Card \(P.227\)](#)
▼
2. **Preparation for Web Programming** ⇒ [Web Programming \(P.228\)](#)
▼
3. **Power Up UG50** ⇒ [Power Up the UG50 \(P.240\)](#)
▼
4. **System Data Programming on UG50** ⇒ [UG50 System Data Programming \(P.242\)](#)
▼
5. **Office Data Settings on Telephony Server** ⇒ [Office Data Settings on Telephony Server \(P.328\)](#)
▼
6. **Reset UG50** ⇒ [Reset the UG50 \(P.325\)](#)

End

4. How to Follow This Manual

This manual explains the functions and installation procedure of UG50. The following chapters sequentially outline the work to be performed:

- [CHAPTER 1 BEFORE INSTALLATION](#)
This chapter explains the specifications of UG50 system; introduction and conditions of UG50.
- [CHAPTER 2 INSTALLATION](#)
This chapter explains preparation of installing UG50 system.
- [CHAPTER 3 STARTUP](#)
This chapter explains the system startup procedures including necessary data setting on SV8500 and UG50.
- [CHAPTER 4 INSTALLATION TEST AND WORK AFTER INSTALLATION TEST](#)
This chapter explains some installation tests and required works after the installation tests.
- [APPENDIX](#)
This chapter explains the maintenance procedures on how to replace the cooling fan, clear alarms and solve troubles.

5. Essential / Critical Information

In order to prevent accidents or equipment damage when performing tasks, this manual provides **WARNING**, **CAUTION** and **Note** indicators to draw attention to specific matters.

(1) Meaning

WARNING: If warnings are not heeded, personal injury may result.

CAUTION: If cautions are not heeded, actions may result in damage to the equipment and/or the system.

Note: Indicates an item that requires special attention.

(2) Locations of Indicators

WARNING and **CAUTION** indicators are generally located at the page's top. **Notes** are included as parts of the task procedures on a page.

This manual provides Static Caution indicators for the sections which describe tasks that involve static-sensitive components.

Static Caution Indicator





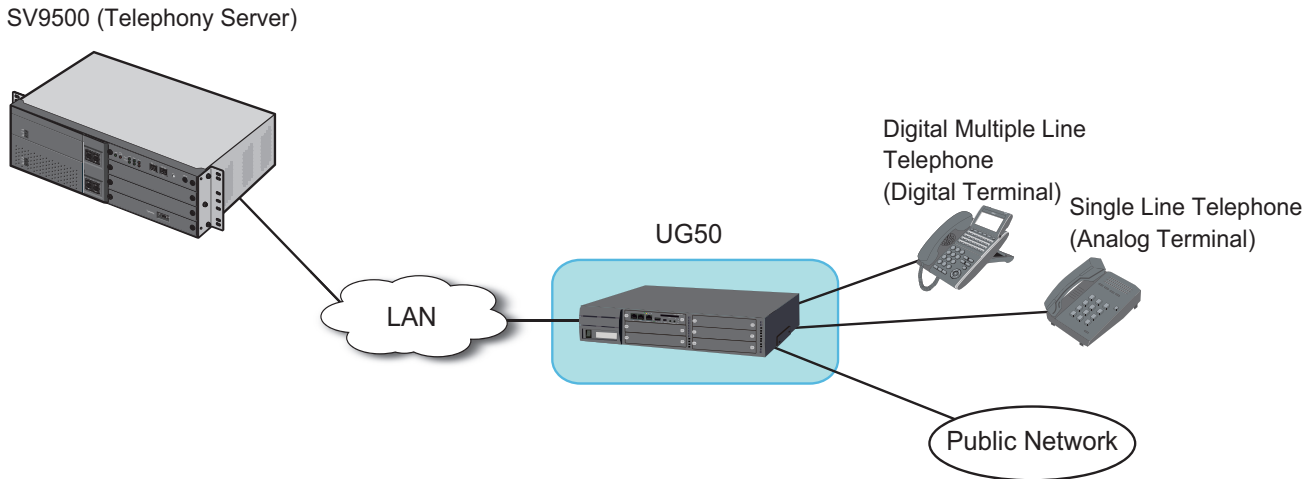
CHAPTER 1 BEFORE INSTALLATION



1. What is UG50?

The UG50 is a gateway device that performs media exchange between IP packets (LAN side) and Voice data (terminal or line side). It functions as a remote unit of the SV9500, enabling terminals or lines connected to the unit to be controlled by the SV9500. The UG50 allows Digital Multiple Line telephones (Digital terminals) or Single Line telephones to connect to the SV9500 via a Local Area Network (LAN).

What is UG50?



There are three operation modes as listed below.

Operation Mode	Description
Multi-slot mode	Various types of cards (terminals or lines) can be accommodated.
IPG mode Note 1, Note 2	Digital Multiple Line telephones (Digital terminals) or Single Line telephones (analog terminals) can be accommodated.
Retrofit mode	Functions as each MG (Media Gateway) or MC (Media Converter).

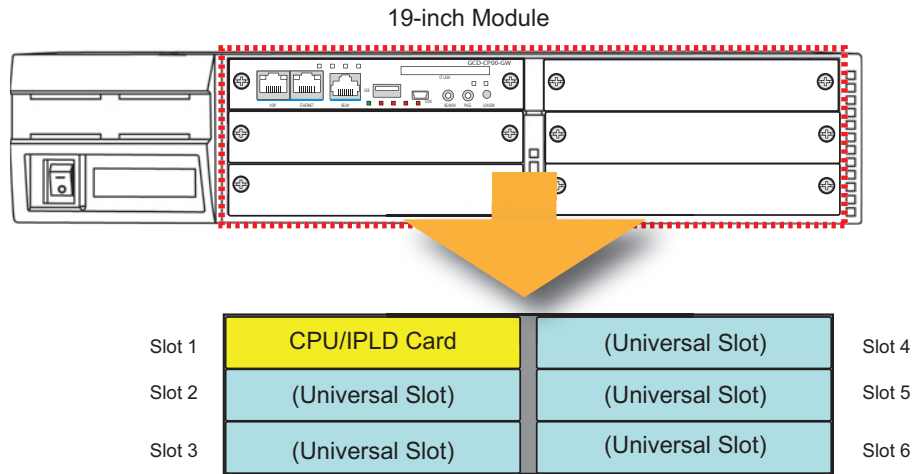
Note1: Available only for North America and Australia. However, in the case of Australia, LC cards are not available.

Note2: Not available for Asia, EMEA and CALA.

1.1 Multi-slot Mode

Various line cards can be accommodated in the unit, minimizing the number of Media Gateway units to one unit.

Various types of cards can be mounted in the Universal Slots (Slots 2 to 6).



Example: 19-inch Module

The cards listed below are compatible for Multi-slot mode.

Category	Card Name	Market Information			Abbreviations	Card Description
		North America	Australia	Others		
Control	GCD-CP00-GW	X	X	X	CPU card	Central Processing Card
	GPZ-ME50-UG50	X	X	X	Memory Expansion Daughter card	Memory Expansion Daughter Card
	GPZ-32/64/128 IPLD	X	X	X	IPLD card	Voice over IP Daughter Card
Analog Station Interface	GCD-8LCA	X	N	X	LC card	8-Port Analog Line Interface Card
	GPZ-8LCE	X	N	X	LC Daughter card	8-Port Analog Line Interface Daughter Card
Digital Station Interface	GCD-8DLCA/GCD-16DLCA	X	X	X	DLC card	8-Port/16-Port Digital Station Interface Card
	GPZ-8DLCB	X	X	X	DLC Daughter card	8-Port Digital Station Interface Daughter Card

Category	Card Name	Market Information			Abbreviations	Card Description
		North America	Australia	Others		
Central Office Trunk	GCD-4COTA	N	N	X	COT card	4-Line Central Office Trunk Card (Loop Start)
	GCD-4COTB	X	N	N	COT card	4-Line Central Office Trunk Card (Loop and Ground Start)
	GCD-4COTC	N	X	N	COT card	4-Line Central Office Trunk Card (Loop Start)
	GPZ-4COTE	N	N	X	COT Daughter card	4-Line Central Office Trunk Daughter Card (Loop Start)
	GPZ-4COTF	X	N	N	COT Daughter card	4-Line Central Office Trunk Daughter Card (Loop and Ground Start)
	GPZ-4COTG	N	X	N	COT Daughter card	4-Line Central Office Trunk Daughter Card (Loop Start)
Paging Interface	GCD-PGTA	X	X	X	PGT card	Paging Device Interface Card (one paging device per card)
ISDN Primary	GCD-PRTA	X	X	X	PRT card	ISDN Primary Rate Interface Card

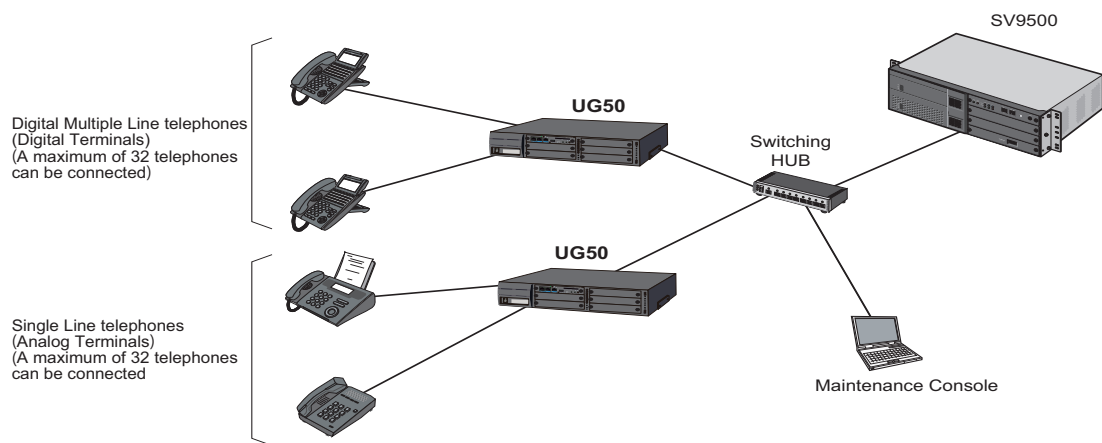
1.2 IPG Mode

IPG mode enables up to 32 Digital Multiple Line telephones (Digital terminals) or Single Line telephones (analog terminals) per the UG50 to connect to the SV9500 via a LAN.

Digital terminals and analog terminals cannot be connected to the same unit.

By setting up the unit in the remote office, you may utilize the existing telephone line to use the Digital terminals or analog terminals as a station for the SV9500 (Telephony Server).

UMGi system cannot accommodate the IP Gateway (IPG), but it can accommodate the UG50 (IPG mode).

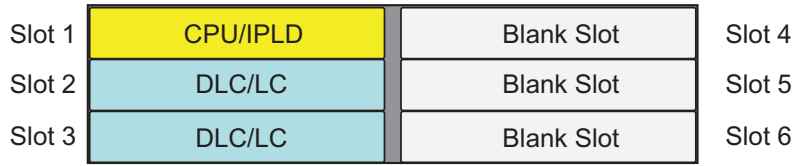


Note:

- Available only for North America and Australia. However, in the case of Australia, LC cards are not available.
- Not available for Asia, EMEA and CALA.
- When UG50 (IPG mode) is used, an IPG client license is required for the SV9500 side.
- IPG mode is not supported in SV9500 Prepackaged Server Model.

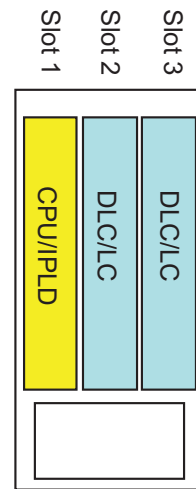
The following figure shows the slots used for IPG mode.

■ 19" Chassis



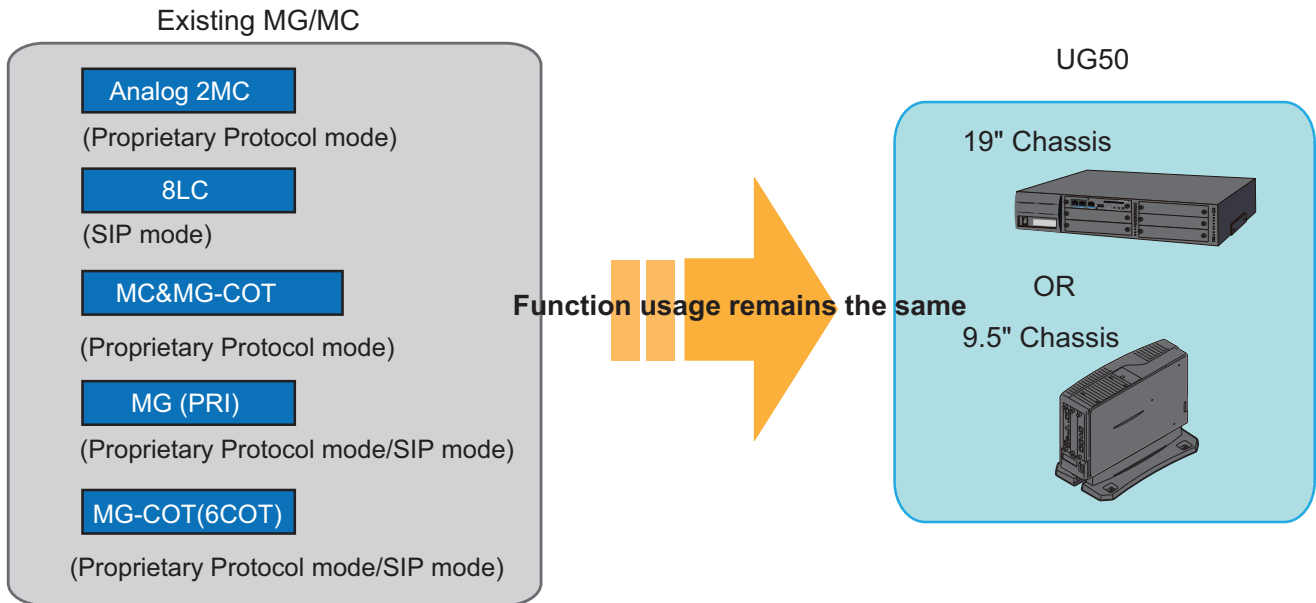
* Slots 4 to 6 are not in use.

■ 9.5" Chassis



1.3 Retrofit Mode

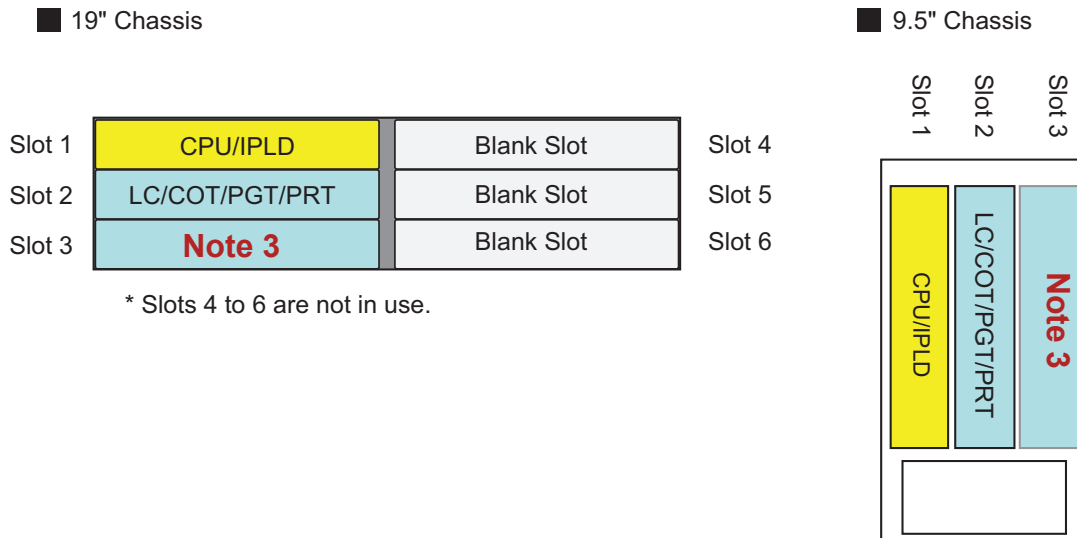
The UG50 works as a gateway unit without changing the software of the SV9500. The function usage of the existing MG (Media Gateway) or MC (Media Converter) remains the same for the UG50.



Note:

- MG/MC not listed above are not supported.
- In Retrofit mode, the UG50 operates just as MG or MC accommodated in IPX (Feature Package 8800 (R15) or later)/SV7000 (FP30-100 R16 or later)/SV8500, or SV9500 do.

The following figure shows the slots used for Retrofit mode.

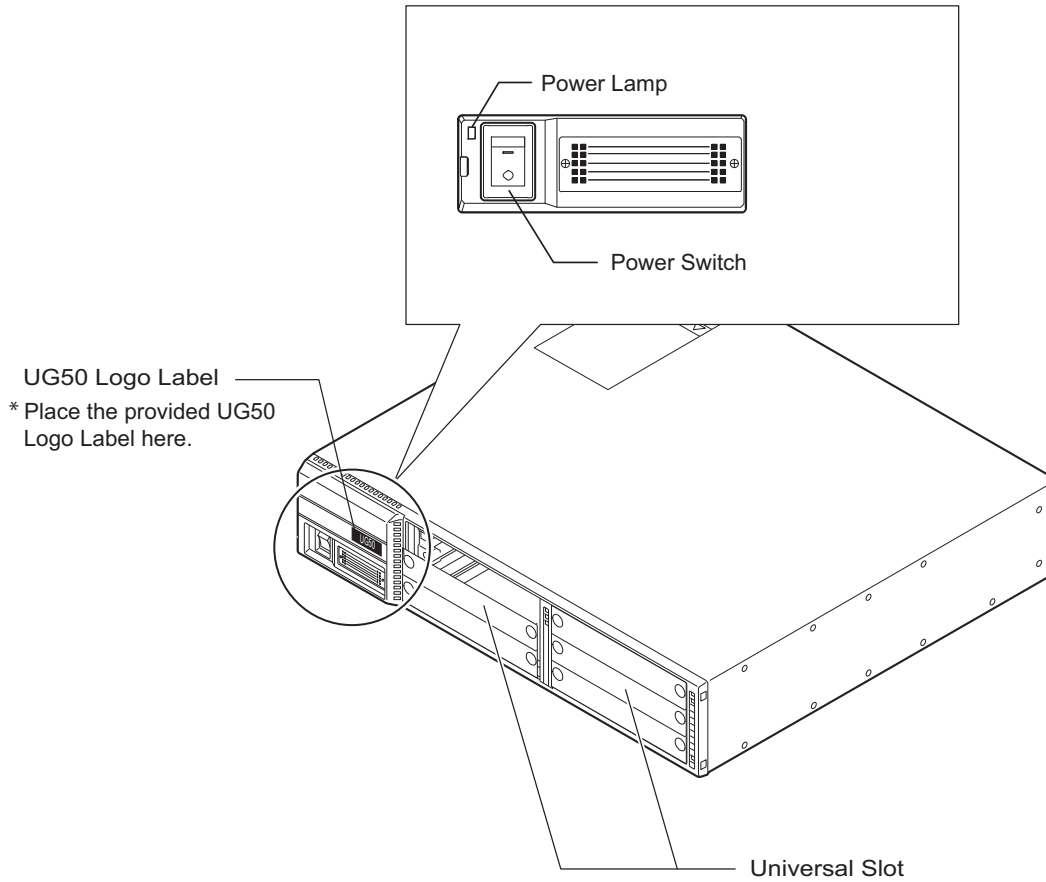


Note3: Slot 3 is not used on most UG50 devices in Retrofit mode (only Slot 2 is available for installation of cards). In the case of UG50-4LC2COTA (COT)/UG50-4LC2COTA (PGT), however, it is used to house an LC card.

2. Names and Functions of Components

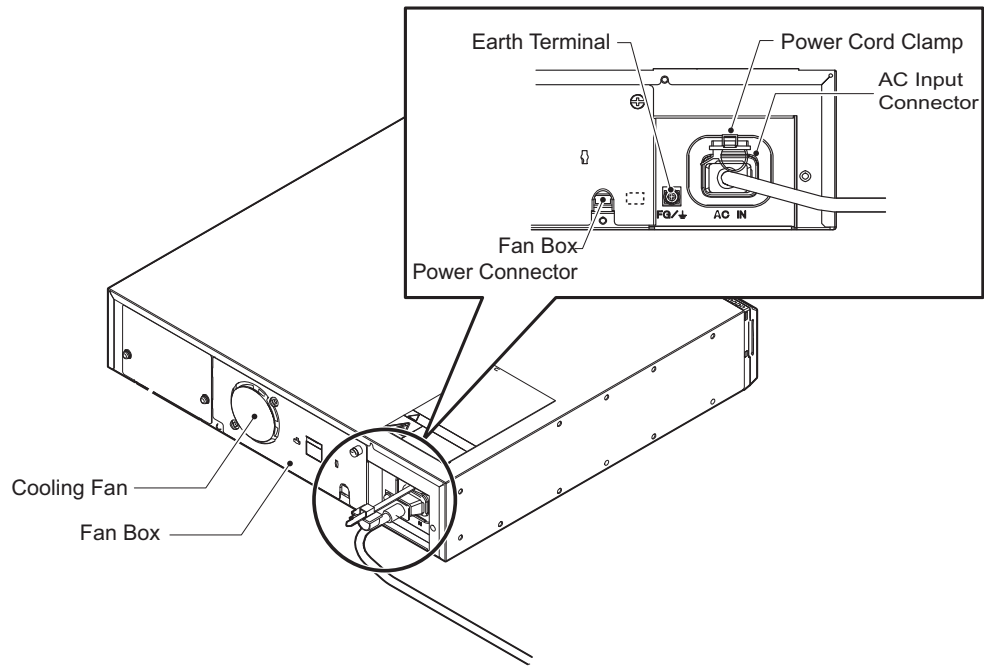
2.1 19" Chassis (CHS2UG)

- Front View



Name	Function	Remark
Power Lamp	Blue light turns on when power is ON	
Power Switch	Power ON(I) / Power OFF (O)	
Universal Slot	Accommodates various types of cards	Number of Slots: 6

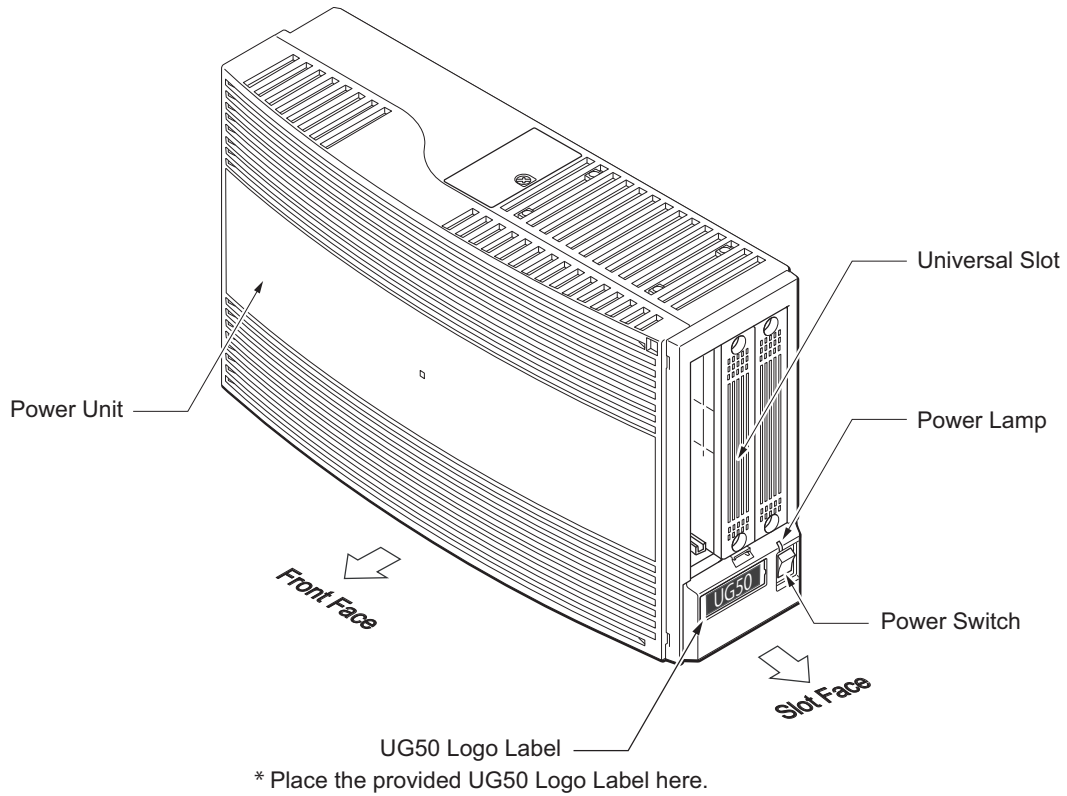
• Rear View



Name	Function	Remark
Fan Box	Cooling fan storage box	
Cooling Fan	Cools the internal unit	
Power Connector for Fan Box	Connects the cable from fan box	
Earth Terminal	Frame Ground Earth	
AC Input Connector	Connects the power cord	
Power Cord Clamp	Fixing band for the power cord	

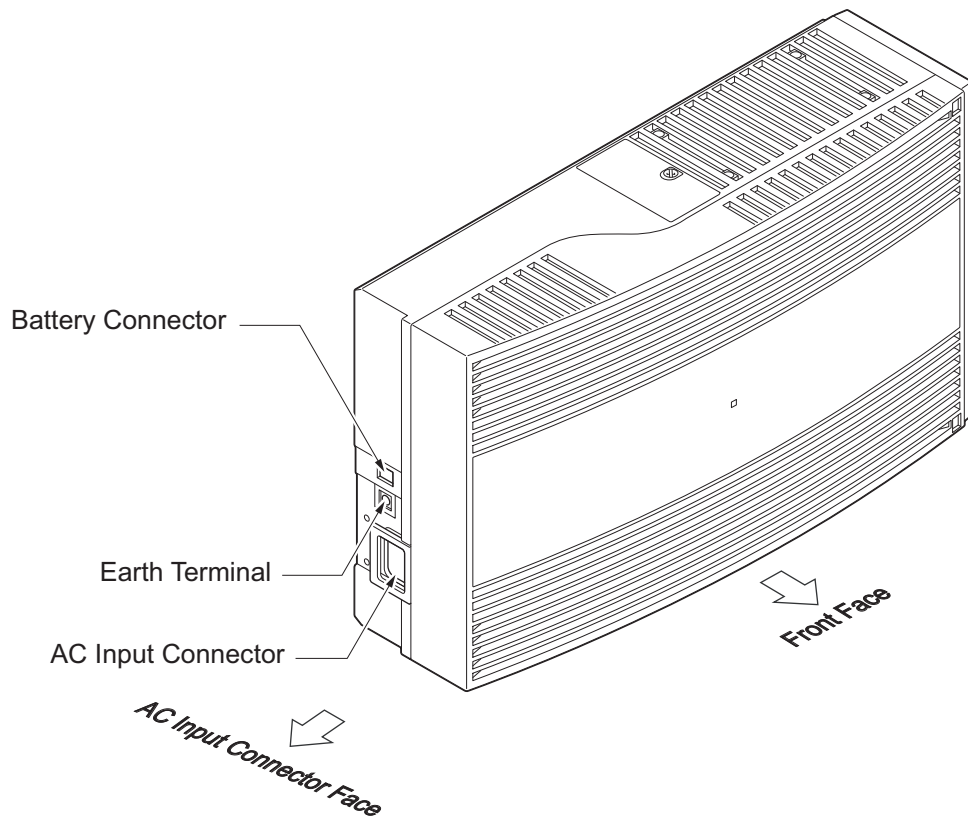
2.2 9.5" Chassis (CHS2UG B)

- Front View



Name	Function	Remark
Power Lamp	Blue light turns on when power is ON	
Power Switch	Power ON(I) / Power OFF (O)	
Universal Slot	Accommodates various types of cards	Number of Slots: 3
Power Unit	Built-in power supply unit in the main device	

- AC Input Connector Side



Name	Function	Remark
Battery Connector	Connects the cable from a short / long-hours battery	With caps
Earth Terminal	Frame Ground Earth	
AC Input Connector	Connects the power cord	

3. Components

Tables below show component accessories for the UG50.

Chassis Equipment List

Name	Description
CHS2UG	19" Chassis
CHS2UG B	9.5" Chassis

Chassis Installation Equipment List

Name	Description
CHS BASE UNIT	Floor Mount Set for all chassis (CHS2UG)
CHS2UG BLANK SLOT COVER KIT	Blank Slot Cover Set
CHS2U JOINT BRACKET KIT	Upper Joint Bracket for 6-slot Chassis
CHS2U RACK MOUNT KIT	Rack Mount for CHS2UG Chassis
CHS1U/2U WALL MOUNT KIT	Wall Mount Set for CHS2UG Chassis
CHS2U Stand Kit (K)	Stand Mount Kit for 2U Chassis
CHS2U STAND KIT (EXT)	Expansion Plate for Stand Mount Kit for 6-card Chassis, 2 sets

Battery Mount Equipment List

Name	Description
CHS2UG B SMALL BATT BOX	Short-Term Battery Box for 3-slot chassis Backup Time – 10 minutes
CHSG LARGE BATT BOX	Long-Term Battery Box for CHS2UG Chassis Cable between batteries – 9.06 in./230 mm Fuse Unit to Batteries – 18.11 in./460 mm Cable from chassis to battery box – 81.1 in./2060 mm
CHS2U BATT MTG KIT	Battery Mount for CHS2UG Chassis Backup time – 10 minutes
CHSGW SMALL BATT SET	Short-Term Battery Set for 3-slot chassis
CHS LARGE BATT SET	Long-Term Battery Set (3) 12 V 7 Ah SLA Batteries with Faston 187 terminals
CHS2U INT BATT SET	Internal battery set for CHS2UG chassis 12 V 2.3 Ah SLA Battery with Faston 187

Card Equipment List

Name	Abbreviations	Description
GCD-CP00-GW	CPU	Central Processing Card
GPZ-ME50-UG50	MEM	Memory Expansion Daughter Card
GPZ-32/64/128 IPLD	IPLD	32ch/64ch/128ch Voice over IP Daughter Card
GCD-8LCA	LC	8-Port Analog Line Interface Card
GPZ-8LCE	LC Daughter	8-Port Analog Line Interface Daughter Card
GCD-8DLCA/GCD-16DLCA	DLC	8-Port/16-Port Digital Station Interface Card
GPZ-8DLCB	DLC Daughter	8-Port Digital Station Interface Daughter Card
GCD-4COTA	COT	4-Line Central Office Trunk Card (Loop Start) for countries other than North America and Australia
GCD-4COTB		4-Line Central Office Trunk Card (Loop and Ground Start) for North America
GCD-4COTC		4-Line Central Office Trunk Card (Loop Start) for Australia
GPZ-4COTE	COT Daughter	4-Line Central Office Trunk Daughter Card (Loop Start) for countries other than North America and Australia
GPZ-4COTF		4-Line Central Office Trunk Daughter Card (Loop and Ground Start) for North America
GPZ-4COTG		4-Line Central Office Trunk Daughter Card (Loop Start) for Australia
GCD-PGTA	PGT	Paging Device Interface Card (one paging device per card)
GCD-PRTA	PRT	ISDN Primary Rate Interface Card

Cable Equipment List

Name	Description
BUS CABLE	Bus Cable
AC CORD	AC Power Cable
CHS2U BATT CABLE INT	CHS2U Battery Cable for Internal Battery Cable A – 18.9 in./480 mm Cable B – 3.15 in./80 mm
CHS2U BATT CABLE EXT-A	CHS2U Battery Cable for Internal Battery Cable A – 18.9 in./480 mm Cable B – 3.15 in./80 mm

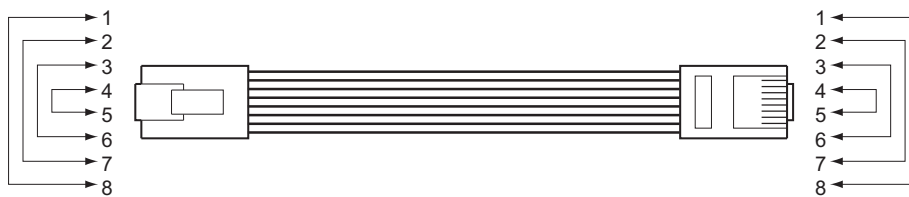
4. Communication Cable Specifications and Connecting Distances

4.1 Communication Cable Specifications

This section describes commonly-used cables to connect the UG50 and telephones.

4.1.1 RJ-61 Cable

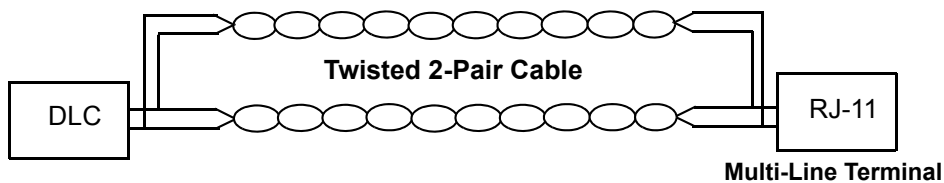
It is used to connect each unit and MDF. The cable shown below is called RJ-61 Cable. Twisted 2-Pair cable or CAT5 cable is used for the cable. RJ-45 is used for the connector. Note that it is a different wire connection to the LAN cable.



4.1.2 Twisted 2-Pair Cable

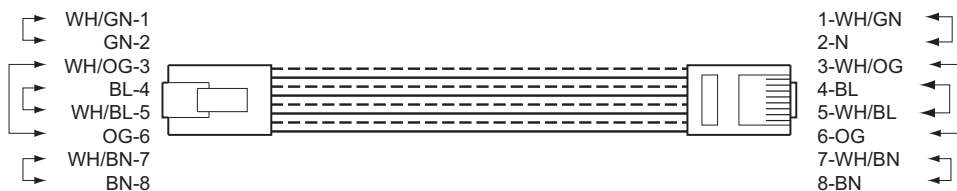
The figure below is a diagram of the chassis connected with each of Multiple Line telephones and Single Line telephones by a separate twisted 1-Pair cable or 2-Pair cable (Only for Multiple Line telephones).

Connecting the DLC (GCD-8DLCA) Using Twisted 2-Pair Cable



4.1.3 LAN Cable

Below is the cable that connects UG50 and LAN devices (e.g. HUB). UTP straight cables are generally used. Wire connection for the LAN cable (UTP straight) is as shown below.

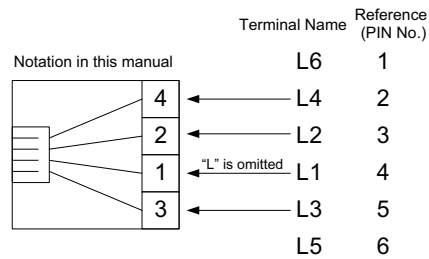


4.1.4 Rosette

Description in this guide is shown based on a 6-position rosette, using a 6-position 4-contact rosette as an example. An 8-position 8-contact rosette is used for the LAN cable; however it is referred to as an 8-position rosette in this manual.

Select between a 6-position 2-contact rosette and a 6-position 4-contact rosette according to the desired connecting device.

As the figure below shows, “L” used for the terminal name is omitted in the pin layout of a 6-position rosette.



4.2 Connection Distance between UG50 and Telephone

The table below shows the type of cables used between the UG50 chassis and a telephone, also the connection distance for each cable.

Telephone	Cable		Connection Distance	Remarks
	Type	The number of Cable Cores		
Digital Multiple Line telephone (Digital terminal)	Communication cable or Category 5 cable	Double Core (1 Pair)	0.4 mm in wire diameter: 400 m 0.5 mm in wire diameter: 600 m 0.65 mm in wire diameter: 800 m	-
Single Line telephone (Analog terminal, G3 Fax, etc.)	Communication cable or Category 5 cable	Double Core (1 Pair)	0.4 mm in wire diameter: 1000 m 0.5 mm in wire diameter: 1500 m 0.65 mm in wire diameter: 2500 m	<ul style="list-style-type: none"> Constant current: 20 mA Loop resistance: 600 Ω or less (including internal resistance of telephone)

Note: Caution for wiring

- Do not share one line with multiple telephones
- Do not connect a branching line.
- Do not connect a line to the outside.
- Replace a distributing line approximately every 6 years. Investigate thoroughly for deterioration before using an existing line.

Note: Caution for wiring of Digital terminals

- Use Twisted 2-Pair Cable.
- Separate from a Single Line telephone (Analog terminal) when installing.
- Do not perform 1+1 multiple wiring.

Note: Caution for wiring of Single Line telephones

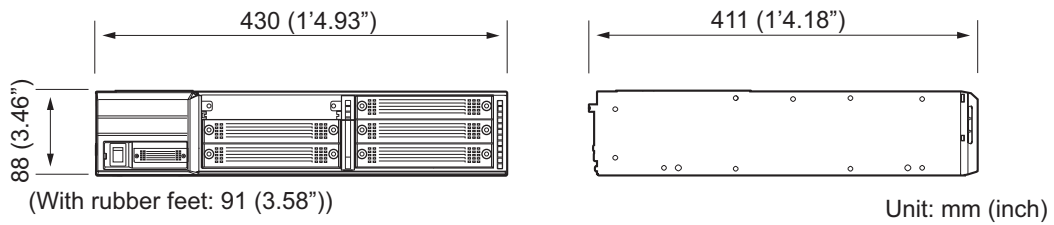
- Adjust the polarity when connecting Single Line telephones that detect polarity reversal.
- Separate from Digital terminals when installing.

5. UG50 Specifications

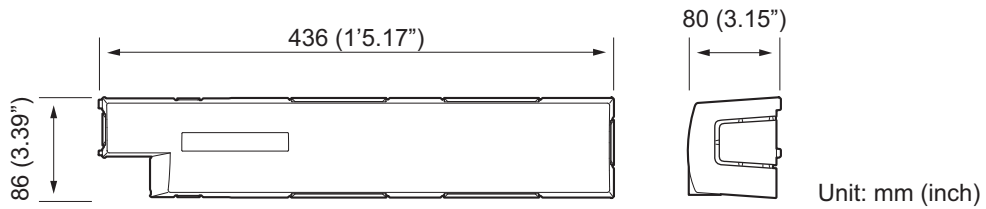
This section describes the external view, specifications, conditions and limitations of the UG50. Check each item before the installation.

5.1 External View

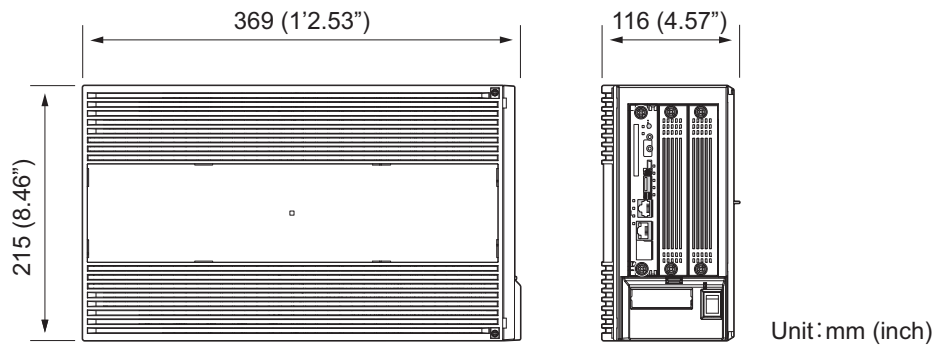
- 19" Chassis



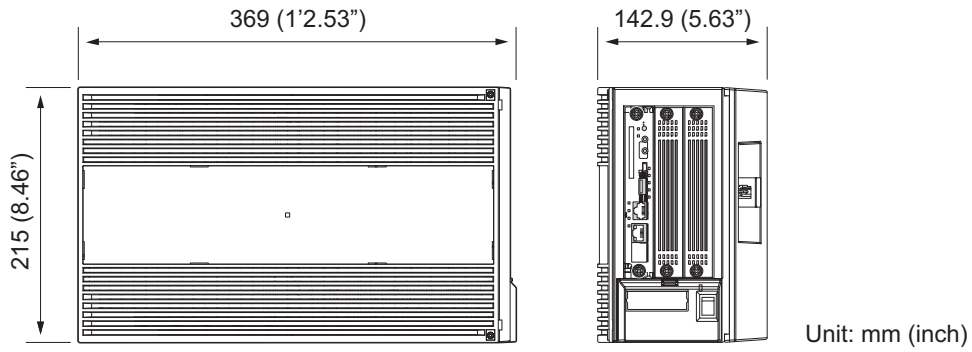
- 19" Chassis Front Cover



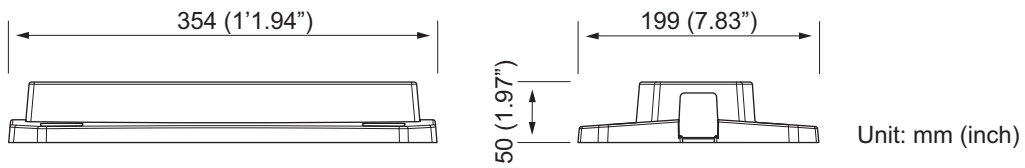
- 9.5" Chassis



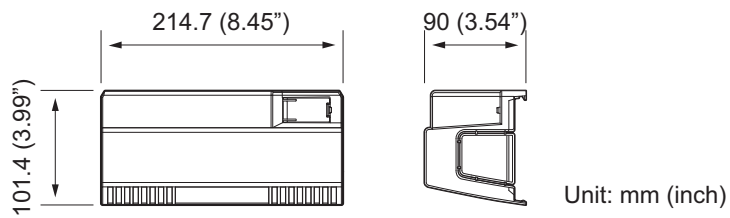
- 9.5" Chassis + Short-Term Battery Box



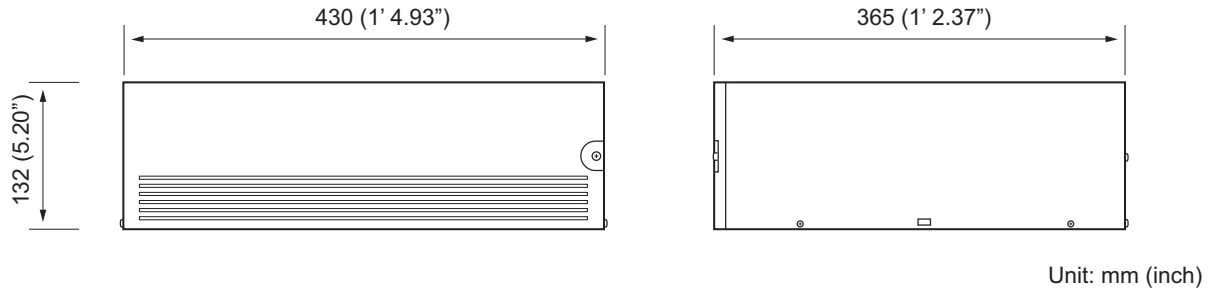
- Stand Mount



- 9.5" Chassis Front Cover



- Long-Term Battery Box



Note: For detailed information on the shipping weight, height, width and depth of each chassis, assorted cards and adapters, see [1.1.2 Weights and Dimensions](#) in Chapter 2 INSTALLATION.

5.2 Specifications

The UG50 Specification is listed below.

Item		19" Chassis	9.5" Chassis
For the Voice Network (VoIP)	Interface	RJ-45 Connector × 1	
	Communication mode	SPEED [AUTO (Default)/100 Mbps/10 Mbps] DUPLEX [AUTO (Default)/FULL/HALF]	
	Cable	10BASE-T, 100BASE-TX (Category 5 or higher)	
For Maintenance (ETHERNET)	Interface	RJ-45 Connector × 1	
	Communication mode	SPEED [AUTO (Default)/100 Mbps/10 Mbps] DUPLEX [AUTO (Default)/FULL/HALF]	
	Cable	10BASE-T, 100BASE-TX (Category 5 or higher)	
Proprietary Protocol between servers		Proprietary Protocol/SIP	
Audio Code	G.711	Payload Cycle: 20 ms - 40 ms (10 msec/unit)	
	G.729a	Payload Cycle: 20 ms - 40 ms (10 msec/unit)	
	G.723.1	Payload Cycle: 30 ms, 60 ms	
FAX Communication Method	Data transmission as voice data	G.711, G.726 (ADPCM)	
	Fax Relay	T.38	
Modem Communication		N/A	
DTMF		Proprietary Protocol, Data transmission as voice data, RFC2833	
Echo Cancellation		G.168 Compliant, Maximum: 128 ms	
PAD Control Note 4	Communication between IP Devices over IP or FCCS Network	Depends on signal control capability of line card used in the communication.	
	Communication between Channels within UG50 Unit	From -12 dB to +15.5 dB	
Dynamic Jitter Buffer		Maximum: 300 ms	
QoS		IP Precedence/ToS, Diffserv	
VLAN		VLAN IEEE802.1Q (TagVLAN) supported.	
DHCP Client		Not supported.	
Program Download		Supported.	

Item		19" Chassis	9.5" Chassis
Music On Hold Output		1. La Chanson de L'Adieu (Frederic Francois Chopin) 2. Trout Quintet (Franz Peter Schubert) 3. Plaisir d'Amour (Jean Paul Egide Martini) 4. Menuet (Johann Sebastian Bach) (default) External Music On Hold: (Jack Input/System Selection) Note 3 Note: External Music On Hold is available when directly connected to the UG50 CPU input jack or through the SV9500 system programming or VS32. Refer to the SV9500 programming manual when choosing to utilize the SV9500/VS32 External Music On Hold.	
Dimension		See 1.1.2 Weights and Dimensions .	
Weight		See 1.1.2 Weights and Dimensions .	
Power Switch		ON-OFF Selector Switch	
AC Plug Socket		Three-conductor power cables complying with the specifications of each country	
Ambient Conditions	Operational Temperature Range	See 1.1.4 Environmental Conditions .	
	Operational Humidity Range		
Cooling Method		Internal Cooling Fan	Natural Cooling (No Fan)
Power		100 VAC / 120 VAC / 230 VAC / 240 VAC (50/60 Hz) ±10%	
Power Consumption	Standby	96 watts	
	Maximum	130 watts	
Resistance of DC (direct-current) Circuit		Power On (normal): 50 to 300 Ω, Power Failure: 400 Ω Note 1 (the circuit is closed)	
Slot Capacity		6 Slots Note 2	3 Slots Note 2
Setup Method		Wall mount/Floor Mount/Stand Mount/19-inch rack mount	Wall mount/Stand Mount

Note1: DC resistance is 400Ω when accommodating Analog terminals with the PFT adapter. The UG50 cannot be used if the total DC resistance including telephones is over 1700Ω.

Note2: CPU Card is mounted on Slot 1.

Note3:

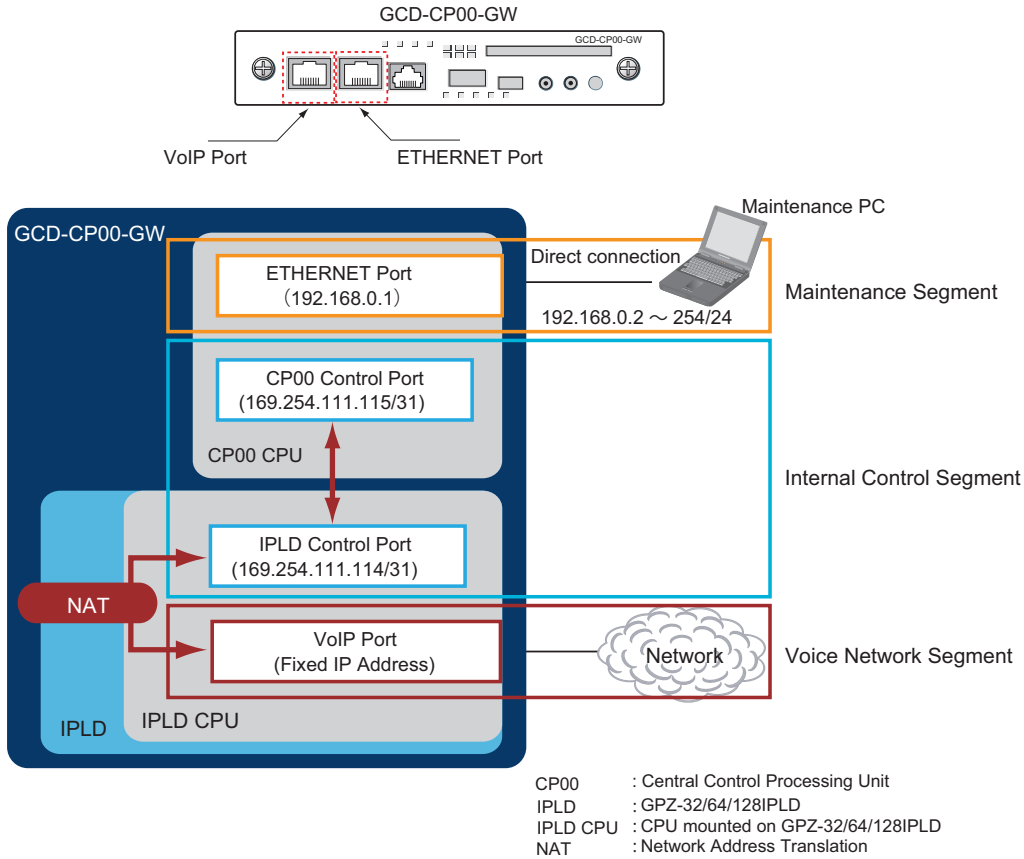
- SV9500 MOH - PIR external MOH will play to UG50 when ASYDL, SYS1, Index 810 = 04.
- VS32 MOH is the connected audio source - UG50 is set to internal MOH and ASYDL, SYS1, Index 810 = 04, ASYDL, SYS1, Index 818 = 04, the UG50 will play the VS32 MOH. If the VS32 MOH source is not plugged in and AAEDL is still assigned no MOH is heard. (AAEDL is assigned).
- VS32 MOH is the connected audio source - UG50 is set to internal MOH and ASYDL, SYS1, Index 810 = 04, ASYDL, SYS1, Index 818 = 04, the UG50 will play the VS32 MOH. If the VS32 MOH source is not plugged in and AAEDL is NOT assigned, the UG50 internal MOH is heard. (AAEDL is NOT assigned).

- UG50 MOH is the connected audio source - UG50 is set to external MOH and ASYDL, SYS1, Index 810 = 04, ASYDL, SYS1, Index 818 = 04, the UG50 will play the UG50 external MOH. If the VS32 MOH source is not plugged in and AAEDL is NOT assigned, external UG50 MOH is heard. (AAEDL is NOT assigned).

Note4: For details, see [6. PAD Control IP Support - UG50](#) in Appendix.

6. IP Address

The UG50 requires four IP addresses. However, only one IP address is shown on the Voice Network. (The consumption quantity for the Voice Network)



Below is the breakdown for the IP Addresses used for the UG50.

No.	Usage	Port	Condition	Default IP Address
1	For the Voice Network (Telephony Server/IP Devices)	VoIP	<ul style="list-style-type: none"> Segment for the Voice Network Operation/maintenance using a remote connection is available. 	0.0.0.0
2	For Internal Controls (Calls between CP00 and IPLD)	IPLD Control	<ul style="list-style-type: none"> Segment not used for the Voice Network 	169.254.111.114/31
3		CP00 Control	<ul style="list-style-type: none"> Not recognized by external devices such as the Telephony Server 	169.254.111.115/31

No.	Usage	Port	Condition	Default IP Address
4	For Maintenance (Connecting Maintenance PC)	ETHERNET	<ul style="list-style-type: none">• Directly connects to a PC instead of the network.• Segment not used for the Voice Network	192.168.0.1/24

6.1 Precautions

ETHERNET Port (For maintenance)

- (1) Default IP address for the ETHERNET port is 192.168.0.1/24.
- (2) The IP address for the ETHERNET port can be changed by Web Programming. Be sure to record the IP address when changing.

IP Address

- (1) Different segments are assigned to each IP Address for the Voice Network (VoIP port), Internal Control Port (x 2), and the ETHERNET port.
- (2) Assign segments not used for the Voice Network to the Internal Control port (x 2) and the ETHERNET port (including the segments beyond the router).
- (3) The settings need to be changed when the default IP addresses for the Internal Control port (x 2) and the ETHERNET port are already used for the Voice Network.
- (4) IP addresses for the Internal Control port and the ETHERNET port can be duplicated on multiple UG50s.

7. Conditions and Limitations

Confirm the following conditions and limitations before installation.

7.1 Configuration and Specifications for the UG50

<Common>

- (1) Only one IP address from the Telephony Server is recognized. An IP address is not given for each Line card mounted on the UG50.
- (2) Set the port number for the UG50 DRS/Signaling/ RTP by Web Programming on the UG50 side.
- (3) In the Multi-slot mode, Line (LC/PRT/COT) and PGT cards within the same UG50 cannot be used in the following combination of protocol modes (Proprietary Protocol and SIP).
 - LC card
UG50 (LC) [Proprietary Protocol] and UG50 (LC) [SIP]
 - PRT card
UG50 (PRT 1.5M) [Proprietary Protocol] and UG50 (PRT 1.5M) [SIP]
UG50 (PRT 2M) [Proprietary Protocol] and UG50 (PRT 2M) [SIP]
 - COT card **Note 5**
UG50 (COT-TYPE2) [Proprietary Protocol] and UG50 (COT-TYPE2) [SIP]
 - PGT card **Note 5**
UG50 (PGT-TYPE2) [Proprietary Protocol] and UG50 (PGT-TYPE2) [SIP]

Note5: COT cards and PGT cards mounted in the same UG50 must use the same protocol mode.

- (4) In the Multi-slot mode, COT cards and PGT cards within the same UG50 cannot be used in the following combination of TYPE1 and TYPE2. **Note 6, Note 7**
 - COT card and PGT card
UG50 (COT-TYPE1) and UG50 (COT-TYPE2)
UG50 (COT-TYPE1) and UG50 (PGT-TYPE2)
UG50 (PGT-TYPE1) and UG50 (COT-TYPE2)
UG50 (PGT-TYPE1) and UG50 (PGT-TYPE2)

Note6: TYPE1 and TYPE 2 combinations are independent from the protocol modes.

Note7: Regarding the installation of PGT cards and COT cards, perform such installation in combination of this condition and the condition [\(3\)](#) related to the protocol modes.

- (5) In the Retrofit mode, UG50 cannot start up without a combination of proper line cards. For example, UG50-6COT [Proprietary Protocol/SIP] will not start up when GPZ-4COTE/F/G card is not mounted.
- (6) Since the first version of the software for Telephony Server (FP95-111 V1), the Silent Monitor (Multi-path monitor) feature is available on the following UG50 devices:
 - UG50 (PRT 1.5M) [Proprietary Protocol]
 - UG50-24PRIA [Proprietary Protocol]

Note: This feature is supported for the above devices since the first version of UG50 software.

Note: Only one PRT or PRIA is supported per chassis when assigning the UG50 as a Multi-mode gateway in Proprietary mode.

Since V2 software for Telephony Server (FP95-112 V2), this feature is also available on the following UG50 devices:

- UG50 (PRT 2M) [Proprietary Protocol]
- UG50-30PRIA [Proprietary Protocol]

For service conditions of the Silent Monitor (Multi-path monitor) feature, see table “Availability of Telephony Devices for ACD/OAI System” in Section “Equipment/Terminals Accommodating in ACD/OAI System” of Data Programming Manual - ACD.

- (7) When using “Silent Monitor (Multi-path monitor) connection”, the number of ports on the UG50 needs to be no more than half the number of IPLD channels.

(e.g.) When the IPLD card with 96 channels is accommodated, the number of ports for Line cards accommodated on the UG50 cannot be more than 48.

Allowable Number of Channels appropriate for each IPLD card

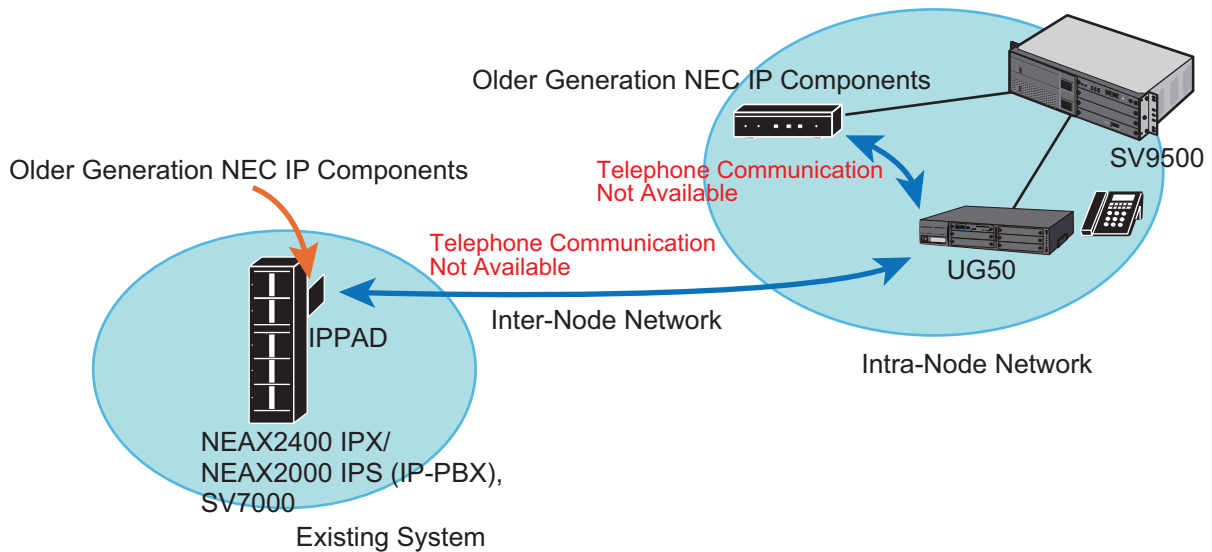
IPLD card	Allowable Number of Channels	
	Multi-path monitor connection is Not used	Multi-path monitor connection is Used
GPZ-32IPLD	32	16
GPZ-64IPLD	64	32
GPZ-128IPLD	96 (Maximum)	48

Number of Consumption Channels for each Line Card

Line Card	Number of Consumption Channels
GCD-8LCA	8
GPZ-8LCE	8
GCD-8DLCA	8
GPZ-8DLCB	8
GCD-16DLCA	16

Line Card	Number of Consumption Channels
GCD-4COTA/B/C	4
GPZ-4COTE/F/G	4
GCD-PGTA	4
GCD-PRTA	23/30

- (8) UG50 may not be able to communicate with NEC IP components (IP equipment and IP terminals) running firmware versions older than those listed in the table below. If you install UG50 in your existing IP-PBX network that is constructed as shown in the following figure, you need to check the hardware model and firmware version of the device. If necessary, replace the hardware with the latest model or upgrade the firmware.



Category	Description	Firmware Description	Firmware Version
Dterm Series E/Dterm 75 with IP adapter	IPW-2UA-P UNIT	-	Ver. 2.00 or later
Dterm Series i with IP adapter	IP-R UNIT/IP-RA UNIT	-	Ver. 2.00 or later
Dterm series i	ITR-4D-3(BK)	-	Any version
Dterm series i	ITR-16D-3(WH/BK)	-	Any version
DtermIP INASET	ITR-240G-1(BK) TEL	-	Any version
DtermIP INASET	ITR-320G-1(BK) TEL	-	Any version
DtermIP INASET	ITR-320C-1M	-	Any version
DtermSP30	DtermSP30 Softphone	DtermSP30-FE	Version 7 or later
DtermSP20	DtermSP20 Softphone	SC-3053	Not available

Category	Description	Firmware Description	Firmware Version
Analog MC	SN8029 MC2A-A	SP-3629	Not available (Replace it with the latest model)
Analog MC	SN8029 MC2A-B	SP-3753	Ver. 10A or later
Analog MC	SN8029 MC2A-C	SP-3753	Ver. 25A or later
MC-MG(COT)	MC4AMG2A PFT-UA/ MC4AMG2A PFT-AA	SP-3778	Ver. 6A or later
MC-MG(COT)	MG-4LC2COTA	SP-3927	Any version
MG(BRI)	MG-2BRI-AA	SP-3709	Any version
MG(BRI)	MG-2BRIA	SP-3826	Any version
MG(PRI)	SN8023 MG2M-XX	SW-437	Not available
MG(PRI)	SN8032 MG15M-XX	SW-423	Ver.7A or later (SP-3667 6A or later)
MG(PRI)	MG-24PRIA/30PRIA	SP-3884	Any version
VS-32	Software-based VS32	S-4094	Any version
VS-32	VS-32/VS-32(V)	SP-3834	Any version
VS-32	MG-VS32VA	SP-3891	Any version
MG(SCA card type)	SCA-24PRIA/30PRIA	SP-3884	Any version
MG(SCA card type)	SCA-8LCA	SP-3893	Any version
MG(SCA card type)	SCA-8LCC	SP-3983	Any version
MG(SCA card type)	SCA-6COTA	SP-3875	Any version
MG(SCA card type)	SCA-6COTB/C	SP-3948	Any version
MG(SCA card type)	SCA-2BRIA	SP-3826	Any version
MG(SCA card type)	SCA-24DTIA	SP-3926	Any version
MG(SCA card type)	SCA-16SIPMG(US)	SP-3988	Any version
MG(SCA card type)	SCA-16SIPMGA	SP-3905	Any version
MG(SCA card type)	SCA-VS32VA	SP-3891	Any version
IP-BS	BS301-ID/ND	SP-3695	Ver.9.0 or later
IP-BS	BS301A-ID/ND	SP-3775	Ver.9.0 or later
IP-BS	BS401-ID/ND		Any version
NEAX2400 IPX/SV7000 IP-PAD	SPA-32IPPAD-A	SW-425	Not available (Replace it with the latest model)
NEAX2400 IPX/SV7000 IP-PAD	SPA-32IPPAD-B	SW-428	
NEAX2400 IPX/SV7000 IP-PAD	SPA-32IPPAD-C	SW-435	
NEAX2400 IPX/SV7000 IP-PAD	SPA-32IPPAD-D	SW-439	
NEAX2400 IPX/SV7000 IP-PAD	SPA-32IPPAD-E	SW-450	Any version
NEAX2400 IPX/SV7000 IP-PAD	SPA-32IPPADA	SP-3885	Any version

Category	Description	Firmware Description	Firmware Version
NEAX2400 IPX/SV7000 IP-PAD	SPA-32IPPADB	SP-3835	Any version
NEAX2000 IPS IP-PAD	SPN-16IPLA IP PAD	SC-3013	Not available (Replace it with the latest model)
NEAX2000 IPS IP-PAD	SPN-32IPLA IP PAD-B	SC-3090	
NEAX2000 IPS IP-PAD	SPN-32IPLA IP PAD-A	SC-3150	
NEAX2000 IPS IP-PAD	SPN-32IPLAA IP PAD-C	SC-3386	
NEAX2000 IPS IP-PAD	SPN-32IPLAA IP PAD-D	SC-3297	
NEAX2000 IPS IP-PAD	SPN-32IPLAA IP PAD-E	SC-3353	
NEAX2000 IPS IP-PAD	SPN-32IPLA IP PAD-B	SC-3297	
NEAX2000 IPS IP-PAD	SPN-8IPLA IP PAD-A	SC-3213	Any version
NEAX2000 IPS IP-PAD	SPN-8IPLA IP PAD-JA	SC-3330	Any version
NEAX2000 IPS IP-PAD	SPN-8IPLA IP PAD-C	SC-3386	Any version

Note: For NEAX2000 IPS, the generic software of IPS 3300 Series R8 or later is required.

<LC Functions>

- (1) Ground detection is not available.
- (2) Line Fault detection is not available.
- (3) Loop resistance value cannot be changed.

<PRT Functions>

- (1) The maximum allowable number of PRT cards in UG50 depends on the configuration of Web Programming.
 - 1-1-01-02: Migration Mode
 - 5-2-02-01: SIP_MODE

Web Programming Settings		The number of PRT cards which can be accommodated
1-1-01-02 (Migration Mode)	5-2-02-01 (SIP_Mode)	
0: Disable (Multi-slot mode)	Disable: Proprietary Protocol mode	1
	Enable: SIP mode	2
1: Retro mode (Retrofit mode)	Disable: Proprietary Protocol mode	1
	Enable: SIP mode	1

Note: You can specify the type of line “T1” or “E1” by setting the value of “ISDN_TYPE.” However, UG50 (PRT 1.5M) [Proprietary Protocol/SIP] and UG50 (PRT 2M) [Proprietary Protocol/SIP] cannot coexist on the same UG50.

7.2 Conditions on Hardware

<Common>

- (1) The UG50 cannot be migrated from IPG.
- (2) When installing 9.5" chassis, be sure to orient it so that its Slot Face side is facing right and its Front Face side is facing you.

<DLC Functions>

- (1) For information on the length of the cable between the UG50 and Digital terminals, refer to [Connection Distance between UG50 and Telephone](#).

<LC Functions>

- (1) For information on the length of the cable between the UG50 and each analog terminal, refer to [Connection Distance between UG50 and Telephone](#).
- (2) A modem cannot be used for connecting the UG50 and the Telephony Server (SV9500).

<COT Functions>

- (1) A Single Line telephone connected to PFT of MC&MG-COT and MG-COT (6COT) [Proprietary Protocol/SIP] cannot be used as a system station during normal operation. Ensure that a terminal that can be used as a telephone is connected to PFT port (FAX terminals cannot be connected).
- (2) A COT card installed in UG50 cannot be used as an interface to the Paging Trunk.
- (3) The PFT function is available only in the event of a power failure, not when a network failure occurs.
- (4) An external device (e.g. Proctor 911 ANI-LINK System II) is required separately when using AUTOMATIC NUMBER IDENTIFICATION (ANI) [A-78] (North America only) through MG-COT (6COT) [Proprietary Protocol/SIP].

7.3 Telephones Related Conditions

<DLC Functions>

(1) Digital terminals that can be used with the UG50 are listed below.

Series	Terminal/Option	Supplementary Note	
DT400 Series Note 1, Note 2, Note 3	Terminals	DTZ-24D	24 buttons
		DTZ-12D	12 buttons
		DTZ-6DE Note 5	6 buttons
		DTZ-2E Note 5	2 buttons, No LCD
	Options	8LK-Z	-
		ADA-L UNIT	-
DT300 Series Note 1, Note 2, Note 4	Terminals	DTL-32D	32 buttons, Wide-type
		DTL-24D	24 buttons
		DTL-12D	12 buttons
		DTL-6DE	6 buttons
		DTL-2E	2 buttons, No LCD
	Options	8LK-L	-
ADA-L UNIT		-	
Dterm Series i	Terminals	DTR-8	8-Line keys, No LCD, No Soft keys
		DTR-8D	8-Line keys, 24 digits x3 rows LCD
		DTR-16D	16-Line keys, 24 digits x 3 rows LCD
		DTR-32D	16-Line keys, 16 DSS keys, 24 digits x 3 rows LCD
	Options	AD(A)-R UNIT	Adapter for a call recorder
		WM-RD UNIT	Wall mounting unit

Note1: DESI-Less terminal cannot be used in conjunction with UG50.

Note2: Plantronics Headset with Electronics Headset Switch (EHS) cable is not supported for the terminal connected to UG50.

Note3: Bluetooth adapter (BCA-Z UNIT) is not supported for the terminal connected to UG50.

Note4: DT300 (12BT) cannot be used in conjunction with UG50.

Note5: UG50 (DLC) firmware version 2.00 or later is required.

- (2) The available key operations the Feature key + digit keys for Digital terminals accommodated in the UG50 are as listed below.

X: Available. N: Not Available

Operation	Action	Availability
Feature + 1	Turns microphone on or off.	X
Feature + 2	Adjusts handset receiver volume.	X
Feature + 3	Selects ringer tone.	X
Feature + 4	Adjusts transmission/receiving volume.	X
Feature + 5	Activates hands-free operation.	X
Feature + 6	Deactivates hands-free operation.	X
Feature + 7	Turns call indicator lamp on or off for incoming call notification. (If turned off, this lamp will still light to indicate message waiting.)	X
Feature + 8	Turns Dynamic Dial Pad on or off.	X
Feature + 9	-	-
Feature + 0	Turns Side Tone on or off.	X
Feature + *	-	-

Note: From FP95-114 V4 Issue 2.0, these functions can be set with the ATIFD command instead of using the Feature key and the digit keys. For details, see PREFERENCE SETTING - MULTI-LINE TELEPHONE WITH PCPRO [P-90] of Data Programming Manual -Business.

- (3) The following table shows the availability of directory/call history features for Multiple Line telephones connected to the UG50 (such as PHONEBOOK [P-83], CALL HISTORY [C-195], and LAST NUMBER CALLED -D [L-6D]).

X: Available. N: Not Available

Feature		DT430/DT300 Series	Dterm Series i
Directory features			
Phonebook [P-83] Note 6	Local Phonebook	X	N
	System Phonebook	X	N
	Terminal Phonebook	N	-
Call history features			
Call History [C-195] Note 6	Call History (system controlled Call History)	X	N
	Terminal Call History (terminal controlled Call History)	N	N
Last Number Called -D [L-6D]		X	X

Note6: This feature is not available for DT300 Series 2-button type without LCD.

- Refer to CALL HISTORY [C-195] and PHONEBOOK [P-83] in Data Programming Manual - Business for detailed conditions.
 - When using the CALL HISTORY [C-195] function on a DT430/DT300 Series telephone, be sure to set SFI238=1 (Call History ON) and SFI248=0 (Terminal Call History OFF). CALL HISTORY [C-195] does not function if SFI238 (Call History) and SFI248 (Terminal Call History) are both enabled.
 - CALL HISTORY [C-195] can be used in combination with PHONEBOOK [P-83] for the DT430/DT300 Series telephones only. The Pbook soft key on Call History screen is available for DT430/DT300 Series telephones. (Not displayed on Dterm Series i)
- (4) Direct Station Selection (DSS) Console cannot be used in conjunction with a Digital terminal connected to UG50.
- (5) For UG50 (DLC) firmware version 2.00 or later, accommodation status of terminals without LCD (DT410/DT310) can be checked with the color and flashing pattern of incoming call lamp. The table below shows the indication pattern for each terminal.

Terminal Status		DTZ-2E		Messages Displayed on the Terminal with LCD
Connecting Status for UG50	Connecting Status for Telephony Server	Color	Flashing Period	
Connecting	-	Green	500ms ON/OFF	Initializing
Connection Failure	-	Yellow	500ms ON/OFF	Sys Inf Error
Connection Complete	In the Registration Process/ In the Monitoring Process of Communication Disconnection Note 7	Green	250ms ON/OFF	DRS (xxx) Connecting... Network Busy NW BUSY RESTART SOON
	Registration Error	Yellow	500ms ON/OFF	Unauthorized Double Assignment
	Registration Complete/Monitoring the Communication Disconnection Completed Note 8	Follow the Telephony Server's Indication		

Note7: In the Monitoring Process of Communication Disconnection means that a response for sent packet from UG50 to Telephony Server has not arrived for 2 seconds.

Note8: When the monitoring of communication disconnection has been completed, the lamp indication status of incoming call goes back to the previous status.

<LC Functions>

- (1) Compatible analog terminals for the UG50 are analog telephones (PB) and FAX. DP telephones are not supported.
- (2) ANALOG CALLER ID - STATION [A-127] is available for the terminals below:

Operation Mode	Device Type
Multi-slot	UG50 (LC) [SIP]
Retrofit	UG50-8LC

7.4 Service Limitations

<Common>

- (1) LOCATION DIVERSITY [L-55] is available as follows:

X: Available, N: Not Available

UG50 Operation Mode	Location Diversity	
	FCCS Cluster	SR-MGC with FCCS Cluster
Multi-slot	X Note 9	X Note 9
Retrofit	X	X
IPG	N	N

Note9: Available from FP95-114 V4 Issue 2.0.
For the UG50, available from software version 2.00.

For the details of LOCATION DIVERSITY [L-55], see Service Conditions of LOCATION DIVERSITY [L-55] in Data Programming Manual - Business. The following are the conditions specific to UG50.

[1] FCCS Cluster

- (a) For registering UG50 Multi-slot mode with the AUPDN command, it is necessary to set ASYDN SYS1 Index 960 Bit 1=1 (UG50 Multi-mode information registration with AUPDN command is in service). A system initialization when the system data is changed is not required.

Note: If system data ASYDN SYS1 Index 960 Bit 1 is set to 0 (UG50 Multi-mode information registration with AUPDN command is out of service), the registration of UG50 Multi-slot mode with the AUPDN command is disabled and the UG50 Multi-Slot Mode check box in AUPDN is not displayed. When the UG50 Multi-Slot Mode check box is displayed in the AUPDN command, and the registration is disabled setting ASYDN SYS1 Index 960 Bit 1=0, placing a mark in the check box and trying to execute the setting will result in a reading error.

- (b) Because FCCS Cluster operations are performed on a registration unit in the Multi-slot mode, the terminals that remain registered to the Primary Node and the terminals that register to the Backup Node may be mixed in the same UG50. For an explanation of registration unit, see [9.2 Registration Unit](#) in chapter 3.
- (c) When performing the node registration in the Multi-slot mode on a UG50 unit, if line cards in proprietary protocol mode and line cards in SIP mode are mixed in one UG50, register in the same order the DRS addresses and the SIP server addresses registered to the UG50.
- (d) Hotel system is not supported.

- (e) Use station numbers already registered on the Telephony Server side for setting the User Name and Password on the UG50 side with Web Programming. Do not use the “DtermIP MAC Address Registration Password (NDM)” of the AFCMN command.

[2] SR-MGC with FCCS Cluster

- (a) Because FCCS Cluster operations are performed on a registration unit in the Multi-slot mode, there may be terminals rescued by SR-MGC and terminals not rescued by SR-MGC mixed in the same UG50. For an explanation of registration unit, see [9.2 Registration Unit](#) in chapter 3.

(2) Back up with SR-MGC

You can set four IP addresses for Proprietary Protocol mode and twenty IP addresses for SIP mode as a destination of the Telephony Server on the UG50. In case of a Telephony Server failure, a substitute destination can be also set.

Basically, a server with the first registered address is recognized as the primary server to connect to. Thus, in the following conditions, even if the UG50 is connected to other servers it reconnects to the primary server.

- When soft reset is performed
- When a reset is executed after a number of retransmission exceeded in the event of a network error
- When connecting and disconnecting Digital terminals

If the default IP address (0.0.0.0) is registered as a destination, it is considered non-existent and will not be searched.

- (3) Only part of VoIP ENCRYPTION [V-27] is available. Signaling encryption (SIP message) is supported; however, voice data encryption (RTP) is not supported.
- (4) Call Log information and Trouble Log information of “RTP Statistics Information Output” service are supported. At this time, Virtual MAC addresses are output to Call Log information.
- (5) NAT (Network Address Translation) is not supported.
- (6) Call Retention feature is supported. For Digital terminals, Call Retention feature is supported since UG50 (DLC) firmware version 2.00. For details, refer to 5.Operation of IP Equipment/Terminals when a Fault Occurs during a Conversation of CHAPTER 3 IP EQUIPMENT in System Description.
- (7) Program downloading function is not supported.

(8) Terminal Authentication feature is available for the terminals below:

Operation Mode	Device Type
Multi-slot	UG50 (LC) [SIP] UG50 (PRT1.5M) [SIP] UG50 (PRT 2M) [SIP] UG50(COT-TYPE2) [SIP] UG50(PGT-TYPE2) [SIP]
Retrofit	UG50-8LC UG50-24PRIA [SIP] UG50-30PRIA [SIP] UG50-6COT [SIP]

<DLC Functions>

- (1) Smart Device integration (terminal cooperation with a mobile phone using Bluetooth adapter (BCA-Z UNIT)) is not supported.
- (2) TERMINAL POWER SAVE MODE [T-69] is not supported.
- (3) DIRECT STATION SELECTION (DSS) CONSOLE [D-149] is not supported.
- (4) LOGIN CODE [L-56] is not supported.
- (5) GROUP LISTENING [G-29] is not supported.
- (6) INTERNAL ZONE PAGING [I-21] is not supported.
- (7) Time display pattern cannot be changed by the system data (ASYDL System Data 1, Index 1249, Bit 0-3).
- (8) Side tone volume value cannot be changed by the system data (ASYDL System Data 1, Index 1256, Bit 4-6).
- (9) Plantronics Headset with Electronics Headset Switch (EHS) cable is not supported.
- (10) MULTIPLE TIME ZONE [M-114] is supported. It can only be set per UG50. Different date and time information cannot be set within the same unit.
- (11) MULTILINGUAL DISPLAY [M-117] is not supported.
- (12) There are limitations listed below for Log-in function.
 - Log-in authentication with the key operation on Digital terminals connected to UG50 is not supported. Station number and password must be set by the Web Programming of the UG50.
 - MAC authentication is not supported
 - Use the station number registered on the Telephony Server when setting User ID and password for the Web Programming of the UG50. DtermIP MAC Address Registration Password which can be set with

the ADTM command cannot be used.

- (13) Remote Access Mode (stopping of health check) set by configuration settings on terminals is not supported.
- (14) Language setting by menu operation on the DT430/DT410/DT300 Series is not supported.
- (15) Unlike other cards, registration is performed when the DLC card is connected to a terminal. The virtual MAC address and channel numbers of a DLC card with no terminal connected is not displayed on Web Programming.

Also, when no terminal is connected to a port of a DLC card, information about the card, such as slot number, card name, etc., is not available in the list of installed cards on the Card Configuration screen.

- (16) Digital terminals cannot override in the following conditions. “Double Assignment” appears on the LCD of Digital terminals in the event of listed conditions. It will automatically start re-registering after a certain period of time (approx. 90 sec).
 - When a directly accommodated terminal logs in to the system with the same station number as a UG50 terminal.
 - When a UG50 terminal logs in to the system with the same station number as other UG50 terminals or directly accommodated terminals.

It starts re-registering if the duplication of the station number has been eliminated. Otherwise, “Double Assignment” appears on LCD again, and it continues the same process until the problem is solved. Review and change the station number set on terminals accommodated in the UG50 by the Web Programming or AISTL command.

Note: UG50 terminal means a Digital terminal connected to UG50.

Note: Directly accommodated terminal means an IP station directly accommodated in the Telephony Server.

- (17) The CTSP (Terminal Registration Control) command is supported on the UG50.
- (18) Hotel Key Kit is not supported on the UG50.
- (19) PAD control with the APAD or APADN command is not supported for the DLC card. Configure the PAD settings with the “PAD/EC Control IP/PHC Support” service.
- (20) Since UG50 (DLC) firmware version 2.00, key setting to generate key touch tone is available by the system data (2-1-03:Digital Station Channel Setup).

Note: Before UG50 (DLC) firmware version 2.00, on a Digital terminal connected to UG50, pressing any key generates a tone (key touch tone).

- (21) When the connection of an IP device with Primary Node (LAN1) is restored in LOCATION DIVERSITY [L-55], even if “After station data synchronization is completed (Specified-time switchover)” or “After station data synchronization is completed (Specified-time switchover)” is set in “Time value to re-connect to the Home Node” of the AFCMN command, because UG50 (DLC) on Multi-slot mode does not

support MAC authentication, automatic registration to the home node (Primary node) does not occur. A terminal can re-register to the home node (Primary node) by pressing the “Visitor key” and resetting (in this case, the log-in screen is not displayed).

Note: Wait until the “Visitor key” flashes green to press it.

- (22) When a digital terminal is in a make busy state with the MBST command, if there is a network failure between the UG50 and the digital terminal, even if you try to put the digital terminal in a make idle state with the MBST command after the network is restored, the digital terminal continues being in a make busy state. To disable the make busy state, disconnect and connect again the cable and restart the digital terminal.

<LC Functions>

- (1) The data transmission as voice data (G.711), G.726 and T.38 UDP are available on FAX communications.
- (2) Other conditions are the same as MC (Media Converter). For details on the conditions, refer to the Peripheral Equipment Description (IP Devices).
- (3) The one digit dial hooking function is not supported.

<PRT Functions>

- (1) When using SIP mode, the following parameters on the AMGIL command are not used for the UG50.
 - Music On Hold Exists
The value set on the Web Programming of the UG50 is valid.
 - Country Code
The value set on the Web Programming of the UG50 is valid.
 - Law of A/D Conversion
- (2) The MG EXTERNAL MUSIC-ON-HOLD [M-125] function is not supported for the following UG50 device types, regardless of whether the SIP or Proprietary protocol is used:
 - UG50 (PRT 1.5M) [Proprietary Protocol/SIP]
 - UG50 (PRT 2M) [Proprietary Protocol/SIP]
 - UG50-24PRIA [Proprietary Protocol/SIP]
 - UG50-30PRIA [Proprietary Protocol/SIP]

Note: External Music-on Hold is available when an external audio source is connected to the UG50 through the CPU input jack.

- (3) Unrestricted Digital Information is not supported.
- (4) G4 FAX is not supported.

- (5) PS data communication is not supported.
- (6) When UG50 in Proprietary Protocol mode is used in the LOCATION DIVERSITY [L-55] network, set LAN 1 as LAN interface used for Internal PHI (PRI) with the ADTM command.

Note: Please note the following:

- After the data setting, execute Internal PHI (PRI) module initialization with the ADPM command.
- All terminals that use Internal PHI (PRI) are accommodated in LAN1. Be aware that, in a dual configuration, because the TCP connection is disconnected when a system changeover occurs, the call control communication of Internal PHI (PRI) is also disconnected. Also, when a system changeover occurs, the following messages are output:
 33-S: IP PKG Failure
 Fault Kind: Telephony Server (PHI) Error
 Details on Fault Information: Detect Temporary TCP Link Fault (severe grade)
 33-T: IP PKG Restore
 Fault Kind: Telephony Server (PHI) Error
 Details on Fault Information: TCP Link Restored

- (7) When a network failure occurs between the Telephony Server and the UG50, the PRI line of UG50 will be in a link down state. The details of this conditions are as follows.

- (a) This feature is available for UG50 software version 2.00 or later.

Note: For UG50 software version earlier than 2.00, when a network failure occurs between Telephony Server and UG50, the PRI line of UG50 will not be in a link down state.

- (b) In the following conditions, PRI line will be in a link down state and PRT card reset will be performed.

Conditions of PRT Card Reset	Mode
When reset instruction from the Telephony Server has been received.	Proprietary Protocol mode/SIP mode
When Health Check NG with the Telephony Server has been detected. Note 10, Note 11	Proprietary Protocol mode/SIP mode
When REGISTER refresh error has occurred. Note 10	SIP mode
When REGISTER has expired. Note 10	SIP mode

Note10: When Call Retention is enabled and calls remain on the UG50, PRT card reset will be performed after the held call is disconnected.

Note11: When Call Protected Re-Registration [C-203] is enabled and calls remain on the UG50, PRT card reset will not be performed (Proprietary Protocol mode only).

- (c) When a network failure occurs, it cannot be detected until the specified time by the system data (5-2-02-08 (TCP_TIMER)/5-2-02-09 (HC_RCV_TIMER)) has passed. Therefore, you must wait for a time (except the time of call retention) which is equivalent to the specified value on the system

data at least to reset the PRT card.

- (d) PRT card reset because of network failure detection is not recorded to alarm report.
 - (e) While UG50 is in a link down state, the following will occur:
 - the LED indication of PRT card will be same as the indication of initializing state.
 - “Card Configuration” screen of the Web Programming on the PRT card will be indicated as “DRS Registration”.
 - “-: No link” will be indicated as “5-1-01 (ISDN Layer Status Information)” of the Web Programming.
 - (f) When the registration of UG50 to the Telephony Server is completed, PRI line will be restored from the link down state. Also, when LOCATION DIVERSITY [L-55] is in active mode, PRI line will be restored from the link down state after the registration of UG50 to a Primary Node or Backup Node is completed.
- (8) Other conditions are the same as the MG(PRI) [Proprietary Protocol/SIP]. For details on the conditions, refer to the Peripheral Equipment Description (IP Devices).

<COT Functions>

- (1) When using SIP mode, the following parameters on the AMGIL command are not used for the UG50.
 - Music On Hold Exists
The value set on the Web Programming of the UG50 is valid.
 - Country Code
The value set on the Web Programming of the UG50 is valid.
 - Law of A/D Conversion

Note: See [Selecting Audio Source of Music On Hold](#) for more information.
- (2) The UG50 (COT-TYPE1) in Multi-slot mode and the UG50-4LC2COTA (COT) in Retrofit mode are equivalent to the existing MC&MG-COT. For other conditions, refer to the Peripheral Equipment Description (IP Devices).
- (3) The MG EXTERNAL MUSIC-ON-HOLD [M-125] function is not supported for the following UG50 device types:
 - UG50 (COT-TYPE1)
 - UG50 (COT-TYPE2) [regardless of whether the SIP or Proprietary protocol is used]
 - UG50-6COT [regardless of whether the SIP or Proprietary protocol is used]

Note: External Music-on Hold is available when an external audio source is connected to the UG50 through the CPU input jack.
- (4) The UG50 (COT-TYPE2) [Proprietary Protocol/SIP] in Multi-slot mode and the UG50-6COT [Proprietary Protocol/SIP] in Retrofit mode are equivalent to the existing MG-COT (6COT) [Proprietary Proto-

col/SIP]. For other conditions, refer to the Peripheral Equipment Description (IP Devices).

(5) A pause can be inserted when calling to Analog C.O. line. Conditions are listed as follows:

- (a) This feature is available for the services below. **Note 12**
 - SPEED CALLING-SYSTEM [S-3]
 - SPEED CALLING-STATION [S-21]
 - All services using the additional number information of the AADC command
 - LAST NUMBER CALLED -D [L-6D] (When three services above are stored)
- (b) Three seconds are provided per pause.
- (c) Multiple pauses can be inserted. For information on the allowable number of pauses to insert, refer to each service.

Note12: Only supported for the following devices:

- UG50 (COT-TYPE1) and UG50 (COT TYPE2) [Proprietary Protocol/SIP]
- UG50-4LC2COTA (COT) in Retrofit mode

Functioning of External Music On Hold on UG50

Selecting Audio Source of Music On Hold

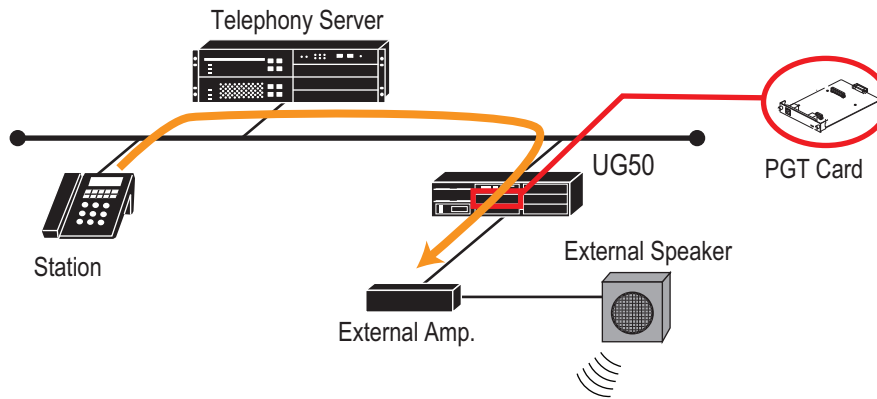
Settings per MG (AMGIL command)	VS32 IP External Music On Hold (ASYDL SYS1 Index 818 b2)	External Music On Hold for IP Terminals (ASYDL SYS1 Index 810 b2)	Audio Source of Selected Music On Hold
No Setting	Internal Music On Hold (IP terminal) (b2=0)	Internal Music On Hold (IP terminal) (b2=0)	Depends on the Web Programming setting of Internal Music On Hold on UG50. <ul style="list-style-type: none"> • In the case of“(0: Internal Music On Hold)”; UG50 Internal Music On Hold 4 (Minuet) • In the case of“(1: External Music On Hold)”; An external audio source connected to the connector of CN10 on GCD-CP00-GW. If no external audio source is available, there will be silence.
		External Music On Hold (EMA/PLO) (b2=1)	Telephony Server External Music On Hold
	VS32 IP External Music On Hold (b2=1)	Internal Music On Hold (IP terminal) (b2=0)	VS32 IP External Music On Hold
		External Music On Hold (EMA/PLO) (b2=1)	VS32 IP External Music On Hold

Selecting Audio Source of Music On Hold

Settings per MG (AMGIL command)	VS32 IP External Music On Hold (ASYDL SYS1 Index 818 b2)	External Music On Hold for IP Terminals (ASYDL SYS1 Index 810 b2)	Audio Source of Selected Music On Hold
External Music On Hold	- (Regardless of settings)	- (Regardless of settings)	Depends on the Web Programming setting of Internal Music On Hold on UG50.
Internal Music On Hold 1			<ul style="list-style-type: none"> In the case of“(0: Internal Music On Hold)”; UG50 Internal Music On Hold 4 (Minuet) In the case of“(1: External Music On Hold)”; An external audio source connected to the connector of CN10 on GCD-CP00-GW. If no external audio source is available, there will be silence.
Internal Music On Hold 2			

(6) Paging function is used in the following features, refer to such features in Data Programming Manual - Business for general description, operating procedure and service conditions.

- [A-53] ALL ZONE PAGING
- [M-1] MEET-ME PAGING
- [M-11] MEET-ME PAGING - ATTENDANT
- [P-1] PAGING ACCESS
- [P-10] PAGING TRANSFER
- [P-30] PRIORITY PAGING.



In the case of UG50, paging function requires UG50 (PGT-TYPE1)/UG50 (PGT-TYPE2) [Proprietary Protocol/SIP] or UG50-4LC2COTA (PGT) and the software version should be 2.00 or later.

The basic conditions of each device interface for paging are as follows.

Item	UG50 (PGT-TYPE1) and UG50 (PGT-TYPE2) [Proprietary Protocol/SIP]	UG50-4LC2COTA (PGT)	MC&MG-COT	MG-COT (6COT) [Proprietary Protocol/SIP]
Number of paging devices that can be used	1 device per Card 5 devices per UG50	1 device per UG50	1 device per MC&MG-COT	1 device per MG-COT (6COT)
Used channels	Speech Channel: CH1 Activation Channel: CH2	Speech Channel: CH1 Activation Channel: CH2	Speech Channel: MG0 Activation Channel: MG1	Speech Channel: MG0 Activation Channel: MG1
C.O line accommodation	Not available	Not available	Not available	Available (MG2~5)
Station accommodation	Not available Note 13	Available (CH1~4) Note 14	Available (MC2~3)	Not available

Note: UG50-6COT [Proprietary Protocol/ SIP] does not support paging feature.

Note13: Station can be accommodated in a different slot of the same hardware.

Note14: Because the PGT card does not have PFT function, stations can also be accommodated in CH1 and CH2 of LC card.

When there is a network failure, the external speaker may emit a WARNING tone or a RTP warning tone.

(a) WARNING TONE:

The WARNING tone is emitted when the UG50 detects a Health Check NG with the Telephony Server. **Note 15**

Emitting the WARNING tone can be disabled (tone is not sent when Health Check NG with the Telephony Server is detected) by setting 0 or 1 in the following system data of Web Programming: **Note 16**

System Data	Input Data
1-5-01-02 (WARNING Tone)	0: Disable or 1: the IP NW side

Note15: The WARNING tone is emitted only if MG Based Call Retention is disabled (4-1-02-04: CALL_HOLD (not checked: disabled)).

Note16: When paging is in use, WARNING tone is not sent to the user of paging regardless of the settings.

(b) RTP WARNING TONE:

The RTP warning tone is emitted when the UG50 detects that the percentage of RTP packets successfully received from the connected partner is getting excessively low.

Emitting the RTP warning tone cannot be disabled by the data setting.

7.5 Limitations on Voice and Tone

<Common>

- (1) The UG50 can only generate tones in increments of 100 ms. The following table shows the tone duration for each country.

Note: Tone is different to that of telephones directly accommodated in the Telephony Server.

Tone Duration in North America

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	350+440	continuous	-13
1	SPDT	350+440	200 ms 100 ms ON OFF	-13
2	RBT	440+480	1000 ms 3000 ms ON OFF	-19
3	CWT	440+480	continuous	-19
4	BT	480+620	500 ms 500 ms ON OFF	-24
5	ROT	480+620	300 ms 200 ms ON OFF	-24
6	SST	440	continuous	-16
7	SDT	350+440	continuous	-13
8	TRG	-	-	-
9	SDTT	440	100 ms -100 ms -100 ms - 100 ms -100 ms -100 ms - 100 ms -1300 ms ON -OFF -ON -OFF -ON - OFF -ON -OFF	-16
10	CWRBT	440+480	800 ms ON	-19
		440	200 ms 3000 ms ON OFF	-16
11	ICPT	440	100 ms 100 ms ON OFF	-16
12	CSDT	-	-	-
13	TEST	480	continuous	-16
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Australia

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	420*20	continuous	-9
1	SPDT	420*20	400 ms 400 ms ON OFF	-9

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
2	RBT	420*20	400 ms -200 ms -400 ms -2000 ms ON -OFF -ON -OFF	-9
3	CWT	420*20	continuous	-9
4	BT	420	400 ms 400 ms ON OFF	-9
5	ROT	420	2500 ms 500 ms ON OFF	-9
6	SST	420	continuous	-9
7	SDT	420*20	continuous	-9
8	TRG	420	400 ms 400 ms ON OFF	-9
9	SDTT	420	continuous	-19
10	CWRBT	1400	200 ms 14800 ms ON OFF	-17
11	ICPT	-	-	-
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Others

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	350+440	continuous	-13
1	SPDT	350+440	100 ms 100 ms ON OFF	-13
2	RBT	440+480	1000 ms 3000 ms ON OFF	-19
3	CWT	440+480	continuous	-19
4	BT	480+620	500 ms 500 ms ON OFF	-24
5	ROT	480+620	300 ms 200 ms ON OFF	-24
6	SST	440	continuous	-16
7	SDT	350+440	continuous	-13
8	TRG	480	continuous	-16
9	SDTT	440	300 ms ON	-20
		620	200 ms ON	-20
		440	300 ms ON	-20
		620	200 ms ON	-20
		0	800 ms OFF	-

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
10	CWRBT	440+480	1000 ms 1000 ms ON OFF	-19
11	ICPT	620	300 ms ON	-20
		440	200 ms ON	-20
12	CSDT	440	100 ms 100 ms ON OFF	-16
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Hong Kong

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	350+440	continuous	-10
1	SPDT	350+440	300 ms 200 ms ON OFF	-10
2	RBT	440+480	400 ms -200 ms -400 ms -3000 ms ON -OFF -ON -OFF	-10
3	CWT	440+480	continuous	-10
4	BT	480+620	500 ms 500 ms ON OFF	-10
5	ROT	480+620	continuous	-10
6	SST	440	continuous	-10
7	SDT	350+440	continuous	-10
8	TRG	-	-	-
9	SDTT	-	-	-
10	CWRBT	440+480	1000 ms 1000 ms ON OFF	-10
11	ICPT	-	-	-
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Malaysia

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	420	continuous	-13
1	SPDT	350+440	100 ms 100 ms ON OFF	-13
2	RBT	420	400 ms -200 ms -400 ms -2000 ms ON -OFF -ON -OFF	-19

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
3	CWT	440+480	continuous	-19
4	BT	420	500 ms 500 ms ON OFF	-24
5	ROT	420	2500 ms 500 ms ON OFF	-24
6	SST	420	continuous	-16
7	SDT	350+440	continuous	-13
8	TRG	-	-	-
9	SDTT	620	300 ms ON	-20
		440	300 ms ON	-20
		620	300 ms ON	-20
		440	300 ms ON	-20
		0	800 ms ON	-
10	CWRBT	440+480	1000 ms 1000 ms ON OFF	-19
11	ICPT	620	300 ms ON	-20
		440	300 ms ON	-20
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Singapore, Philippines and Vietnam

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	420*20	continuous	-15
1	SPDT	420*20	400 ms 400 ms ON OFF	-15
2	RBT	420*20	400 ms -200 ms -400 ms -2000 ms ON -OFF -ON -OFF	-10
3	CWT	420*20	continuous	-10
4	BT	420	500 ms 500 ms ON OFF	-10
5	ROT	420	2500 ms 500 ms ON OFF	-10
6	SST	420	continuous	-20
7	SDT	420*20	continuous	-15
8	TRG	-	-	-
9	SDTT	-	-	-
10	CWRBT	420*20	1000 ms 1000 ms ON OFF	-10

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
11	ICPT	-	-	-
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in UK

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	350+440	continuous	-10
1	SPDT	350+440	800 ms 700 ms ON OFF	-10
2	RBT	400+450	400 ms -200 ms -400 ms -2000 ms ON -OFF -ON -OFF	-10
3	CWT	440	100 ms 3900 ms ON OFF	-10
4	BT	400	400 ms 400 ms ON OFF	-10
5	ROT	400	continuous	-10
6	SST	440	continuous	-10
7	SDT	350+440	continuous	-10
8	TRG	400	400 ms -300 ms -200 ms -600 ms ON -OFF -ON -OFF	-10
9	SDTT	440+480	300 ms -200 ms -300 ms -1200 ms ON -OFF -ON -OFF	-14
10	CWRBT	400+450	400 ms -200 ms -400 ms -2000 ms ON -OFF -ON -OFF	-10
11	ICPT	480+620	300 ms -200 ms -300 ms -1200 ms ON -OFF -ON -OFF	-10
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Mexico

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	400	continuous	-13
1	SPDT	400	100 ms 100 ms ON OFF	-13
2	RBT	440+480	2000 ms 4000 ms ON -OFF	-13
3	CWT	440+480	continuous	-13

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
4	BT	400	500 ms 500 ms ON OFF	-13
5	ROT	440+480	500 ms 500 ms ON OFF	-13
6	SST	440	continuous	-13
7	SDT	400	continuous	-13
8	TRG	-	-	-
9	SDTT	350+440	300 ms -200 ms -300 ms -700 ms ON -OFF -ON -OFF	-14
10	CWRBT	440+480	1000 ms 1000 ms ON OFF	-14
11	ICPT	-	-	-
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Taiwan

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	350+440	300 ms 200 ms ON OFF	-13
1	SPDT	350+440	100 ms 100 ms ON OFF	-13
2	RBT	440+480	1000 ms 3000 ms ON -OFF	-19
3	CWT	440+480	continuous	-19
4	BT	480+620	500 ms 500 ms ON OFF	-24
5	ROT	480+620	300 ms 200 ms ON OFF	-24
6	SST	440	continuous	-16
7	SDT	350+440	continuous	-13
8	TRG	-	-	-
9	SDTT	620	300 ms ON	-20
		440	300 ms ON	-20
		620	300 ms ON	-20
		440	300 ms ON	-20
		0	1000 ms ON	-
10	CWRBT	440+480	1000 ms 1000 ms ON OFF	-19

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
11	ICPT	620	300 ms ON	-20
		440	300 ms ON	-20
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in New Zealand

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	400	continuous	-12
1	SPDT	420*20	200 ms -400 ms -2000 ms -400 ms ON -OFF -ON -OFF	-12
2	RBT	420*20	400 ms -200 ms -400 ms -2000 ms ON -OFF -ON -OFF	-12
3	CWT	400	200 ms 2300 ms ON OFF	-21
4	BT	400	500 ms 500 ms ON OFF	-21
5	ROT	400	100 ms -100 ms -100 ms -100 ms -100 ms -100 ms -100 ms -300 ms ON -OFF -ON - OFF -ON -OFF - ON-OFF	-12
6	SST	1400	continuous	-12
7	SDT	400	continuous	-12
8	TRG	400	300 ms 200 ms ON OFF	-12
9	SDTT	1400	500 ms 4500 ms ON OFF	-21
10	CWRBT	1400	200 ms 2300 ms ON OFF	-21
11	ICPT	-	-	-
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Korea

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	350+440	1000 ms 300 ms ON OFF	-10
1	SPDT	350+440	300 ms 200 ms ON OFF	-12
2	RBT	440+480	1000 ms 2000 ms ON OFF	-15
3	CWT	440+480	continuous	-15
4	BT	480+620	500 ms 500 ms ON OFF	-20
5	ROT	480+620	300 ms 200 ms ON OFF	-12
6	SST	440	continuous	-12
7	SDT	350+440	continuous	-12
8	TRG	-	-	-
9	SDTT	-	-	-
10	CWRBT	440+480	1000 ms 1000 ms ON OFF	-12
11	ICPT	-	-	-
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Brazil

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	420	900 ms 100 ms ON OFF	-8
1	SPDT	350+440	100 ms 100 ms ON OFF	-8
2	RBT	420	1000 ms 4000 ms ON OFF	-8
3	CWT	420	continuous	-8
4	BT	420	300 ms 200 ms ON OFF	-8
5	ROT	420	100 ms 100 ms ON OFF	-8
6	SST	440	continuous	-8
7	SDT	420	continuous	-8
8	TRG	420	100 ms 1900 ms ON OFF	-10

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
9	SDTT	440+480	300 ms -200 ms -300 ms -1200 ms ON -OFF -ON -OFF	-8
10	CWRBT	440+480	1000 ms 1000 ms ON OFF	-8
11	ICPT	-	-	-
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in China

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	450	continuous	-10
1	SPDT	450	400 ms 100 ms ON OFF	-10
2	RBT	450	1000 ms 4000 ms ON OFF	-10
3	CWT	450	continuous	-20
4	BT	450	400 ms 300 ms ON OFF	-10
5	ROT	450	100 ms ON	-10
		450	100 ms OFF	-10
		450	100 ms ON	-10
		450	100 ms OFF	-10
		450	100 ms ON	-10
		450	100 ms OFF	-10
		450	400 ms ON	-10
		450	400 ms OFF	-10
6	SST	450	continuous	-20
7	SDT	450	continuous	-10
8	TRG	-	-	-
9	SDTT	620	300 ms ON	-10
		440	300 ms ON	-10
		620	300 ms ON	-10
		440	300 ms ON	-10
		0	800 ms OFF	-
10	CWRBT	450	1000 ms 400 ms ON OFF	-10
11	ICPT	1400	400 ms 10000 ms ON OFF	-20

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Thailand

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	350+440	continuous	-13
1	SPDT	350+440	100 ms 100 ms ON OFF	-13
2	RBT	440+480	1000 ms 3000 ms ON OFF	-19
3	CWT	440+480	continuous	-19
4	BT	480+620	500 ms 500 ms ON OFF	-24
5	ROT	480+620	300 ms 200 ms ON OFF	-24
6	SST	440	continuous	-16
7	SDT	100+400	continuous	-12
8	TRG	480	continuous	-16
9	SDTT	440	300 ms ON	-20
		620	200 ms ON	-20
		440	300 ms ON	-20
		620	200 ms ON	-20
		0	1000 ms OFF	-
10	CWRBT	440+480	1000 ms 1000 ms ON OFF	-19
11	ICPT	620	300 ms ON	-20
		440	200 ms ON	-20
12	CSDT	440	100 ms 100 ms ON OFF	-16
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Sri Lanka

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	350+440	continuous	-13
1	SPDT	350+440	100 ms 100 ms ON OFF	-13

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
2	RBT	440+480	1000 ms 3000 ms ON OFF	-19
3	CWT	440+480	continuous	-19
4	BT	480+620	500 ms 500 ms ON OFF	-24
5	ROT	480+620	300 ms 200 ms ON OFF	-24
6	SST	440	continuous	-16
7	SDT	420	continuous	-13
8	TRG	480	continuous	-16
9	SDTT	420	100 ms 100 ms ON OFF	-20
10	CWRBT	440+480	1000 ms 1000 ms ON OFF	-19
11	ICPT	620 440	300 ms 200 ms	-20
12	CSDT	440	100 ms 100 ms ON OFF	-16
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Germany

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	420	300 ms -200 ms -300 ms - 200 ms -300 ms -1200 ms ON -OFF -ON - OFF -ON -OFF	-3
1	SPDT	150+450	300 ms -200 ms -300 ms - 200 ms -300 ms -1200 ms ON -OFF -ON - OFF -ON -OFF	-6/-15
2	RBT	420	1000 ms 4000 ms ON OFF	-3
3	CWT	420	continuous	-3
4	BT	420	200 ms 400 ms ON OFF	-3
5	ROT	420	300 ms 200 ms ON OFF	-3
6	SST	420	continuous	-9
7	SDT	420	continuous	-9

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
8	TRG	420	300 ms 200 ms ON OFF	-3
9	SDTT	420	100 ms -100 ms -100 ms - 100 ms -100 ms -100 ms - 100 ms -1300 ms ON -OFF -ON - OFF -ON -OFF - ON -OFF	-6
10	CWRBT	420	1000 ms 4000 ms ON OFF	-9
11	ICPT	420	1000 ms 4000 ms ON OFF	-9
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Italy

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	350+450	continuous	-9/-9
1	SPDT	350+440	300 ms 100 ms ON OFF	-9/-9
2	RBT	420	1000 ms 4000 ms ON OFF	-6
3	CWT	420	continuous	-3
4	BT	420	500 ms 500 ms ON OFF	-6
5	ROT	420	100 ms 100 ms ON OFF	-6
6	SST	420	continuous	-6
7	SDT	420	600 ms -1100 ms -200 ms - 200 ms -600 ms -1100 ms ON -OFF -ON - OFF -ON -OFF	-6
8	TRG	420	500 ms 500 ms ON OFF	-6
9	SDTT	420	200 ms -500 ms -200 ms - 4100 ms ON -OFF -ON -OFF	-6
10	CWRBT	420	200 ms -200 ms -200 ms -3100 ms ON -OFF -ON -OFF	-6
11	ICPT	420	200 ms -200 ms -200 ms -3100 ms ON -OFF -ON -OFF	-6

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Netherlands

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	420	continuous	-6
1	SPDT	420	300 ms 100 ms ON OFF	-6
2	RBT	420	1000 ms 4000 ms ON OFF	-6
3	CWT	420	continuous	-3
4	BT	420	500 ms 500 ms ON OFF	-6
5	ROT	420	100 ms 100 ms ON OFF	-6
6	SST	420	continuous	-6
7	SDT	420	continuous	-6
8	TRG	420	300 ms 200 ms ON OFF	-6
9	SDTT	420	100 ms -100 ms -100 ms - 100 ms -100 ms -100 ms - 100 ms -500 ms ON -OFF -ON - OFF -ON -OFF - ON -OFF -ON - OFF -ON -OFF	-6
10	CWRBT	420	1000 ms 4000 ms ON OFF	-6
11	ICPT	420	1000 ms 4000 ms ON OFF	-6
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Denmark

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	400	continuous	-9
1	SPDT	400	300 ms 100 ms ON OFF	-9

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
2	RBT	420	1000 ms 4000 ms ON OFF	-3
3	CWT	420	continuous	-3
4	BT	420	300 ms 200 ms ON OFF	-3
5	ROT	420	300 ms 200 ms ON OFF	-3
6	SST	420	continuous	-3
7	SDT	420	continuous	-3
8	TRG	420	100 ms 100 ms ON OFF	-3
9	SDTT	400*20	1000 ms 4000 ms ON OFF	-17
10	CWRBT	400*20	200 ms -200 ms -200 ms - 200 ms -200 ms -9000 ms ON -OFF -ON - OFF -ON -OFF	-17
11	ICPT	400*20	200 ms -200 ms -200 ms - 200 ms -200 ms -9000 ms ON -OFF -ON - OFF -ON -OFF	-17
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Sweden

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	420	continuous	-9
1	SPDT	420	300 ms 100 ms ON OFF	-9
2	RBT	420	1000 ms 5000 ms ON OFF	-9
3	CWT	1400	continuous	-27
4	BT	420	300 ms 200 ms ON OFF	-9
5	ROT	420	100 ms 100 ms ON OFF	-6
6	SST	420	continuous	-9
7	SDT	420	continuous	-9
8	TRG	420	200 ms 800 ms ON OFF	-9

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
9	SDTT	420	1000 ms 5000 ms ON OFF	-9
10	CWRBT	420	1000 ms 5000 ms ON OFF	-9
11	ICPT	420	1000 ms 5000 ms ON OFF	-9
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Spain

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	420	continuous	-9
1	SPDT	420	300 ms 100 ms ON OFF	-9
2	RBT	420	300 ms -400 ms -300 ms -4000 ms ON -OFF -ON -OFF	-12
3	CWT	420	continuous	-3
4	BT	420	500 ms 500 ms ON OFF	-12
5	ROT	420	100 ms 100 ms ON OFF	-12
6	SST	420	continuous	-9
7	SDT	420*20	continuous	-10
8	TRG	420	300 ms 200 ms ON OFF	-9
9	SDTT	420	100 ms -100 ms -100 ms - 100 ms -100 ms -100 ms - 100 ms -1300 ms ON -OFF -ON - OFF -ON -OFF - ON -OFF	-6
10	CWRBT	420	1000 ms 4000 ms ON OFF	-9
11	ICPT	420	1000 ms 4000 ms ON OFF	-9
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Austria

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	420	200 ms -100 ms -200 ms - 100 ms -200 ms -700 ms ON -OFF -ON - OFF -ON -OFF	-3
1	SPDT	420	300 ms 100 ms ON OFF	-3
2	RBT	420	1000 ms 5000 ms ON-OFF	-3
3	CWT	420	continuous	-3
4	BT	420	400 ms 400 ms ON OFF	-3
5	ROT	420	100 ms 100 ms ON OFF	-3
6	SST	420	continuous	-3
7	SDT	420	continuous	-3
8	TRG	420	400 ms 400 ms ON OFF	-3
9	SDTT	420	100 ms -100 ms -100 ms - 100 ms -100 ms -100 ms - 100 ms -1300 ms ON -OFF -ON - OFF -ON -OFF - ON -OFF	-6
10	CWRBT	100+400	1000 ms 5000 ms ON OFF	-6/-15
11	ICPT	100+400	1000 ms 5000 ms ON OFF	-6/-15
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Belgium

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	450	continuous	-4
1	SPDT	450	1000 ms 300 ms ON OFF	-4
2	RBT	450	1000 ms 3000 ms ON OFF	-4
3	CWT	420	continuous	-3

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
4	BT	450	500 ms 500 ms ON OFF	-4
5	ROT	450	200 ms 200 ms ON OFF	-4
6	SST	450	continuous	-4
7	SDT	450	continuous	-4
8	TRG	450	200 ms 200 ms ON OFF	-4
9	SDTT	450	continuous	-4
10	CWRBT	450	1000 ms 3000 ms ON OFF	-4
11	ICPT	450	1000 ms 3000 ms ON OFF	-4
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in UK

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	400*20	continuous	-17
1	SPDT	400*20	300 ms 100 ms ON OFF	-17
2	RBT	400*20	1000 ms 3000 ms ON OFF	-17
3	CWT	420	continuous	-3
4	BT	400	400 ms 400 ms ON OFF	-12
5	ROT	400	continuous	-12
6	SST	400*20	continuous	-17
7	SDT	400*20	continuous	-17
8	TRG	400	300 ms 200 ms ON OFF	-12
9	SDTT	400	300 ms 2700 ms ON OFF	-12
10	CWRBT	400*20	1000 ms 3000 ms ON OFF	-17
11	ICPT	400*20	1000 ms 3000 ms ON OFF	-17
12	CSDT	-	-	-
13	TEST	-	-	-

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Greece

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	420	continuous	-3
1	SPDT	420*20	continuous	-10
2	RBT	420	1000 ms 4000 ms ON OFF	-3
3	CWT	900	continuous	-13
4	BT	420	500 ms 500 ms ON OFF	-3
5	ROT	420	200 ms 200 ms ON OFF	-3
6	SST	420	continuous	-3
7	SDT	450	600 ms -1000 ms -200 ms -200 ms ON -OFF -ON -OFF	0
8	TRG	420	200 ms 200 ms ON OFF	-3
9	SDTT	420	100 ms -100 ms -100 ms - 100 ms -100 ms -100 ms - 100 ms -1300 ms ON -OFF -ON - OFF -ON -OFF - ON -OFF	-6
10	CWRBT	420*20	200 ms -200 ms -200 ms -1900 ms ON -OFF -ON -OFF	-10
11	ICPT	420*20	200 ms -200 ms -200 ms -1900 ms ON -OFF -ON -OFF	-10
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in Switzerland

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	420	continuous	-9
1	SPDT	300+400	900 ms 100 ms ON OFF	-14/-9
2	RBT	420	1000 ms 4000 ms ON OFF	-9
3	CWT	420	continuous	-23

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
4	BT	420	500 ms 500 ms ON OFF	-9
5	ROT	420	200 ms 200 ms ON OFF	-9
6	SST	420	continuous	-19
7	SDT	420	continuous	-9
8	TRG	420	200 ms 200 ms ON OFF	-9
9	SDTT	420	100 ms -100 ms -100 ms - 100 ms -100 ms -100 ms - 100 ms -1300 ms ON -OFF -ON - OFF -ON -OFF - ON -OFF	-6
10	CWRBT	420	1000 ms -3700 ms -500 ms - 500 ms -500 ms -3800 ms ON -OFF -ON - OFF -ON -OFF	-9
11	ICPT	420	1000 ms -3700 ms -500 ms - 500 ms -500 ms -3800 ms ON -OFF -ON - OFF -ON -OFF	-9
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

Tone Duration in South Africa

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
0	DT	400	continuous	-9
1	SPDT	400*20	1000 ms 2000 ms ON OFF	-3
2	RBT	400*20	1000 ms 2000 ms ON OFF	-3
3	CWT	420	continuous	-3
4	BT	400	500 ms 500 ms ON OFF	-9
5	ROT	400	2500 ms 500 ms ON OFF	-9
6	SST	400	continuous	-9
7	SDT	400*20	continuous	-3

CH	Tone	Frequency [Hz]	Tone Duration	Level [dBm]
8	TRG	400	300 ms 200 ms ON OFF	-9
9	SDTT	420	100 ms -100 ms -100 ms - 100 ms -100 ms -100 ms - 100 ms -1300 ms ON -OFF -ON - OFF -ON -OFF - ON -OFF	-6
10	CWRBT	400*20	400 ms 200 ms ON OFF	-3
11	ICPT	400*20	400 ms 200 ms ON OFF	-3
12	CSDT	-	-	-
13	TEST	-	-	-
14	MUSIC	-	-	-
15	NT	-	-	-

(2) Music On Hold (MOH) is provided by UG50 (Internal MOH). MOH cannot be set per terminal. One of the following options can be selected per UG50. However, when External MOH source is set, External MOH is provided.

1. La Chanson de L'Adieu (Frédéric François Chopin)
2. Trout Quintet (Franz Peter Schubert)
3. Plaisir d'Amour (Jean Paul Egide Martini)
4. Menuet (Johann Sebastian Bach) (default)

Note: Only one music can be selected. A user placed on hold may hear Music On Hold (MOH) from the beginning of music.

- (3) Downloading the Music On Hold is not supported.
- (4) RTP Warning Tone is generated regardless of the configuration of ASYDL SYS1 Index 831 Bit 5.
- (5) The Voice path gets interrupted while Short Tone is being sent.

<DLC Functions>

- (1) DTMF is generated regardless of the configuration on the Telephony Server when a call is made between terminals or lines accommodated within the same UG50.

- (2) For Digital terminals connected to UG50, ringer patterns provided by the Telephony Server are translated into corresponding ringer patterns, which are determined based on the combination of the parameters of the ASYD command (Ring Cycle: SYS3, Index 0, 1, 5, 6, and 7; “Multiple Ringings per Ringing Period”: SYS3, Index 3), as shown in the table below:

Recommended System Data Settings on Telephony Server			UG50 Ringer Pattern Note 17			
Ringer Pattern	Ring Cycle (Timer Value for Ringer) (Hex) Note 18	Multiple Ringings per Ringing Period Note 19	Ringer ON (sec.)	Ringer OFF (sec.)	Ringer ON (sec.)	Ringer OFF (sec.)
Ringer Pattern 0 (ASYD, SYS3, Index 0)	21	Disabled	1 (1)	2 (2)	-	-
Ringer Pattern 1 (ASYD, SYS3, Index 1)	42	Disabled	2 (2)	4 (4)	-	-
Ringer Pattern 5 (ASYD, SYS3, Index 7)	42	Disabled	2 (2)	4 (4)	-	-
Ringer Pattern 6 (ASYD, SYS3, Index 8)	21	Not Available	1 (1)	2 (2)	-	-
Ringer Pattern 7 (ASYD, SYS3, Index 9)	11	Not Available	0.5 (1)	0.5 (1)	-	-

Note17: The values given in the parentheses are the corresponding values on the Telephony Server.

Note18: The Ring Cycle consists of a ringing period and a silent period. The upper four bits (bit 7 to bit 4) define the silent period; the lower four bits (bit 3 to bit 0) define the ringing period. (For details, see Command Manual.)
The following table shows the ringer pattern conversion between the Telephony Server and UG50 in the case of a custom timer value for ringer:

System Data Settings on Telephony Server		UG50 Ringer Pattern
Ring Cycle (Timer Value for Ringer) (Hex)	Multiple Ringings per Ringing Period	
21	Disabled	<p>1 sec. 2 sec.</p>
	Enabled	<p>0.375 sec. 0.25 sec. 2 sec.</p>
42	Disabled	<p>2 sec. 4 sec.</p>
	Enabled	<p>0.25 sec. 0.25 sec. 4.25 sec.</p>
Values other than the above	Disabled/Enabled	<p>0.5 sec. 0.5 sec.</p>

Note19: Defined by the parameters of ASYD, SYS3, Index 3.

<LC Functions>

- (1) Synchronous Ringer mode is supported. However, the hardware limits the number of channels for each synchronous ring group to four. For example, Sync Group A consists of Channels 1 to 4, Sync Group B consists of Channels 5 to 8, and so on. With this mode enabled, all analog telephones using channels in the same synchronous ring group will ring simultaneously.
- (2) For ringer patterns, you can use the ASYD command to specify the Ring Cycle and the availability of the Multiple Ringings per Ringing Period function. If this function is enabled, the pattern of ringings per ringing period can be defined via Web Programming (3-1-02-02: BURSTPATTERN).
- (3) UG50 generates the PCM Howler tone, an intermittent 2000 Hz off-hook tone, which is converted to PCM format.

7.6 Limitations on IP

- (1) DHCP (including backup of addresses) is not supported.
- (2) DNS is not supported.
- (3) IP Terminal Program Upload and Firmware Auto Update are not supported.
- (4) VLAN is supported.
- (5) When configuring the type of service (ToS), consider the following:

When you set an IP Precedence value and enable minimum cost routing for signaling packets by using the ALOCL or AMGIL command, the routing preference is not available on UG50.

For the following ToS values configured via Web Programming on the UG50 side, lower two bits of the ToS field have no effect on signaling packets. (These bits are automatically set to 0.)

- ToS value for the DRS
The setting can be found in “1: UG50 Common Setup” on Feature Programming screen -> “1-3: Proprietary Protocol Setup” -> “1-3-01: Proprietary Protocol Mode Common Setup” -> “02 DRS ToS.”
- Signaling ToS
The setting can be found in “1: UG50 Common Setup” on Feature Programming screen -> “1-4: SIP mode Setup” -> “1-4-01: SIP Common Setup” -> “03 SIGNALING ToS.”

- (6) IPv6 is not supported.

7.7 Conditions on Data Setting

<Common>

- (1) When the following mode change is performed, some office data (AISTL or AMGIL) needs to be modified because the Virtual MAC address and the channel unit of registration also change.
 - Operation mode change from IPG mode or Retrofit mode to Multi-slot mode **Note 20**
 - Operation mode change from Multi-slot mode to IPG mode or Retrofit mode **Note 20**
 - LC card's protocol mode change from Proprietary Protocol to SIP and vice versa

Note20: For Multi-slot mode, you need to mark the **UG50 Multi-Slot Mode** check box in the AISTL or AMGIL command.

Note: When the above modes are changed, the Virtual MAC address and the channel unit of registration are also changed.
- (2) In case of replacing a malfunctioning card, be sure to turn off the power to the UG50 first before removing the card. No data setting is required when replacing with the same type of card. To change the mounting position of slots for each Line card on Multi-slot mode, turn off the power to the UG50 and remove a card. Turn on the power again to delete the existing slot data on the UG50 by Web Programming. Turn off the power again to insert the card to a desired mounting position. If the new slot data is assigned before the existing slot data is deleted, another Virtual MAC address will be assigned. In this case, the office data settings on the Telephony Server are required to be changed.
- (3) In UG50, channel numbers assigned to every channel for a card installed in a slot must be in sequence. In some cases such as channel expansion with an additional daughter card, the channel numbers and virtual MAC address are automatically changed to meet the condition, depending on the usage of the slots adjacent to the one in which a new card is to be installed. This requires modification of office data setting on the Telephony Server.

Example: Assume that the following cards are installed in UG50.

Slot	Card	Channel Numbers Assigned
Slot 2	8LC	1 to 8
Slot 3	4COT	9 to 12

If you want to expand the number of channels for analog line from 8 to 16 by using an 8-Port Analog Line Interface Daughter Card, you need to:

- 1) Delete the information about the 8LC card.
 - Channel numbers from 1 to 8 are now available.
- 2) Attach an 8-Port Analog Line Interface Daughter Card to the 8LC card to make a 16LC card.
- 3) Insert the 16LC card in Slot 2.
 - Channel numbers from 13 to 28 are assigned to the channels on the 16LC card.

Note: If you install another 8LC card in Slot 4, the existing channel numbers assigned to the 8LC card in Slot 2 will remain unchanged. New channel numbers and virtual MAC address are created for the 8LC card in Slot 4.

- (4) When a fax tone is detected during a call, the UG50 changes the codec and payload for fax mode. Use a timer to prevent the mode from accidentally being changed. The timer can be set with Web Programming. After a set period of time has elapsed since a call was initiated, fax mode does not activate even if a fax tone is detected. When “0” is set for the timer value, it does not switch to fax mode. When “255” is set, it switches to fax mode at all times.
- (5) Available Payload Type and Payload Size on the UG50 are different from those on the existing devices. For details, refer to the “System Description”- “CHAPTER 3 IP EQUIPMENT”- “Payload Setting for Each IP Equipment”.

<DLC Functions>

- (1) System data setting (ASYDL/ASYDN SYS1 Index 680 Bit 0=1) needs to be set to activate DLC function in IPG mode or Multi-slot mode.

<LC Functions>

- (1) Note that the channel range to be registered is different to that of the existing IP component. Also a different channel range for Retrofit mode and Multi-slot mode. The AISTL command data needs to be changed when switching modes.
- (2) The system data setting (ASYDL/ASYDN SYS1 Index680 Bit 1=1) needs to be set to activate the UG50-IPG (Analog). This system data setting is not required for the UG50 (LC) [Proprietary Protocol/SIP] in Multi-slot mode.

<COT Functions>

- (1) Note that the LINE or CH range to be registered is different to that of the existing IP component. There are different LINE or CH ranges for Retrofit mode and Multi-slot mode. When switching modes, the setting of the AMGIL command data has to be changed.
- (2) When migrating from Retrofit mode to Multi-slot mode, the UG50 (COT-TYPE1) and UG50 (COT-TYPE2) [Proprietary Protocol/SIP] does not support the MC part of the existing MC&MG-COT (4LC2COTA). Change the setting to KIND=Analog MC and MC-CH=0 (fixed) with the AISTL command.
- (3) Do not register the UG50 (COT-TYPE1)/UG50-4LC2COTA (COT)/UG50 (COT-TYPE2) [Proprietary Protocol/SIP]/UG50 (PGT-TYPE1)/UG50-4LC2COTA (PGT)/UG50 (PGT-TYPE2) [Proprietary Protocol/SIP] to the vacant accommodated location of the same group as the accommodated location where the existing MG-COT (6COT) [Proprietary Protocol/SIP] or the UG50-6COT [Proprietary Protocol/SIP] has been already registered.

7.8 Others

<Common>

- (1) Virtual MAC addresses are output as address information of devices displayed on the system messages: 33-S IP PKG Failure, 35-K IP Equipment Health Check Error Report and 36-E Registration Security Alert.
- (2) Telnet user restriction with the ATUD command is not supported.

<DLC Functions>

- (1) When sending a Voice Call to a Digital terminal accommodated in the UG50, three beeps of chime is provided even if four beeps of chime has been set (two beeps for a headset).
- (2) When replacing a terminal with one of the different series, be sure to wait for more than five seconds after unplugging the old terminal before plugging the new one in. Information of the existing terminal is cleared.
- (3) When a cable between the UG50 and a Digital terminal is disconnected for more than five minutes, the UG50 stops sending back the response to the Telephony Server health check for the disconnected terminal.
- (4) Fault notification (equivalent to -48v overcurrent) is not provided when a fault occurs on lines between the UG50 and Digital terminals.
- (5) The UG50 provides time-of-day information in the range of January 1, 2008 -December 31, 2095. Therefore, if anything beyond this range is set to the Telephony Server, the time will not be reflected on terminals accommodated in the UG50.
- (6) When terminals accommodated in the UG50 are placed into the make-busy state by the MBST command, the terminal displays the following on its LCD.

Terminal Off Line

(7) An error message displays on its LCD in the following cases:

- When the station data registered on the UG50 is not registered on the Telephony Server. The same station data needs to be assigned on both the Telephony Server and the UG50.
- When a double assignment exists. (e.g., an Analog station is assigned using the port MAC address and a Dterm IP UG50 station is assigned)



Unauthorized

(8) The terminals accommodated in the UG50 display an error message just as IP terminals do. Refer to the Peripheral Equipment Description (Multi-Line Telephone) for the details of messages and the corrective action measures to perform.

(e.g.)

- When a timeout occurs after the terminals attempt to connect to DRS.



DRS Connect Time Out

Note: Revise the current office data settings on the Telephony Server or the settings on the UG50 if the message above repeatedly appears on the screen.

- When a Digital terminal cannot communicate with the Telephony Server due to a network failure.



Network Busy

- The UG50 retries to connect to the Telephony Server after the error message above is displayed. (When a Digital terminal connects to DRS)



DRS(1st) Connecting...

IP telephones display “Exit” on the bottom of their LCD. DRS registration can be performed again by the soft key operation. However, “Exit” is not displayed on the Digital terminals accommodated in the UG50 since they perform DRS registration automatically without any key operation.



CHAPTER 2 INSTALLATION



1. Before Installation

1.1 Site Surveying

Before installing the UG50 and related equipment, ensure the installation location meets the specified conditions.

Point to be Checked	Description
Power Source	Required quantities of AC outlets and the distance between the UG50 Chassis and the AC outlets.
Weights and Dimensions	Shipping weight, height, width and depth of each UG50 equipment.
Installation Space	Space and condition of the place where the UG50 equipment will be installed.
Environmental Conditions	Temperature and humidity in the place where the UG50 equipment will be installed.
Grounding Requirements	Ground wire: No. 14 AWG copper wire Ground resistance: Type1 grounding conductor (below 10 Ω)

1.1.1 Power Source

Each UG50 requires commercial power source of AC 100 V to 240 V (50/60 Hz). The UG50 AC power cord is about 30 meters long and connected to the AC Inlet located on the back of the UG50 Chassis. Make sure that the power cord can reach the AC outlet without extension cable.

For power consumption of the UG50 Chassis, see [5.2 Specifications](#) in Chapter 1.

Note: The UG50 chassis is provided with a softswitch and has no physical power switch. You need to unplug the power cord from the AC outlet to disconnect the UG50 Chassis from commercial power source. Keep the space around the AC outlet clear to allow access to the power cord.

1.1.2 Weights and Dimensions

When installing the UG50 equipment, be sure to secure each UG50 equipment to the floor and wall surface which can sustain its weight. The table below shows the shipping weight, height, width and depth of each UG50 equipment.

UG50 Equipment Weights and Dimensions

Equipment	Shipping Weight	Height	Width	Depth
19" Chassis (CHS2UG)	278.7 oz (7.9 kg)	3.46 in (88 mm)	16.9 in (430 mm)	16.2 in (411 mm)
9.5" Chassis (CHS2UG B)	158.7 oz (4.5 kg)	8.46 in (215 mm)	14.5 in (369 mm)	4.57 in (116 mm)

Equipment	Shipping Weight	Height	Width	Depth
GCD-CP00-GW	7.06 oz (0.2 kg)	0.98 in (25 mm)	5.71 in (145 mm)	7.09 in (180 mm)
GPZ-ME50-UG50	.353 oz (0.01 kg)	0.12 in (3 mm)	2.56 in (65 mm)	1.22 in (31 mm)
CHSG LARGE BATT BOX	352.7 oz (10 kg)	23.23 in (590 mm)	17.72 in (450 mm)	10.43 in (265 mm)
CHS LARGE BATT SET	194 oz (5.5 kg)	6.69 in (170 mm)	5.91 in (150 mm)	4.33 in (110 mm)
CHS2UG B SMALL BATT BOX	59.97 oz (1.7 kg)	4.53 in (115 mm)	8.66 in (220 mm)	3.15 in (80 mm)
CHSGW SMALL BATT SET	31.2 oz (0.88 kg)	5 in (127 mm)	5.75 in (146 mm)	4.75 in (120.6 mm)
MPS7101	42.33 oz (1.2 kg)	2.36 in (60 mm)	7.08 in (180 mm)	6.10 in (155 mm)
GPZ-32/64/128IPLD	1.76 oz (0.05 kg)	0.60 in (15 mm)	3.15 in (80 mm)	6.3 in (160 mm)
GCD-8DLCA	5.89 oz (0.167 kg)	0.98 in (25 mm)	5.71 in (145 mm)	7.09 in (180 mm)
GPZ-8DLCB	4.41 oz (0.125 kg)	0.60 in (15 mm)	4.72 in (120 mm)	5.12 in (130 mm)
GCD-16DLCA	7.831 oz (0.222 kg)	1.89 in (48 mm)	9.45 in (240 mm)	7.68 in (195 mm)
GCD-4COTA/B/C	6.35 oz (0.18 kg)	1.89 in (48 mm)	9.45 in (240 mm)	7.68 in (195 mm)
GPZ-4COTE/F/G	3.53 oz (0.10 kg)	1.89 in (48 mm)	9.45 in (240 mm)	5.12 in (130 mm)
GCD-8LCA	6.46 oz (0.183 kg)	0.98 in (25 mm)	9.45 in (240 mm)	7.68 in (195 mm)
GPZ-8LCE	3.70 oz (0.105 kg)	0.60 in (15 mm)	9.45 in (240 mm)	5.12 in (130 mm)
GCD-PGTA	5.04 oz (0.143 kg)	1.89 in (48 mm)	9.45 in (240 mm)	7.68 in (195 mm)
GCD-PRTA	5.5 oz (0.156 kg)	0.98 in (25 mm)	9.45 in (240 mm)	3.94 in (100 mm)
CHS BASE UNIT	352.7 oz (10 kg)	4.72 in (120 mm)	19.69 in (500 mm)	14.37 in (365 mm)
CHS2UG BLANK SLOT COVER KIT	1.76 oz (0.05 kg)	2.32 in (60 mm)	1.57 in (40 mm)	1.57 in (40 mm)
CHSG L BATT BOX RACK MOUNT BRACKET	352.7 oz (10 kg)	18.5 in (470 mm)	14.6 in (370 mm)	2.76 in (70 mm)
CHS2U INT BATT SET	95.24 oz (2.7 kg)	4.33 in (110 mm)	2.76 in (70 mm)	3.15 in (80 mm)

Equipment	Shipping Weight	Height	Width	Depth
CHS2U RACK MOUNT KIT	17.6 oz (0.5 kg)	0.91 in (23 mm)	9.65 in (245 mm)	3.35 in (85 mm)
CHS1U/2U WALL MOUNT KIT	35.27 oz (1 kg)	1.18 in (30 mm)	13.8 in (350 mm)	1.77 in (45 mm)
CHSG LARGE BATT BOX	458.6 oz (13 kg)	5.24 in (133 mm)	16.93 in (430 mm)	14.3 in (363 mm)
CHS2U JOINT BRACKET KIT	7.06 oz (0.2 kg)	0.19 in (3 mm)	5.91 in (150 mm)	1.7 in (43 mm)
CHS2U BATT MTG KIT 6 Slot	106 oz (3.0 kg)	2.95 in (75 mm)	4.45 in (113 mm)	4.13 in (105 mm)

1.1.3 Installation Space

The following space is required around the UG50 for release of the heat inside of it and for maintenance.

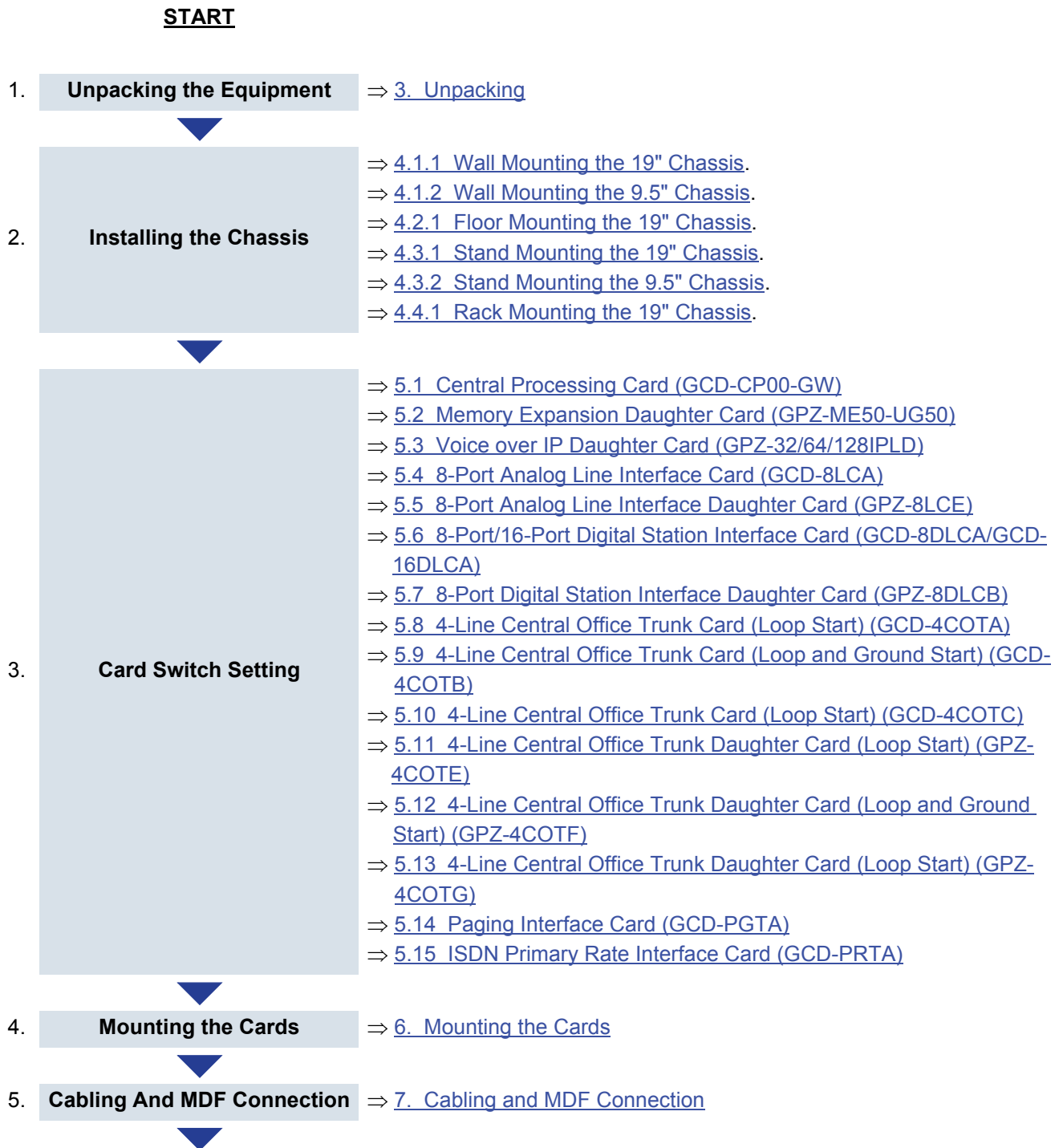
- Ensure 500 mm or more of space in front of the UG50 Chassis for inserting/removing each card.
- When installing two or more UG50s, keep at least a 60 mm-interval between each chassis (Except in case where the 19-inch module is mounted on the 19-inch rack).
- When mounting the UG50 Chassis on the floor, keep at least a 300 mm-interval between the back side of the UG50 Chassis and the wall.
- Do not place on something that prevents ventilation on/around the UG50 Chassis
- When using Short-Term Battery Box (CHS2UG B SMALL BATT BOX), ensure at 500 mm or more space from the end of the battery box.

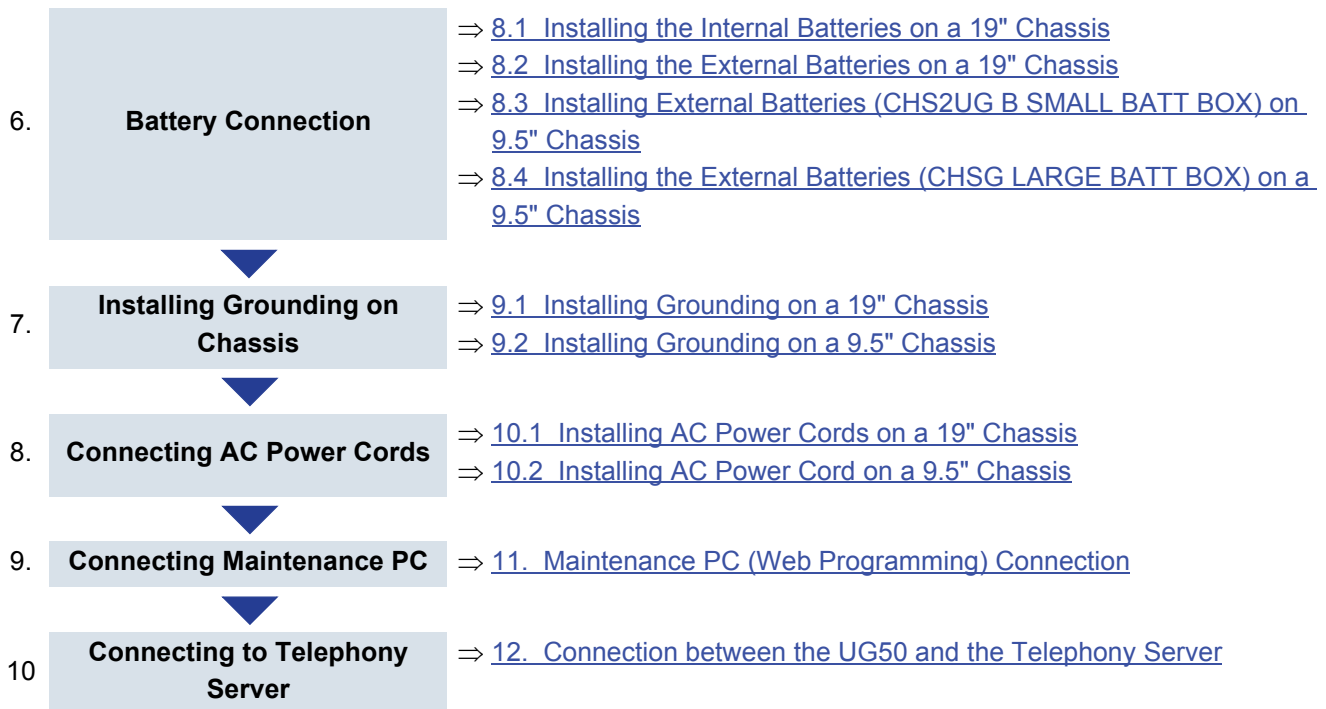
1.1.4 Environmental Conditions

The following are environment conditions for installation location of the UG50 equipment.

- Operational temperature range: +32°F to +104°F (0°C to 40°C)
- Storage temperature range: -4°F to +140°F (-20°C to 60°C)
- Operational humidity range: 10 to 90% RH (non-condensing)
- Storage humidity range: 10 to 90% RH
- Location where there are no extreme fluctuations in temperature and humidity
- Well-ventilated area
- Location away from high-frequency sewing machine and electric welding machine
- Location away from computer and office automation equipment
- Location away from radio, television and wireless equipment
- Location away from medical devices
- Location away from power line
- Location away from devices which serve as a source of noise
- Keep out of direct sunlight.
- Location where it does not get in the way.
- Keep oil, water and chemicals away from the equipment.
- Location where there is less metal powder and dust
- Location where there is less vibration and noise

2. Installation Flow





END

3. Unpacking

Inspect the equipment for any physical damage. If you are not sure about the function of a component, review the associated information within this manual. Contact your authorized NEC Sales Representative if you have additional questions. Note that the chassis does not initially contain any cards.

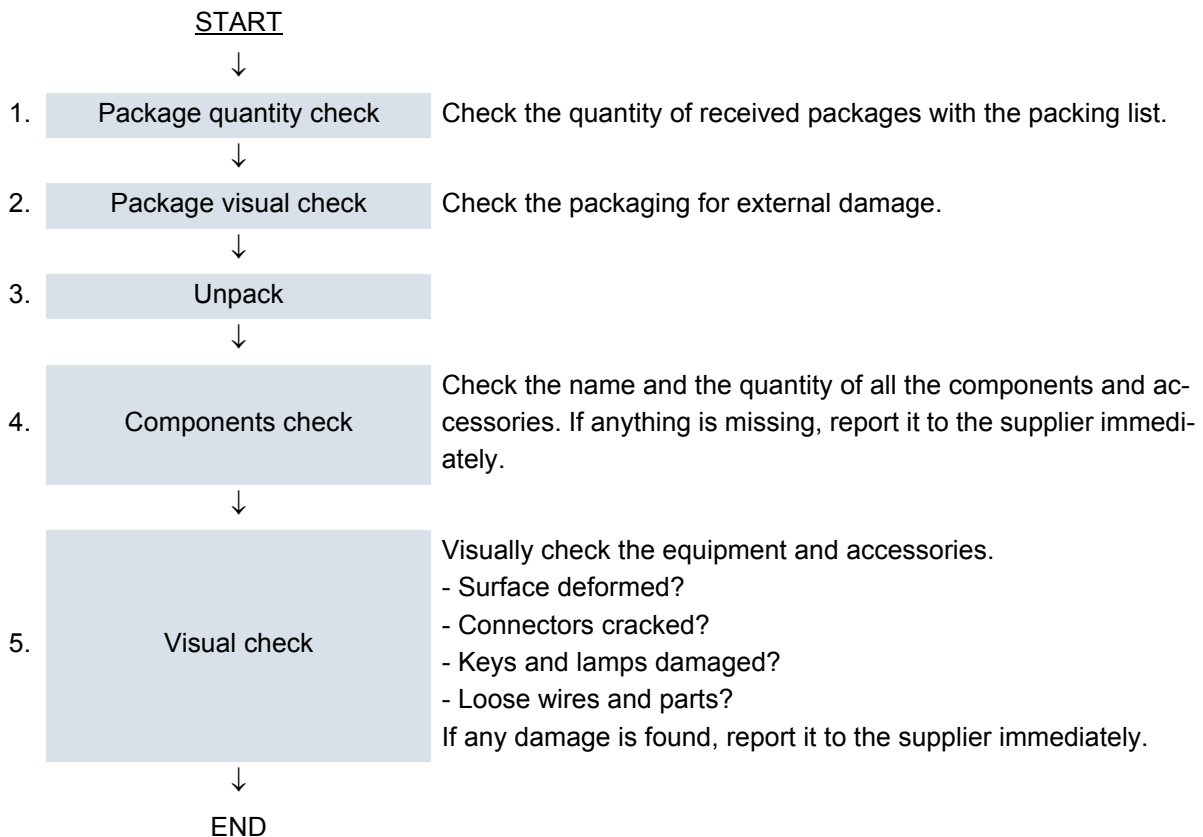
Make sure you have appropriate tools for the job, including: a test set, a punch down tool, and a digital voltmeter.

Ensure that you have a building plan showing common equipment, extensions, the Telco demarcation and earth ground location before you start installation. Be sure to properly plan your installation site and that you are familiar with the installation safety precautions.

[1] 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.

[2] Unpacking Procedure



4. Installing the Chassis

Before proceeding with installation of chassis, ensure site preparation is completed. The table below shows the installation patterns for each chassis.

Installation Patterns for Each Chassis

Mounting Method	Chassis	Remarks
Wall-mounted	19" Chassis (CHS2UG)	Refer to 4.1.1 Wall Mounting the 19" Chassis .
	9.5" Chassis (CHS2UG B)	Refer to 4.1.2 Wall Mounting the 9.5" Chassis .
Floor-mounted	19" Chassis (CHS2UG)	Refer to 4.2.1 Floor Mounting the 19" Chassis .
	9.5" Chassis (CHS2UG B)	-
Stand-mounted	19" Chassis (CHS2UG)	Refer to 4.3.1 Stand Mounting the 19" Chassis .
	9.5" Chassis (CHS2UG B)	Refer to 4.3.2 Stand Mounting the 9.5" Chassis .
Rack-mounted	19" Chassis (CHS2UG)	Refer to 4.4.1 Rack Mounting the 19" Chassis .
	9.5" Chassis (CHS2UG B)	-

4.1 Wall Mounting the Chassis

4.1.1 Wall Mounting the 19" Chassis

When wall mounting the chassis, ensure the wall can support the weight of the chassis (55 lbs per system chassis – including blades, cords, power supply, etc.). The chassis is secured to the wall with a wall mount bracket.

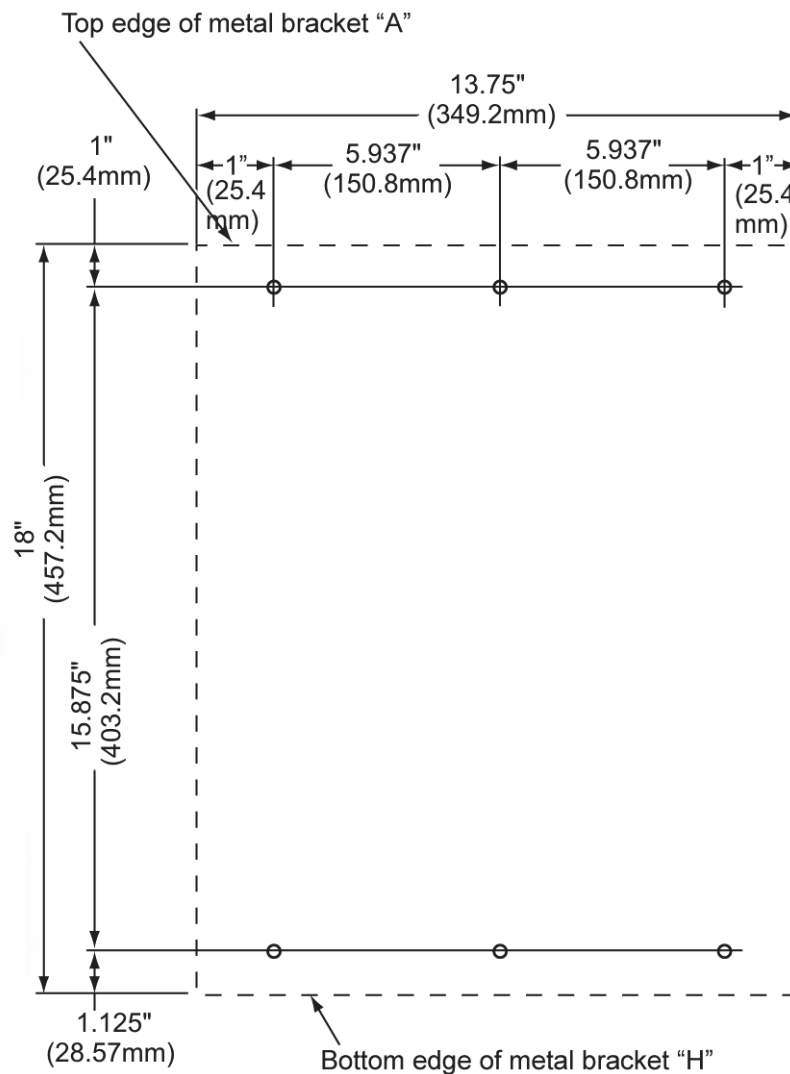


- Use the template shown in Figure [Wall Mount Spacing Guide \(19" Chassis\)](#) for required spacing before drilling.

Note: Plywood should first be installed on the wall where the chassis will be positioned. This allows secure anchoring of the screws which support the weight of the chassis.

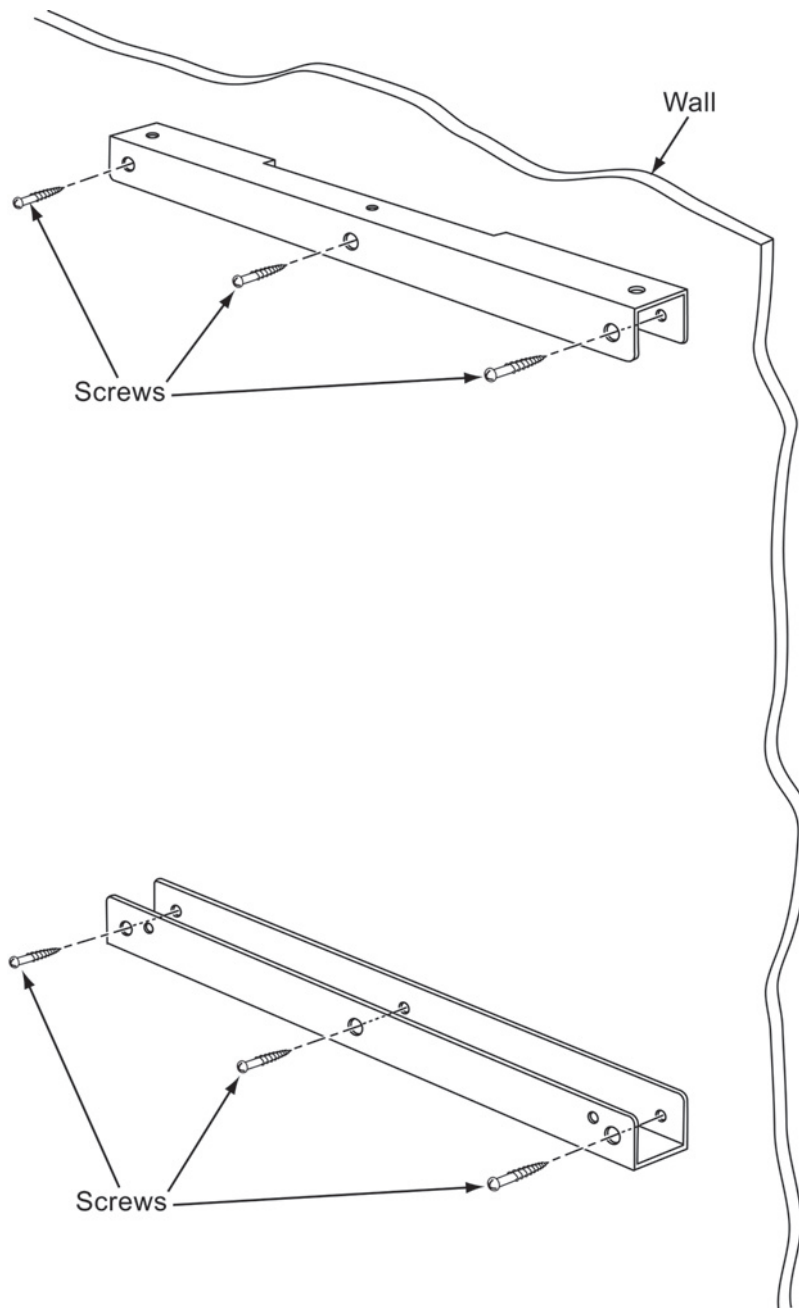
Note: Due to chassis weight, NEC recommends only a single CHS2UG chassis per wall mount.

Wall Mount Spacing Guide (19" Chassis)



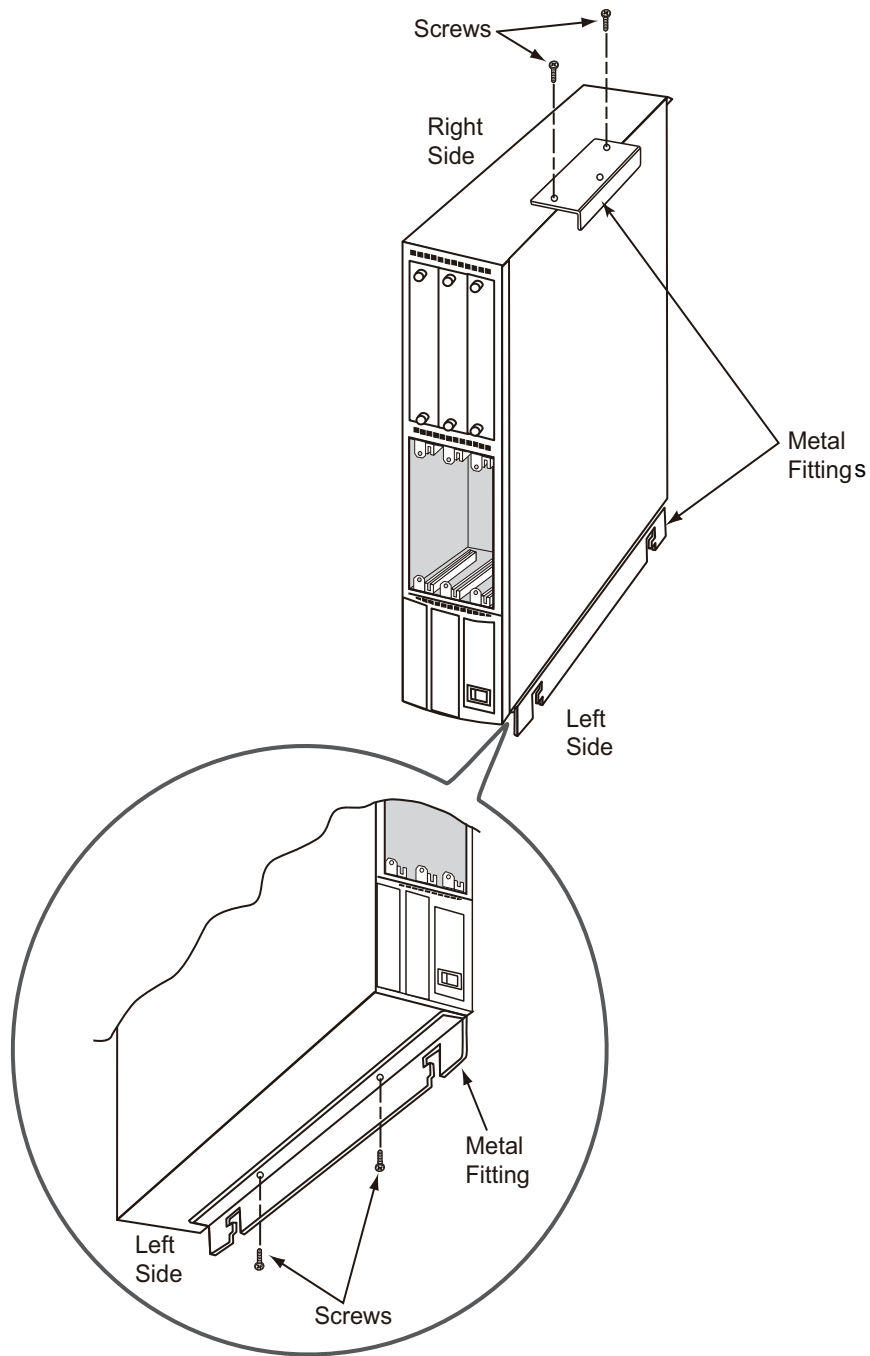
- (2) Mark and drill the six holes required for a wall installation.
- (3) Align screw holes in wall mount brackets with drilled holes.
- (4) Using six screws, secure the two wall mount brackets to the wall.

Install Wall Mount Brackets with Screws



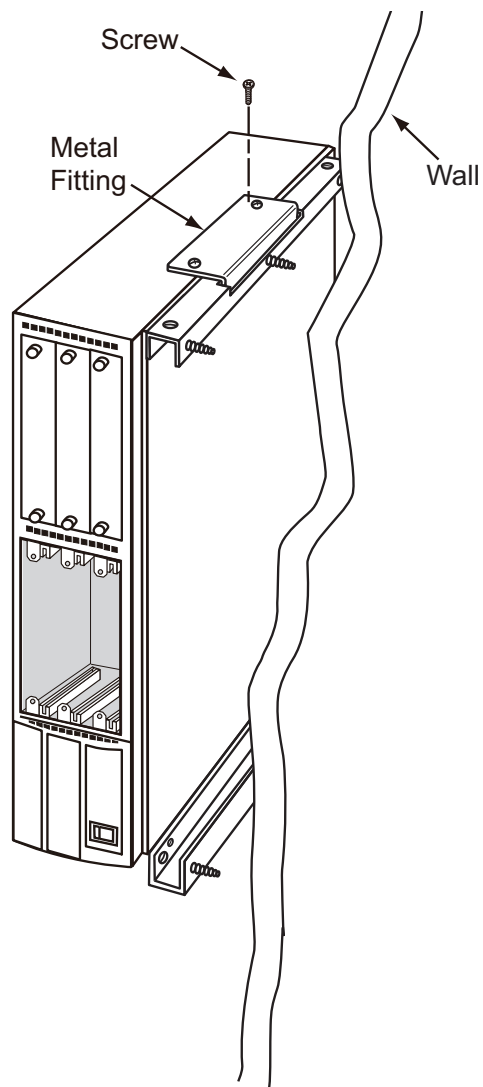
- (5) Using four screws, secure the metal fittings on the Left and Right sides of the 19" chassis.

Securing Metal Fittings to Chassis with Screws



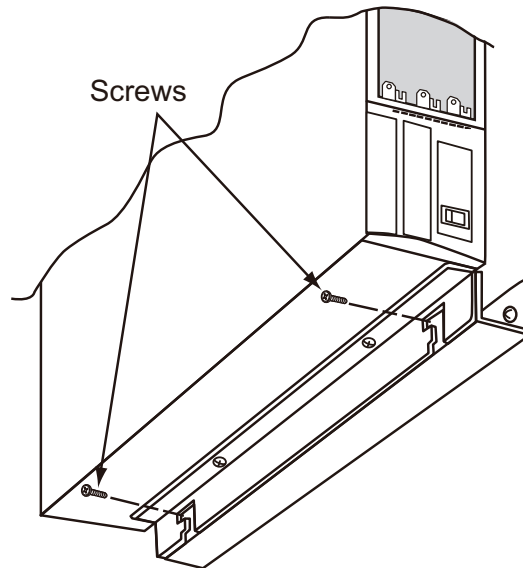
- (6) Align the metal fitting with the upper wall mount bracket. The lower metal fitting rests against the lower wall mount bracket. Secure the metal fitting and upper wall mount bracket with a single screw.

Secure Metal Fitting to Upper Wall Mount Bracket with a Screw



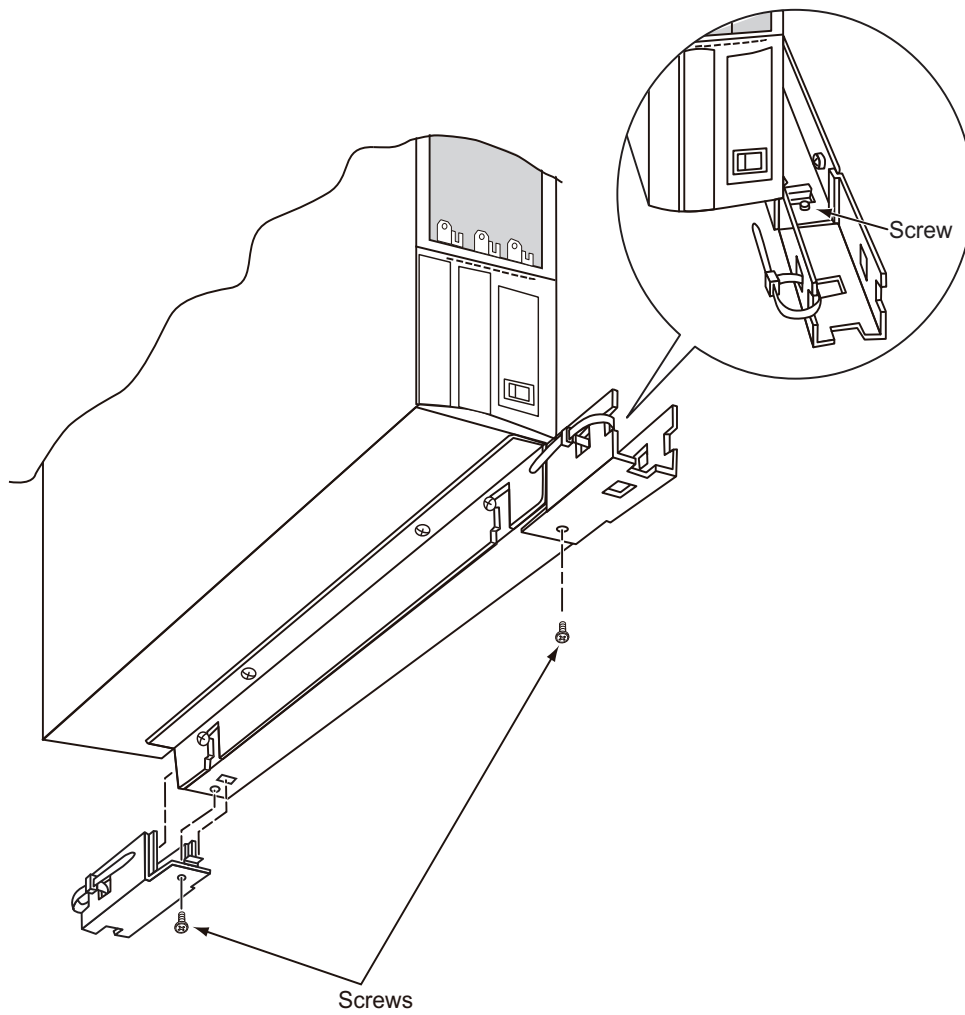
- (7) Using two screws, secure the metal fitting to the lower wall mount bracket.

Secure Metal Fitting to Lower Wall Mount Bracket with Screws



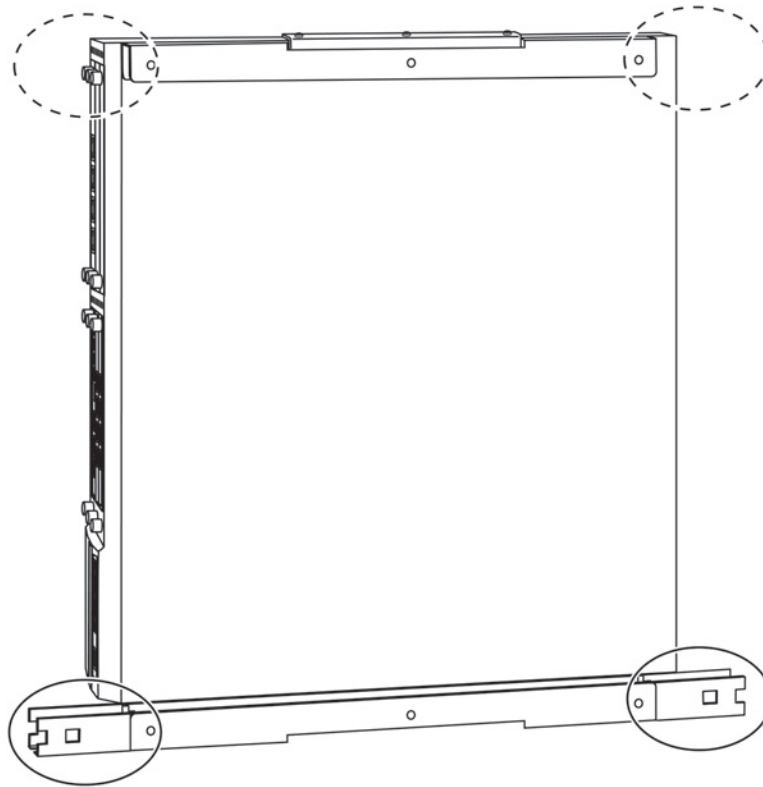
- (8) Attach the supplied cable support bracket to either end of the lower wall mount bracket with a single screw.

Attach Cable Support Bracket to Lower Wall Mount Bracket



- (9) The cable support bracket can be installed any of the four corners of the 19" chassis.

Attachment Locations of Cable Support Bracket



4.1.2 Wall Mounting the 9.5" Chassis

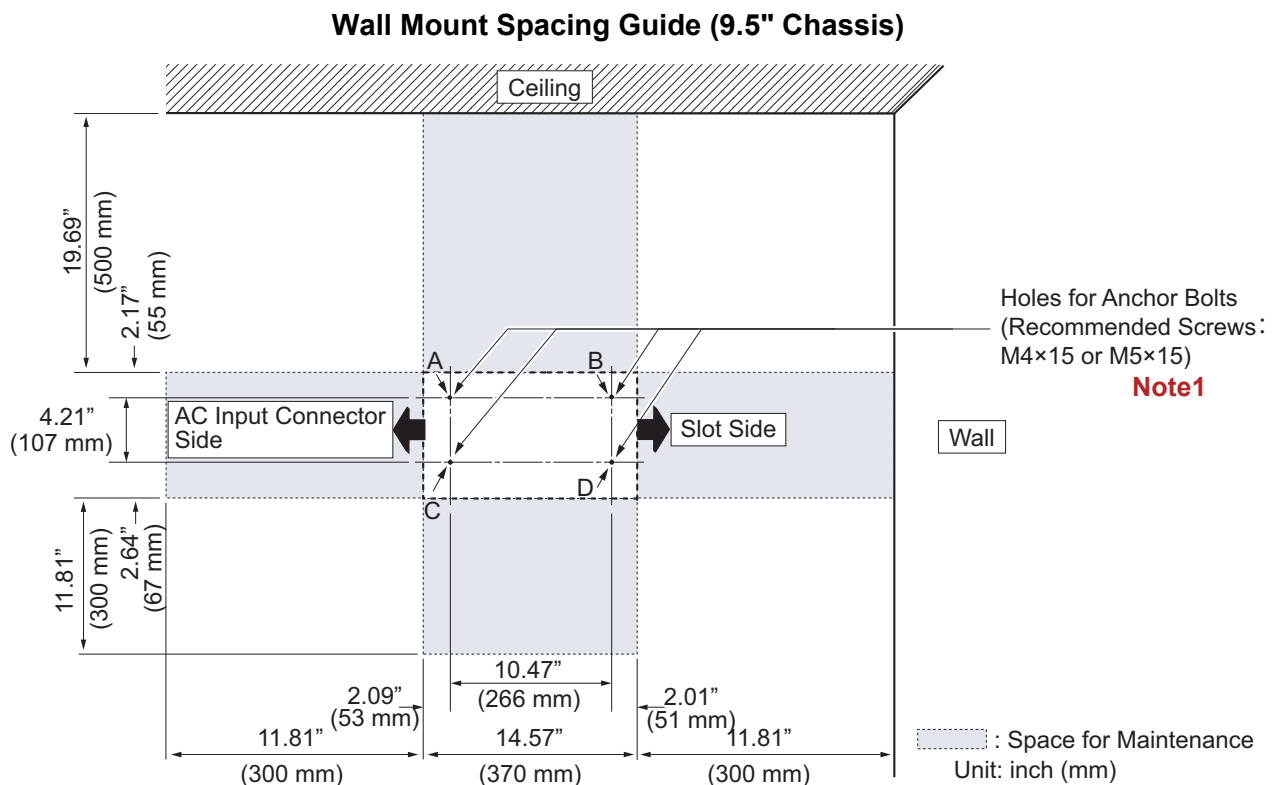
This section describes how to wall-mount UG50 main unit (9.5 inch) chassis by using Wall Mount Kit.

Note: Please consider the following important points when installing the main unit (9.5") chassis:

- A 1.69 inch (43 mm, the height of the Wall Mount) gap will be left between the unit and the wall.
- Be sure to orient the unit so that its Slot Face side is facing right and its Front Face side is facing you. For the view of the 9.5" chassis, see "[2.2 9.5" Chassis \(CHS2UG B\)](#)."
- When Short-Term Battery Box (CHS2UG B SMALL BATT BOX) is attached to the unit, you need to adapt the Wall Mounts to fit by reversing the bracket of the mount. For details, see "[4.1.3 Adapting Wall Mount \(for UG50 with Short-Term Battery Box\)](#)."

The following is the procedure for mounting the UG50 main unit (9.5 inch) chassis on the wall.

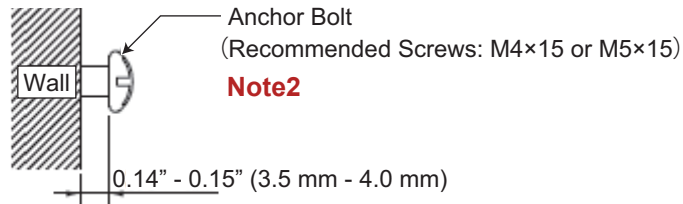
- (1) Use the template (IP5WW-3KSU TEMPLATE) for required spacing before drilling holes for anchor bolts (locally procured).
- (2) Mark and drill four holes (A, B, C, and D) in the wall for anchor bolts as shown in the figure below.



Note1: Anchor bolts are to be locally procured.

- (3) Install anchor bolts into the holes (A, B, C, and D) drilled in the previous step.

These bolts are used to hang the Wall Mounts. Be sure to leave a space of 0.14 to 0.15 inch (3.5 to 4.0 mm) between the underside of the screw head and the wall.

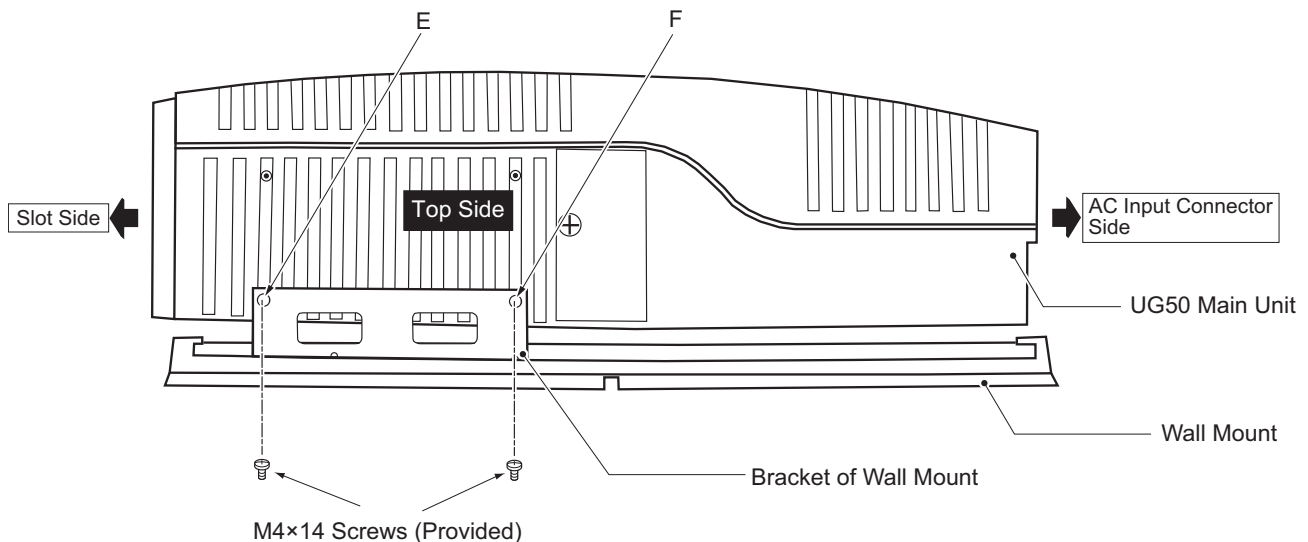


Note2: Anchor bolts are to be locally procured.

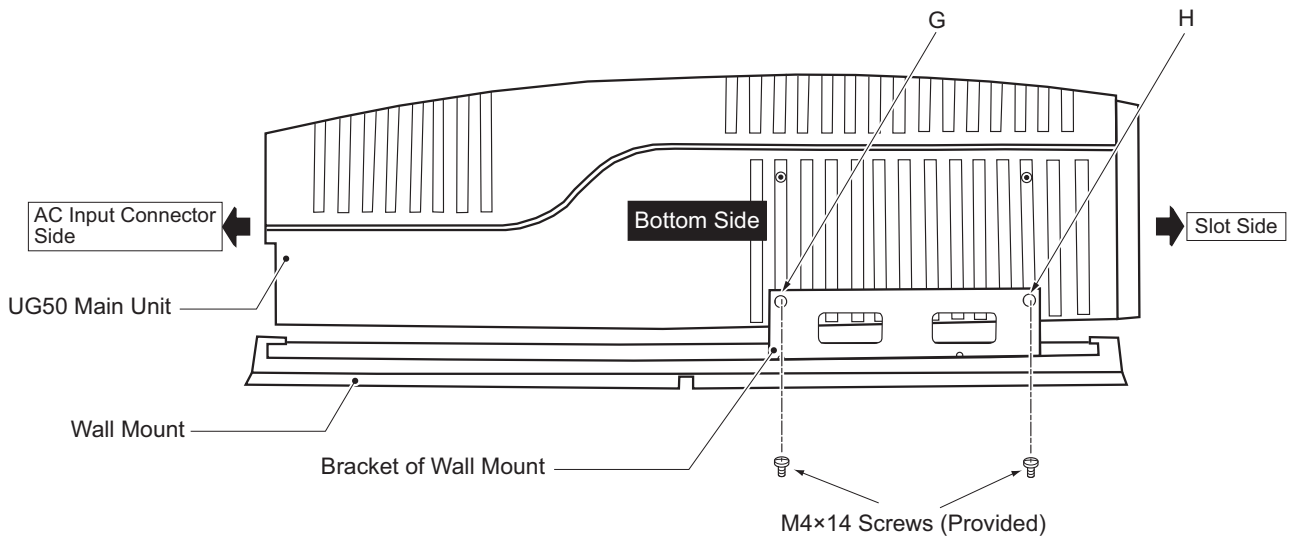
- (4) Align the holes on the bracket of the Wall Mount with the holes (E and F in the figure below) on the top of the UG50 main unit chassis, and then secure them with the screws provided.

Note: The figure below shows how to attach the Wall Mount to the UG50 main unit chassis without Short-Term Battery Box.

When Short-Term Battery Box is attached to the unit, the metal bracket of the Wall Mount needs to be reversed. For details, see [“4.1.3 Adapting Wall Mount \(for UG50 with Short-Term Battery Box\).”](#)

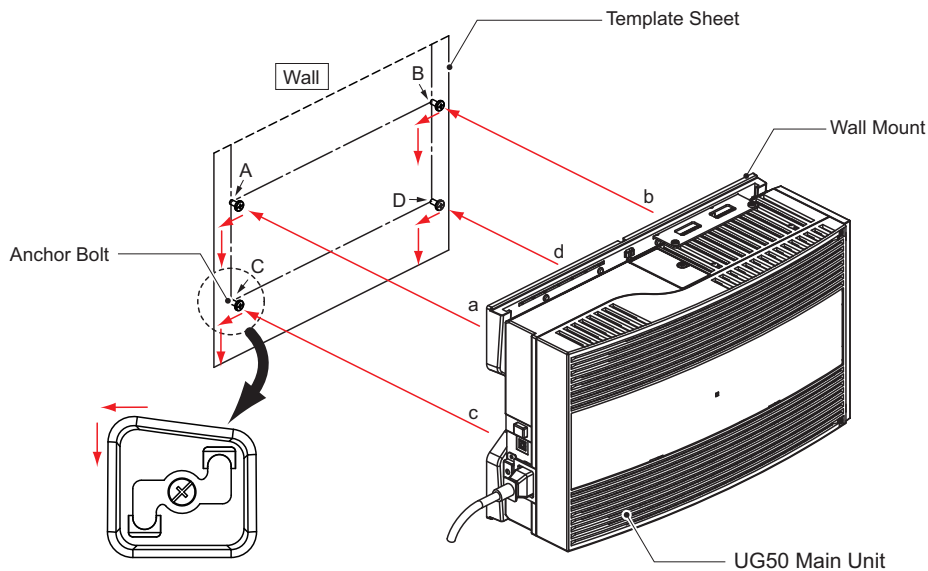


- (5) Align the holes on the bracket of the Wall Mount with the holes (G and H in the figure below) on the bottom of the UG50 main unit chassis, and then secure them with the screws provided.



- (6) Hang the unit onto the wall, aligning the holes (a, b, c, and d) on the Wall Mounts with the anchor bolts (A, B, C and D) you installed in Step 3), and then slide the unit left and down to secure it in place.

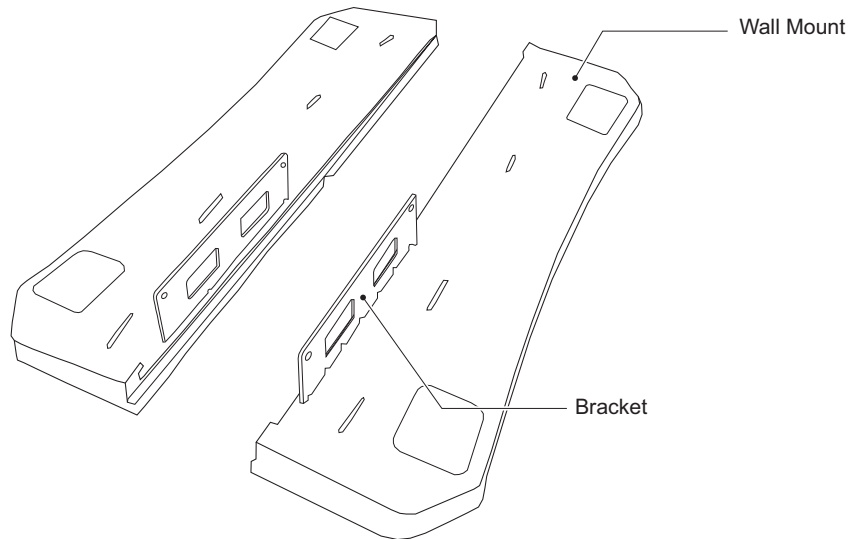
Mounting UG50 Main Unit on the Wall



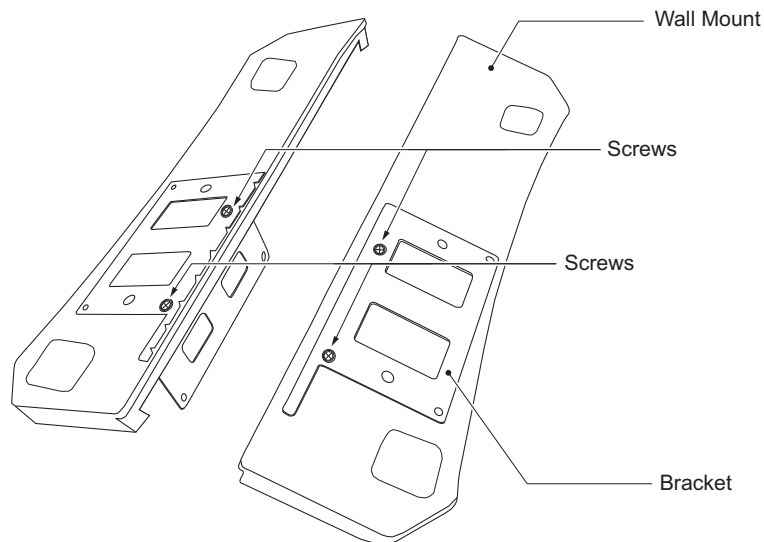
4.1.3 Adapting Wall Mount (for UG50 with Short-Term Battery Box)

When Short-Term Battery Box (CHS2UG B SMALL BATT BOX) is attached to the unit, you need to adapt the Wall Mounts to fit by reversing the bracket of the mount, following the steps below:

- (1) Prepare Wall Mounts.

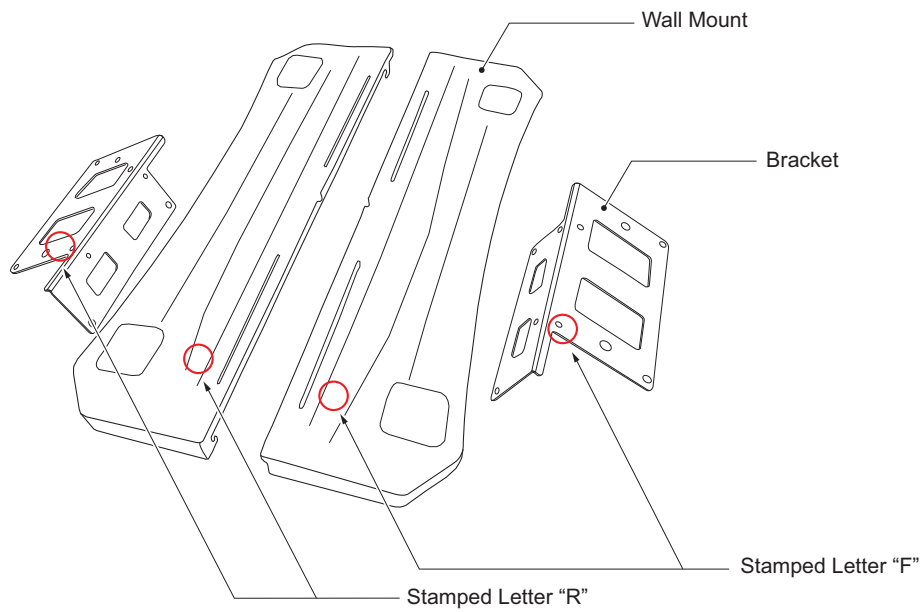


- (2) Turn over the Wall Mounts, and remove the four screws as shown in the figure below. Keep the screws for later use in Step [5](#).

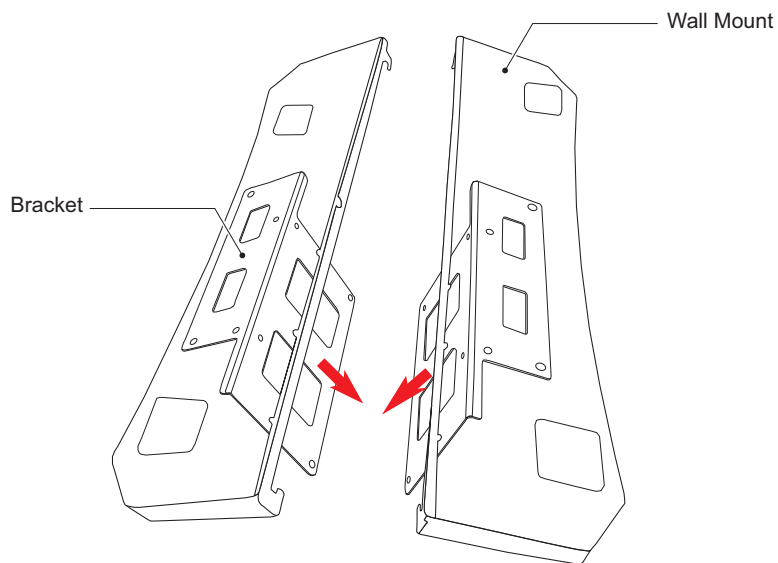


- (3) Remove the bracket from each Wall Mount.

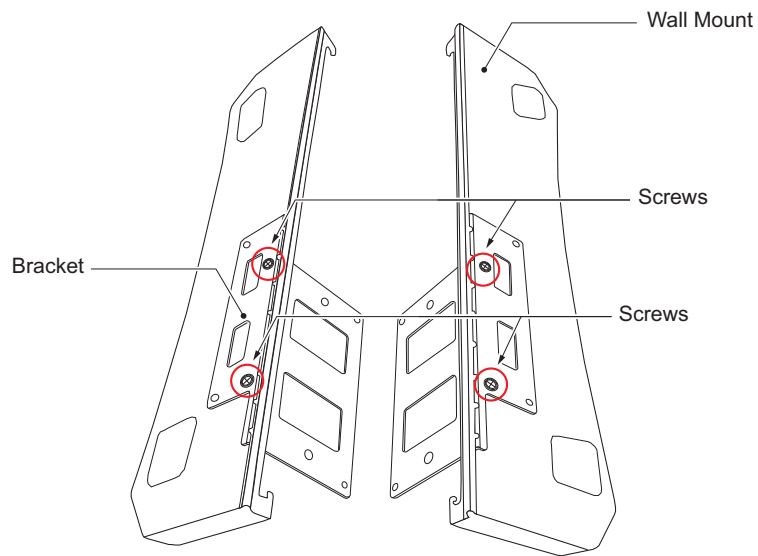
Note that the larger side of the bracket is stamped with the letter “F” or “R,” which are used to identify the correct combination of bracket and Wall Mount.



- (4) Fully insert the bracket into the slot on each Wall Mount, with the smaller (blank) side up.



- (5) Secure the brackets in place with the screws you removed in Step 2).



4.2 Floor Mounting the Chassis

4.2.1 Floor Mounting the 19" Chassis

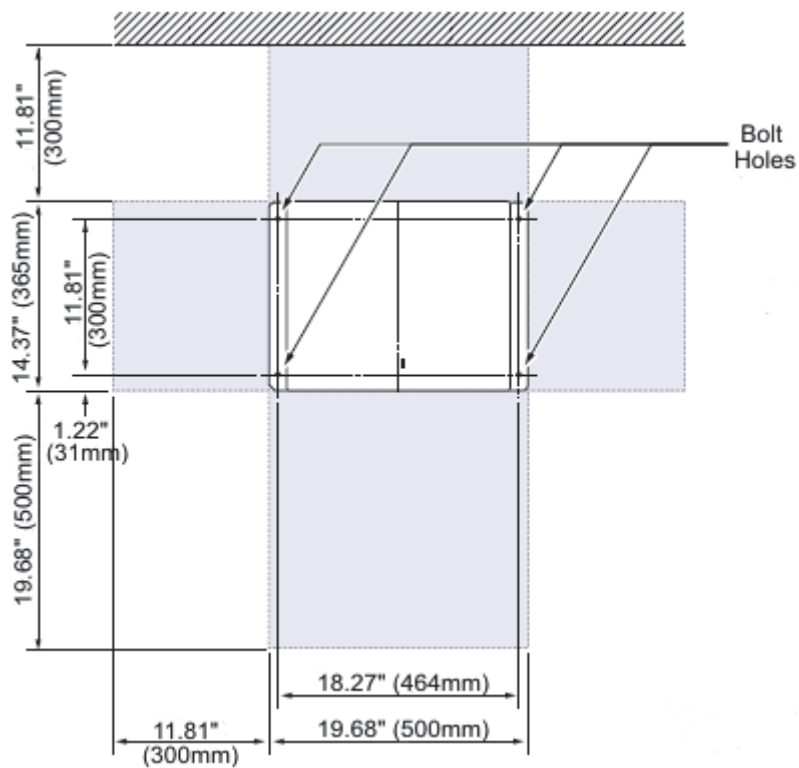
4.2.1.1 Single 19" Chassis Installation

The CHS2UG chassis can be mounted on the floor using the CHS BASE UNIT and the CHS2U JOINT BRACKET KIT.



- Use the template shown below for required spacing before drilling holes for 0.39" (10 mm) anchor bolts (locally procured).

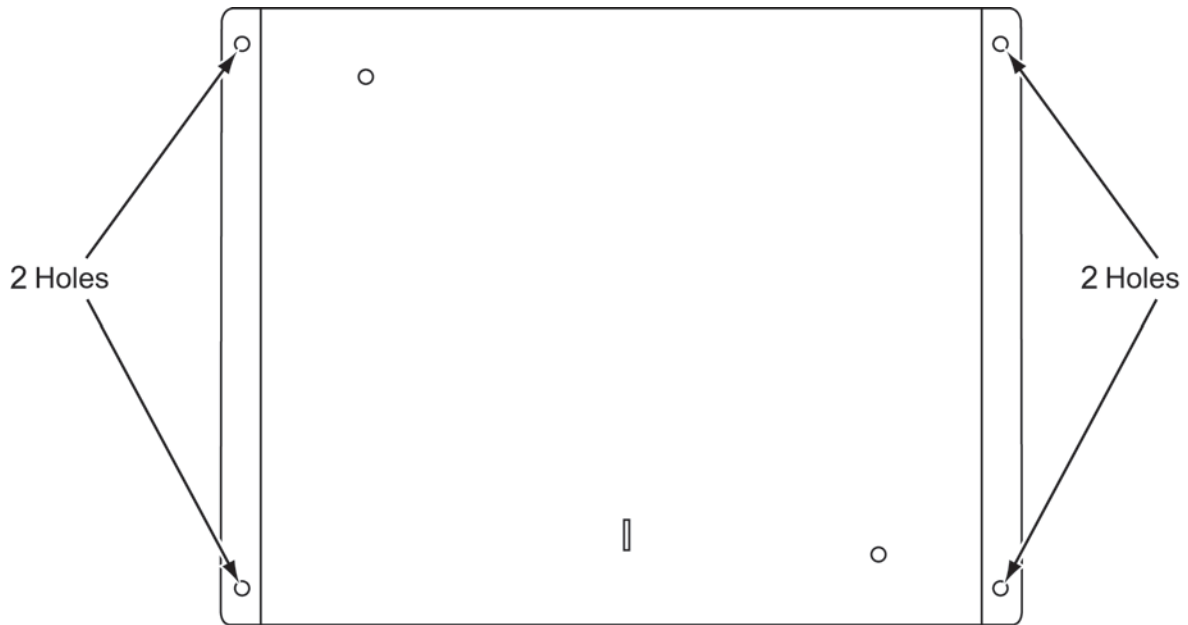
Floor Mount Spacing Guide



- Mark and drill the four holes required to install the CHS BASE UNIT.

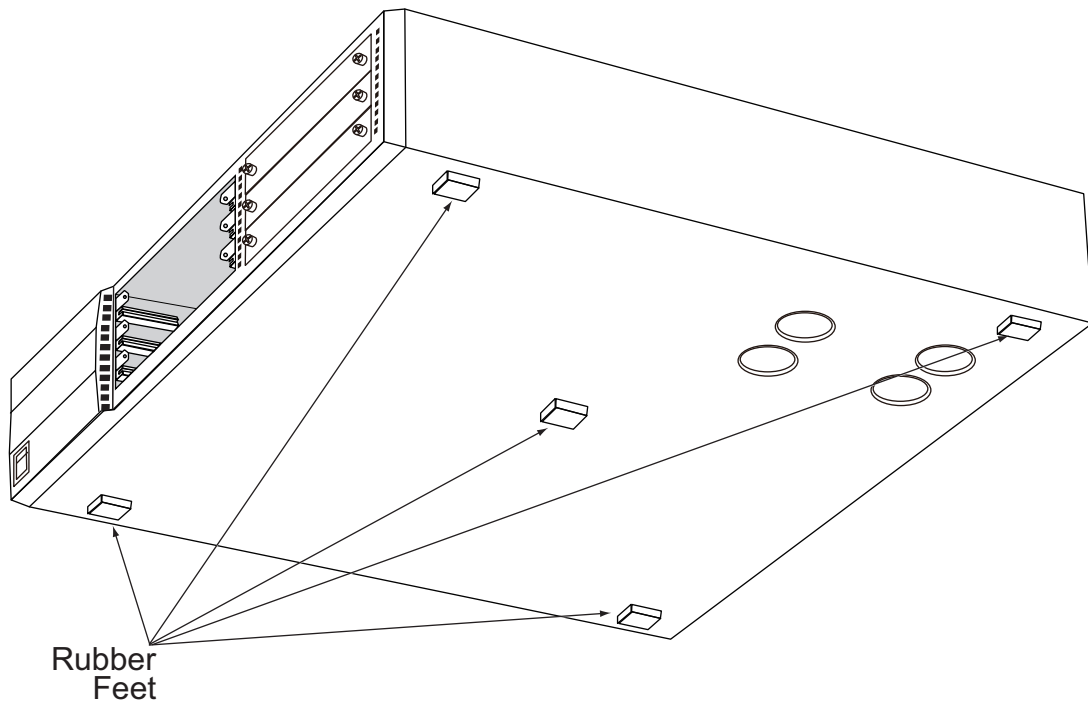
- (3) Using anchor bolts, secure the CHS BASE UNIT to the floor.

Secure CHS BASE UNIT with Anchor Bolts



- (4) Install the five rubber feet to the bottom of the chassis.

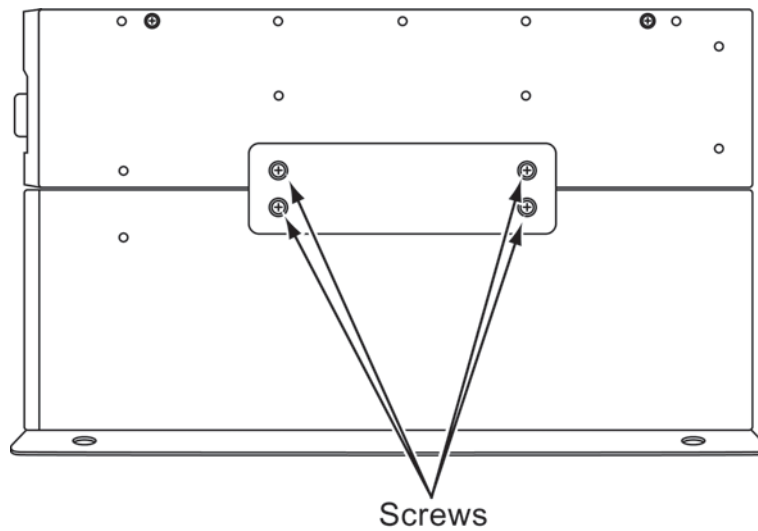
Install Rubber Feet (19" Chassis)



- (5) Position the chassis on top of the CHS BASE UNIT.

- (6) Secure the chassis to the CHS BASE UNIT using eight screws supplied with the CHS2U JOINT BRACKET KIT.

Secure CHS BASE UNIT with Anchor Bolts

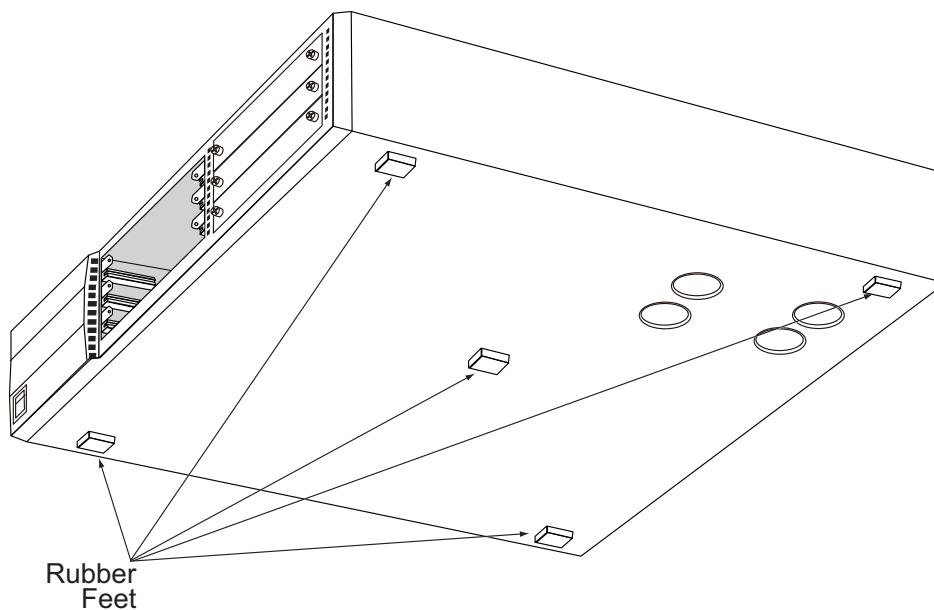


4.2.1.2 Multiple 19" Chassis Installation

Additional chassis can be secured to the CHS BASE UNIT and require an additional CHS2U JOINT BRACKET KIT per chassis.

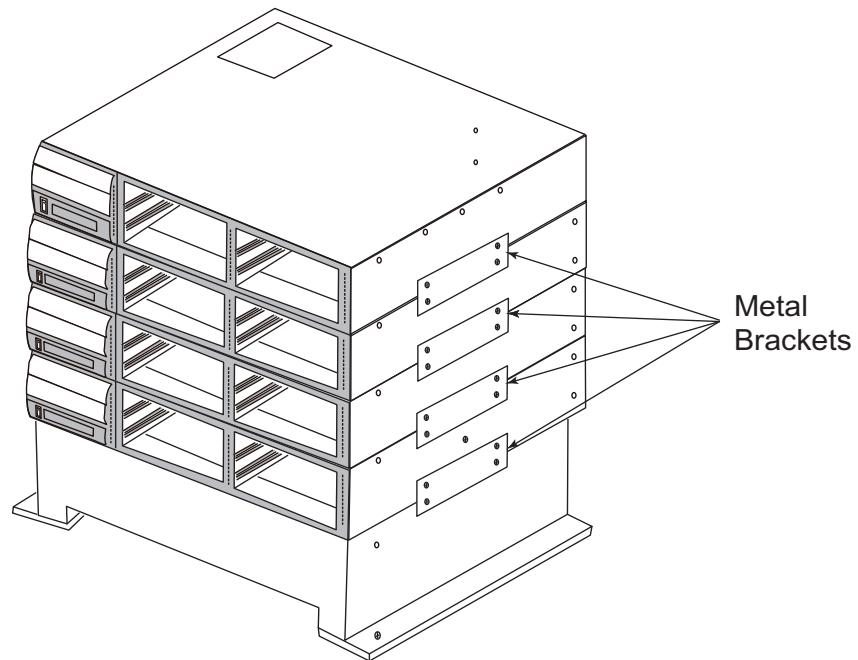
- (1) Install the five rubber feet to the bottom of each chassis.

Install Rubber Feet for Multiple Chassis



- (2) Using supplied screws in the CHS2U JOINT BRACKET KIT, attach metal brackets to both ends of the 19" chassis and the CHS BASE UNIT.

Install Metal Brackets with Screws



4.3 Stand Mounting the Chassis

4.3.1 Stand Mounting the 19" Chassis

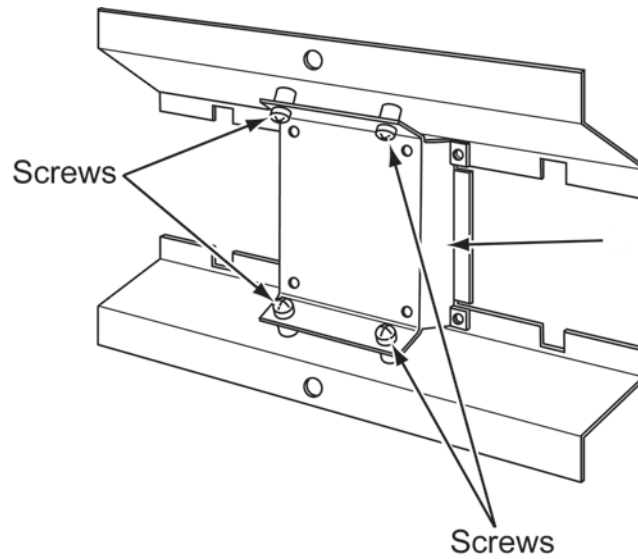
A single or multiple chassis can be stand mounted. Each chassis can be stand mounted using the CHS2U STAND KIT(K) and CHS2U STAND KIT (EXT).



4.3.1.1 Single 19" Chassis Installation

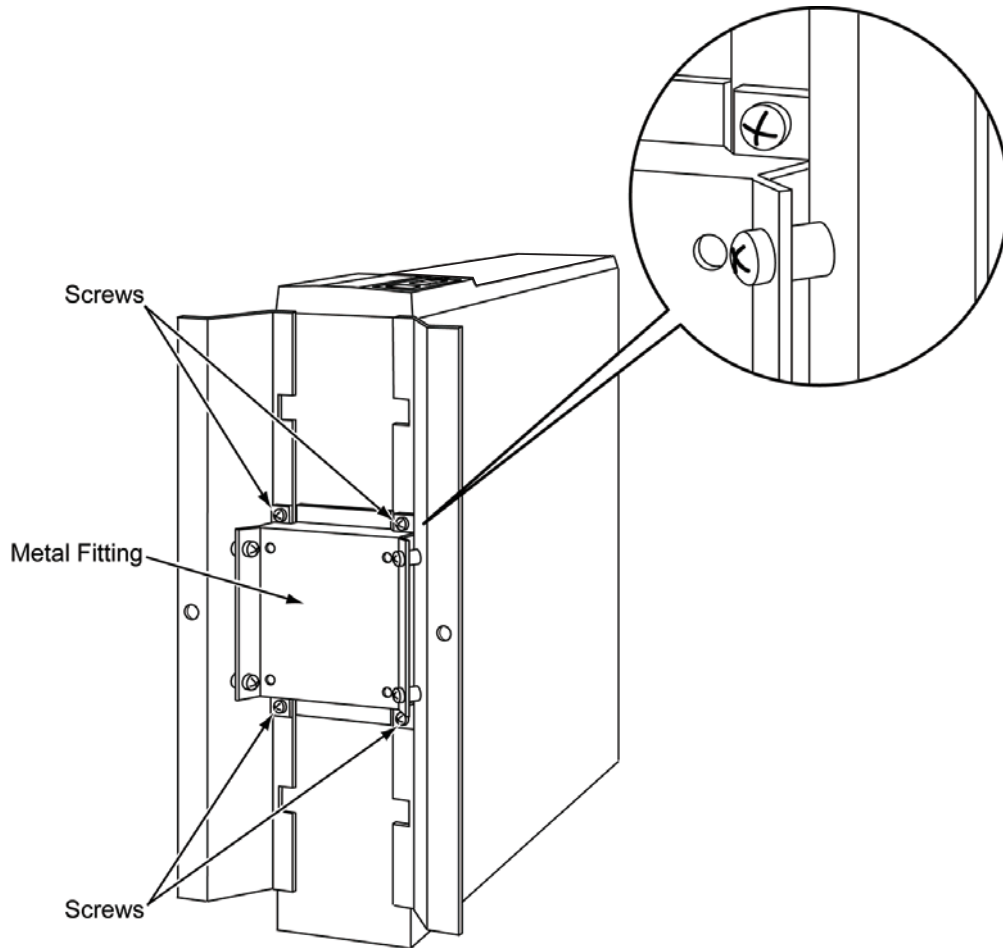
- (1) Using the supplied screws, assemble the CHS2U STAND KIT(K).

Assemble Stand Mount with Screws



- (2) Secure the CHS2UG-xx chassis to the assembled CHS2U STAND KIT.

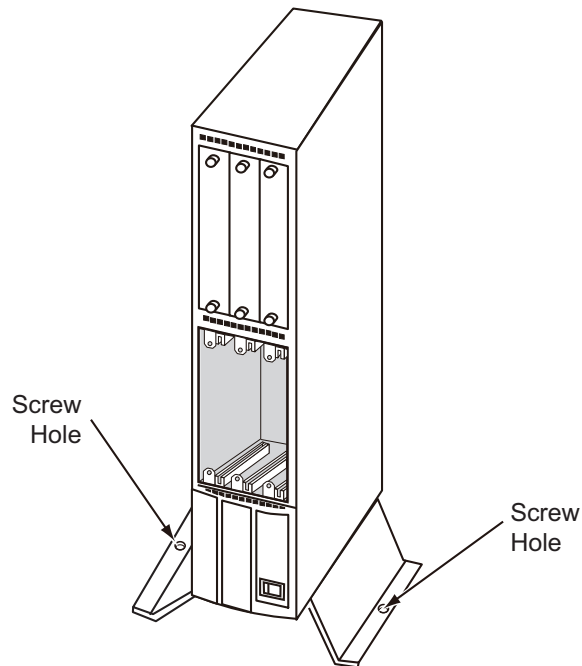
Secure CHS2UG Chassis to CHS2U STAND KIT with Screws



- (3) Using supplied screws, secure the CHS2U STAND KIT to the floor.

Note: To prevent possible damage to the 19" chassis due to falling, NEC recommends screws be installed in the stand mount brackets as soon as possible.

Secure Stand Mount to Floor with Screws

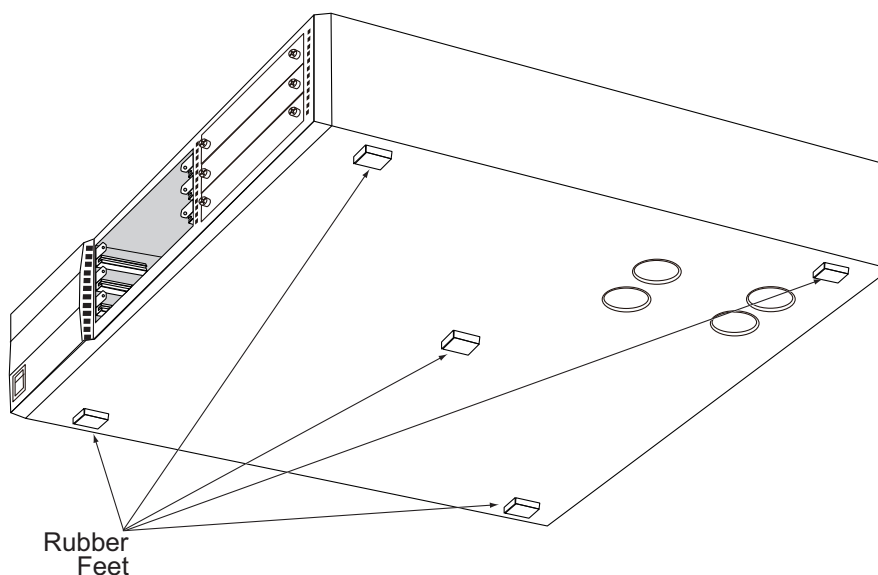


4.3.1.2 Multiple 19" Chassis Installation

An additional chassis (maximum of three) can be added to the CHS2U STAND KIT and require an additional CHS2U STAND KIT (EXT) per chassis.

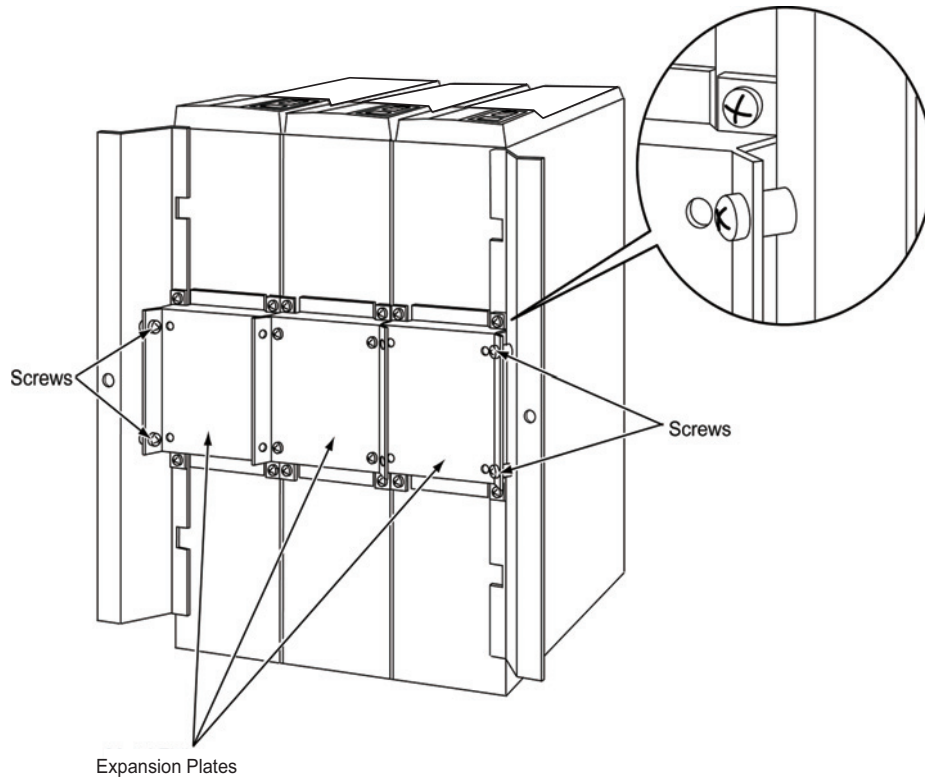
- (1) Install the five rubber feet to the bottom of each chassis.

Attach Rubber Feet to CHS2UG Chassis



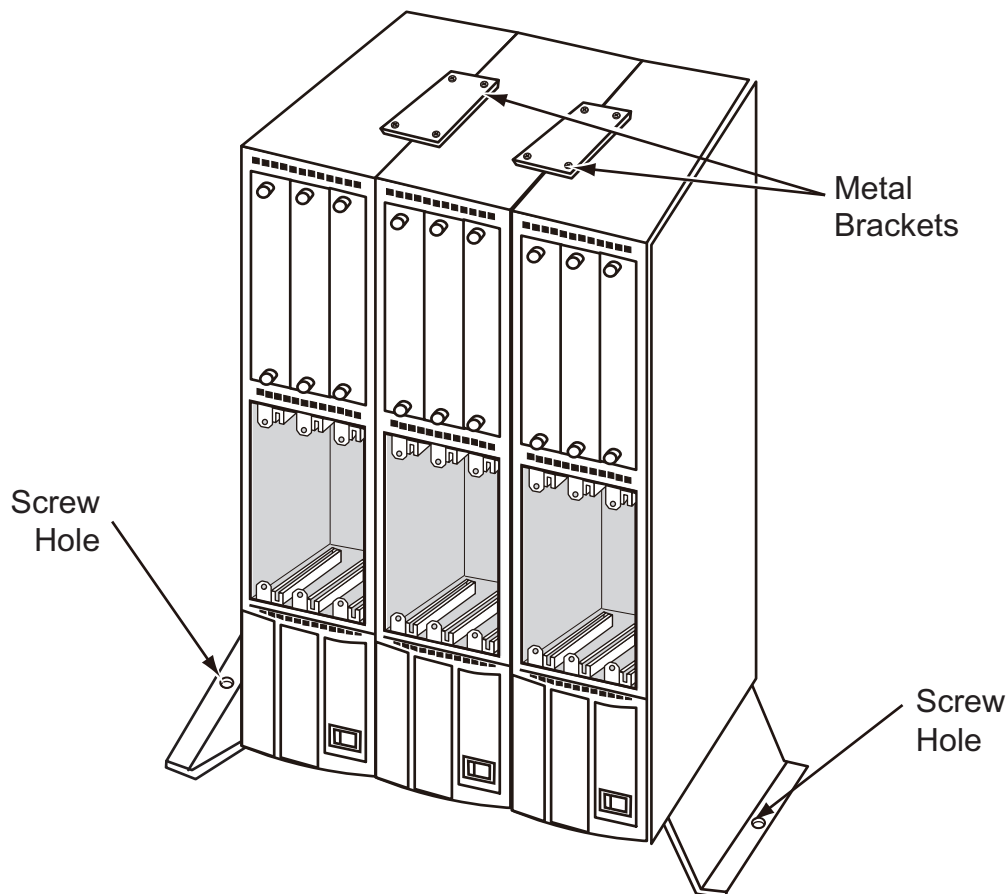
- (2) Each additional chassis requires a CHS2U STAND KIT (EXT) to be installed.

Install Additional CHS2U STAND KIT (EXT)



- (3) Metal brackets from the CHS2U JOINT BRACKET KITS are required to secure the top end of the chassis with screws.

Install Additional Brackets from CHS2U JOINT BRACKET KIT



- (4) Using supplied screws, secure the CHS2U STAND KIT to the floor (refer to [Install Additional Brackets from CHS2U JOINT BRACKET KIT](#)).

Note: To prevent possible damage to the 19" Chassis due to falling, NEC recommends screws be installed in the stand mount brackets as soon as possible.

4.3.2 Stand Mounting the 9.5" Chassis

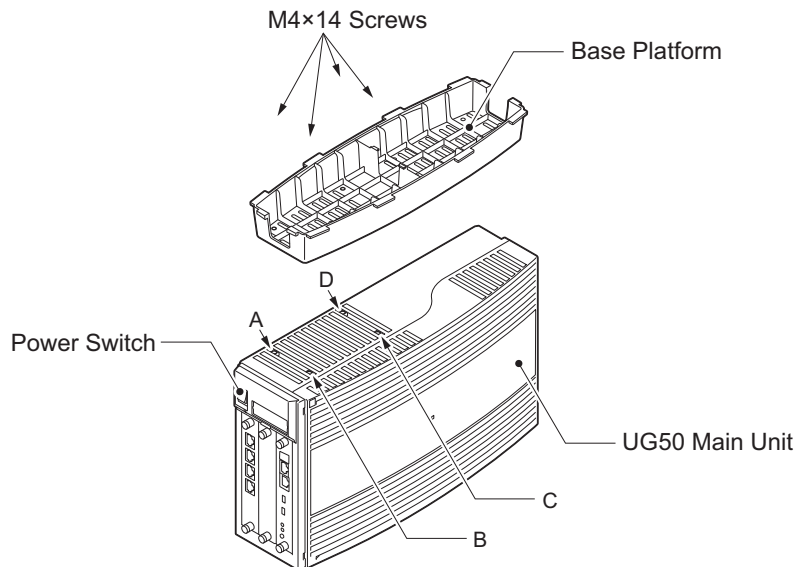
The 9.5" chassis can be stand mounted using the supplied Stand Mount Kit as follows:

Note: Please consider the following important points when installing the main unit (9.5") chassis:

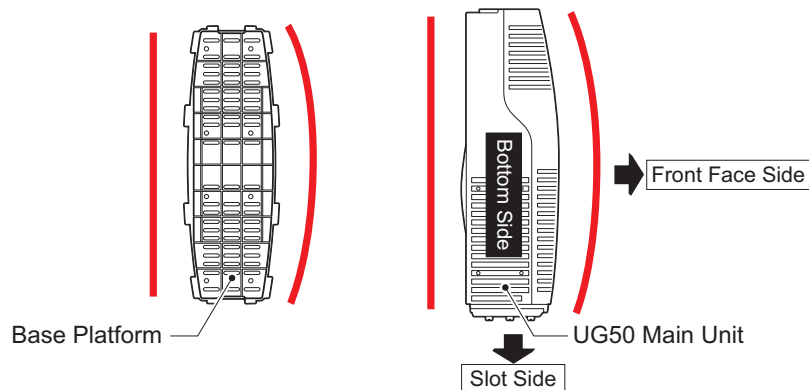
- The Stand Mount adds 1.97" (50 mm) to height.
- When installing the main unit (9.5") chassis on a location subject to constant vibration such as a floor, be sure to use the Stand Mount to ensure stability and support.

- (1) Turn the UG50 main unit chassis upside down, with its Power Switch facing upper left and its Front Face side facing you.
- (2) Turn the Base Platform over, and align the holes in the platform with the screw holes (A, B, C, and D) on the UG50 main unit chassis. Secure them with the M4×14 screws provided.

Connecting Base Platform to 9.5" Chassis



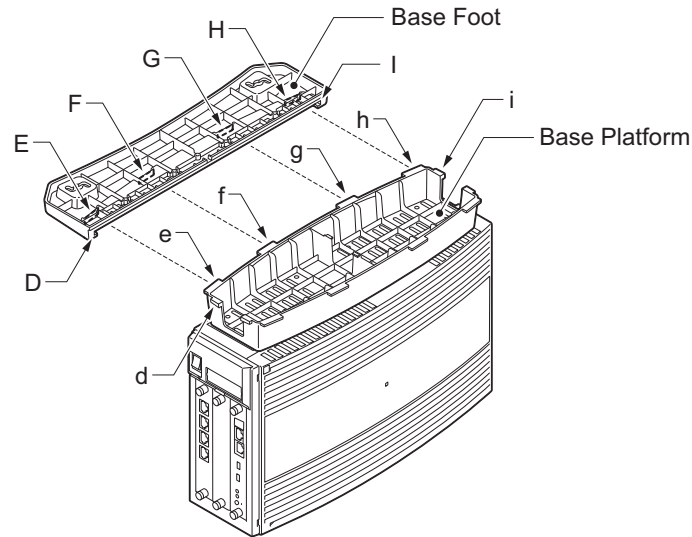
Note: Take care to position the Base Platform so that its curved edge lines up with the curved edge of the UG50 main unit chassis.



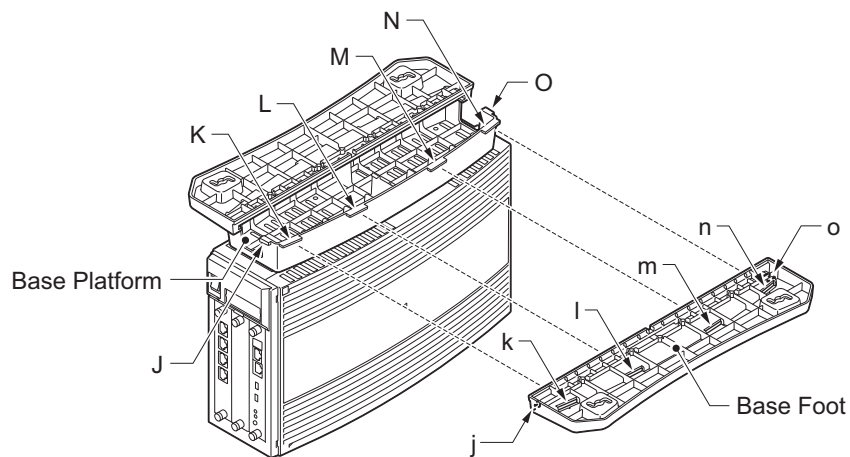
- (3) Turn over one of the Base Feet. Align its holes (D, E, F, G, H, and I) with the tabs (d, e, f, g, h, and i) on the Base Platform, and snap them in place.

Note that both Base Feet are the same and can be used in either the left or right position.

Attach Base Foot

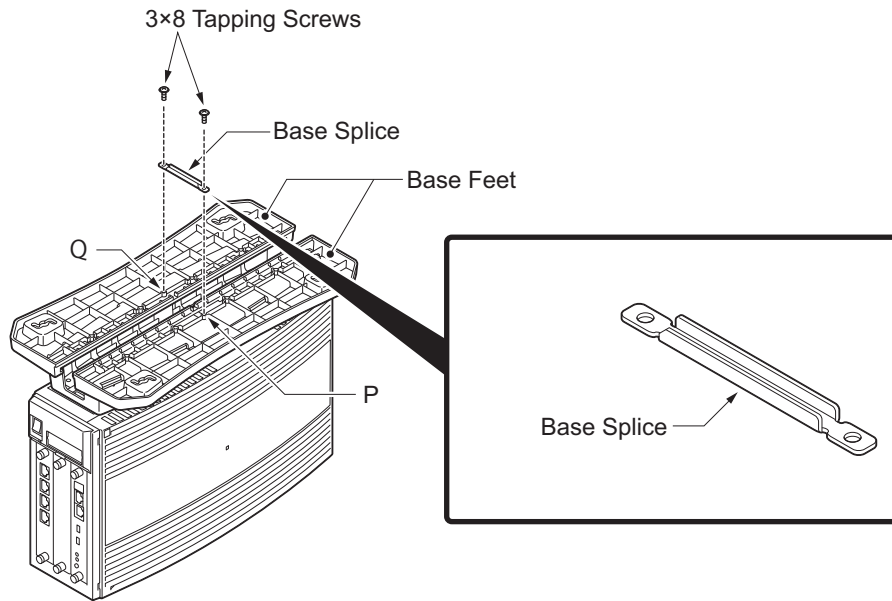


- (4) Turn over the other Base Foot. Align its holes (J, K, L, M, N, and O) with the tabs (j, k, l, m, n, and o) on the Base Platform, and snap them in place.



- (5) Hold the base splice with its inner surface facing up (see the figure below). Align the two holes on the splice with the screw holes (P and Q) on the Base Feet, and secure them with the 3×8 tapping screws provided.

Attaching Base Splice to Base Feet



- (6) Turn the unit over again, back to the original side.

Note: For maintenance space of UG50, see [“1.1.3 Installation Space.”](#)

4.4 Rack Mounting the Chassis

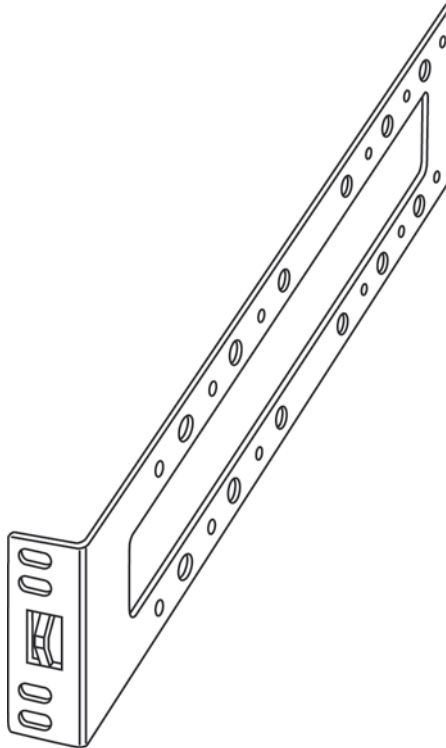
4.4.1 Rack Mounting the 19" Chassis

The chassis can be rack mounted.

- (1) The 19" chassis requires two rack mount brackets per chassis for mounting. Each 19" chassis requires its own set of rack mount bracket(s).

Note: Stacking an additional chassis (without rack mount brackets) on top of another rack mounted chassis is not recommended.

CHS2UG Rack Mount Brackets

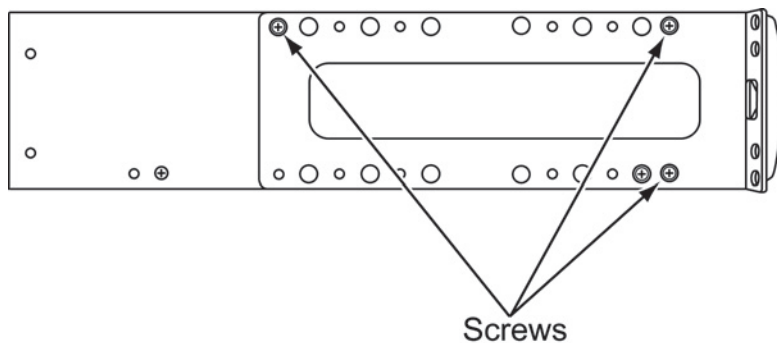


- (2) Line up the Rack Mount Bracket(s) with the pre-drilled holes on each side of the 19" chassis.



- (3) Secure the brackets to the chassis using the supplied screws. Refer to [Rack Mount Bracket Installed 19" CHS2UG](#) for the 19" chassis.

Rack Mount Bracket Installed 19" CHS2UG

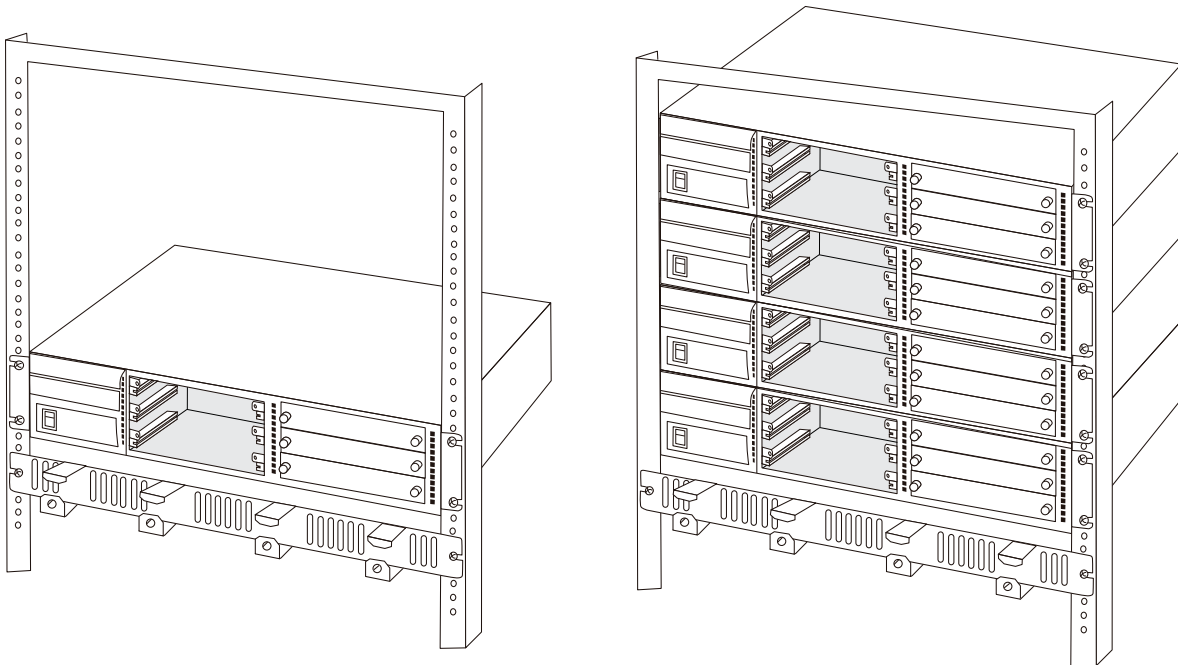


- (4) Carefully slide the chassis into a desired location on the rack. Make sure the hooks on the mounting bracket are inserted into the back of the chassis, securing it in place. Note that the cabling is run through the front of the rack for ease of access.

Note: Each CHS2UG chassis will require approximately 3.5" of height within the rack.

- (5) Secure the brackets to the rack using the screws supplied.

Rack Mount 19" CHS2UG



Single CHS2UG rack Mount

Multiple CHS2UG rack Mount

5. Card Switch Setting

The table below lists the cards provided for the UG50.

UG50 Card List

Category	Card Name	Abbreviations	Card Description
Control	GCD-CP00-GW	CPU card	Central Processing Card
	GPZ-ME50-UG50	Memory Expansion Daughter card	Memory Expansion Daughter Card
	GPZ-32/64/128-IPLD	IPLD card	Voice over IP Daughter Card
Analog Station Interface	GCD-8LCA	LC card	8-Port Analog Line Interface Card
	GPZ-8LCE	LC Daughter card	8-Port Analog Line Interface Daughter Card
Digital Station Interface	GCD-8DLCA/GCD-16DLCA	DLC card	8-Port/16-Port Digital Station Interface Card
	GPZ-8DLCB	DLC Daughter card	8-Port Digital Station Interface Daughter Card
Central Office Trunk	GCD-4COTA	COT card	4-Line Central Office Trunk Card (Loop Start)
	GCD-4COTB		4-Line Central Office Trunk Card (Loop and Ground Start)
	GCD-4COTC		4-Line Central Office Trunk Card (Loop Start)
	GPZ-4COTE	COT Daughter card	4-Line Central Office Trunk Daughter Card (Loop Start)
	GPZ-4COTF		4-Line Central Office Trunk Daughter Card (Loop and Ground Start)
	GPZ-4COTG		4-Line Central Office Trunk Daughter Card (Loop Start)
Paging Interface	GCD-PGTA	PGT card	Paging Device Interface Card (one paging device per card)
ISDN Primary	GCD-PRTA	PRTA card	ISDN Primary Rate Interface Card

5.1 Central Processing Card (GCD-CP00-GW)

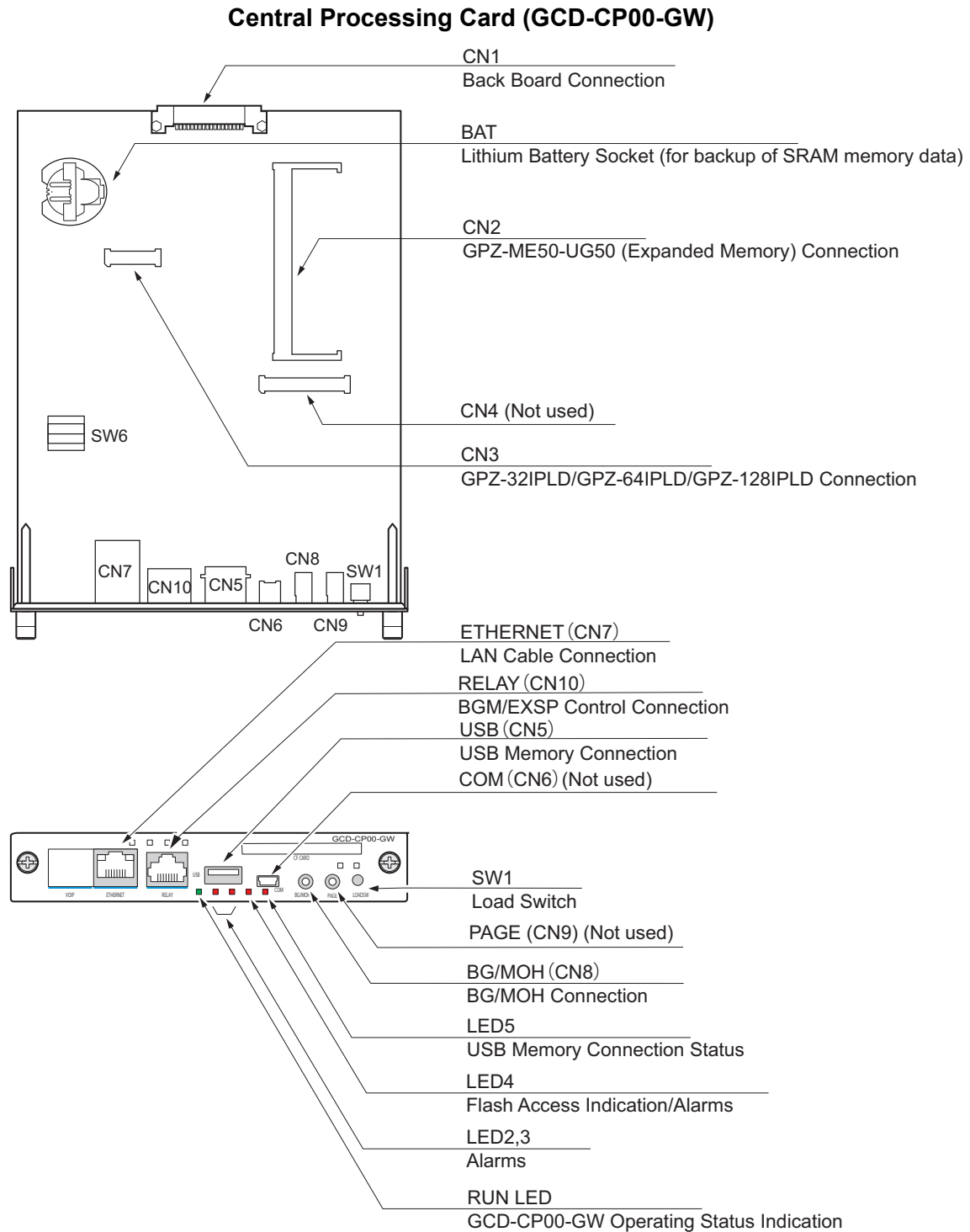
The Central Processing Card (GCD-CP00-GW) controls all the functions and operations of the UG50 using the system software loaded into the Central Processing Card memory. The Memory Expansion Daughter Card and the Voice over IP Daughter Card must be installed in advance before using this Central Processing Card.



Note:

- The power to the UG50 must be off when installing or removing the Central Processing Card.
- After removing a previously installed Central Processing Card, handle the card carefully from the edges. If certain solder points/resistors are touched on the back of the blade, data in the RAM or temporary memory may be lost (e.g., time, date, user-defined settings, etc.)
- The Central Processing Card alone will not start the UG50. You need to install the Memory Expansion Daughter Card (GPZ-ME50-UG50) for the UG50.

5.1.1 Card Layout Image



Note: GPZ-ME50-UG50 needs to be accommodated for the UG50 to start up. GCD-CP00-GW alone will not start the UG50.

5.1.2 Switch Settings

Refer to the table below for system restart/system reset with the system power on. Figure: [Central Processing Card \(GCD-CP00-GW\)](#) shows the location of the SW1 switch on the Central Processing Card.

- SW1

Switch Name	USB Memory Status	Operation
SW1 - Load Switch	When you restart/reset the system while holding down the SW1:	
	When USB Memory is not installed:	Cold Start occurs. Note: UG50 system data is initialized.
	When USB Memory is installed:	USB Memory contents loaded.
	When an unauthorized USB device is installed:	UG50 does not start and an Illegal USB device alarm is recorded.

- SW6: Not used.

Note: SW 6 is used for testing. Do not modify the configuration from the default setting listed below.

Switch Name	Configuration	Note
SW 6-1	ON	Not Used
SW 6-2	OFF	Test Mode ON = Test Mode OFF = Normal
SW 6-3	OFF	RS232C Select ON = Use OFF = Not Used
SW 6-4	ON	Reset Configuration ON = Normal OFF = ICE Mode

5.1.3 LED Indications

The LEDs on the Central Processing Card indicate the following:

LED Name	Color	Description
RUN (LED 1)	Green	Running status of Central Processing Card
LED 2, 3	Red	Alarms
LED 4	Red	Flash access indication
LED 5	Red	USB memory connection status (LED off when no USB memory installed)

The following table provides a list of each LED and associated operation and status indications. Refer to Figure: [Central Processing Card \(GCD-CP00-GW\)](#) for the location of the LEDs on the Central Processing Card.

LED Indication					Status
RUN (LED1)	LED2	LED3	LED4	LED5 Note3	
Blinking	OFF	OFF	OFF	On steady when a USB memory is connected.	System operating normally
OFF	OFF	OFF	OFF	Blinking	Boot is starting
OFF	OFF	OFF	OFF	OFF	Initializing the disk or formatting
Blinking	Blinking	OFF	Access Blink	On steady when a USB memory is connected.	Boot program is initializing in the flash memory
OFF	ON	ON	Access Blink	On steady when a USB memory is connected.	Reading system software
OFF	ON	OFF	Access Blink	On steady when a USB memory is connected.	Upgrading system software
ON	Blinking	Blinking	Blinking	On steady when a USB memory is connected.	Finish formatting (SRAM, Flash)
Blinking	OFF	OFF	OFF	OFF	DRAM error
Blinking	OFF	OFF	ON	On steady when a USB memory is connected.	FPGA version error
Blinking	OFF	ON	OFF	On steady when a USB memory is connected.	SRAM error
Blinking	OFF	ON	ON	On steady when a USB memory is connected.	Flash memory booting error
Blinking	ON	ON	ON	On steady when a USB memory is connected.	Flash memory data error
Blinking	Blinking	Blinking	Blinking	On steady when a USB memory is connected.	Reading error of system program
Blinking	ON	OFF	OFF	On steady when a USB memory is connected.	Error: Major alarm occurred
Blinking	Blinking	OFF	OFF	On steady when a USB memory is connected.	Error: Minor alarm occurred
ON	OFF	OFF	OFF	OFF	The UG50 starting up

Note3: LED5 is off when no USB memory is connected.

5.1.4 Connectors

The table below shows connectors on the Central Processing Card. Refer to Figure: [Central Processing Card](#)

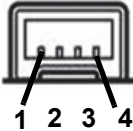
([GCD-CP00-GW](#)) for the location of the connections on the Central Processing Card.

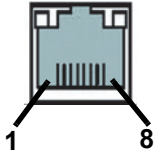

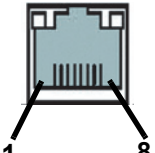
Central Processing Card Connectors

Connector	Connector Description
CN1	Backboard Connection
CN2	GPZ-ME50-UG50 (Expanded Memory) Connection
CN3	GPZ-32/64/128-IPLD (Voice over IP Daughter Card) Connection
CN4	Not Used
CN5	USB Memory Connection (used for upgrading software or downloading system data)
CN6	Not Used
CN7	LAN Cable Connection (10BASE-T/100BASE-TX)
CN8	BG/MOH Connection
CN9	Not Used
CN10	BGM/EXSP Control Connection
BAT	Lithium Battery Socket (for backup of SRAM memory data)

The table below shows the pin-outs for connectors on this card.

RJ-45 Cable Connector Pin-Outs

USB Cable Connector – CN5 (Type A, Female) (USB 1.1/2.0 Standard)		
	Pin No.	Signal
	1	Vcc
	2	-D
	3	+D
	4	GND

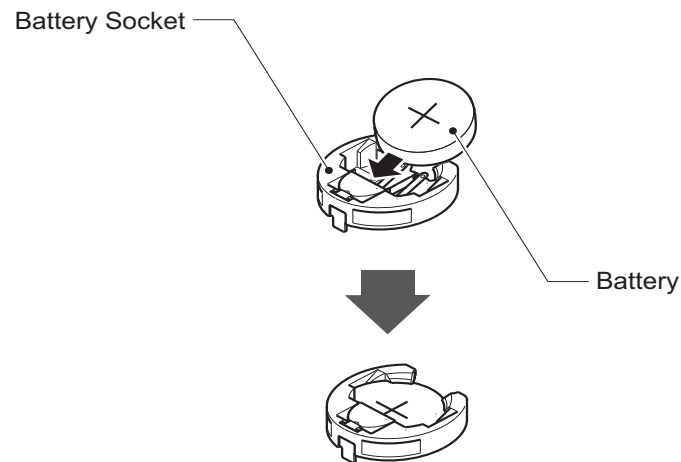
Ethernet Cable Connector – CN7 (RJ-45) (10Base-T/100Base-TX Port)		
	Pin No.	Connection
	1	Tx+
	2	Tx-
	3	Rx+
	4	–
	5	–
	6	Rx-
	7	–
	8	–
Pin Jack – CN8/CN9 (Polarity)		
	Pin No.	Signal
	1	EXT1
	2	EXT2
RJ-45 Cable Connector – CN10 (External Source Control) (No Polarity)		
	Pin No.	Connection
	1	NC
	2	NC
	3	EXCNT2
	4	EXCNT1
	5	EXCNT1
	6	EXCNT2
	7	NC
	8	NC

5.1.5 Battery Installation

Install a button cell battery on the Central Processing Card. The positive side of the battery must face up as illustrated in the figure below.

Note: The life of the battery depends on the operating condition, but is approximately five years.

Central Processing Card Battery Installation



5.2 Memory Expansion Daughter Card (GPZ-ME50-UG50)

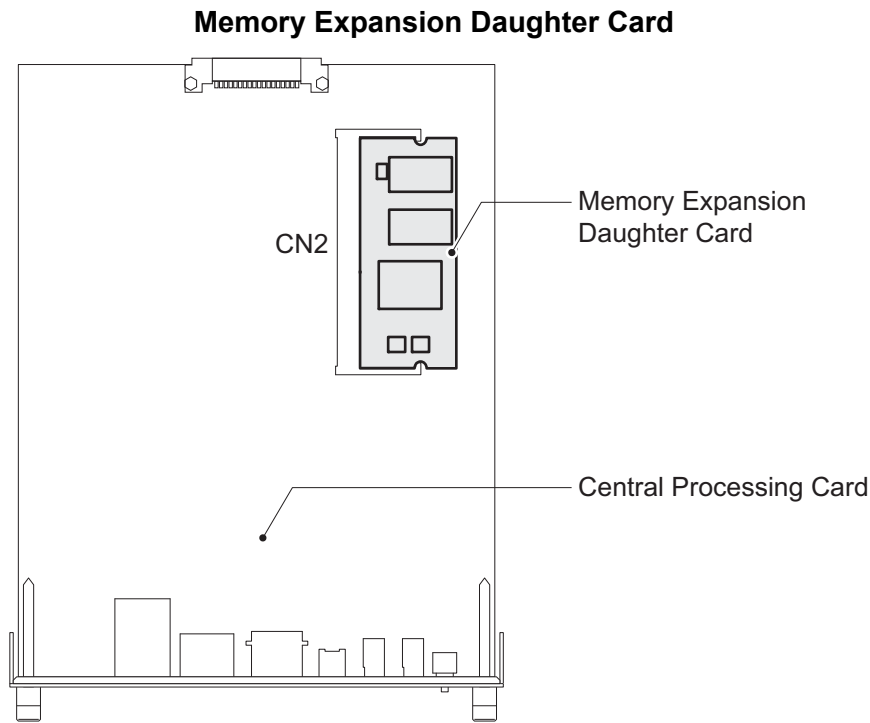
The Memory Expansion Daughter Card (GPZ-ME50-UG50) provides additional memory for the system. This daughter board is to be mounted on the Central Processing Card and implements features of the UG50.



Note: This daughter card contains the main software, and therefore needs to be installed on the Central Processing Card.

Note: The daughter card neither has any switches that need to be set nor requires any hardware setting. It also contains no LEDs or connectors.

5.2.1 Card Layout Image



The table below provides the memory capacities for the Memory Expansion Daughter Card.

Memory Capacities

Description	Memory Capacity	Equipped Memory
SDRAM	128 MB	256 MB / 16-bit x 4 pcs
Flash Memory	32 MB	256 MB / 16-bit x 1 pc
SRAM	1 MB	4 MB / 16-bit x 2 pcs

5.2.2 Switch Settings

This daughter card does not have any switches that need to be set or require any hardware setting.

5.2.3 LED Indications

This daughter board does not have any LEDs.

5.2.4 Connectors

This daughter board does not have any connectors.

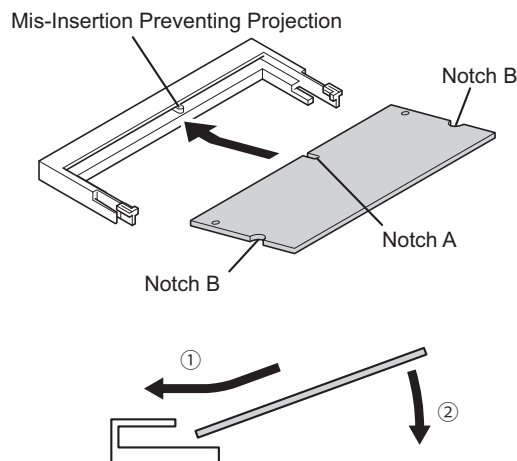
5.2.5 Installation

- (1) How to install the Memory Expansion Daughter Card.

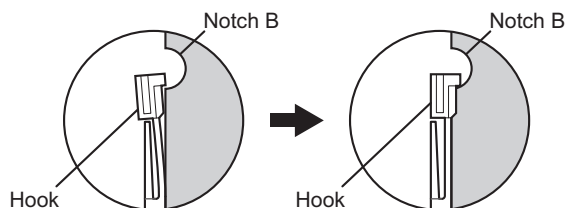
Install the Memory Expansion Daughter Card (GPZ-ME50-UG50) on the Central Processing Card (GCD-CP00-GW) as illustrated below.

Step1: Turn off the power of the UG50 and unplug the power cord from the AC outlet.

Step2: Insert the Memory Expansion Daughter Card into CN2 all the way so that the notches fit the Mis-Insertion Preventing Projections.



Step3: Confirm whether the hook engages the Notch B as shown in the figure below.



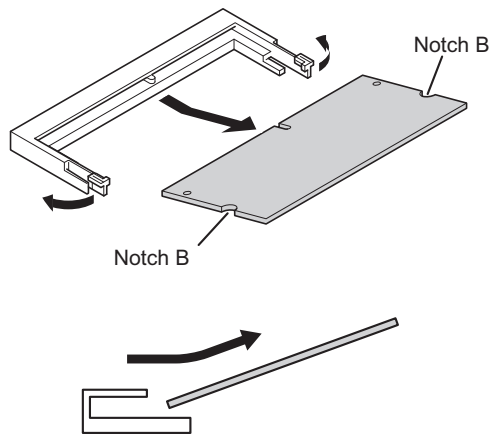
Note : Be sure to turn off the power if the UG50 is in operation before removing the Central Processing Card.

Note : Place the UG50 Label Sticker (included with the Memory Expansion Daughter Card) on the surface of the chassis. Refer to [“2.2 9.5” Chassis](#)

[\(CHS2UG B\)](#)” for the detailed procedure.

(2) How to Remove the Memory Expansion Daughter Card

- Step1:** Turn off the power of the UG50 and unplug the power cord from the AC outlet.
- Step2:** Unfasten the screws on each side of the front panel of the UG50 Chassis and pull out the unit from the UG50 device.
- Step3:** Disengage the hook from the Notch B and remove the Memory Expansion Daughter Card from CN2 of the UG50 Chassis as shown in the figure below.



5.3 Voice over IP Daughter Card (GPZ-32/64/128IPLD)

The Voice over IP Daughter Card is used to convert the RTP (Real Time Transport Protocol) packets via the IP network and PCM highway. The daughter card must be installed on the Central Processing Card.

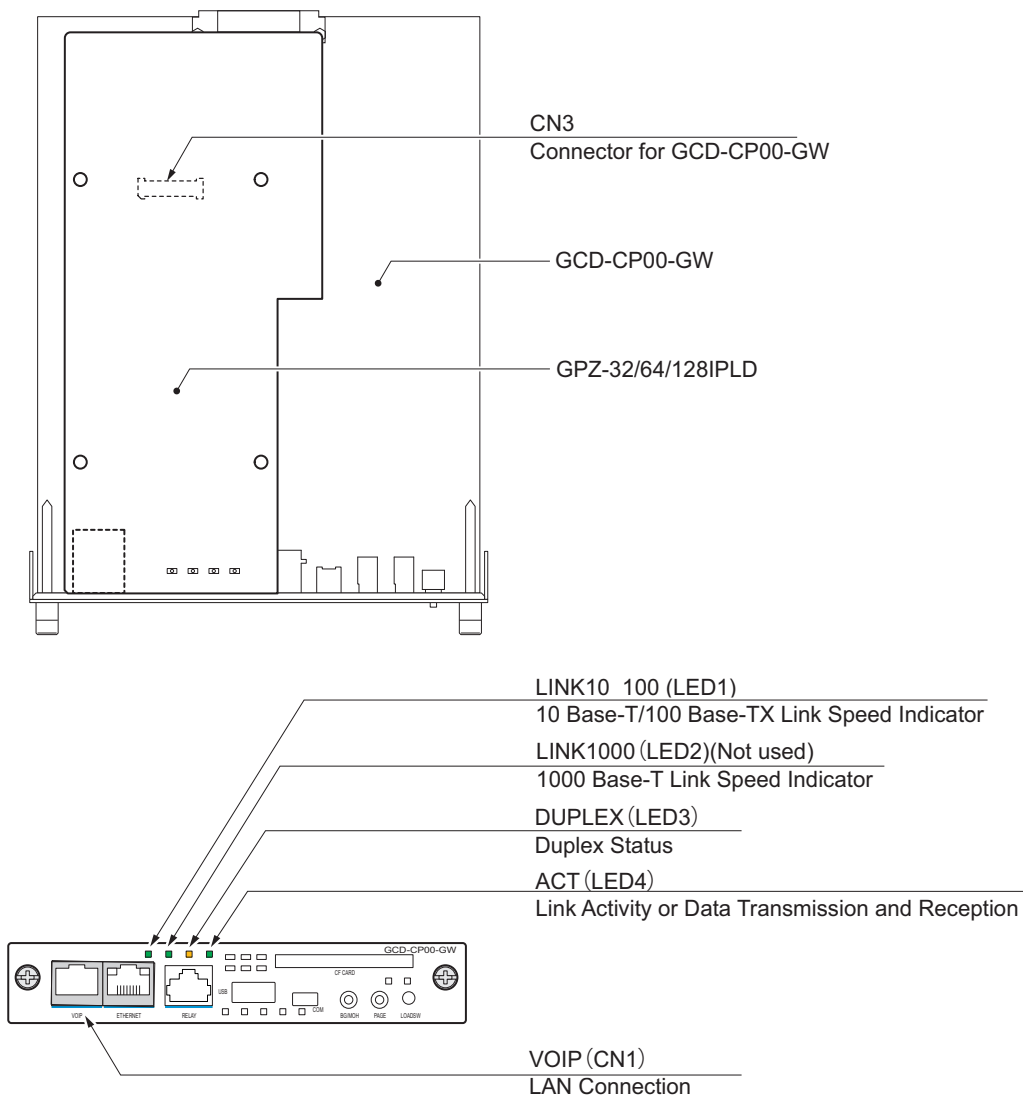
Voice over IP Daughter Card provides;

- 32 channels (GPZ-32IPLD)
- 64 channels (GPZ-64IPLD)
- 128 channels (GPZ-128IPLD)



5.3.1 Card Layout Image

Voice over IP Daughter Card



5.3.2 Switch Settings

This daughter card does not have any switches that need to be set or require any hardware setting.

5.3.3 LED Indications

The LEDs on the Voice over IP Daughter Card indicate the following:

VoIP Daughter Card LED Indications

LED	Function	LED Status	Operation Status
Link 10/100 (LED 1)	10 Base-T/100 Base-TX link speed indicator	Lighting Green	100 Base-TX link up
		OFF	10 Base-TX link up
LINK 1000 (LED2) Note4	1000 Base-T link speed indicator	Lighting Green	-
DUPLEX (LED3)	Duplex Status	Lighting Yellow	Full duplex operation
		OFF	Half duplex operation
ACT (LED4)	Link activity or data transmission and reception	Lighting Green	Link up completed
		Blinking Green	Data is transmitting

Note4: Not used.

The following table shows the LED indication when transmitting or receiving data on CN1(VoIP connector).

VoIP Daughter Card LED CN1 Transmit/Receive Data Indications

LED	Link Up							
	Auto Negotiation Mode				Force Mode			
	100 Mbps		10 Mbps		100 Mbps		10 Mbps	
	Half	Full	Half	Full	Half	Full	Half	Full
ACT (LED4)	ON	ON	ON	ON	ON	ON	ON	ON
DUPLEX (LED3)	OFF	ON	OFF	ON	OFF	ON	OFF	ON
LINK1000 (LED2)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LINK10_100 (LED1)	ON	ON	OFF	OFF	ON	ON	ON	ON

5.3.4 Connectors

The table below shows connectors on the VoIP Daughter Card.

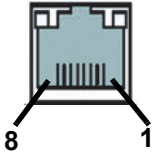
VoIP Daughter Card Connectors

Connector	Connector Description
VoIP (CN1) Note5	LAN cable connection (10BASE-T/100BASE-TX)
CN3	Connector for GCD-CP00-GW

Note5: Only a LAN device can be connected to VoIP (LN1). Connecting RJ-61 cable from a GCD-16DLCA/GCD-8LCA/analog line may cause the UG50 to malfunction.

The table below shows the pin-outs for the VoIP connector on this card.

RJ-45 Cable Connector Pin-Outs

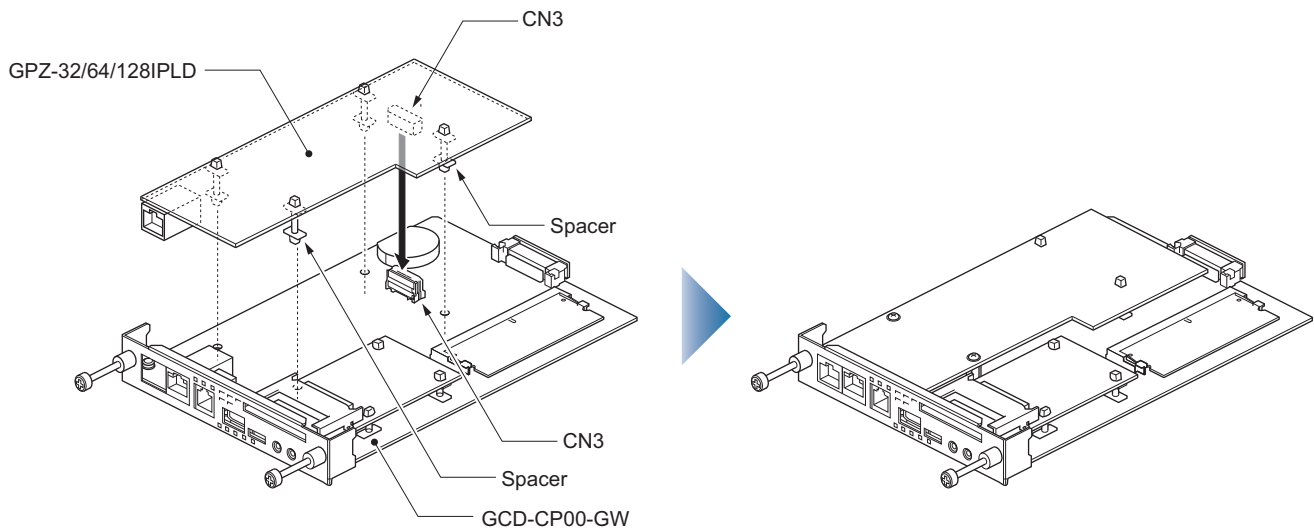
LAN Cable Connection: VoIP (CN1)		
	Pin No.	Connection
	1	Tx+
	2	Tx-
	3	Rx+
	4	–
	5	–
	6	Rx-
	7	–
	8	–

5.3.5 Installation

Install the Voice over IP Daughter Card on the Central Processing Card as illustrated below.

Note: Do not remove or install the Central Processing Card with the power on. Make sure all the spacers are aligned with the mounting holes before pushing down the card.

Installing the VoIP Daughter Card on the Central Processing Card



5.4 8-Port Analog Line Interface Card (GCD-8LCA)

Note: This card is not available in Australia.

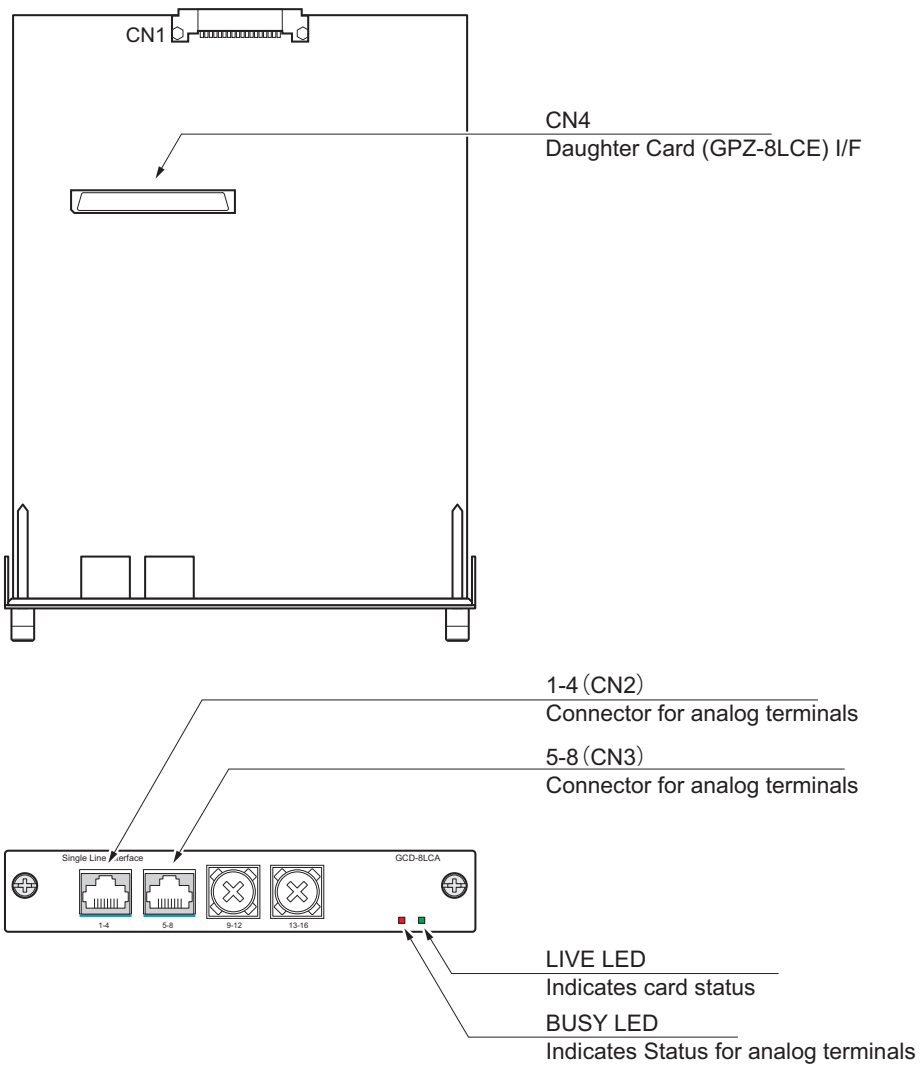
The 8-Port Analog Line Interface Card (GCD-8LCA) provides interfaces to a maximum of eight analog terminals and the following functions:

- One Station status LED
- One card status LED
- Constant current type battery feeding (25 mA / -28 VDC)
- Feeding Polarity Reverse Ability
- Connector for GPZ-8LCE Daughter Card
- Ring Generator
- Caller ID Sending Ability
- Message Wait Lamp Ability



5.4.1 Card Layout Image

The 8-Port Analog Line Interface Card (GCD-8LCA)



5.4.2 Switch Settings

This card does not have any switches that need to be set or require any hardware setting.

5.4.3 LED Indications

The table below shows the operation status of LIVE LED and BUSY LED. The operation status of these LEDs is common among all the gateway cards.

Indications of LIVE LED and BUSY LED

LIVE LED Status	BUSY LED Status	Operation Status
ON	ON	System initializing
Blink (1s ON/1s OFF)	ON	Reject the card assignment
Blink (1s ON/1s OFF)	Blink (1 s ON/1 s OFF)	Initialization failure
Blink (100 ms ON/100 ms OFF)	ON	Normal Operation (All channels are busy)
Blink (100 ms ON/100 ms OFF)	Blink (100 ms ON/100 ms OFF)	Registration Error
Blink (100 ms ON/100 ms OFF)	Blink (2 s ON/2 s OFF)	Normal Operation (There is at least one busy channel)
Blink (100 ms ON/100 ms OFF)	Blink (1 s ON/1 s OFF)	Normal Operation (DRS Registration is being performed for a channel) Note6, Note7, Note8, Note9
Blink (100 ms ON/100 ms OFF)	Blink (500 ms ON/500 ms OFF)	Normal Operation (There is at least one make-busy channel)
Blink (100 ms ON/100 ms OFF)	OFF	Normal Operation (No channel on busy or make-busy state and DRS registration is concluded)
OFF	Blink (Fast) *	Firmware downloading

*: 80 ms ON / 80 ms OFF / 80 ms ON / 80 ms OFF / 80 ms ON / 400 ms OFF

Note6: In the case of this LED pattern continuing with the GCD-8LCA, [1-3-02: Proprietary Protocol Mode DRS Server Setup] or [1-4-02: SIP Server Setup] needs to be reviewed. Make sure "MC-ID", "MG-ID" has been assigned in the office data of the Telephony Server (AISTL command or AMGIL command).

Note7: This LED pattern is also applied when a network error occurs.

Note8: If there is at least one busy channel, the operation status for Normal Operation (There is at least one busy channel) is displayed.

Note9: If there is at least one make-busy channel, the operation status for Normal Operation (There is at least one make-busy channel) is displayed.

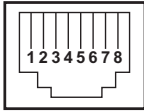
5.4.4 Connectors

The table below shows connectors on the GCD-8LCA.

GCD-8LCA Card Connectors

Connector	Connector Description
CN1	Connector for backboard of the UG50 Chassis
1-4 (CN2)	Connector for analog terminals
5-8 (CN3)	Connector for analog terminals
CN4	Daughter card (GPZ-8LCE) interface

GCD-8LCA: RJ-61 Cable Connector Pin-Outs

RJ-61 Cable Connector GCD-8LCA: CN2 (1-4) and CN3 (5-8)		
	Pin No.	Connection
	1	T4 (Tip for port 4)
	2	T3 (Tip for port 3)
	3	T2 (Tip for port 2)
	4	R1 (Ring for port 1)
	5	T1 (Tip for port 1)
	6	R2 (Ring for port 2)
	7	R3 (Ring for port 3)
	8	R4 (Ring for port 4)

5.5 8-Port Analog Line Interface Daughter Card (GPZ-8LCE)

Note: This card is not available in Australia.

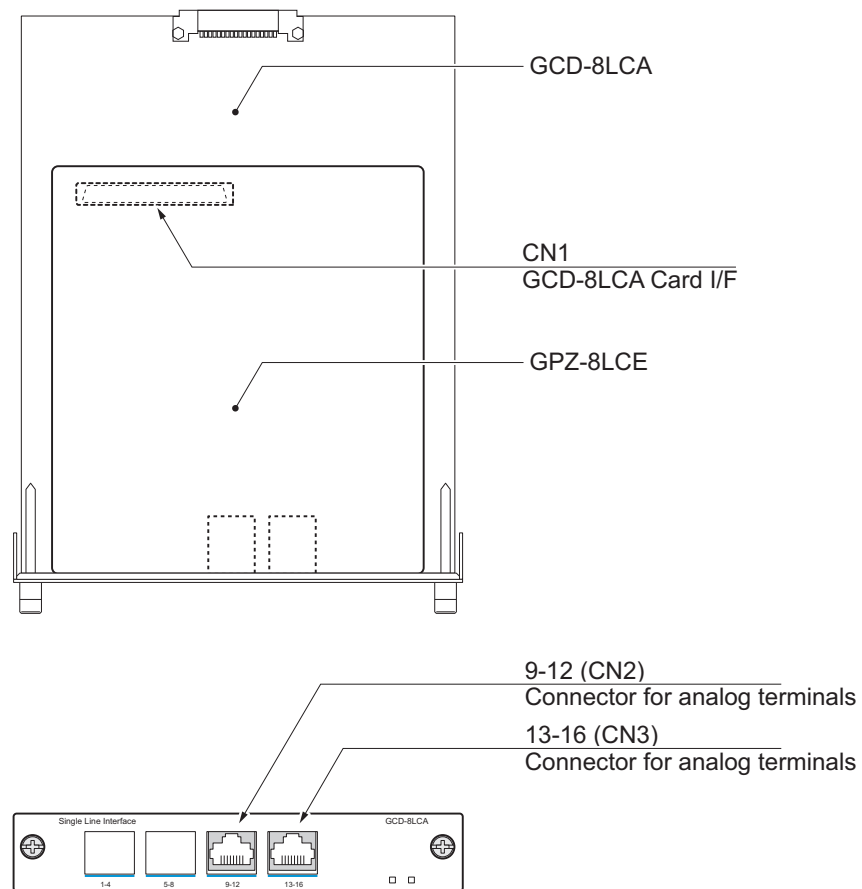
The 8-Port Analog Line Interface Daughter Card (GPZ-8LCE) is mounted on the GCD-8LCA. This daughter card provides:

- 8-Port Single Line analog extension ports (used for on-premise analog telephones, fax machines, and analog modems).
- Connector for GCD-8LCA
- Ring Generator
- Caller ID Sending Ability
- Message Wait Lamp Ability
- Constant current type battery feeding (25 mA / -28 VDC)
- Feeding Polarity Reverse Ability



5.5.1 Card Layout Image

8-Port Analog Line Interface Daughter Card (GPZ-8LCE)



5.5.2 Switch Settings

This daughter card does not have any switches that need to be set or require any hardware setting.

5.5.3 LED Indications

This daughter card does not have any LEDs. This card uses LIVE LED and BUSY LED on the GCD-8LCA.

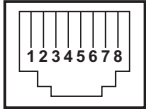
5.5.4 Connectors

The table below shows connectors on the GPZ-8LCE.

GPZ-8LCE Card Connectors

Connector	Connector Description
CN1	GCD-8LCA interface
9-12 (CN2)	Connector for analog terminals
13-16 (CN3)	Connector for analog terminals

GPZ-8LCE: RJ-61 Cable Connector Pin-Outs

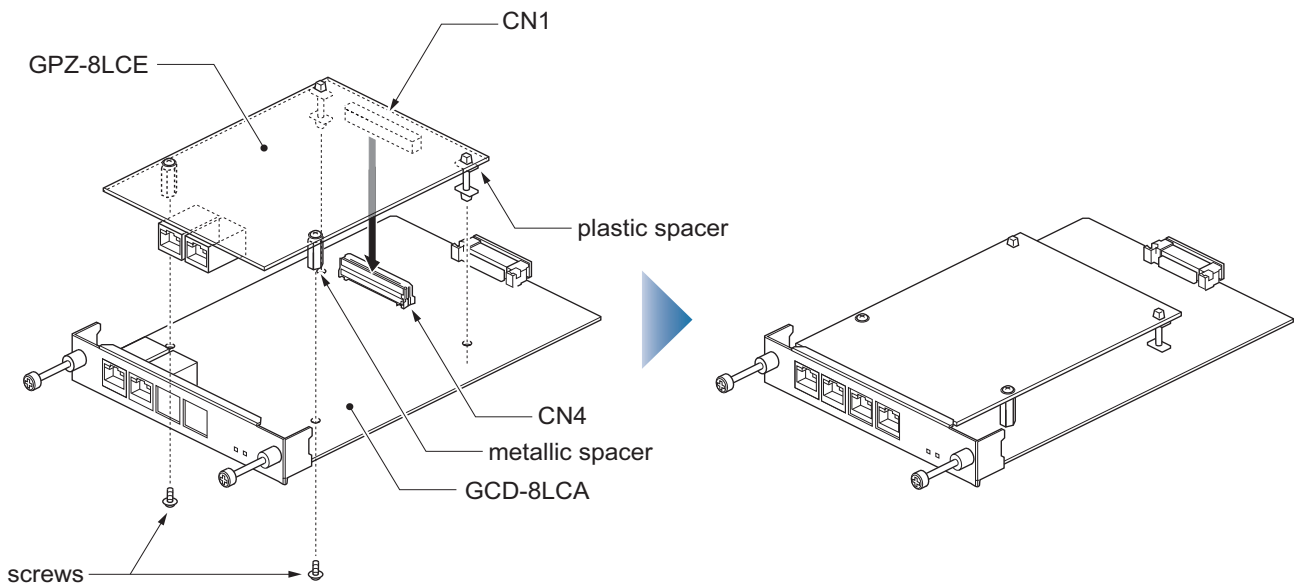
RJ-61 Cable Connector GPZ-8LCE: CN3 (9-12) and CN3 (13-16)		
	Pin No.	Connection
	1	T4 (Tip for port 4)
	2	T3 (Tip for port 3)
	3	T2 (Tip for port 2)
	4	R1 (Ring for port 1)
	5	T1 (Tip for port 1)
	6	R2 (Ring for port 2)
	7	R3 (Ring for port 3)
	8	R4 (Ring for port 4)

5.5.5 Installation

Install the GPZ-8LCE Card on the GCD-8LCA Card as illustrated below.

- Step1:** Use a screwdriver to loosen two screws on the front panel of the GCD-8LCA card and pull the card towards to outside.
- Step2:** Position the GPZ-8LCE CN1 connector over the CN4 connector on the GCD-8LCA card. Press the cards together, ensuring the four spacers (two plastic spacers and two metallic spacers) lock in place.
- Step3:** Fix the metallic spacers with two screws.

Installing the GPZ-8LCE Card on the GCD-8LCA Card



5.6 8-Port/16-Port Digital Station Interface Card (GCD-8DLCA/GCD-16DLCA)

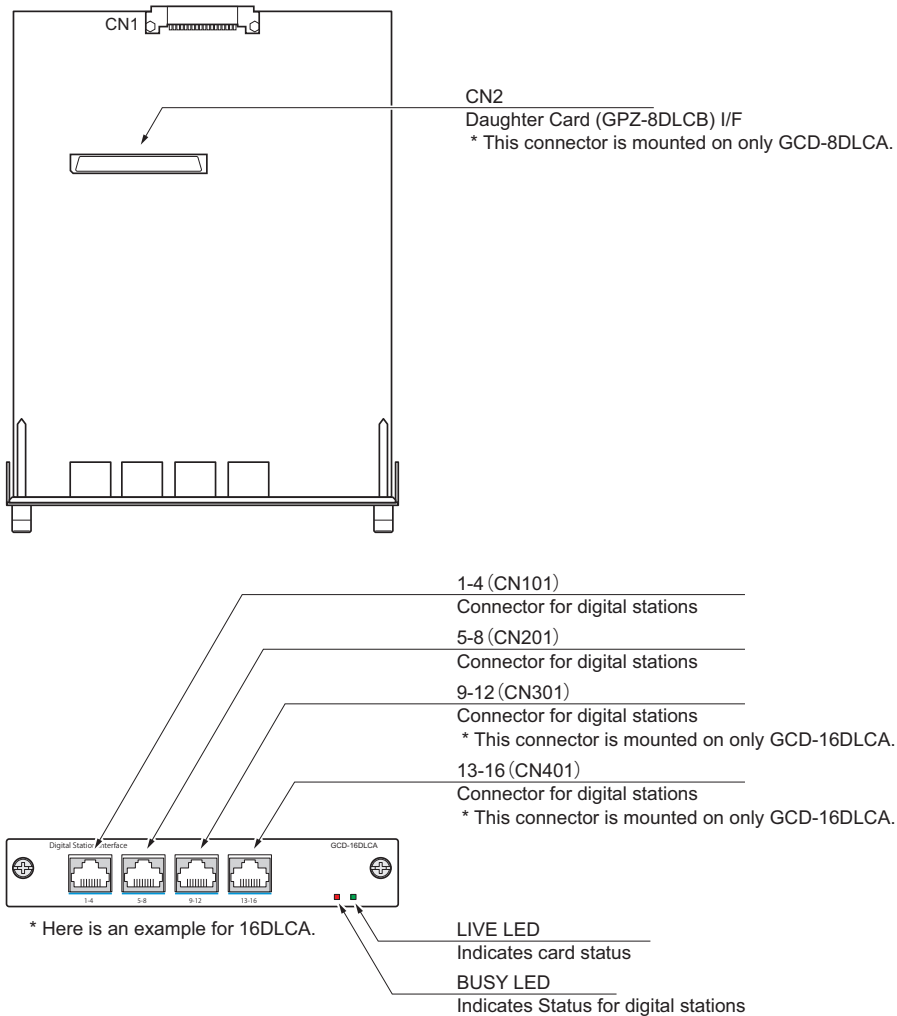


The 8-Port Digital Station Interface Card (GCD-8DLCA)/16-Port Digital Station Interface Card (GCD-16DLCA) provides interfaces to a maximum of 16 digital stations and following functions:

- One Station status LED
- One card status LED
- These ports provide -48 V feeding.

5.6.1 Card Layout Image

8-Port/16-Port Digital Station Interface Card (GCD-8DLCA/GCD-16DLCA)



5.6.2 Switch Settings

This card does not have any switches that need to be set or require any hardware setting.

5.6.3 LED Indications

This card has LIVE LED and BUSY LED. The operation status of these LEDs is common among all the gateway cards. See [Indications of LIVE LED and BUSY LED](#) in [5.4 8-Port Analog Line Interface Card \(GCD-8LCA\)](#).

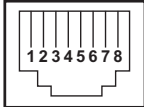
5.6.4 Connectors

The table below shows connectors on the 8/16-Port Digital Station Interface Card.

GCD-8DLCA/GCD-16DLCA Card Connectors

Connector	Connector Description
CN1	Connector for backboard of UG50 Chassis
1-4 (CN101)	Connector for digital stations
5-8 (CN201)	Connector for digital stations
9-12 (CN301)	Connector for digital stations * This connector is mounted on only GCD-16DLCA.
13-16 (CN401)	Connector for digital stations * This connector is mounted on only GCD-16DLCA.
CN2	Daughter card (GPZ-8DLCB) interface * This connector is mounted on only GCD-8DLCA.

GCD-8DLCA/GCD-16DLCA: RJ-61 Cable Connector Pin-Outs

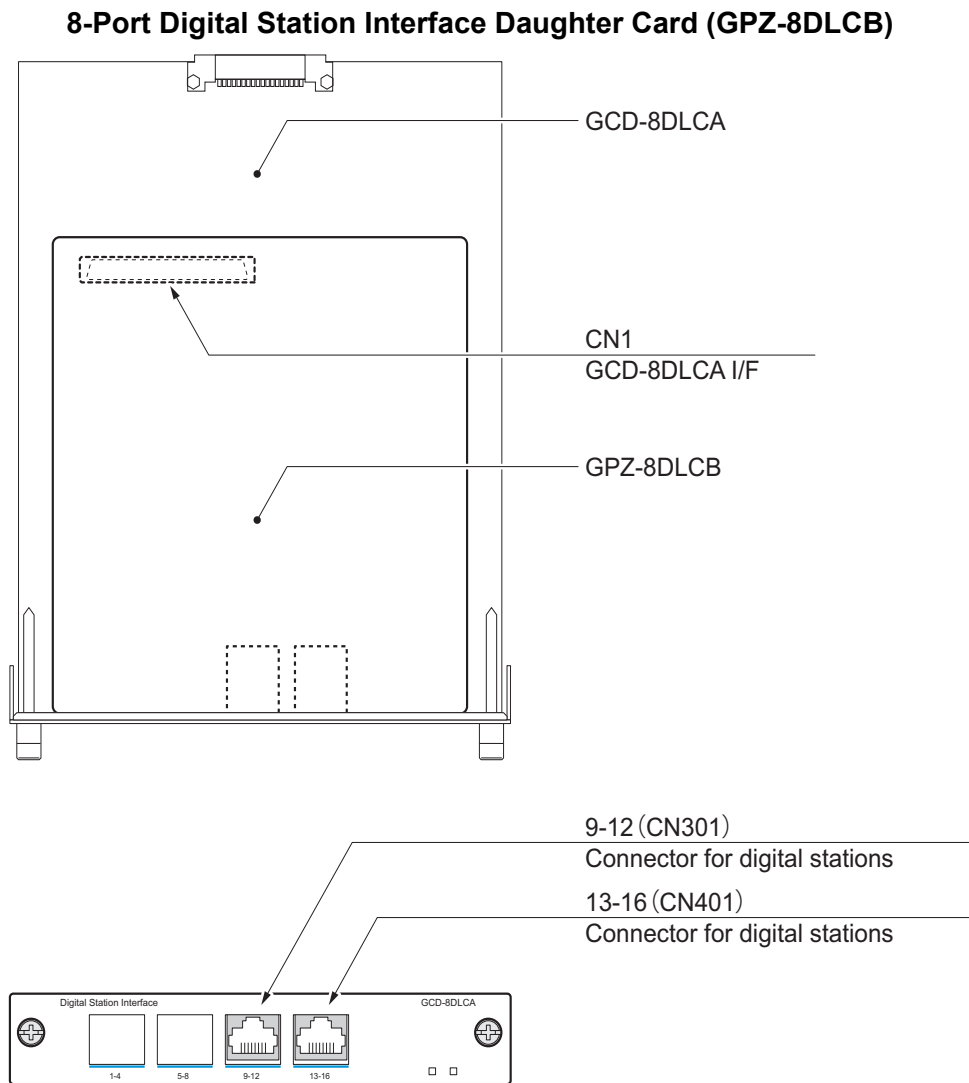
RJ-61 Cable Connector GCD-8DLCA: CN101 (ports 1~4), CN201 (ports 5~8) GCD-16DLCA: CN101 (ports 1~4), CN201 (ports 5~8), CN301 (ports 9~12), CN401 (ports 13~16)		
	Pin No.	Connection
	1	T4 (Tip for port 4)
	2	T3 (Tip for port 3)
	3	T2 (Tip for port 2)
	4	R1 (Ring for port 1)
	5	T1 (Tip for port 1)
	6	R2 (Ring for port 2)
	7	R3 (Ring for port 3)
	8	R4 (Ring for port 4)

5.7 8-Port Digital Station Interface Daughter Card (GPZ-8DLCB)

The 8-Port Digital Station Interface Daughter Card (GPZ-8DLCB) provides eight digital stations. This daughter card is installed on the GCD-8DLCA and expands the port capacity for the combined cards to 16.



5.7.1 Card Layout Image



5.7.2 Switch Settings

This daughter card does not have any switches that need to be set or require any hardware setting.

5.7.3 LED Indications

This daughter card does not have any LEDs. This card uses LIVE LED and BUSY LED on the GCD-8DLCA.

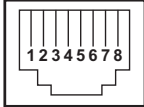
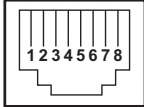
5.7.4 Connectors

The table below shows connectors on GPZ-8DLCB.

GPZ-8DLCB Card Connectors

Connector	Connector Description
CN1	GCD-8DLCA Interface
9-12 (CN301)	Connector for digital stations
13-16 (CN401)	Connector for digital stations

GPZ-8DLCB: RJ-61 Cable Connector Pin-Outs

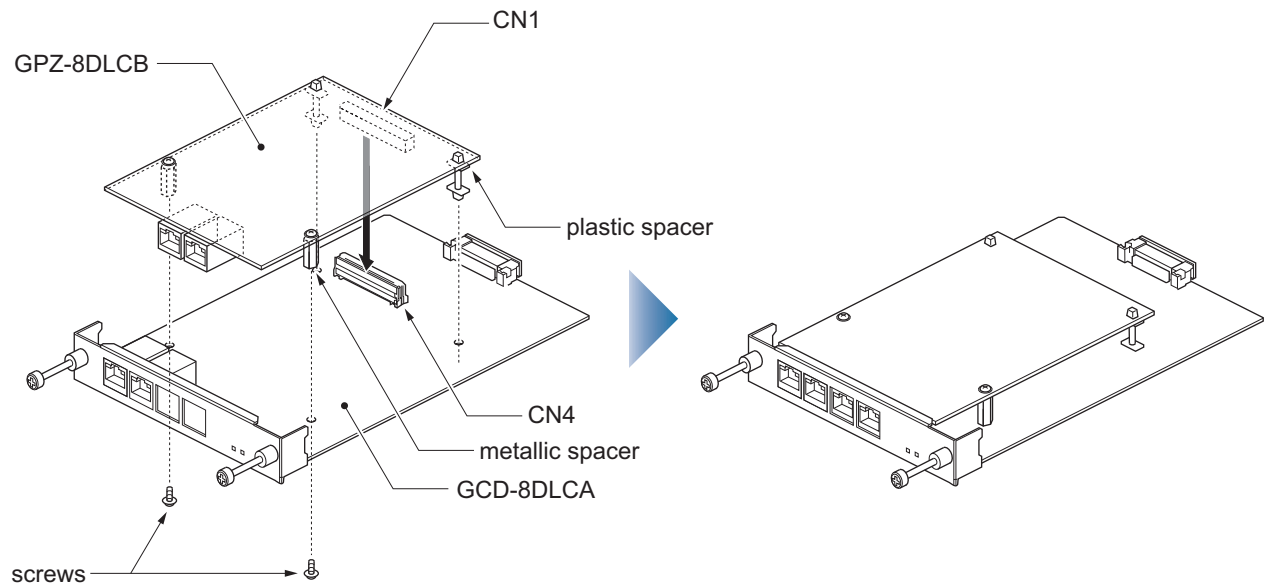
RJ-61 Cable Connector CN301 (ports 9~12)		
	Pin No.	Connection
	1	(T4) Tip for port 12
	2	(T3) Tip for port 11
	3	(T2) Tip for port 10
	4	(R1) Ring for port 9
	5	(T1) Tip for port 9
	6	(R2) Ring for port 10
	7	(R3) Ring for port 11
	8	(R4) Ring for port 12
RJ-61 Cable Connector CN401 (ports 13~16)		
	Pin No.	Connection
	1	(T4) Tip for port 16
	2	(T3) Tip for port 15
	3	(T2) Tip for port 14
	4	(R1) Ring for port 13
	5	(T1) Tip for port 13
	6	(R2) Ring for port 14
	7	(R3) Ring for port 15
8	(R4) Ring for port 16	

5.7.5 Installation

Install the GPZ-8DLCB Card on the GCD-8DLCA Card as illustrated below.

- Step1:** Use a screwdriver to loosen two screws on the front panel of the GCD-8DLCA card and pull the card towards to outside.
- Step2:** Position the GPZ-8DLCB CN1 connector over the CN4 connector on the GCD-8DLCA card. Press the cards together, ensuring the four spacers (two plastic spacers and two metallic spacers) lock in place.
- Step3:** Fix the metallic spacers with two screws.

Installing the GPZ-8DLCB Card on the GCD-8DLCA Card



5.8 4-Line Central Office Trunk Card (Loop Start) (GCD-4COTA)

Note: This card is available in Asia/EU/ME/Russia markets.

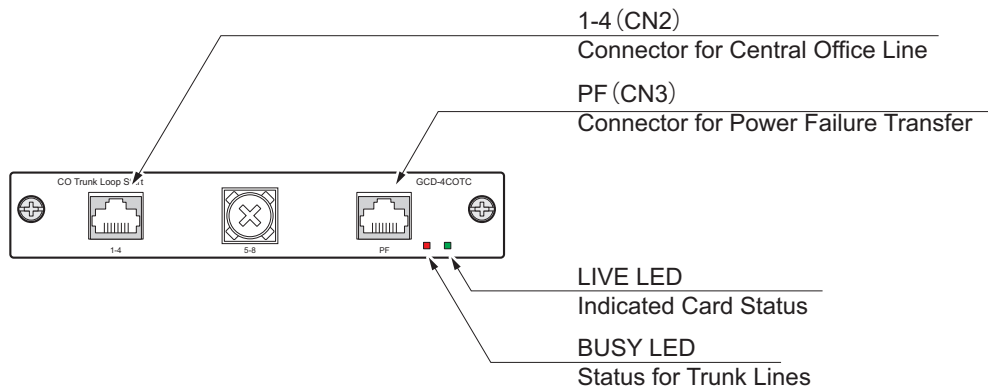
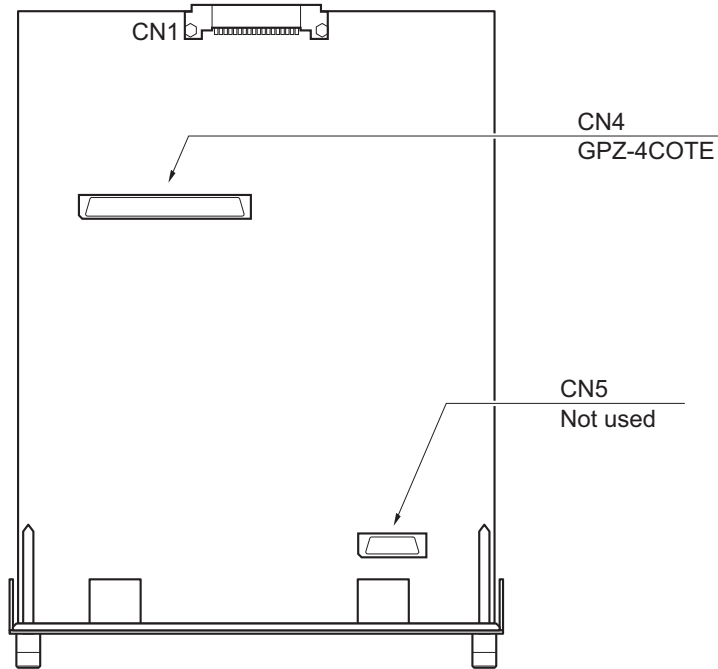
The 4-Line Central Office Trunk Card (Loop and Ground Start) (GCD-4COTA) provides:

- Four analog loop start trunk circuits
- One trunk status LED
- One card status LED
- Four Caller ID circuits
- Two Power Failure Transfer circuits
- Connector for GPZ-4COTE Daughter Card



5.8.1 Card Layout Image

4-Line Central Office Trunk Card (Loop Start) (GCD-4COTA)



5.8.2 Switch Settings

This card does not have any switches that need to be set or require any hardware setting.

5.8.3 LED Indications

This card has LIVE LED and BUSY LED. The operation status of these LEDs is common among all the gateway cards. See [Indications of LIVE LED and BUSY LED](#) in [5.4 8-Port Analog Line Interface Card \(GCD-8LCA\)](#).

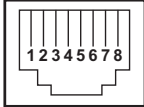
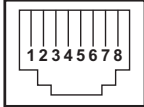
5.8.4 Connectors

The table below shows connectors on this card.

GCD-4COTA Card Connectors

Connector	Connector Description
CN1	Connector for backboard of UG50 Chassis
1-4 (CN2)	Connector for Central Office Line
PF (CN3)	Connector for Power Failure Transfer
CN4	GPZ-4COTE Daughter Card Interface
CN5	Not used

GCD-4COTA: RJ-61 Cable Connector Pin-Outs

RJ-61 Cable Connector – CN2, Trunks		
The CN2 connector is polarity sensitive (tip-to-tip, ring-to-ring)		
	Pin No.	Connection
	1	Circuit 4 – Tip
	2	Circuit 3 – Tip
	3	Circuit 2 – Tip
	4	Circuit 1 – Ring
	5	Circuit 1 – Tip
	6	Circuit 2 – Ring
	7	Circuit 3 – Ring
	8	Circuit 4 – Ring
RJ-61 Cable Connector – CN3, SLT Interface for Power Failure		
	Pin No.	Connection
	1	–
	2	–
	3	Circuit 2 – Tip
	4	Circuit 1 – Ring
	5	Circuit 1 – Tip
	6	Circuit 2 – Ring
	7	–
	8	–

5.9 4-Line Central Office Trunk Card (Loop and Ground Start) (GCD-4COTB)



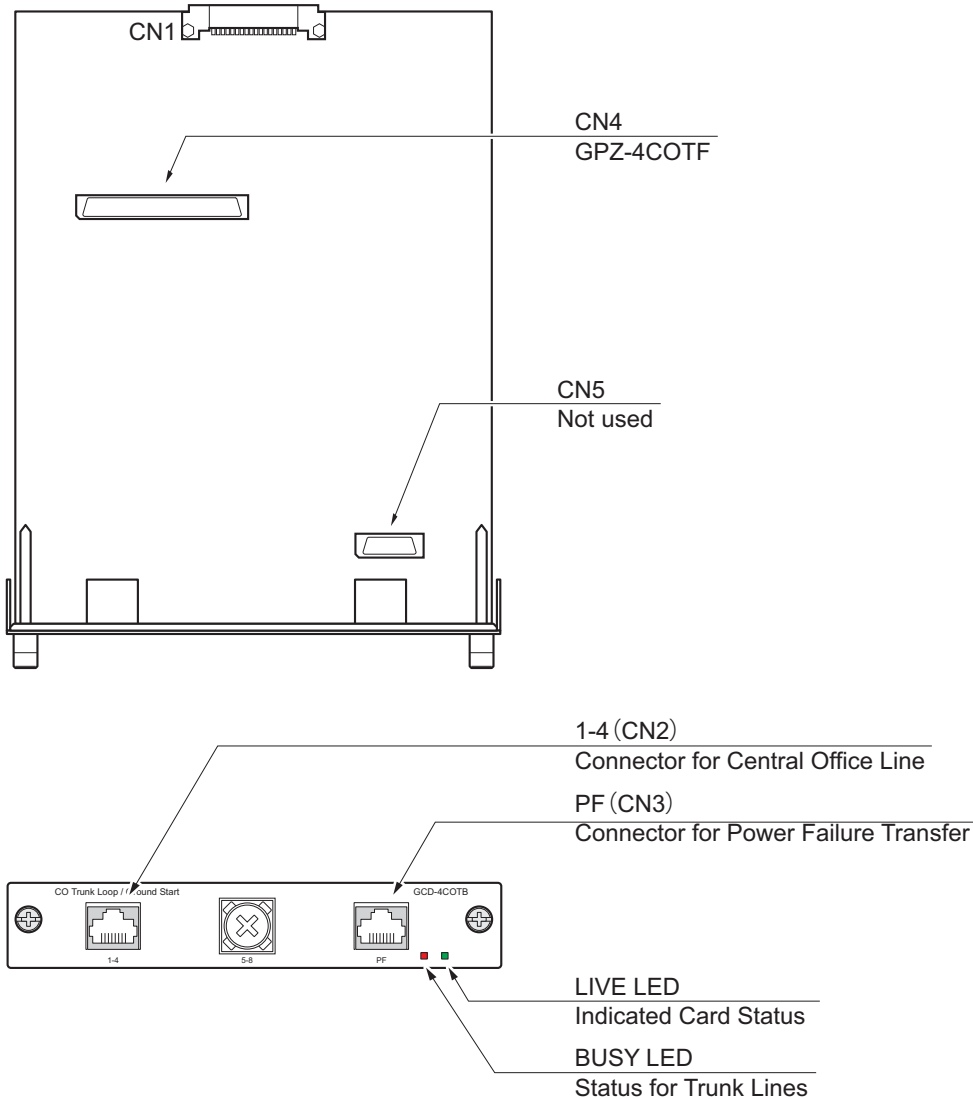
Note: This card is available in North America only.

The 4-Line Central Office Trunk Card (Loop and Ground Start) (GCD-4COTB) provides:

- Four analog loop start/ground start trunk circuits
- One trunk status LED
- One card status LED
- Four Caller ID circuits
- Two Power Failure Transfer circuits
- Connector for GPZ-4COTF Daughter Card

5.9.1 Card Layout Image

4-Line Central Office Trunk Card (Loop and Ground Start) (GCD-4COTB)



5.9.2 Switch Settings

This card does not have any switches that need to be set or require any hardware setting.

5.9.3 LED Indications

This card has LIVE LED and BUSY LED. The operation status of these LEDs is common among all the gateway cards. See [Indications of LIVE LED and BUSY LED](#) in [5.4 8-Port Analog Line Interface Card \(GCD-8LCA\)](#).

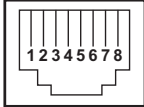
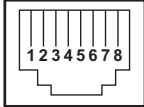
5.9.4 Connectors

The table below shows connectors on this card.

GCD-4COTB Card Connectors

Connector	Connector Description
CN1	Connector for backboard of the UG50 Chassis
1-4 (CN2)	Connector for Central Office Line
PF (CN3)	Connector for Power Failure Transfer
CN4	GPZ-4COTF Daughter Card Interface
CN5	Not used

GCD-4COTB: RJ-61 Cable Connector Pin-Outs

RJ-61 Cable Connector – CN2, Trunks		
The CN2 connector is polarity sensitive (tip-to-tip, ring-to-ring)		
	Pin No.	Connection
	1	Circuit 4 – Tip
	2	Circuit 3 – Tip
	3	Circuit 2 – Tip
	4	Circuit 1 – Ring
	5	Circuit 1 – Tip
	6	Circuit 2 – Ring
	7	Circuit 3 – Ring
	8	Circuit 4 – Ring
RJ-61 Cable Connector – CN3, SLT Interface for Power Failure		
	Pin No.	Connection
	1	–
	2	–
	3	Circuit 2 – Tip
	4	Circuit 1 – Ring
	5	Circuit 1 – Tip
	6	Circuit 2 – Ring
	7	–
	8	–

5.10 4-Line Central Office Trunk Card (Loop Start) (GCD-4COTC)



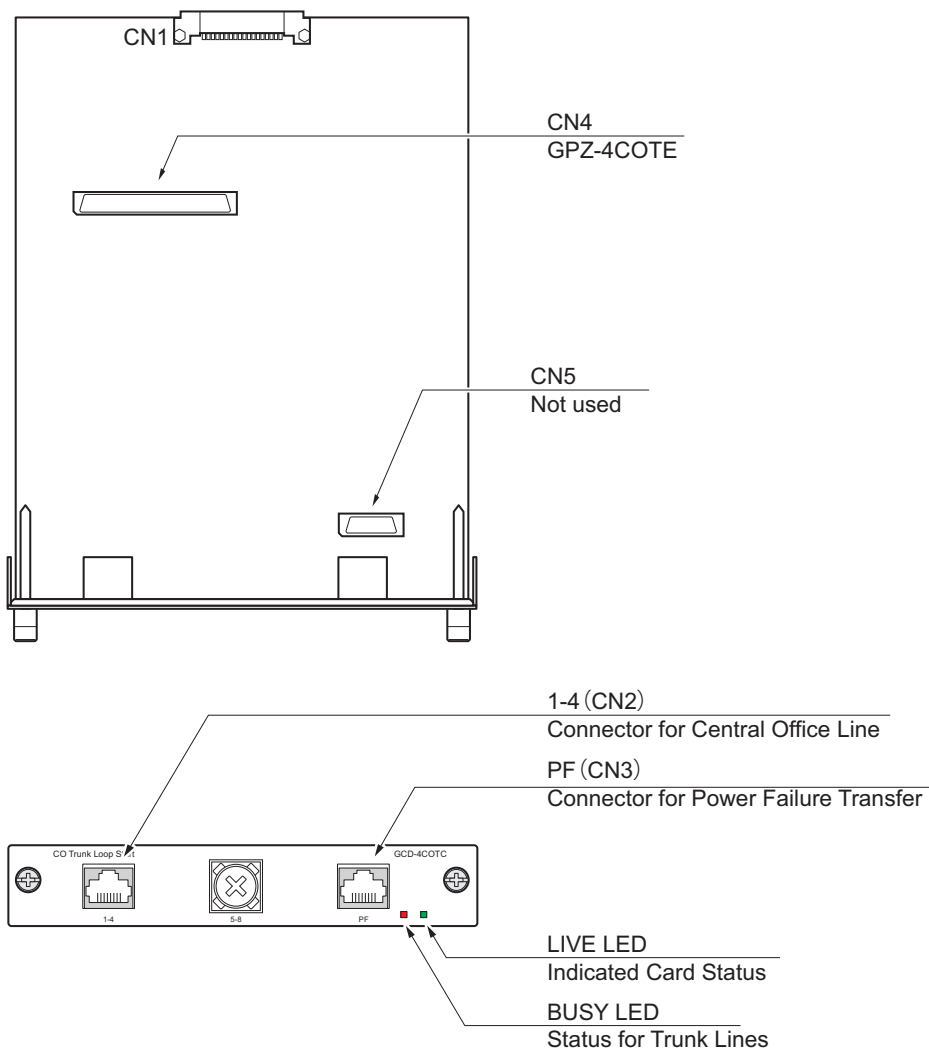
Note: This card is available in Australia only.

The 4-Line Central Office Trunk Card (Loop and Ground Start) (GCD-4COTC) provides:

- Four analog loop start trunk circuits
- One trunk status LED
- One card status LED
- Four Caller ID circuits
- Two Power Failure Transfer circuits
- Connector for GPZ-4COTG Daughter Card

5.10.1 Card Layout Image

4-Line Central Office Trunk Card (Loop Start) (GCD-4COTC)



5.10.2 Switch Settings

This card does not have any switches that need to be set or require any hardware setting.

5.10.3 LED Indications

This card has LIVE LED and BUSY LED. The operation status of these LEDs is common among all the gateway cards. See [Indications of LIVE LED and BUSY LED](#) in [5.4 8-Port Analog Line Interface Card \(GCD-8LCA\)](#).

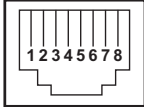
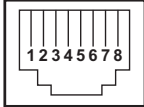
5.10.4 Connectors

The table below shows connectors on this card.

GCD-4COTC Card Connectors

Connector	Connector Description
CN1	Connector for backboard of the UG50 Chassis
1-4 (CN2)	Connector for Central Office Line
PF (CN3)	Connector for Power Failure Transfer
CN4	GPZ-4COTG Daughter Card Interface
CN5	Not used

GCD-4COTC: RJ-61 Cable Connector Pin-Outs

RJ-61 Cable Connector – CN2, Trunks		
The CN2 connector is polarity sensitive (tip-to-tip, ring-to-ring)		
	Pin No.	Connection
	1	Circuit 4 – Tip
	2	Circuit 3 – Tip
	3	Circuit 2 – Tip
	4	Circuit 1 – Ring
	5	Circuit 1 – Tip
	6	Circuit 2 – Ring
	7	Circuit 3 – Ring
	8	Circuit 4 – Ring
RJ-61 Cable Connector – CN3, SLT Interface for Power Failure		
	Pin No.	Connection
	1	–
	2	–
	3	Circuit 2 – Tip
	4	Circuit 1 – Ring
	5	Circuit 1 – Tip
	6	Circuit 2 – Ring
	7	–
	8	–

5.11 4-Line Central Office Trunk Daughter Card (Loop Start) (GPZ-4COTE)



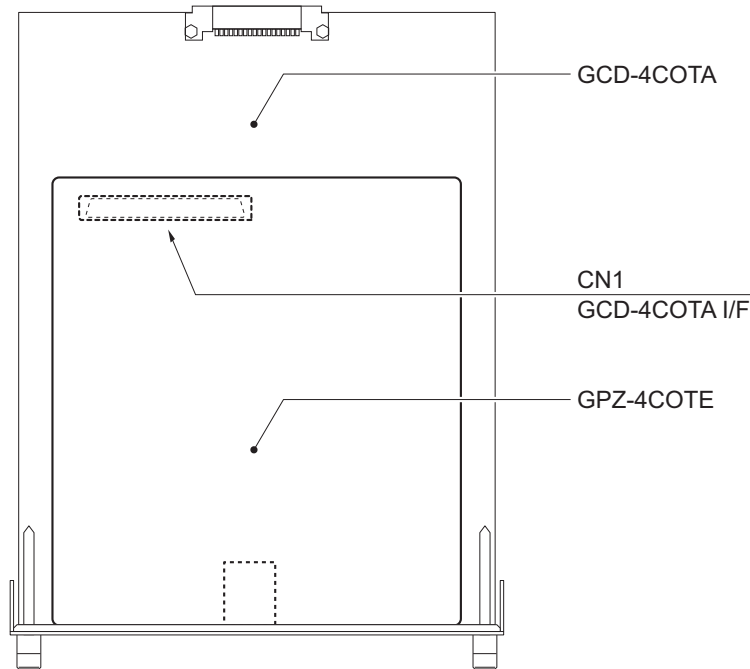
Note: This card is available in Asia/EU/ME/Russia markets.

The 4-Line Central Office Trunk Card (Loop Start) (GPZ-4COTE) provides:

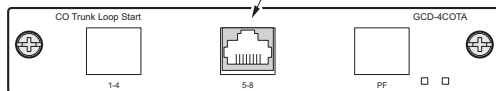
- Four analog loop start trunk circuits
- Four Caller ID circuits
- Connector for GCD-4COTA Card

5.11.1 Card Layout Image

4-Line Central Office Trunk Daughter Card (Loop Start) (GPZ-4COTE)



5-8: Mounted on GCD-4COTA (CN2)
Connector for Central Office line



5.11.2 Switch Settings

This card does not have any switches that need to be set or require any hardware setting.

5.11.3 LED Indications

This daughter card does not have any LED. This card uses LIVE LED and BUSY LED on the GCD-4COTA.

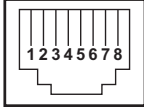
5.11.4 Connectors

The table below shows connectors on this card.

GPZ-4COTE Card Connectors

Connector	Connector Description
CN1	GCD-4COTA Interface
5-8 (CN2)	Connector for Central Office Line

GPZ-4COTE: RJ-61 Cable Connector Pin-Outs

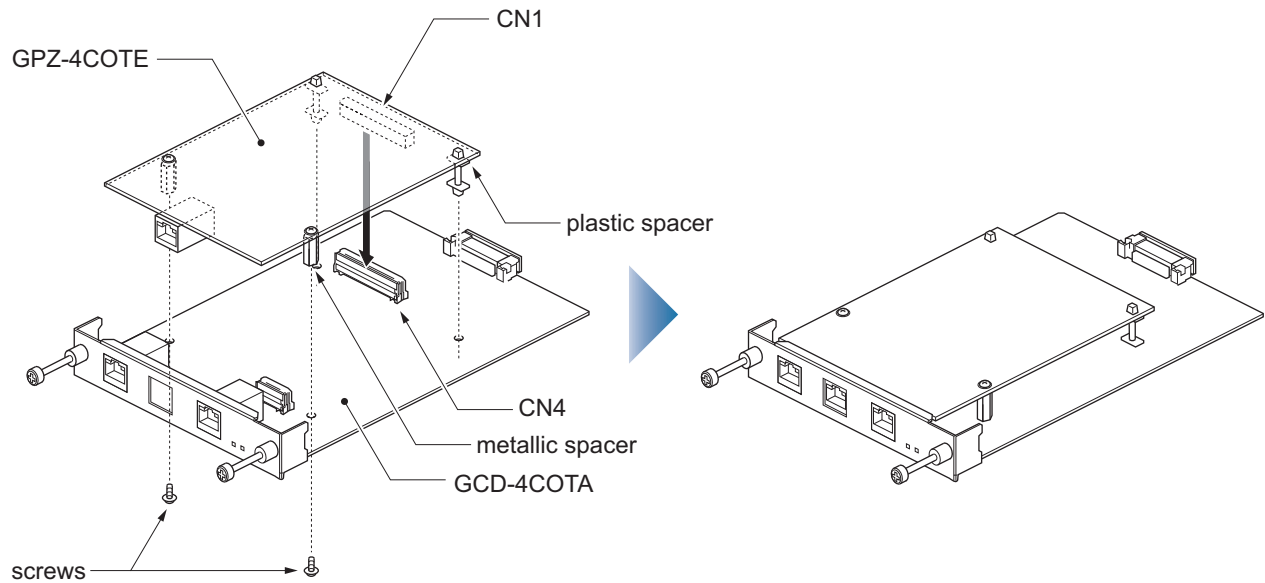
RJ-61 Cable Connector – CN2, Trunks The CN2 connector is polarity sensitive (tip-to-tip, ring-to-ring)		
	Pin No.	Connection
	1	Circuit 8 – Tip
	2	Circuit 7 – Tip
	3	Circuit 6 – Tip
	4	Circuit 5 – Ring
	5	Circuit 5 – Tip
	6	Circuit 6 – Ring
	7	Circuit 7 – Ring
	8	Circuit 8 – Ring

5.11.5 Installation

Install the GPZ-4COTE Card on the GCD-4COTA Card as illustrated below.

- Step1:** Use a screwdriver to loosen two screws on the front panel of the GCD-4COTA card and pull the card towards to outside.
- Step2:** Position the GPZ-4COTE CN1 connector over the CN4 connector on the GCD-4COTA card. Press the cards together, ensuring the four spacers (two plastic spacers and two metallic spacers) lock in place.
- Step3:** Fix the metallic spacers with two screws.

Installing the GPZ-4COTE Card on the GCD-4COTA Card



5.12 4-Line Central Office Trunk Daughter Card (Loop and Ground Start) (GPZ-4COTF)

Note: This card is available in North America only.

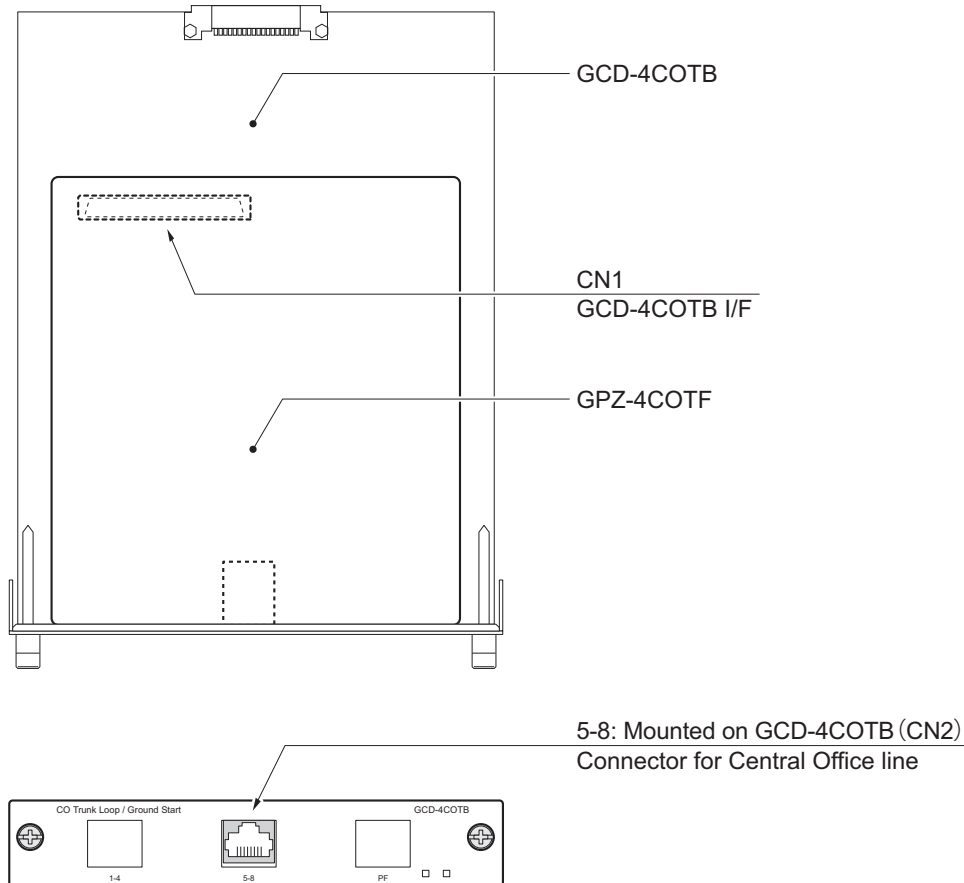
The 4-Line Central Office Trunk Card (Loop and Ground Start) (GPZ-4COTF) provides:

- Four analog loop start/ground start trunk circuits
- Four Caller ID circuits
- Connector for GCD-4COTB Card



5.12.1 Card Layout Image

4-Line Central Office Trunk Daughter Card (Loop and Ground Start) (GPZ-4COTF)



5.12.2 Switch Settings

This card does not have any switches that need to be set or require any hardware setting.

5.12.3 LED Indications

This daughter card does not have any LED. These cards use LIVE LED and BUSY LED on GCD-4COTB.

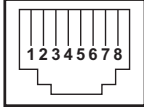
5.12.4 Connectors

The table below shows connectors on this card.

GPZ-4COTF Card Connectors

Connector	Connector Description
CN1	GCD-4COTB Interface
5-8 (CN2)	Connector for Central Office Line

GPZ-4COTF: RJ-61 Cable Connector Pin-Outs

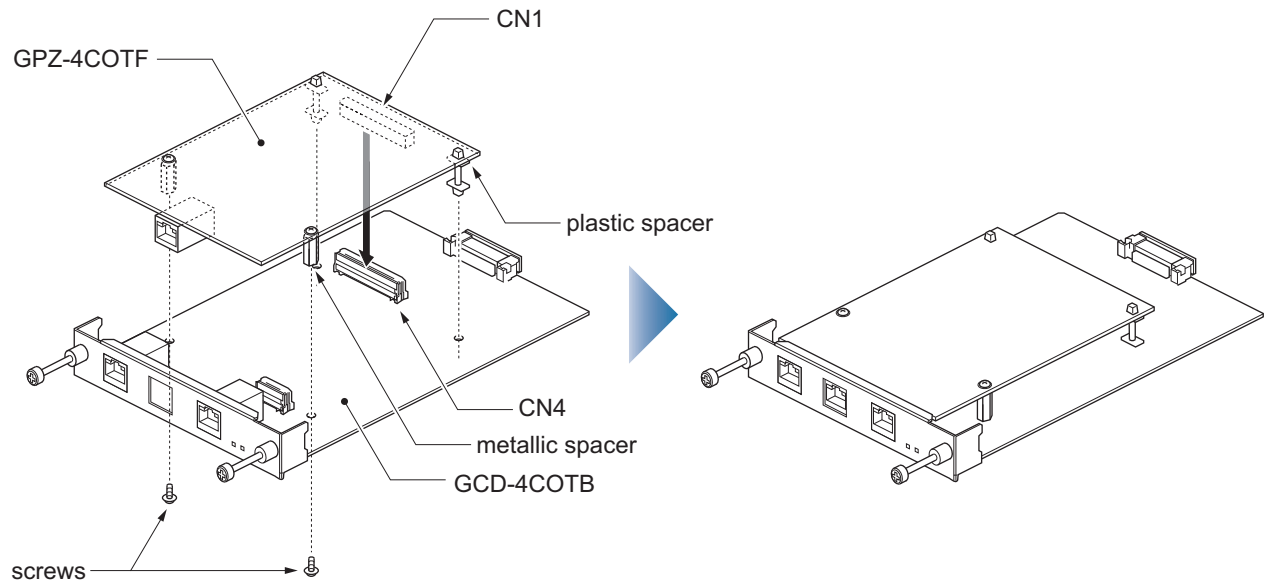
RJ-61 Cable Connector – CN2, Trunks The CN2 connector is polarity sensitive (tip-to-tip, ring-to-ring)		
	Pin No.	Connection
	1	Circuit 8 – Tip
	2	Circuit 7 – Tip
	3	Circuit 6 – Tip
	4	Circuit 5 – Ring
	5	Circuit 5 – Tip
	6	Circuit 6 – Ring
	7	Circuit 7 – Ring
	8	Circuit 8 – Ring

5.12.5 Installation

Install the GPZ-4COTF Card on the GCD-4COTB Card as illustrated below.

- Step1:** Use a screwdriver to loosen two screws on the front panel of the GCD-4COTB card and pull the card towards to outside.
- Step2:** Position the GPZ-4COTF CN1 connector over the CN4 connector on the GCD-4COTB card. Press the cards together, ensuring the four spacers (two plastic spacers and two metallic spacers) lock in place.
- Step3:** Fix the metallic spacers with two screws

Installing the GPZ-4COTF Card on the GCD-4COTB Card



5.13 4-Line Central Office Trunk Daughter Card (Loop Start) (GPZ-4COTG)

Note: This card is available in Australia only.

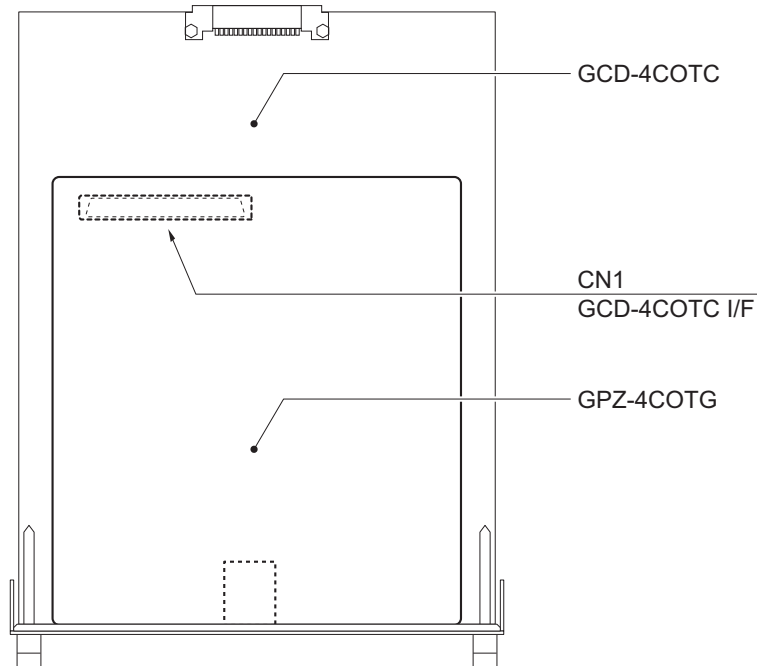
The 4-Line Central Office Trunk Card (Loop Start) (GPZ-4COTG) provides:

- Four analog loop start trunk circuits
- Four Caller ID circuits
- Connector for GCD-4COTC Card

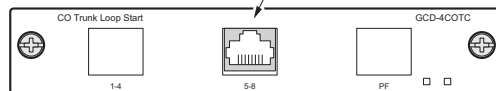


5.13.1 Card Layout Image

4-Line Central Office Trunk Daughter Card (Loop Start) (GPZ-4COTG)



5-8: Mounted on GCD-4COTC (CN2)
Connector for Central Office line



5.13.2 Switch Settings

This card does not have any switches that need to be set or require any hardware setting.

5.13.3 LED Indications

This daughter card does not have any LED. It uses LIVE LED and BUSY LED on the GCD-4COTC.

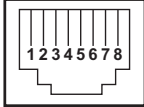
5.13.4 Connectors

The table below shows connectors on this card.

GPZ-4COTG Card Connectors

Connector	Connector Description
CN1	GCD-4COTC Interface
5-8 (CN2)	Connector for Central Office Line

GPZ-4COTG: RJ-61 Cable Connector Pin-Outs

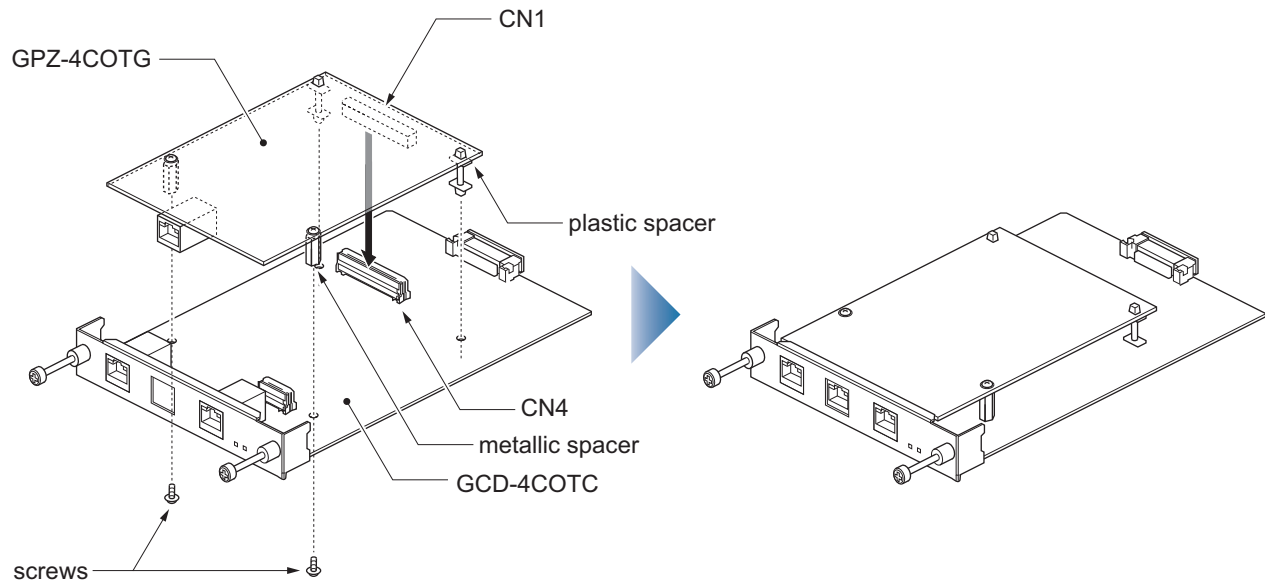
RJ-61 Cable Connector – CN2, Trunks The CN2 connector is polarity sensitive (tip-to-tip, ring-to-ring)		
	Pin No.	Connection
	1	Circuit 8 – Tip
	2	Circuit 7 – Tip
	3	Circuit 6 – Tip
	4	Circuit 5 – Ring
	5	Circuit 5 – Tip
	6	Circuit 6 – Ring
	7	Circuit 7 – Ring
	8	Circuit 8 – Ring

5.13.5 Installation

Install the GPZ-4COTG Card on the GCD-4COTC Card as illustrated below.

- Step1:** Use a screwdriver to loosen two screws on the front panel of the GCD-4COTC card and pull the card towards to outside.
- Step2:** Position the GPZ-4COTG CN1 connector over the CN4 connector on the GCD-4COTC card. Press the cards together, ensuring the four spacers (two plastic spacers and two metallic spacers) lock in place.
- Step3:** Fix the metallic spacers with two screws.

Installing the GPZ-4COTG Card on the GCD-4COTC Card



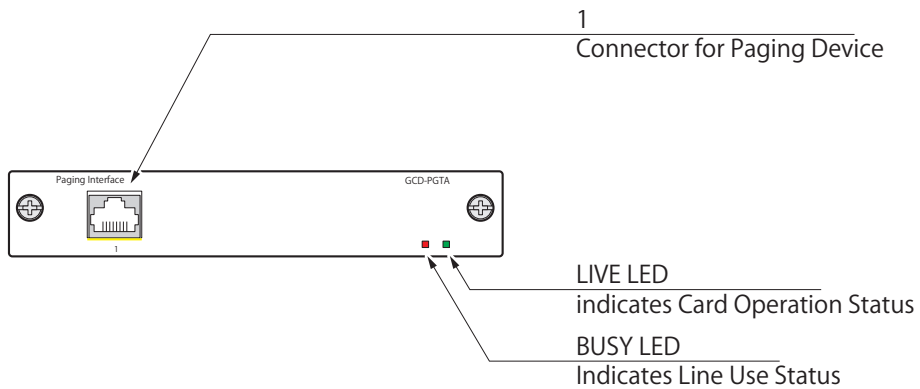
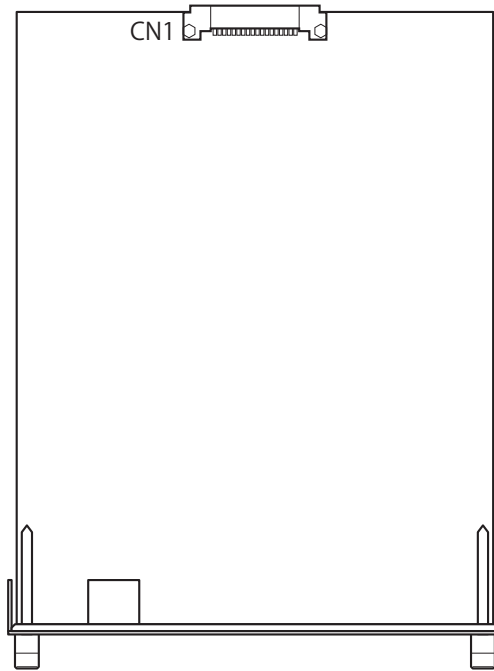
5.14 Paging Interface Card (GCD-PGTA)

This card is a unit of trunk type that supports an interface for one paging device.



5.14.1 Card Layout Image

Paging Trunk Card (GCD-PGTA)



5.14.2 Switch Settings

This card does not have any switches that need to be set or require any hardware setting.

5.14.3 LED Indications

This card has LIVE LED and BUSY LED. The operation status of these LEDs is the same as the GCD-8LCA card. However, when paging is not used, the LED of the PGT card for normal operation (there is at least one make-busy channel) state is displayed. For an explanation of the operations, see [Indications of LIVE LED and BUSY LED](#) in [5.4 8-Port Analog Line Interface Card \(GCD-8LCA\)](#).

5.14.4 Connectors

The table below shows connectors on this card.

GCD-PGTA Card Connectors

Connector	Connector Description
CN1	Connector for backboard of UG50 Chassis
1	Connector for Paging Device

5.15 ISDN Primary Rate Interface Card (GCD-PRTA)

The GCD-PRTA card provides an interface for ISDN Primary Rate Interface (PRI) applications. This card has a single 24-channel/30-channel 64Kb per second digital signal circuit configured for PRI. Each card connects to the network via an NTI Network Termination.

Each GCD-PRTA card provides 24 PRI (23B & 1D)/32 PRI (30B & 1D) channels running at 1.544 Mbps/2.048 Mbps with 64Kb/s clear channel. This card supports the following PRI services:

- Basic PRI Call Control (BCC)
- Display of incoming caller's name and number (when allowed by the telco)
- Speech and 3.1 kHz audio

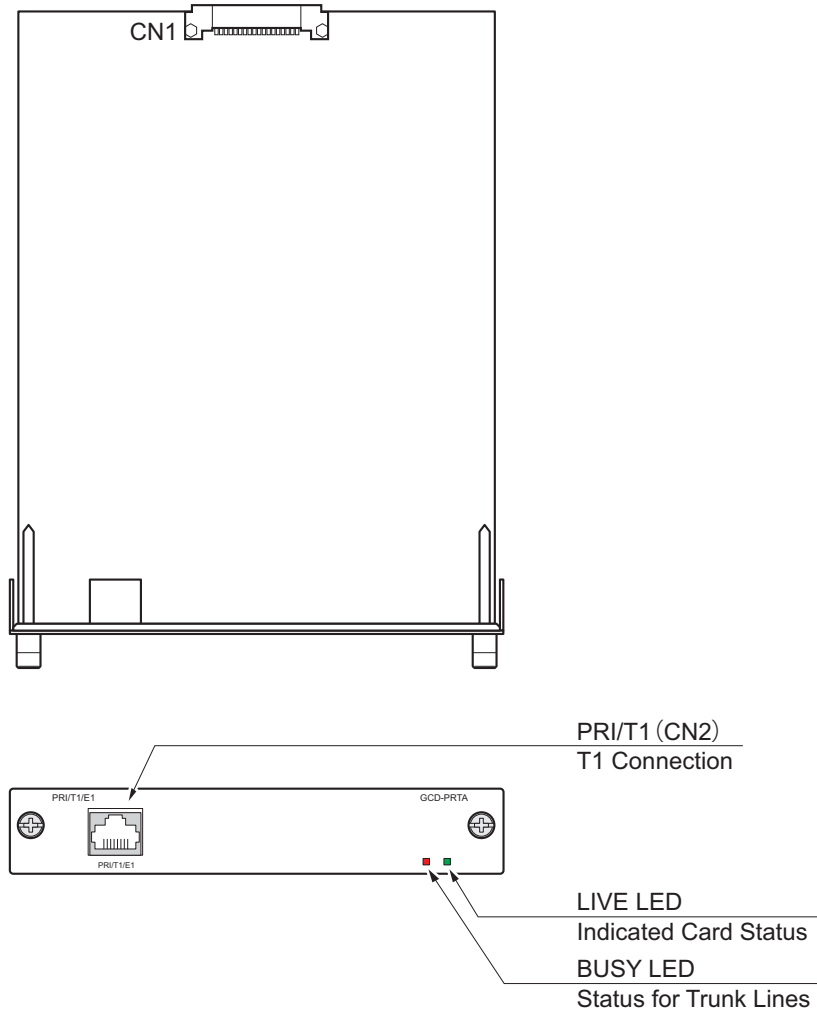
When installed, the GCD-PRTA uses the first block of 24/32 consecutive trunk ports. For example, if a COT card is installed for trunks 1~8, the GCD-PRTA automatically uses trunks 9~32/9~40. If the COT cards are installed for trunks 1~8 and 17~24, the GCD-PRTA uses trunks 25~48/25~56.

The GCD-PRTA cannot use trunks 9~16 (even if available) since they are not part of a consecutive block of 24/32 trunks. Each GCD-PRTA requires 24/32 channels in the system, even if not all the channels are used, otherwise the card does not function.



5.15.1 Card Layout Image

ISDN Primary Rate Interface Card (GCD-PRTA)



5.15.2 Switch Settings

This card does not have any switches that need to be set or require any hardware setting.

5.15.3 LED Indications

This card has LIVE LED and BUSY LED. The operation status of these LEDs is common among all the gateway cards. See [Indications of LIVE LED and BUSY LED in 8-Port Analog Line Interface Card \(GCD-8LCA\) on page 127](#).

Note: On this card, the LIVE and BUSY LEDs do not indicate the make-busy state.

5.15.4 Installation

To install the GCD-PRTA:

Step1: Plug the GCD-PRTA into any universal slot on the chassis.

Step2: Use Program **PRI/T1/E1 Selection** to set the GCD-PRTA card to either PRI.

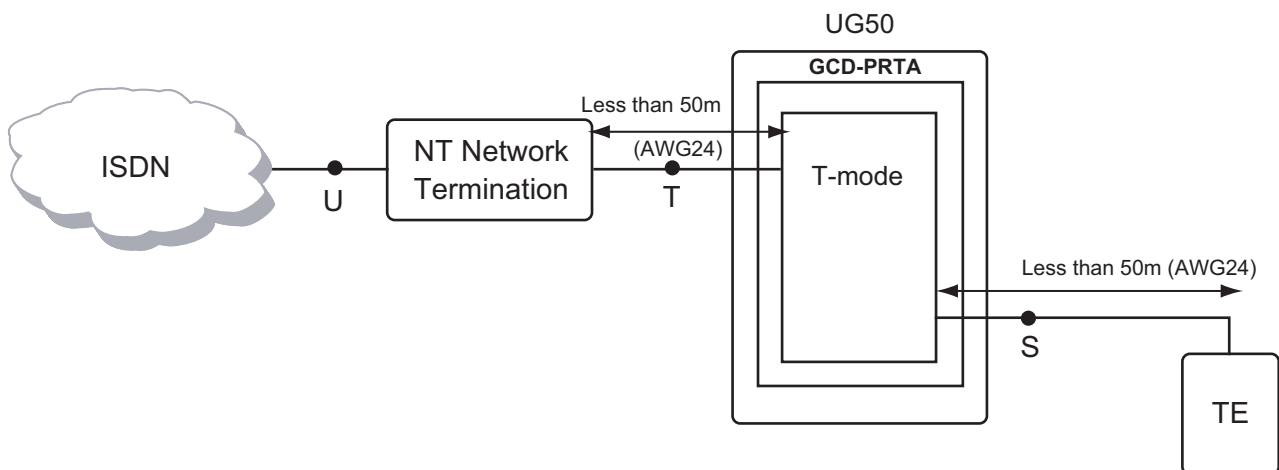
Note : With normal operation, LED 1 flashes green.

Step3: Connect the cable from the NT1 Network Termination cable to the CN2 connector on the GCD-PRTA. (Refer to Figure: [PRI Layout for NT-1 Network](#) for a cabling diagram.)

Note :

- The CSU connects to the network through an 8-pin RJ-45/RJ48C connector. Use either the RJ48C plug-to-RJ48C plug, which ships with the CSU or an RJ-45/48C plug-to RJ-45/48C plug straight through or CAT5 cable to connect the T1 to the CSU. (Refer to Table: [GCD-PRTA RJ48C Connector Pin-outs.](#))
- With the PRI Networking, a crossover cable must be used on the master system GCD-PRTA card or CSU to the telco demarcation. If the systems are networked side by side and not through telco, a straight-through cable is used.

PRI Layout for NT-1 Network



5.15.5 Connectors

The table below shows connectors on this card.

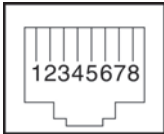
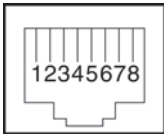
GCD-PRTA Card Connectors

Connector	Connector Description
CN1	Connector for backboard of the UG50 Chassis

Connector	Connector Description
PRI/T1/E1 (CN2)	Connector for Central Office Line

The following table shows the pin-outs for the RJ-45 connector.

GCD-PRTA RJ-45 Cable Connector Pin-Outs

RJ-45 Cable Connector S-Bus Connection		
	Pin No.	Connection
	1	RB
	2	RA
	3	—
	4	TB
	5	TA
	6	—
	8	—
RJ-45 Cable Connector – CN2 T-Bus Connection		
	Pin No.	Connection
	1	RA
	2	RB
	3	—
	4	TA
	5	TB
	6	—
	8	—

The following table shows the pin-outs for the 8-pin RJ48C connector for the network and terminal interfaces.

GCD-PRTA RJ48C Connector Pin-outs

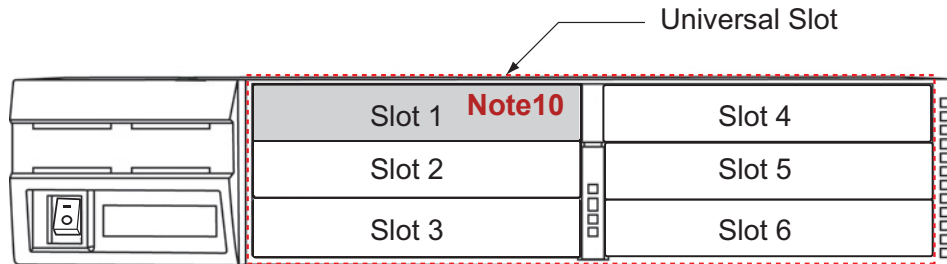
Network Interface Pinout for the 8-Pin RJ48C Connector		For connection to T1 network: Use AT&T Type ABAM cable or equivalent (individually- shielded twisted pair, rated at 100 Ω at 1 MHz).	Terminal Interface Pinout for the 8-Pin RJ48C Connector	
Pin No.	Connection		Pin No.	Connection
1	RxD (R1)	1	RxD (R)	
2	RxD (T1)	2	RxD (T)	
4	TxD (R)	4	TxD (R1)	
5	TxD (T)	5	TxD (T1)	
3, 6	No Connection	3, 6	No Connection	
7, 8	No Connection	7, 8	No Connection	

6. Mounting the Cards

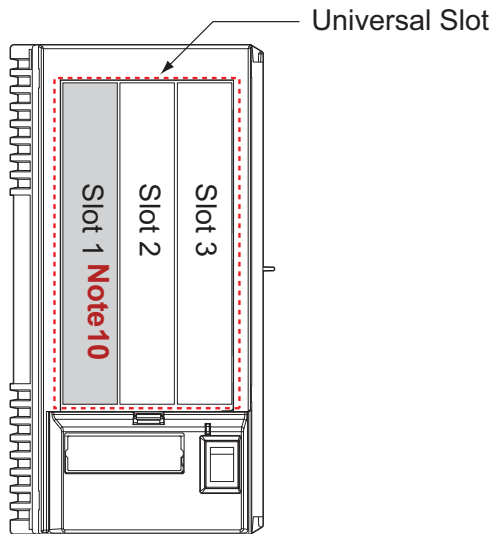
This section explains how to mount/remove the cards into/from the UG50 Chassis.

- [6.1 Removing the Blank Slot Panel](#)
- [6.2 Mounting the Cards](#)
- [6.3 Removing the Cards](#)

■ 19" Chassis



■ 9.5" Chassis



Note10: Slot 1 is used for the Central Processing Card (GCD-CP00-GW). No other card can be mounted in Slot 1.

Note: All cards including the Central Processing Card (GCD-CP00-GW) must be mounted when the power to the UG50 is off.

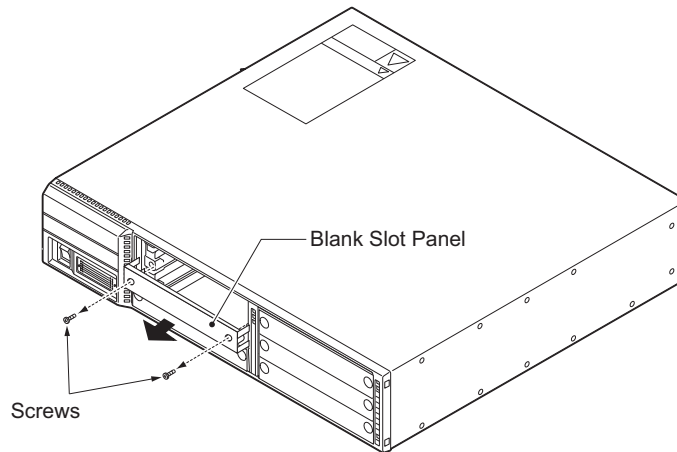
6.1 Removing the Blank Slot Panel

Follow the procedure below to remove Blank Slot Panel.

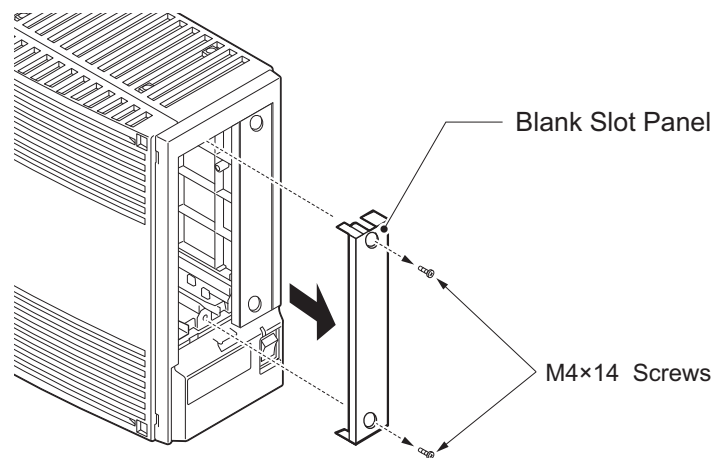
Step1: Use screwdriver to loosen two screws on the Blank Slot Panel

Step2: Remove the Blank Slot Panel.

[19" Chassis]



[9.5" Chassis]



Note : Keep the Blank Slot Panels you removed in a safe place.

6.2 Mounting the Cards

Follow the procedure below to mount cards into universal slots of the UG50. Before mounting the card, adjust the switch settings.

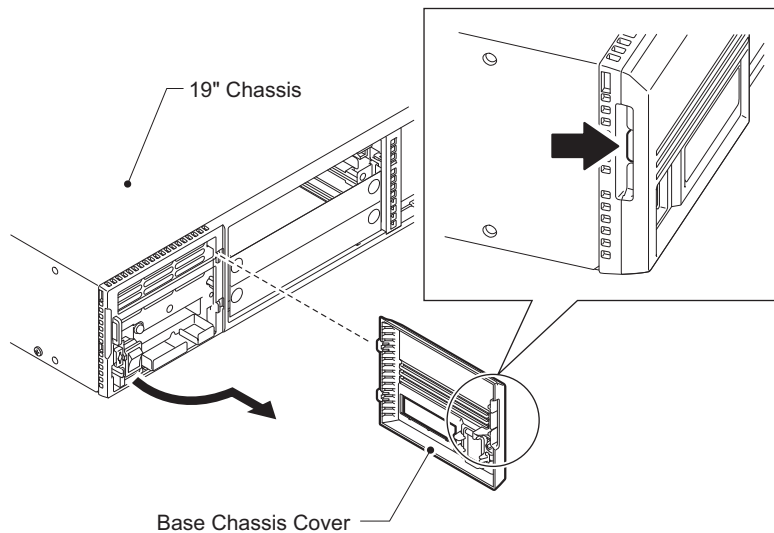
Note:

- Slot 1 is used for Central Processing Card (GCD-CP00-GW). No other card can be mounted in Slot 1.
- All cards including the Central Processing Card (GCD-CP00-GW) must be mounted when the power to the UG50 is off.
- Before installing the Controlling Blade into 19" Chassis, insert the Expansion Bay Blank Slot Cover.

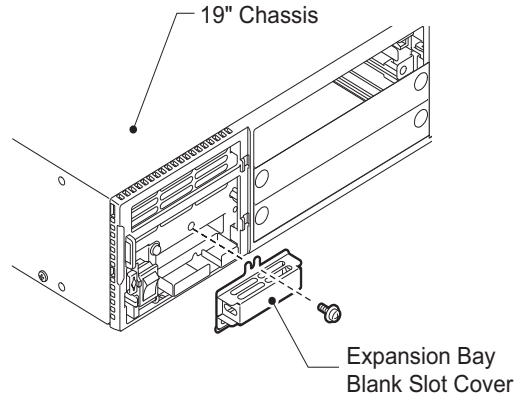
6.2.1 Mount a card into 19" Chassis

Step1: Ensure that the chassis is turned off.

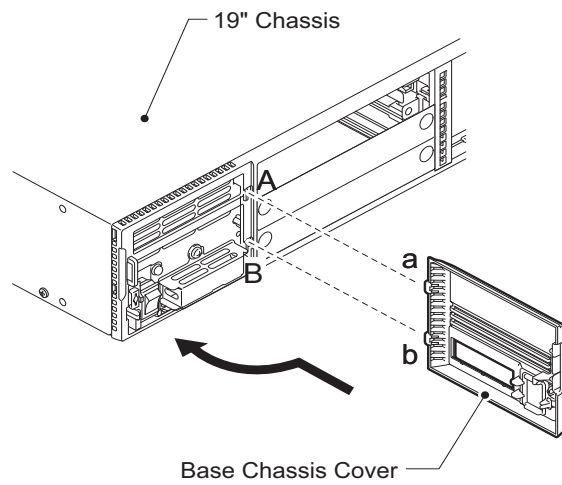
Step2: From the left side of the chassis, pull the Base Chassis Cover outward to expose the expansion bay. Pull the cover toward you to remove.



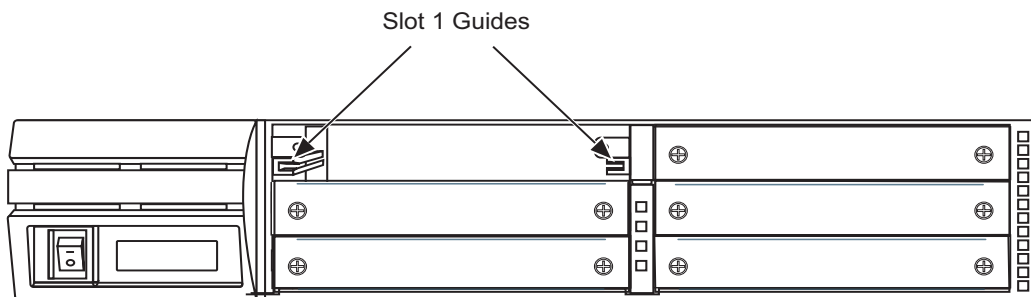
Step3: Insert the Expansion Bay Blank Slot Cover and secure with a screw.



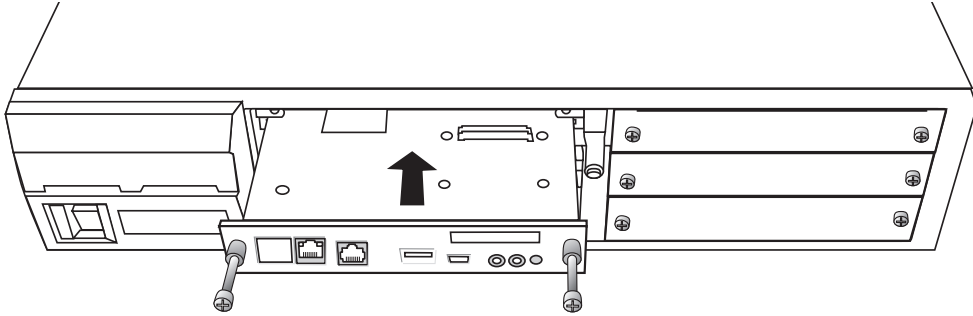
Step4: Align the door tabs with hinges and reattach the Base Chassis Cover.



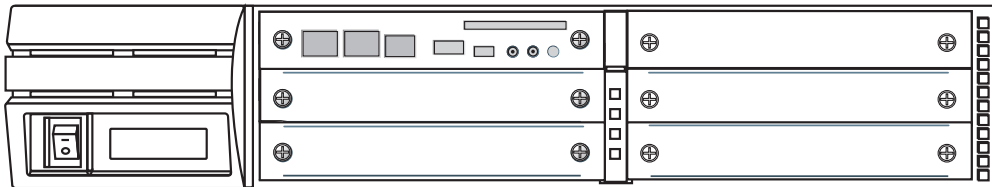
Step5: After the Base Chassis Cover is reattached, align a card with the Slot 1 guides of the chassis.



Step6: Slide the card into the chassis until resistance (back plane) is felt.

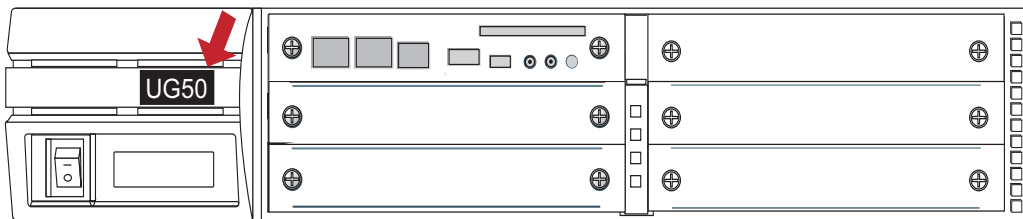


Step7: Gently push until the card seats. Tighten the two retaining screws on front of the card.



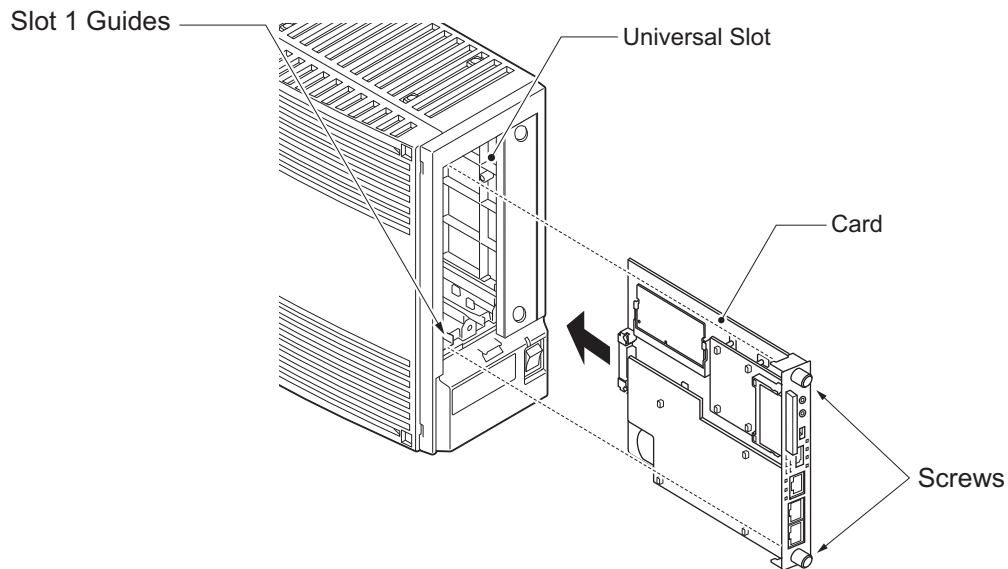
Note : Place the UG50 Label Sticker (included with the Memory Expansion Daughter Board) on the surface of the chassis as shown below.

Place the provided UG50 Logo Label here.



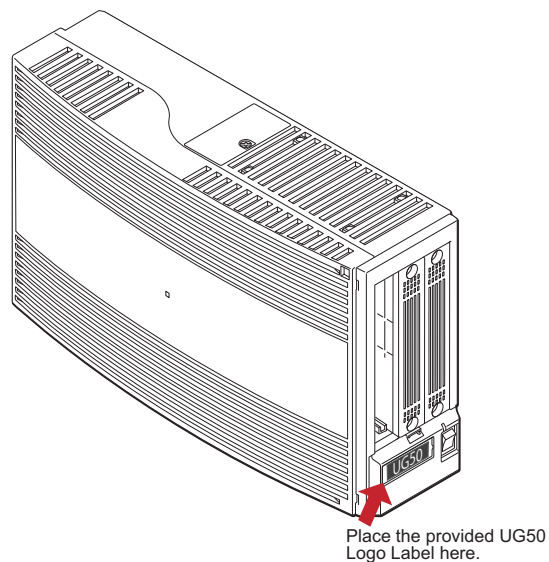
6.2.2 Mount the card into 9.5" Chassis

- Step1:** Ensure that the chassis is turned off.
- Step2:** Align a card with the Slot 1 guides of the chassis.
- Step3:** Slide the card into the chassis until resistance (back plane) is felt.



- Step4:** Gently push until the card seats. Tighten the two retaining screws on front of the card.

Note : Place the UG50 Label Sticker (included with the Memory Expansion Daughter Board) on the surface of the chassis as shown below.



6.3 Removing the Cards

Follow the procedure below to remove the cards from universal slots of the UG50.

Note: All cards including the Central Processing Card (GCD-CP00-GW) must be removed when the power to the UG50 is off.

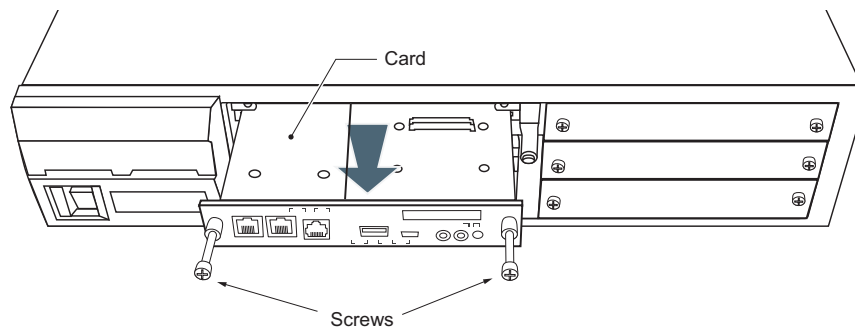
- To remove an unused card:
After you ensure the card is not used, as indicated by the LEDs, remove the card from the chassis after turning off the power to the UG50.
- To remove a card in use:
Make sure that the card becomes “unused status” before removing the card from the chassis.

Step1: Use a screwdriver to loosen two screws on the front panel of the card.

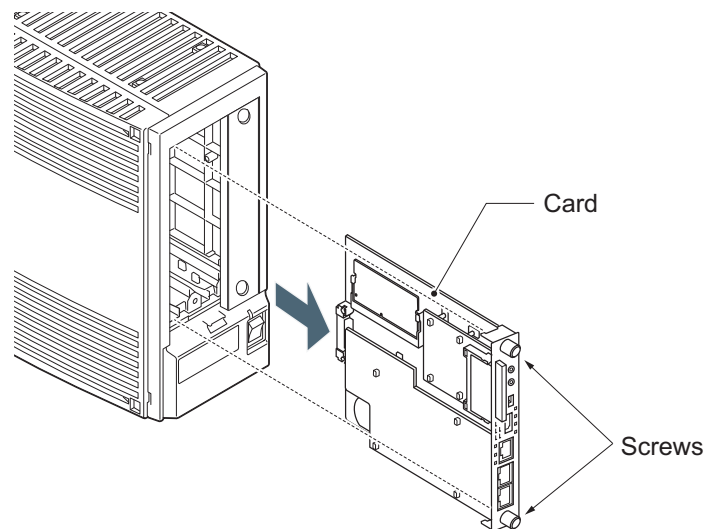
The screws are permanently mounted on the card.

Step2: Pull the card towards to outside by holding the screws.

[19" Chassis]



[9.5" Chassis]



Note : Attach the Blank Slot Panel to the unused slot.

7. Cabling and MDF Connection

7.1 Connection Requirements

The chassis is connected to each multiline terminal, single line telephone, analog trunks and digital trunks by a separate twisted-pair cable through the Main Distribution Frame (MDF).

7.2 Cabling Precautions

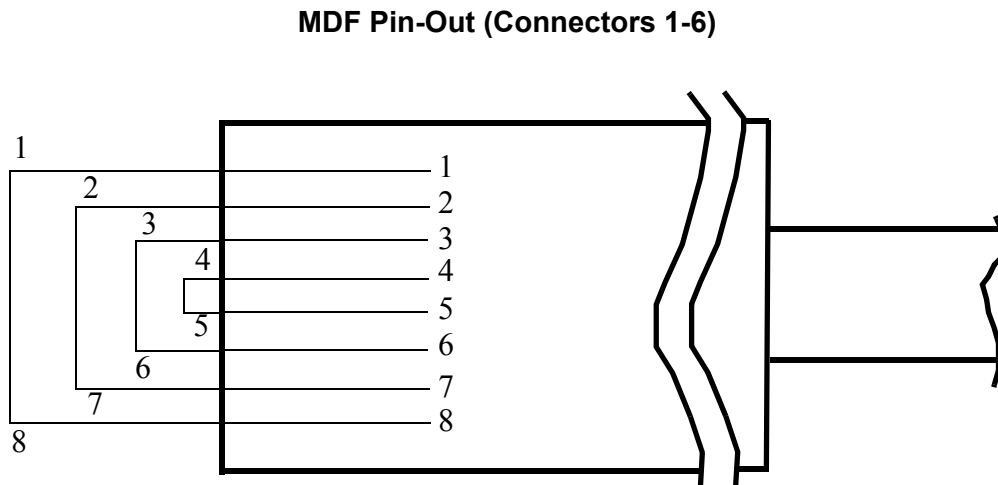
When selecting cables and the MDF, future expansion or assignment changes should be given due consideration. Avoid running cables in the following places:

- A place exposed to the wind or rain.
- A place near heat radiating equipment or where the PVC covering could be affected by gases or chemicals.
- An unstable place subject to vibration.

7.3 Wiring Between the Chassis and the MDF

7.3.1 Chassis Cables

The chassis is equipped with two MDF Cable Assemblies. NEC recommends that the MDF Cable Assembly be used to connect the multi-line terminals and single line telephones (except PFT). Refer to Figure: [MDF Pin-Out \(Connectors 1-6\)](#) and Table: [MDF Cable Connections \(Station\)](#) or [MDF Cable Connections \(Trunk\)](#). When installing single line telephones with PFT, the connector and cabling must be locally provided.



MDF Cable Colors

Pin Outs	Cable Colors					
	1	2	3	4	5	6
1	BR-WH	GN-RD	BR-BK	BL-YL	SL-YL	BR-VI
2	GN-WH	OR-RD	BL-BK	SL-BK	BR-YL	GN-VI
3	OR-WH	BL-RD	SL-RD	BR-GN	GN-YL	OR-VI
4	WH-BL	WH-SL	RD-BR	BK-GN	YL-OR	VI-BL
5	BL-WH	SL-WH	BR-RD	GN-BK	OR-YL	BL-VI
6	WH-OR	RD-BL	RD-SL	GN-BR	YL-GN	VI-OR
7	WH-GN	RD-OR	BK-BL	BK-SL	YL-BR	VI-GN
8	WH-BR	RD-GN	BK-OR	YL-BL	YL-SL	VI-BR

MDF Cable Connections (Station)

Connector	MDF Pin No.	Running Cable	Station Cable DTL	DLCA		LCA	
				8	16	4	8
1	26 1	WH-BL BL-WH	GN RD	T R	T R	T R	T R
	27 2	WH-OR OR-WH	GN RD	T R	T R	T R	T R
	28 3	WH-GN GN-WH	GN RD	T R	T R	T R	T R
	29 4	WH-BR BR-WH	GN RD	T R	T R	T R	T R
2	30 5	WH-SL SL-WH	GN RD	T R	T R	T R	T R
	31 6	RD-BL BL-RD	GN RD	T R	T R	T R	T R
	32 7	RD-OR OR-RD	GN RD	T R	T R	T R	T R
	33 8	RD-GN GN-RD	GN RD	T R	T R	T R	T R

MDF Cable Connections (Station) (Continued)

Connector	MDF Pin No.	Running Cable	Station Cable DTL	DLCA		LCA	
				8	16	4	8
3	34 9	RD-BR BR-RD	GN RD	T R	T R	T R	T R
	35 10	RD-SL SL-RD	GN RD	T R	T R	T R	T R
	36 11	BK-BL BL-BK	GN RD	T R	T R	T R	T R
	37 12	BK-OR OR-BK	GN RD	T R	T R	T R	T R
4	38 13	BK-GN GN-BK	GN RD	T R	T R	T R	T R
	39 14	BK-BR BR-BK	GN RD	T R	T R	T R	T R
	40 15	BK-SL SL-BK	GN RD	T R	T R	T R	T R
	41 16	YL-BL BL-YL	GN RD	T R	T R	T R	T R
5	42 17	YL-OR OR-YL	GN RD	T R	T R	T R	T R
	43 18	YL-GN GN-YL	GN RD	T R	T R	T R	T R
	44 19	YL-BR BR-YL	GN RD	T R	T R	T R	T R
	45 20	YL-SL SL-YL	GN RD	T R	T R	T R	T R
6	46 21	VI-BL BL-VI	GN RD	T R	T R	T R	T R
	47 22	VI-OR OR-VI	GN RD	T R	T R	T R	T R
	48 23	VI-GN GN-VI	GN RD	T R	T R	T R	T R
	49 24	VI-BR BR-VI	GN RD	T R	T R	T R	T R
	50	-	-	-	-	-	-
	25	-	-	-	-	-	-

MDF Cable Connections (Trunk)

Connector	MDF Pin No.	Running Cable	Station Cable DTL	COTA/B/C		PRTA	
				4	8	PRI	T1
1	26 1	WH-BL BL-WH	GN RD	T R	T R	RA RB	RA RB
	27 2	WH-OR OR-WH	GN RD	T R	T R	- TA	- TA
	28 3	WH-GN GN-WH	GN RD	T R	T R	TB -	TB -
	29 4	WH-BR BR-WH	GN RD	T R	T R	- -	- -
2	30 5	WH-SL SL-WH	GN RD	T R	T R	RA RB	RA RB
	31 6	RD-BL BL-RD	GN RD	T R	T R	- TA	- TA
	32 7	RD-OR OR-RD	GN RD	T R	T R	TB -	TB -
	33 8	RD-GN GN-RD	GN RD	T R	T R	- -	- -
3	34 9	RD-BR BR-RD	GN RD	T R	T R	RA RB	RA RB
	35 10	RD-SL SL-RD	GN RD	T R	T R	- TA	- TA
	36 11	BK-BL BL-BK	GN RD	T R	T R	TB -	TB -
	37 12	BK-OR OR-BK	GN RD	T R	T R	- -	- -
4	38 13	BK-GN GN-BK	GN RD	T R	T R	RA RB	RA RB
	39 14	BK-BR BR-BK	GN RD	T R	T R	- TA	- TA
	40 15	BK-SL SL-BK	GN RD	T R	T R	TB -	TB -
	41 16	YL-BL BL-YL	GN RD	T R	T R	- -	- -

MDF Cable Connections (Trunk) (Continued)

Connector	MDF Pin No.	Running Cable	Station Cable DTL	COTA/B/C		PRTA	
				4	8	PRI	T1
5	42 17	YL-OR OR-YL	GN RD	T R	T R	RA RB	RA RB
	43 18	YL-GN GN-YL	GN RD	T R	T R	- TA	- TA
	44 19	YL-BR BR-YL	GN RD	T R	T R	TB -	TB -
	45 20	YL-SL SL-YL	GN RD	T R	T R	- -	- -
6	46 21	VI-BL BL-VI	GN RD	T R	T R	RA RB	RA RB
	47 22	VI-OR OR-VI	GN RD	T R	T R	- TA	- TA
	48 23	VI-GN GN-VI	GN RD	T R	T R	TB -	TB -
	49 24	VI-BR BR-VI	GN RD	T R	T R	- -	- -
	50	-	-	-	-	-	-
	25	-	-	-	-	-	-

7.3.2 Outside Lines

An RJ-61 connector is authorized by the FCC for connection of C.O. lines. The lines are connected in sequence in this termination block. Therefore, the lines must be ordered in the appearance order best suited to the user. Refer to Table 4-53 MDF Cable Connections (Station) on page 4-119 or Table 4-54 MDF Cable Connections (Trunk) on page 4-121 for information about the MDF Connector Assembly Cable positions, the cable number, and lead functions.

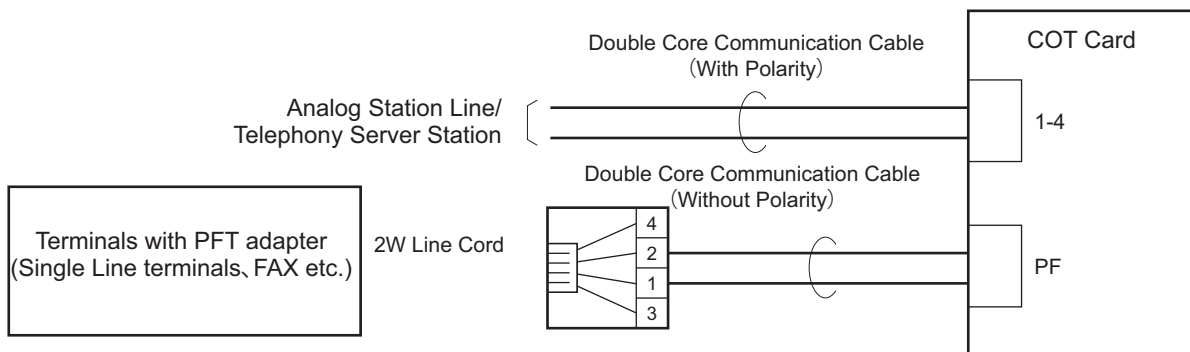
Ground Start and/or Loop Start and T1 can be connected to this system. Using only twisted-pair wiring to cross connect the lines from the RJ-61 termination block to the MDF is recommended.

7.4 Power Failure Transfer (Connecting a Single Line telephone with PFT to the COT card)

A Single Line telephone with PFT can be connected to the COT card (GCD-4COTA) with a use of the Power Failure Transfer Circuit (PF).

Note: Precautions when connecting a Single Line telephone with PFT to the COT card.

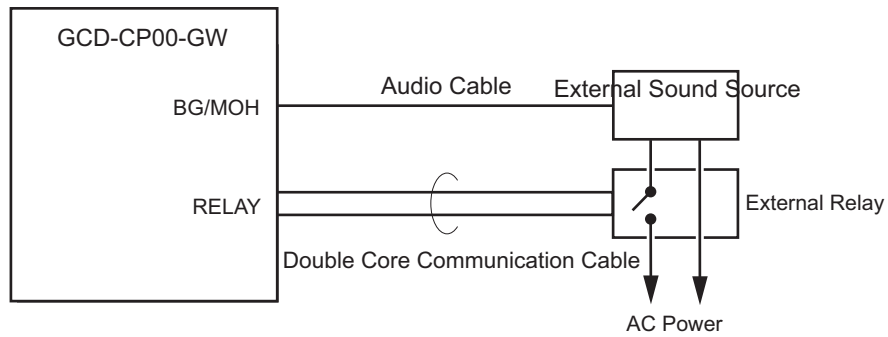
- Accommodate the Analog station line in [1-4] of the COT card, which is compatible with PF (Power Failure Transfer Circuit) of the COT card.
- If the line is provided Number Display service, the ringer tone for incoming calls will be switched as follows.
 - Special ringer tone is played for the first three to four seconds after the start of ringing.
 - After that, ringing will proceed for one second, then stops for two seconds. (The standard ringer tone)
- Wait until the standard ringer tone is switched on. A call will be disconnected if it is answered while a special ringer tone is on.



7.5 Connecting External Music On Hold Source and GCD-CP00-GW

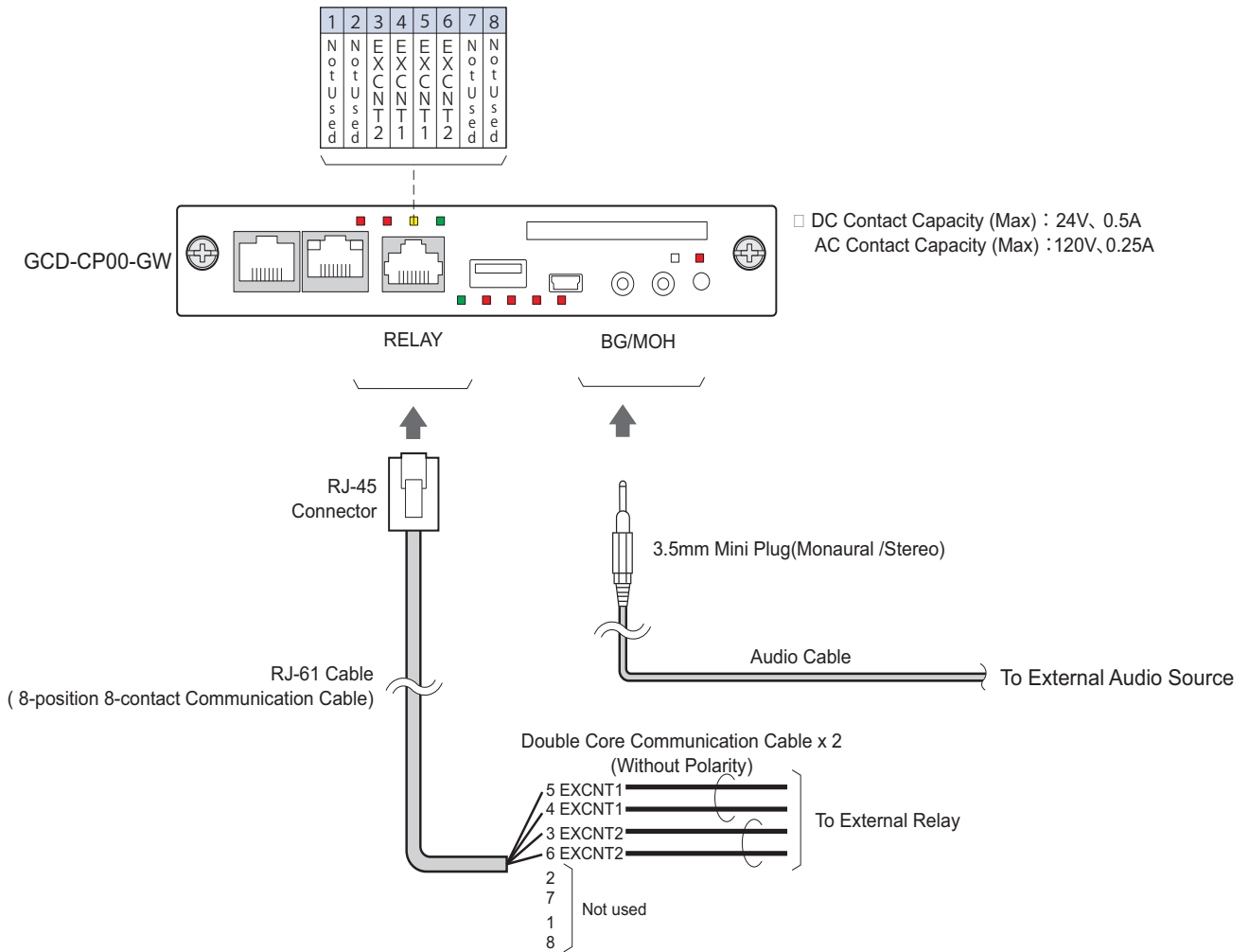
External sound source can be used for Music On Hold.

Connection Outline



Connection Diagram

Connect the external audio source and BG/MOH on GCD-CP00-GW with the audio cable as shown in the diagram. In the case of controlling the power of the external audio source, connect the external relay and RELAY on GCD-CP00-GW with a double core communication cable (without polarity).



Terminal Number of Connector and Polarity

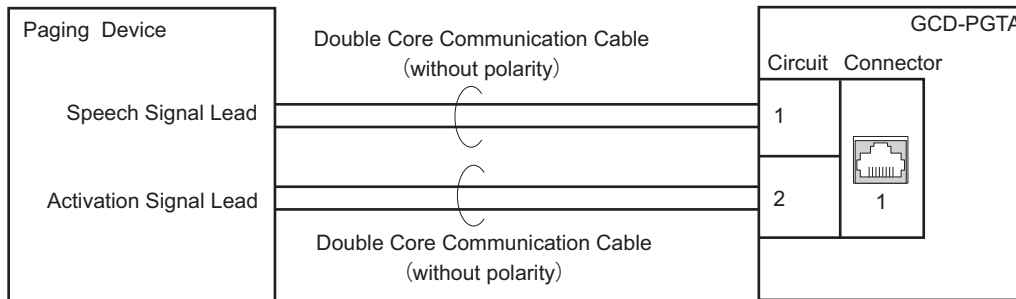
Connector No.	Terminal No.	Circuit-CH No.	Destination	Remarks
RELAY	1	-	-	Not used
	2	-	-	
	3	EXCNT2	External Relay 2	-Without Polarity -DC Contact Capacity (Max): 24 V, 0.5 A -AC Contact Capacity (Max): 24 V, 0.5A
	4	EXCNT1	External Relay 1	
	5	EXCNT1	External Relay1	
	6	EXCNT2	External Relay2	
	7	-	-	Not used
	8	-	-	
BG/MOH	-	External Audio Source	External Audio Source	A 3.5 mm mini plug is required for GCD-CP00-GW. For the external audio source side, choose accordingly to the connector of a device to be used.
PAGE	-	Not used		

7.6 Connecting Paging Device and PGT Card

Paging device is connected with PGT card as follows.

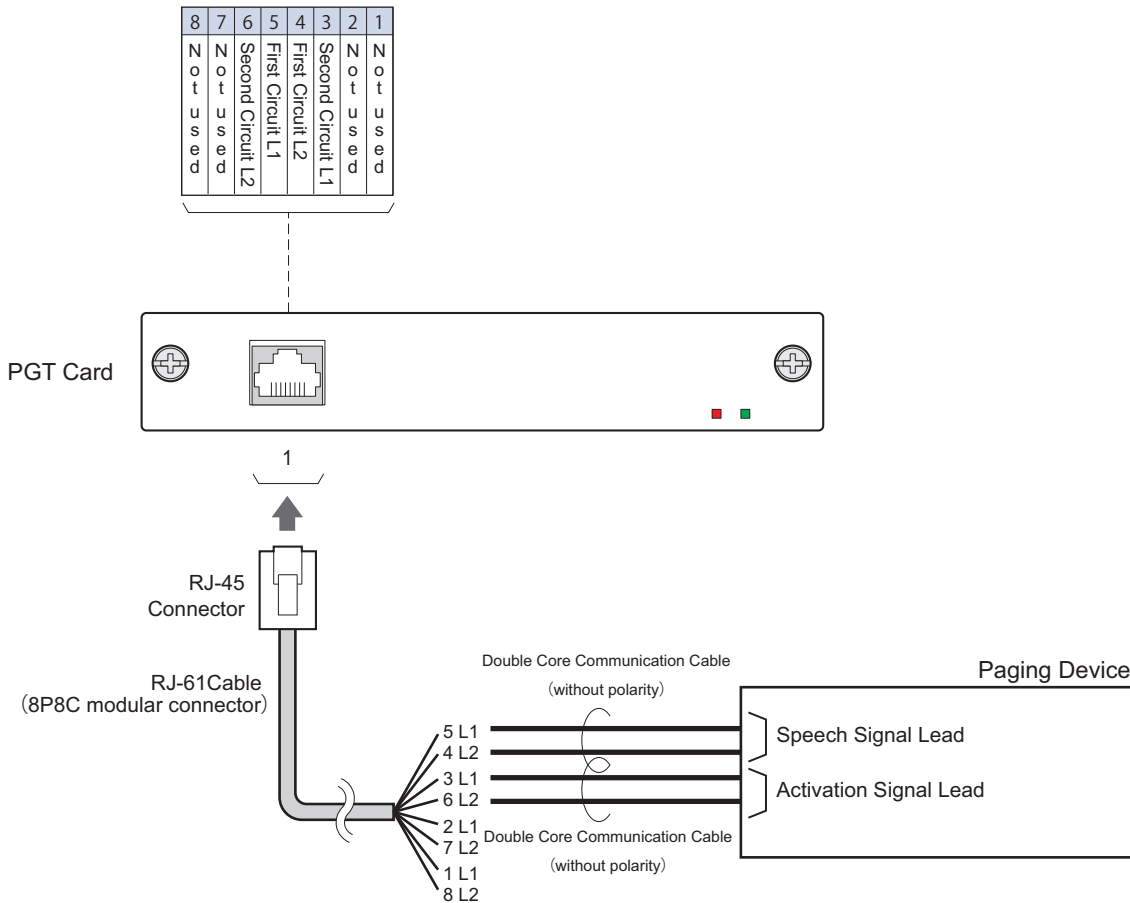
Note: The PGT card is exclusively used as an interior wiring product.

Connection Outline



Connection Diagram

Connect the paging device and [1] connector on PGT card with the cable as shown in the diagram. [1] connector of PGT card uses a RJ-61 cable and the paging device part a double core communication cable (without polarity).



Terminal Number of Connector and Polarity

Connector No.	Terminal No.	Polarity	Circuit -CH. No.	Connection Destination	Remarks
1	1	L1	Not used	Paging Device	[Speech] Without Polarity [Start] Without Polarity
	2	L1	Not used		
	3	L1	Second Circuit (Activation)		
	4	L2	First Circuit (Speech)		
	5	L1	First Circuit (Speech)		
	6	L2	Second Circuit (Activation)		
	7	L2	Not used		
	8	L2	Not used		

8. Battery Connection

8.1 Installing the Internal Batteries on a 19" Chassis

An internal battery source using two batteries can be installed using the CHS2U BATT MTG KIT (mounting kit) and CHS2U BATT CABLE INT (internal cabling).

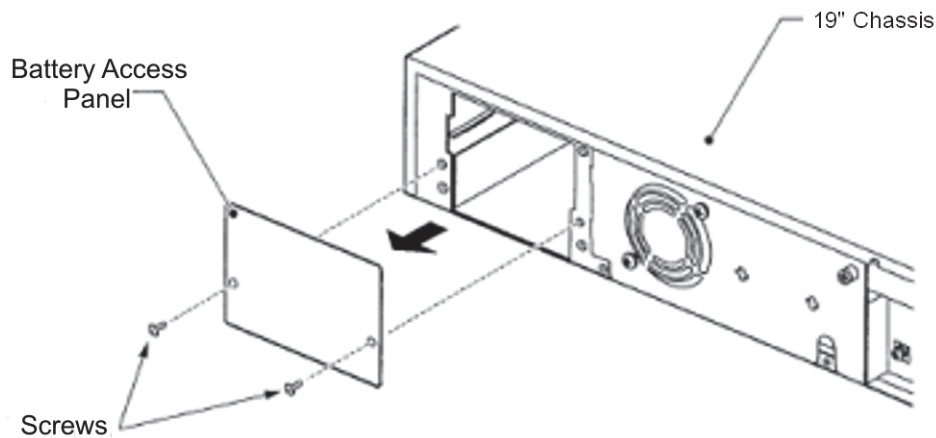


CHS2U BATT MTG KIT (Backup time = 10 Minutes/24 Terminals)

Step1: Ensure that the chassis is powered down.

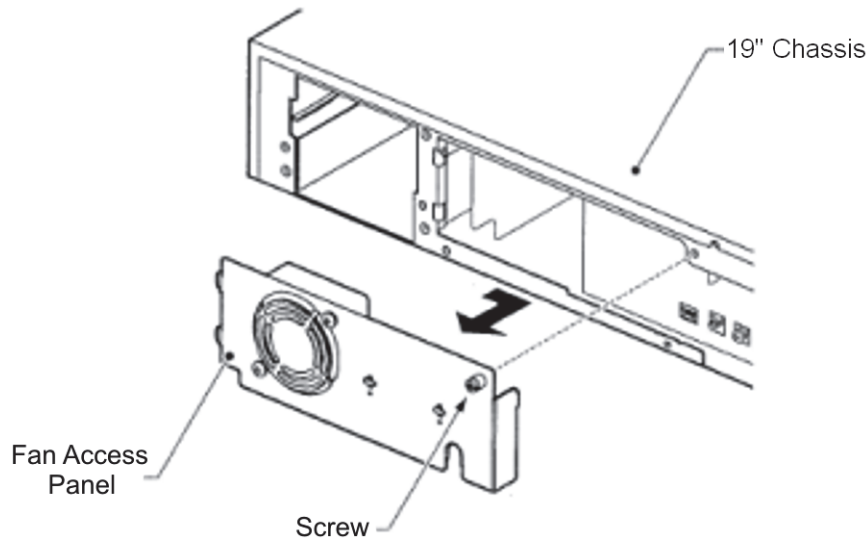
Step2: Remove screws from the battery access panel on the rear of the 19" Chassis.

Removing Battery Access Panel

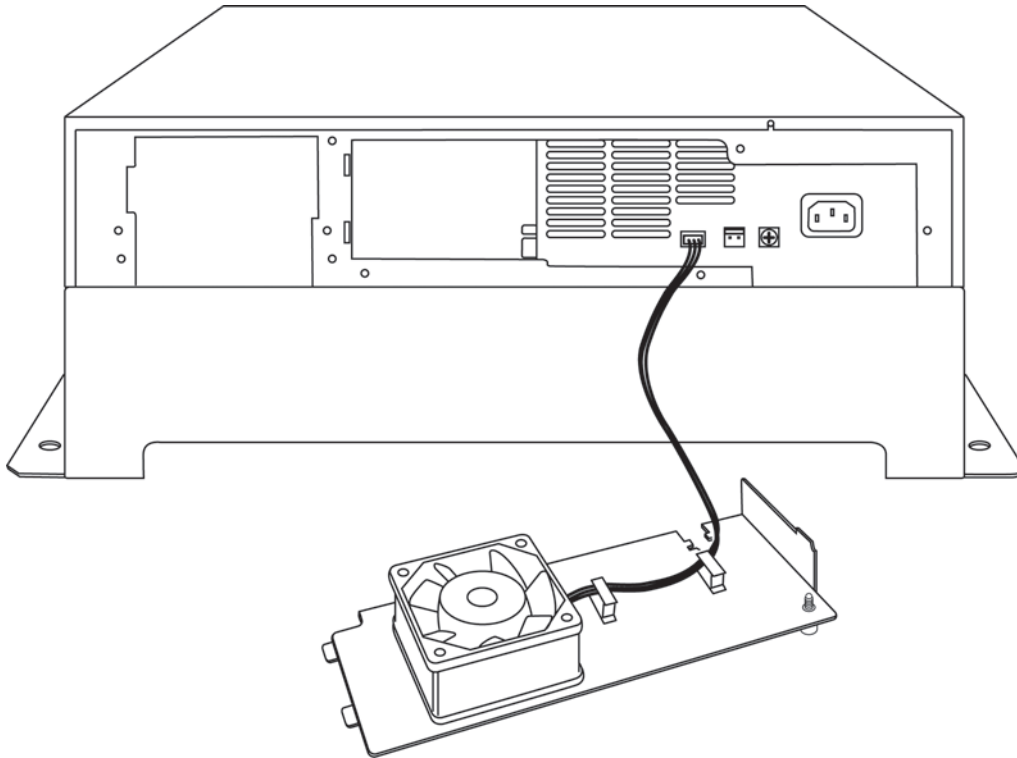


Step3: Remove the access panel containing the fan.

Removing Access Panel

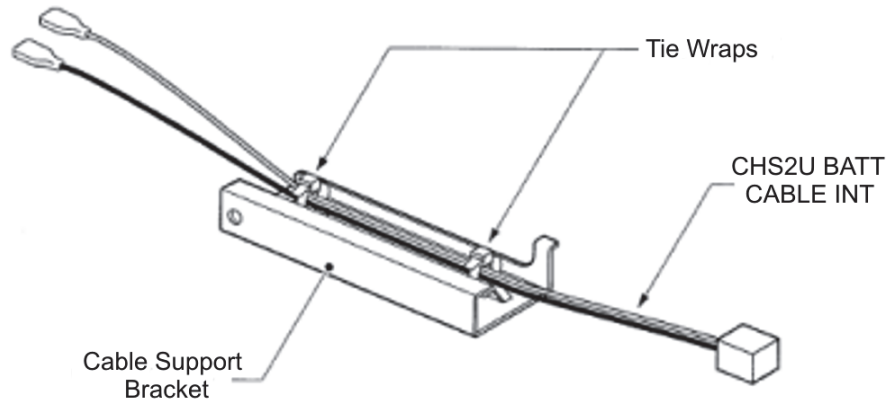


Access Panel Removed



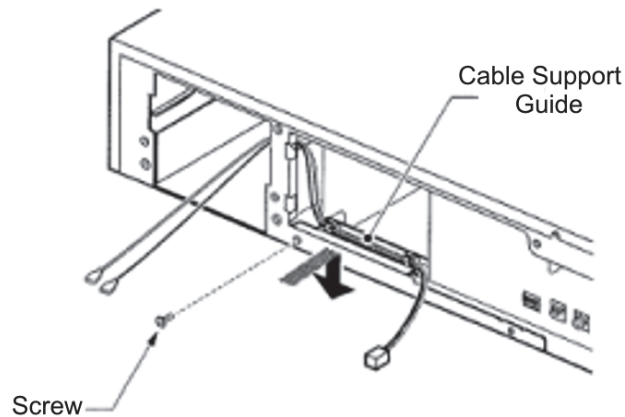
Step4: Using tie wraps, secure CHS2U BATT CABLE INT in a cable guide bracket.

Secure Cable in Support Bracket



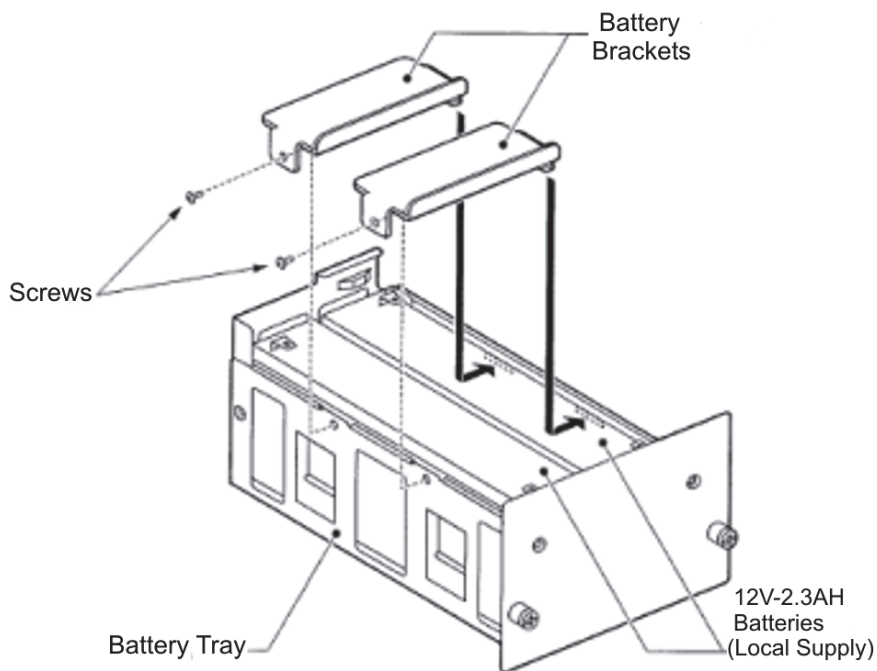
Step5: With supplied screw, install the cable guide on the chassis.

Installing Cable Support Guide



Step6: Install two 2.3 Ah-12 V batteries (locally procured) into the CHS2U BATT MTG KIT. The first battery must be installed on the left side, then slid to the right due to an installation tab on the mounting kit.

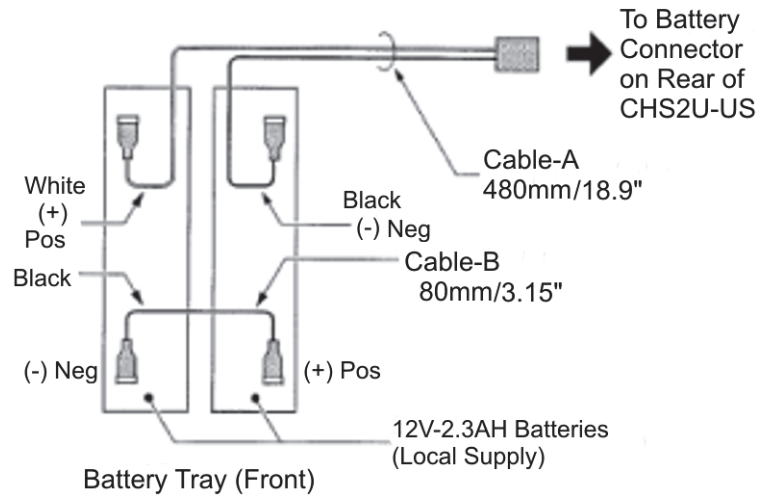
Installing Two Batteries



Step7: Using the supplied screws, secure the brackets to the CHS2U BATT MTG KIT.

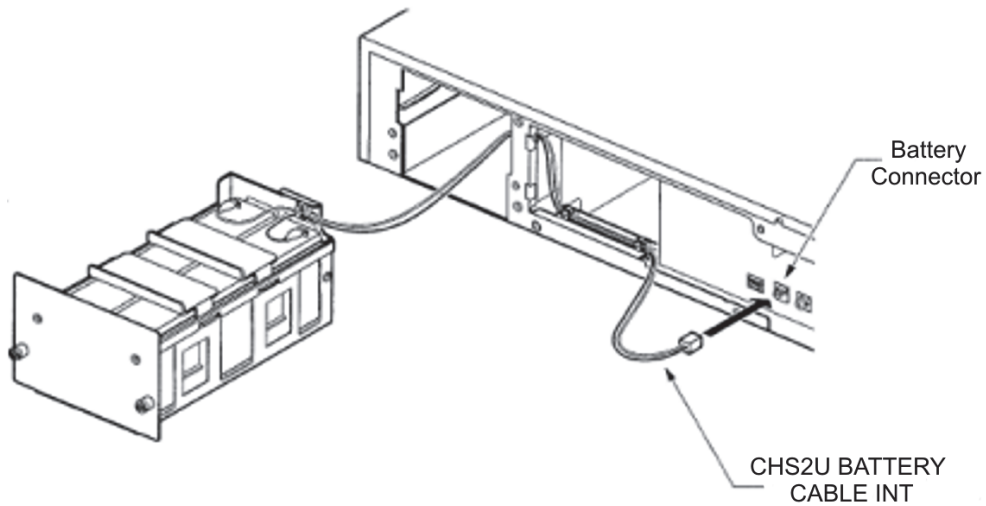
Step8: Connect the provided battery cables to the batteries.

Installing Battery Cable



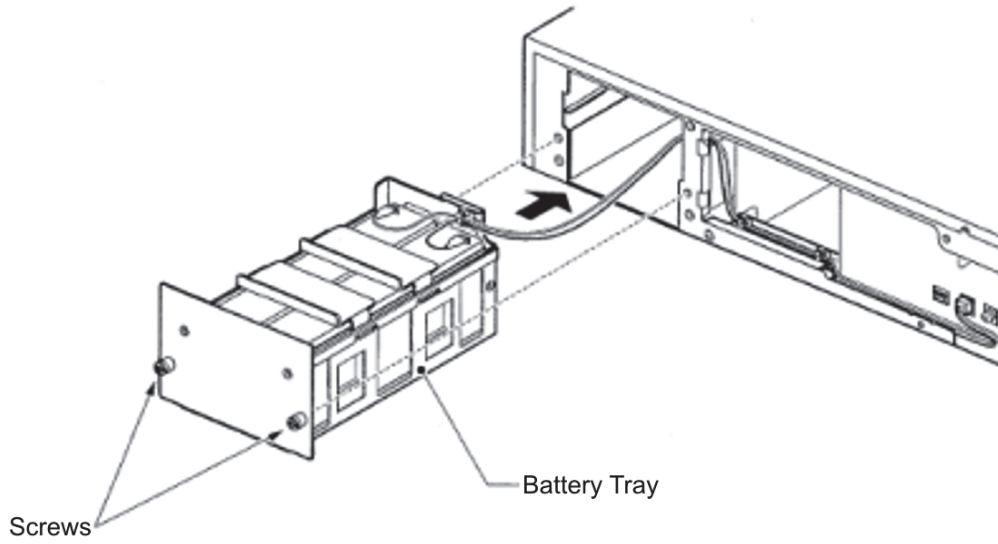
Step9: Connect CHS2U BATT CABLE INT to the battery connector.

Connecting CHS2U BATT CABLE INT



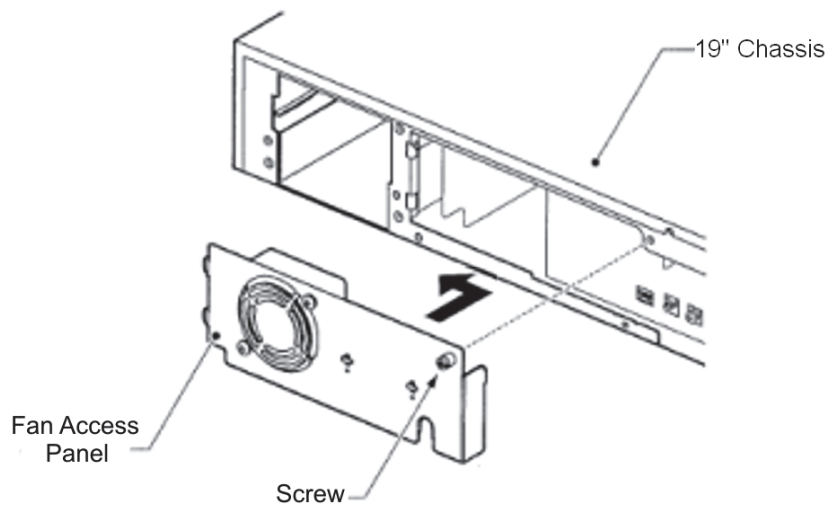
Step10: Install CHS2U BATT MTG KIT into 19" Chassis and tighten the retaining screws.

Installing Battery Tray into 19" Chassis



Step11: Reinstall access panel containing the fan and secure with supplied screw.

Installing the Access Panel



8.2 Installing the External Batteries on a 19" Chassis

An optional (locally procured), external battery source can be used to provide power during a power failure.

CHSG LARGE BATT BOX (Backup time = Three Hours for 30 Terminals)



CHSG LARGE BATT BOX Capacity

Configuration	Battery Capacity (Number of Batteries)	Number of CHSG LARGE BATT BOX
UG50		
19" Chassis x 1	21 Ah (=3 sets of [2x12 V-7 Ah])	1
19" Chassis x 2	42 Ah (=6 sets of [2x12 V-7 Ah])	2
19" Chassis x 3	63 Ah (=9 sets of [2x12 V-7 Ah])	3
19" Chassis x 4	84 Ah (=12 sets of [2x12 V-7 Ah])	4

Note: One CHSG LARGE BATT BOX can be used for 4 x 19" Chassis for approximately 45 minutes.

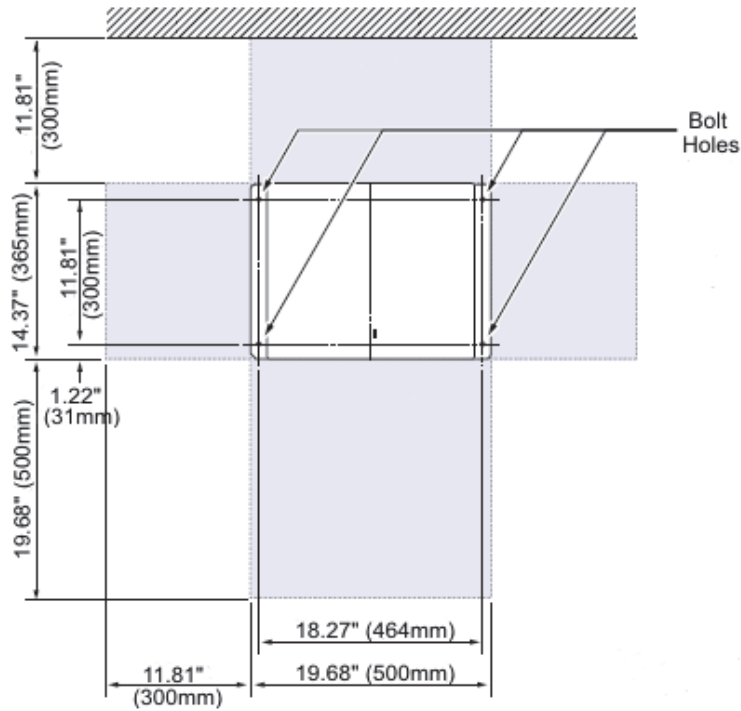
8.2.1 Floor Mounting the CHSG LARGE BATT BOX

Note:

- Wall mounting the CHSG LARGE BATT BOX is not recommended due to possible injuries from a falling equipment.
- Mounting the CHSG LARGE BATT BOX directly on the floor is not recommended.
- The CHS BASE UNIT raises the height of the CHSG LARGE BATT BOX 120 mm (4.72").
- When the CHSG LARGE BATT BOX and 19" Chassis are connected for long-term use, the CHS2U JOINT BRACKET KIT is used.

Step1: Use the template shown below for required spacing before drilling holes for 0.39"(10 mm) anchor bolts (locally procured).

Floor Mount Spacing Guide

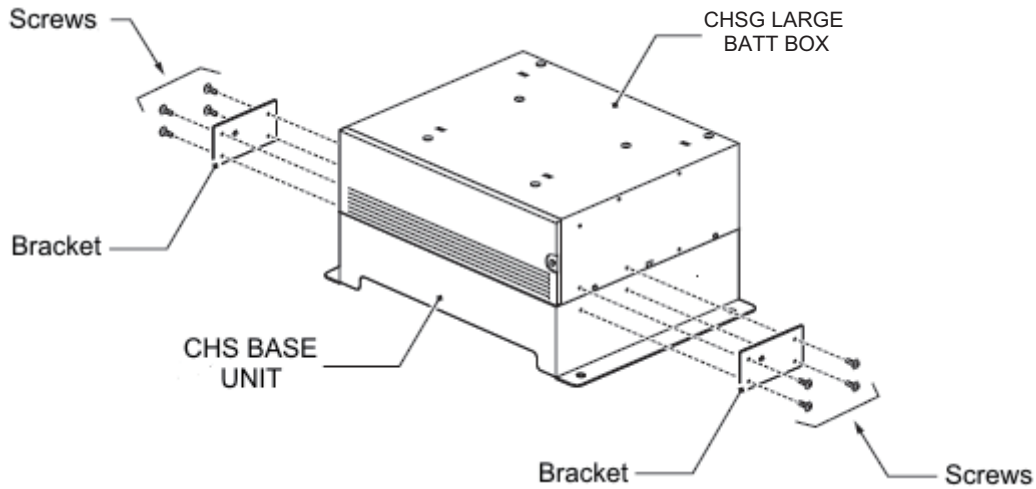


Step2: Mark and drill the four holes required to install the CHS BASE UNIT.

Step3: Align bolt holes in CHS BASE UNIT with holes drilled in floor and secure using four anchor bolts.

Step4: Align and install the CHSG LARGE BATT BOX on top of the CHS BASE UNIT.

Installing the CHSG LARGE BATT BOX using the CHS2U JOINT BRACKET KIT

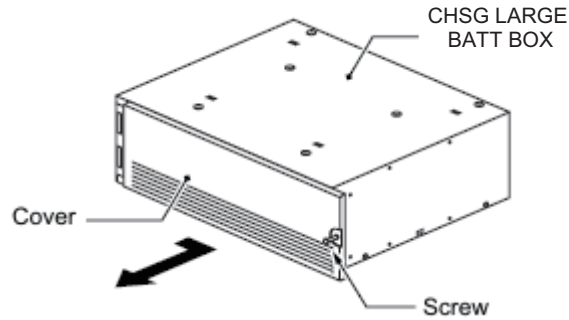


Step5: Secure the CHSG LARGE BATT BOX to the CHS BASE UNIT using the CHS2U JOINT BRACKET KIT.

8.2.2 Battery Installation

Step1: Loosen the screw on the front of CHSG LARGE BATT BOX.

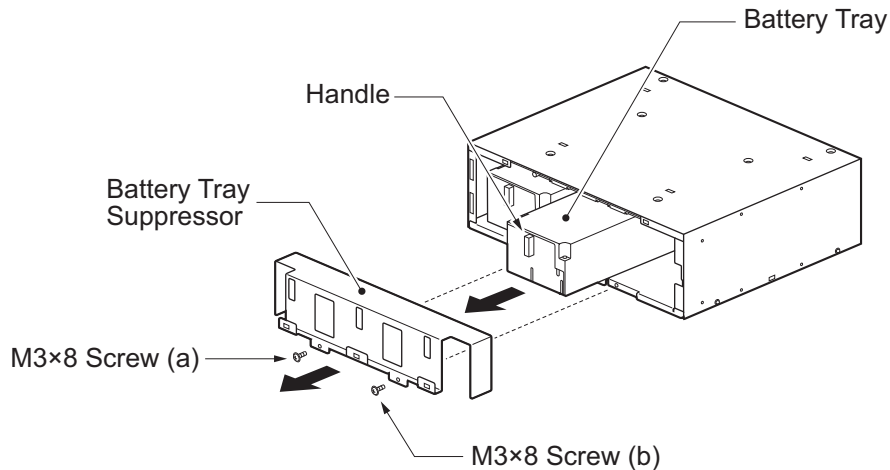
Removing CHSG LARGE BATT BOX Cover



Step2: Swing cover outward and detach from CHSG LARGE BATT BOX.

Step3: Remove two screws (a and b) from front of Battery Tray Suppressor.

Removing Battery Tray Suppressor



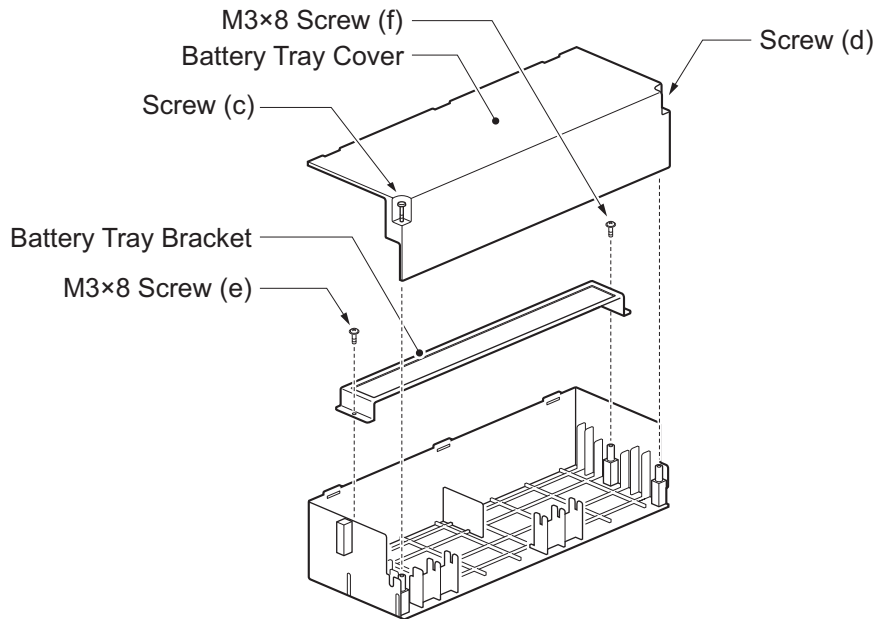
Step4: Slide Battery Tray Suppressor outward to remove.

Step5: Slide Battery Tray(s) out of CHSG LARGE BATT BOX.

- Step6:** Loosen the two screws (c and d (**Note11**)) and remove the Battery Tray Cover. Unscrew the two M3×8 screws (e and f) from the Battery Tray Bracket, and remove the bracket.

Note11: Screws (c) and (d) are designed not to be removed.

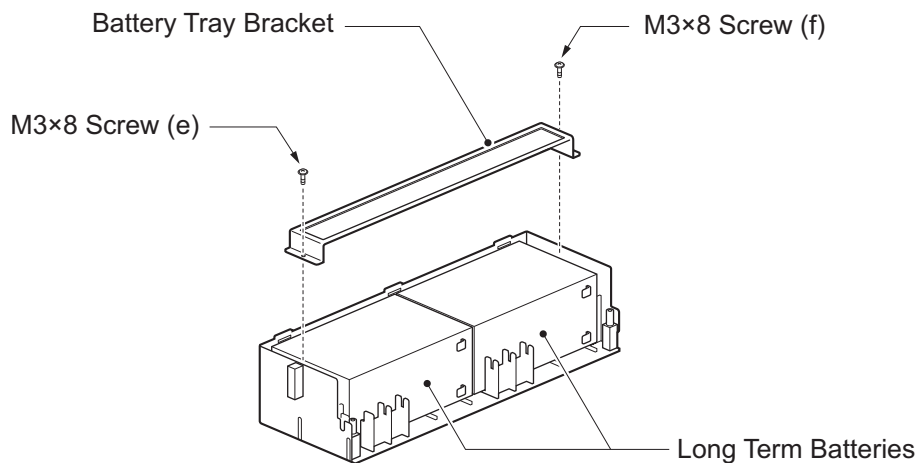
Removing Battery Tray Cover



- Step7:** Position two Long-Term Batteries in the Battery Tray.

- Step8:** Align the screw holes on the Battery Tray Bracket with the holes on the Battery Tray, and then secure them in place with the screws you removed in Step 6.

Removing Battery Tray Bracket

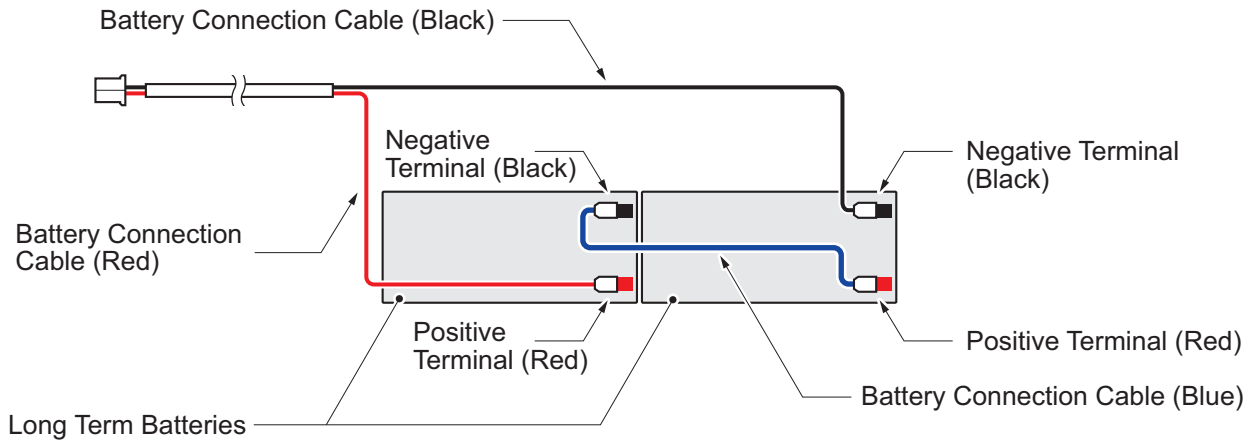


Step9: Connect the positive terminal (red) of the battery on the right side to the negative terminal (black) of the one on the left with the blue Battery Connection Cable.

Step10: Connect the red and black Battery Connection Cables to the positive terminal (red) of the battery on the left side and the negative terminal (black) of the one on the right, respectively.

Note : Incorrect installation of batteries may damage the Fuse Unit or cause possible fire.

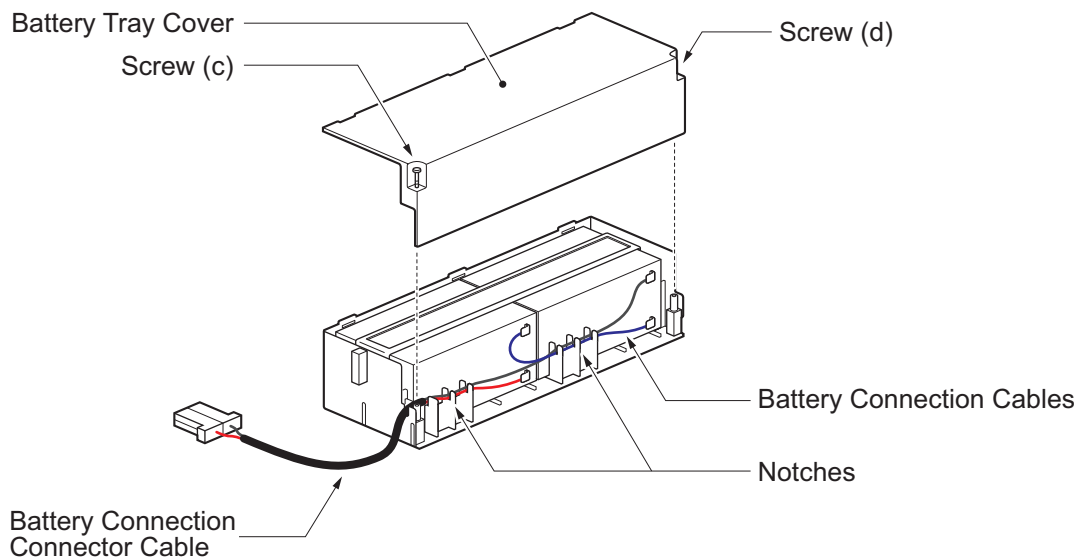
Battery Cable Connection Guide



Step11: Secure the Battery Connection Cables (blue, red, and black) in the notches on the Battery Tray.

Step12: Re-install the Battery Tray Cover, and secure it in place with two screws (c and d).

Installing Battery Connection Cable



- Note :** The following precautions must be taken when dealing with Battery Trays.
- Do not pull the Battery Connection Connector Cable.
 - Do not carry or hang up the tray by the cable.
 - When installing Battery Tray Cover, ensure that the connection cables are not caught in between.
 - Be sure to write the date of the next scheduled battery change on the label attached to the Battery Tray Cover.

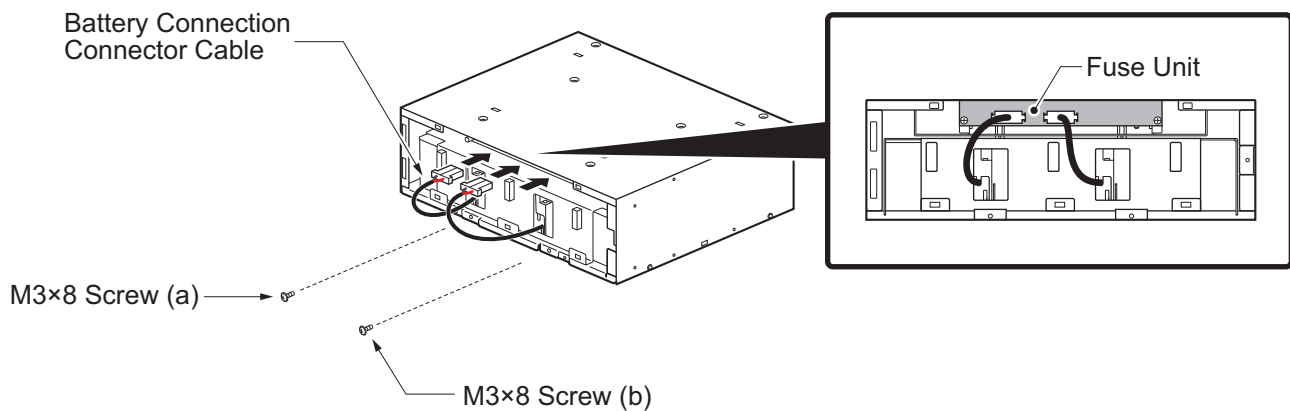
Step13: Install the Battery Tray in the CHSG LARGE BATT BOX.

Step14: Repeat Step [5](#) to Step [13](#) for the other Battery Tray.

Step15: Re-position the Battery Tray Bracket, and secure it in place with the two screws (a and b) you removed in Step [3](#).

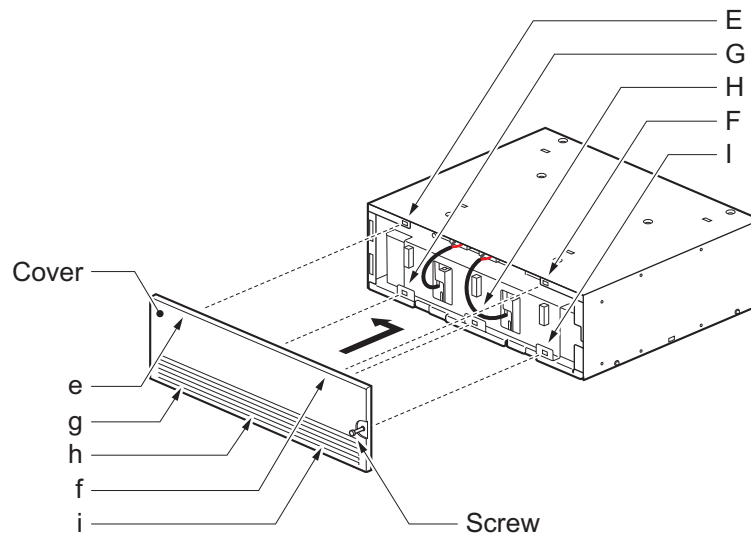
Step16: Plug in the Battery Connection Cables to the connectors on the fuse unit of the CHSG LARGE BATT BOX.

Connecting Battery Connection Cables to Connectors on Fuse Unit



Step17: Insert tabs (e to i) on cover into holes (E to I) on CHSG LARGE BATT BOX. Slide the cover left until seated.

Installing Cover Battery



Step18: Secure the cover with the screw on the front of CHSG LARGE BATT BOX.

8.2.3 CHSG LARGE BATT BOX to CHS2UG Connection

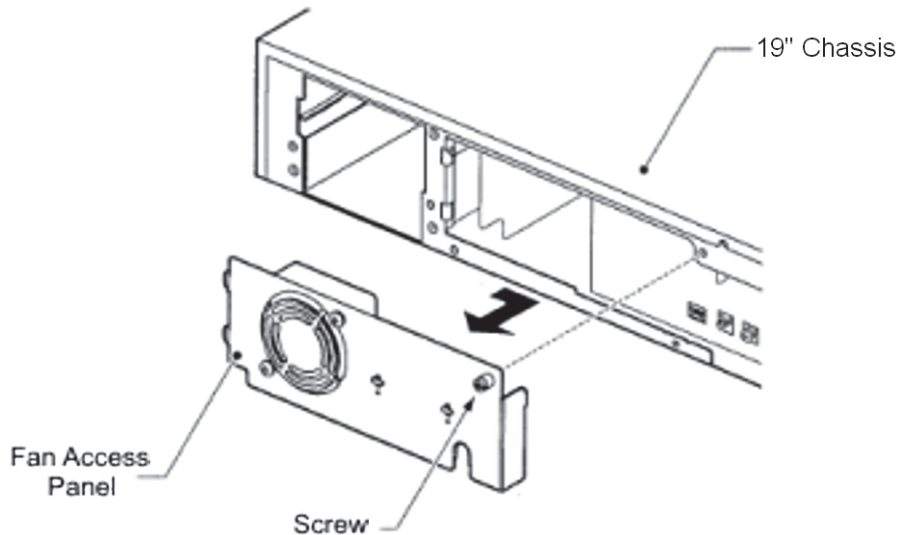
Step1: Power down the 19" Chassis.

Note : Ensure that the 19" Chassis is powered OFF.

Step2: Disconnect the AC power cable from the rear of the 19" Chassis.

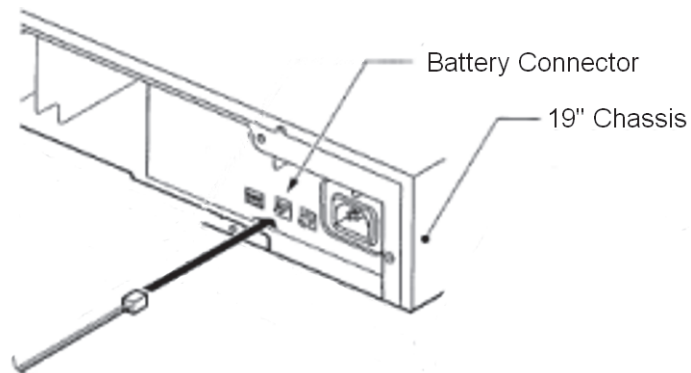
Step3: Remove the fan access panel from the rear of the 19" Chassis.

Removing the Fan Access Panel



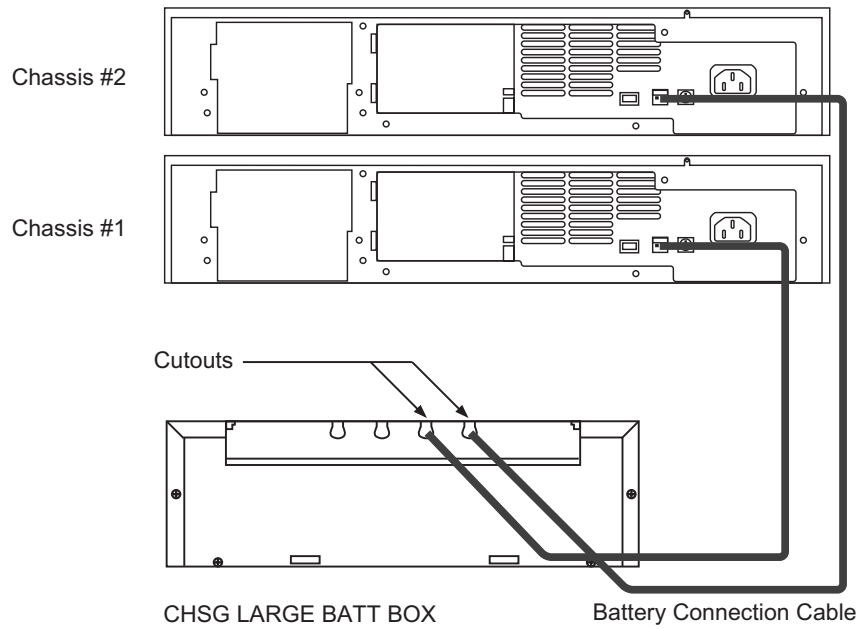
Step4: Connect one end of Battery Connection Cable to Battery Connector on the rear of the 19" Chassis.

Connecting External Battery to 19" Chassis

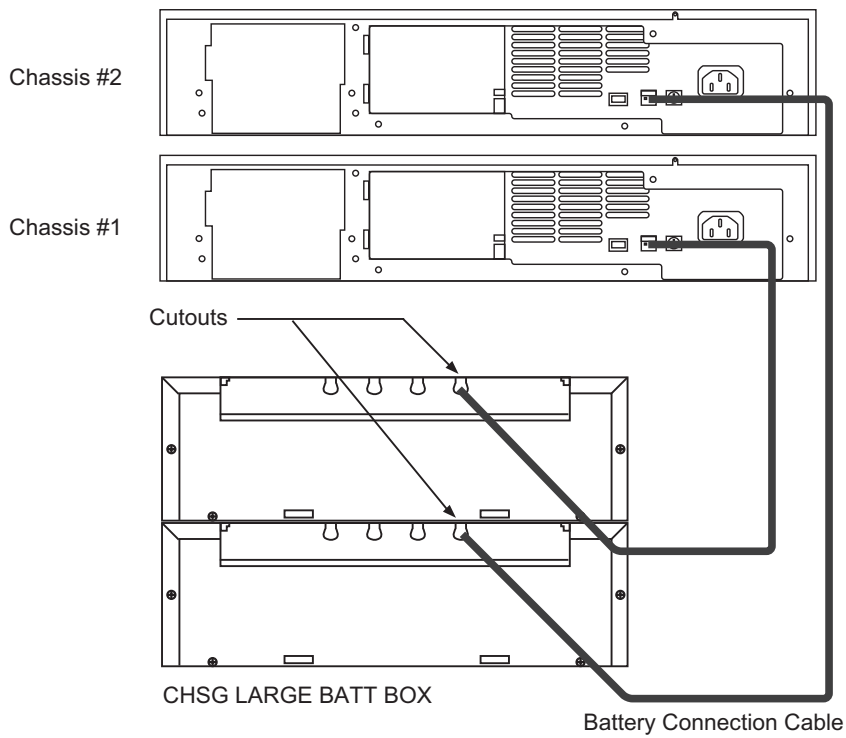


Step5: Connect the other end of the cable to Battery Connector on the rear of the CHSG LARGE BATT BOX chassis.

Single CHSG LARGE BATT BOX Connection

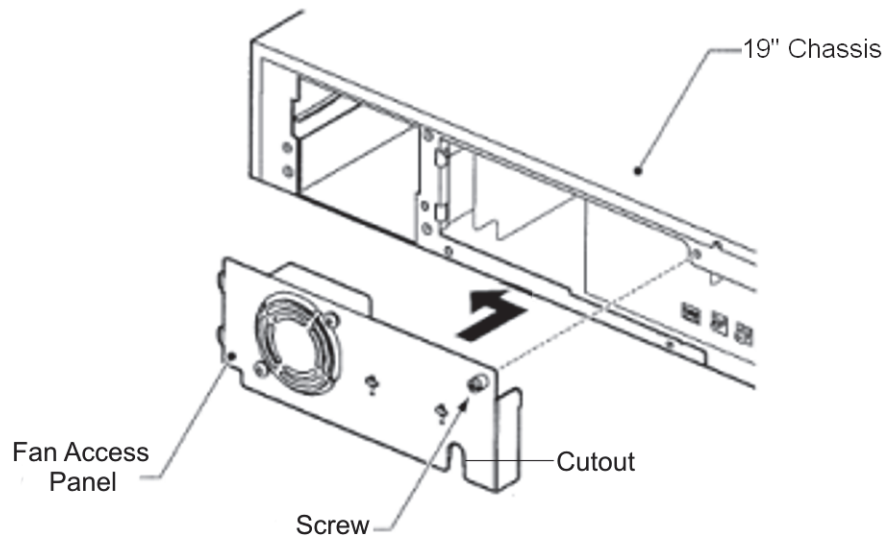


Dual CHSG LARGE BATT BOX Connection



- Step6:** Insert the access panel tab into the rear of the 19" Chassis running the Battery Connection Cable through the cutout. Secure the panel with the retaining screw.

Install the Fan Access Panel

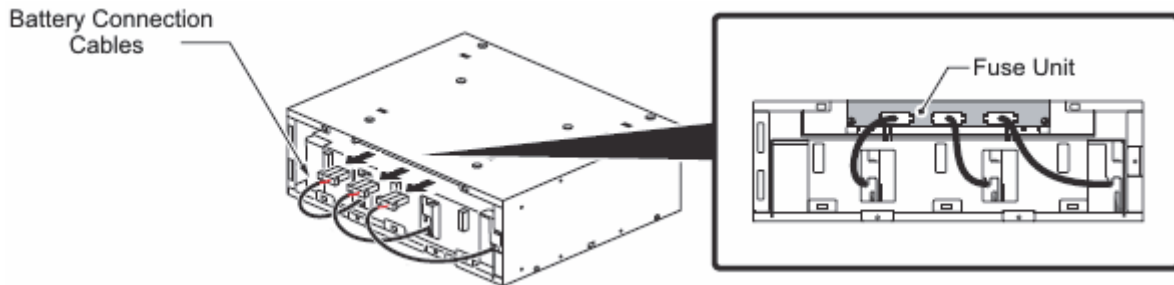


8.2.4 Long-Term Battery Replacement

To replace the Long-Term Batteries (CHS LARGE BATT SET), follow the steps below:

- Step1:** Disconnect the Battery Connection Cables from the Fuse Unit of Long-Term Battery Box (CHSG LARGE BATT BOX).

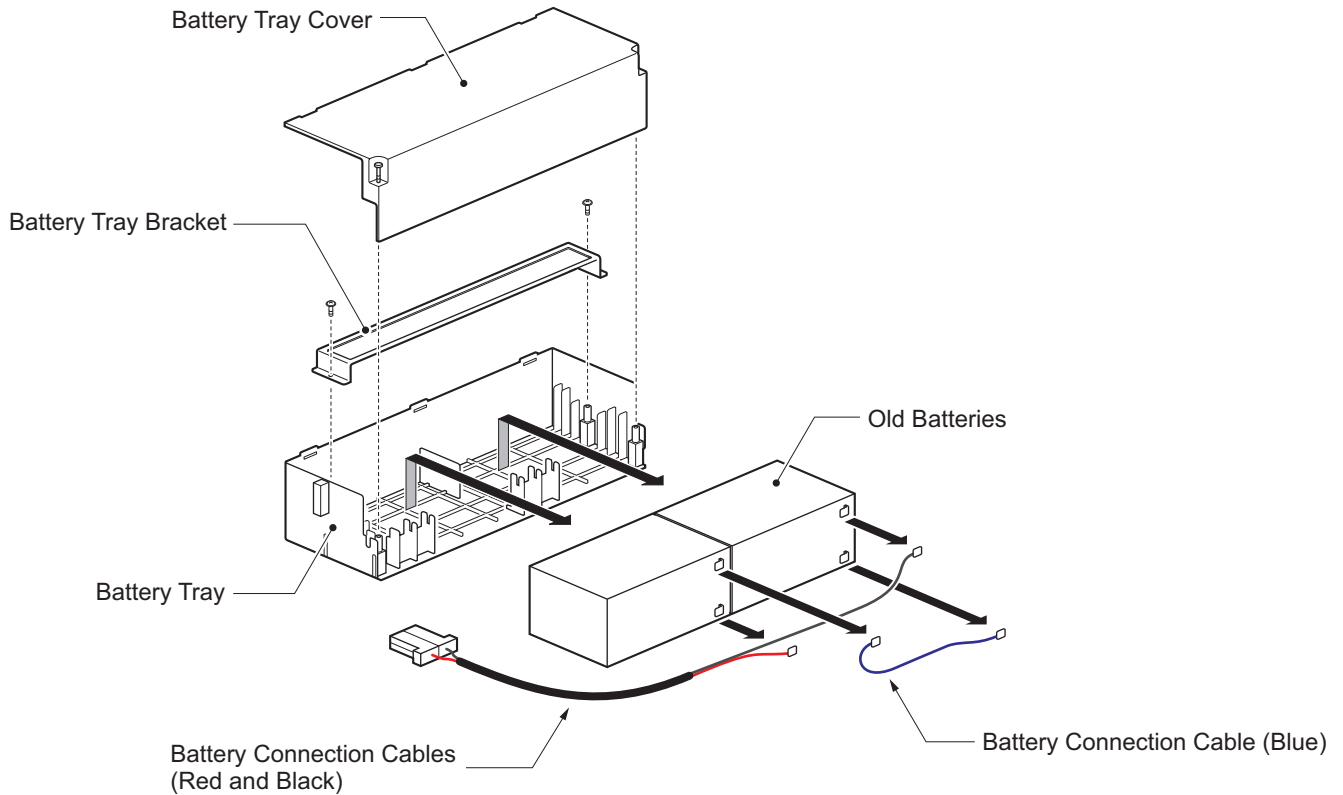
Disconnecting Battery Cables



- Step2:** Referring to Step [1](#) to Step [6](#) in [8.2.2 Battery Installation](#), remove the Battery Tray Cover from the tray.
- Step3:** Remove the Battery Connection Cables (black, red, and blue) from the old batteries.

Step4: Remove the old batteries from the tray.

Removing Old Battery from Battery Tray



Step5: Referring to Step [7](#) to Step [13](#) in [8.2.2 Battery Installation](#), install new batteries in the CHSG LARGE BATT BOX.

Note : After replacement, be sure to write the date of the next scheduled battery change on the label attached to the Battery Tray Cover.

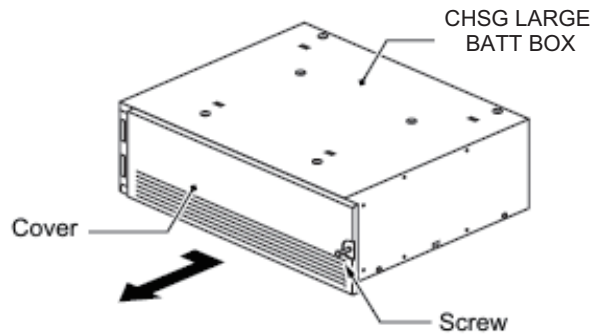
Step6: Repeat Step [2](#) to Step [5](#) above for the remaining Battery Trays.

Step7: Referring to Step [15](#) to Step [18](#) in [8.2.2 Battery Installation](#) and [8.2.3 CHSG LARGE BATT BOX to CHS2UG Connection/8.4.2 CHSG LARGE BATT BOX to 9.5" Chassis Connection](#), complete the Long-Term Battery replacement procedure.

8.2.5 CHSG LARGE BATT BOX Fuse Replacement

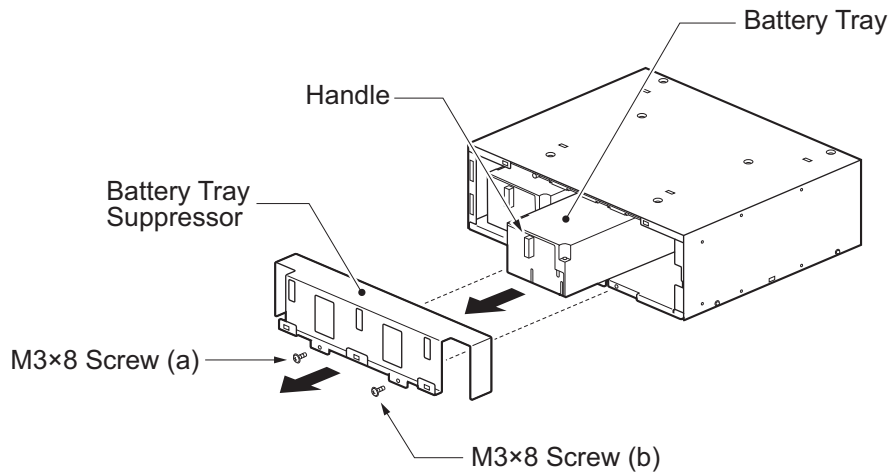
Step1: Loosen the screw on front of CHSG LARGE BATT BOX.

Removing CHSG LARGE BATT BOX Cover



Step2: Remove two screws from the front of Battery Tray Suppressor.

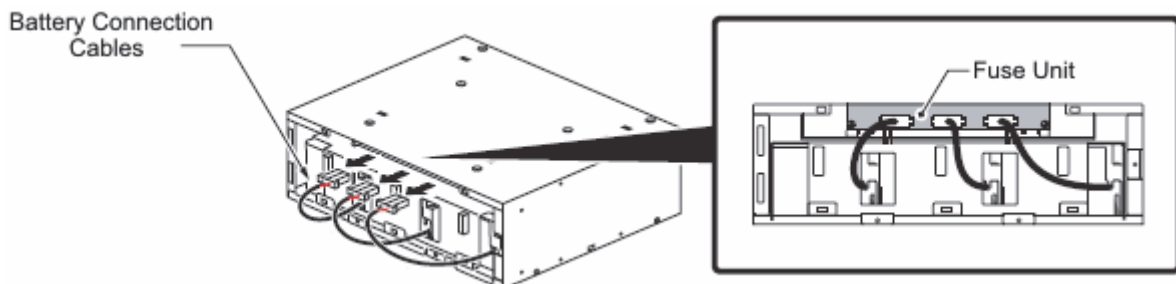
Removing Battery Tray Suppressor



Step3: Slide Battery Tray Suppressor outward to remove.

Step4: Disconnect the Battery Connection Cables from the Fuse Unit.

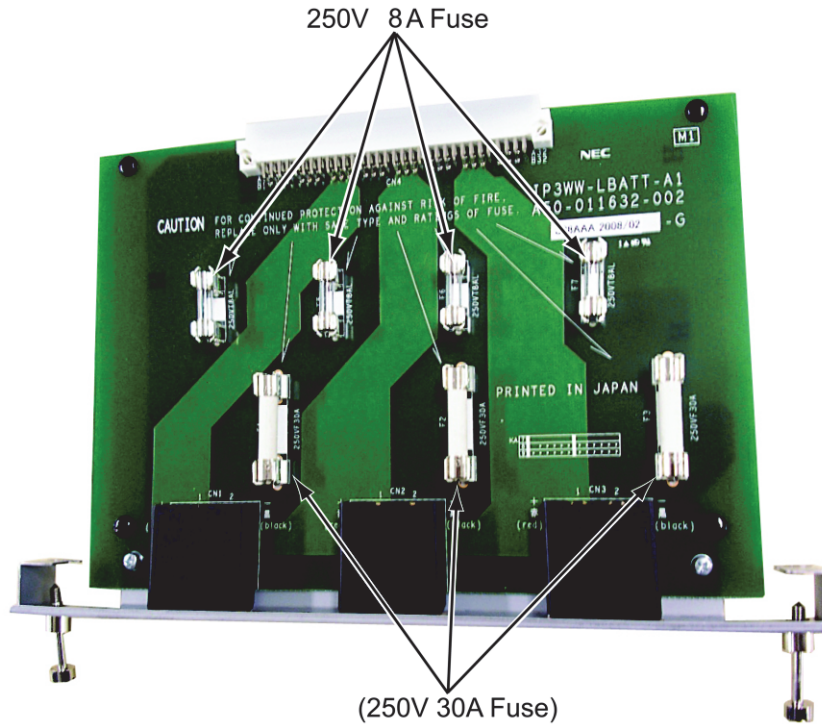
Disconnecting Battery Cables



Step5: Loosen two screws and pull the Fuse Unit out of the CHSG LARGE BATT BOX.

Step6: Refer to the figure below for replacement of 8A or 30A fuses.

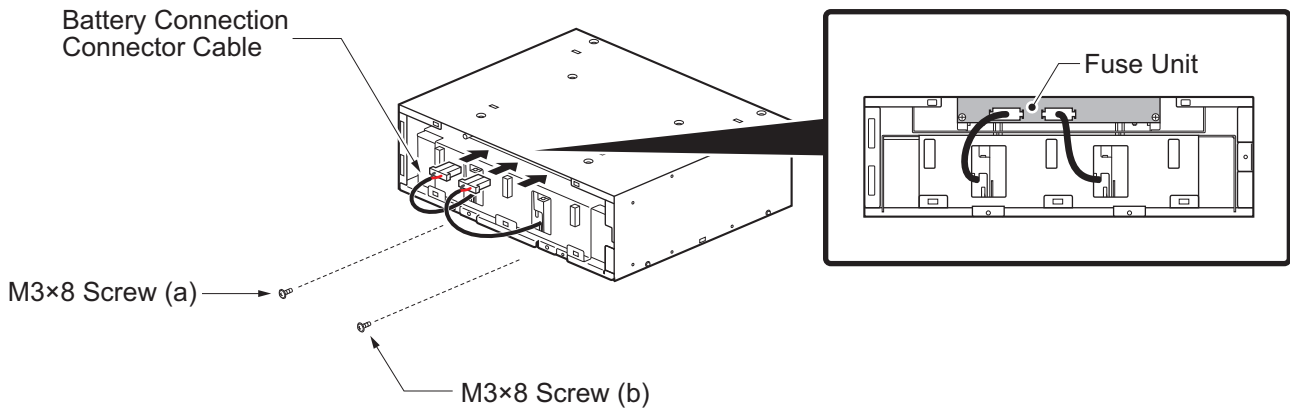
CHSG LARGE BATT BOX Fuse Unit



Step7: Slide the Fuse Unit into the CHSG LARGE BATT BOX and tighten the two screws (refer to [Disconnecting Battery Cables](#)).

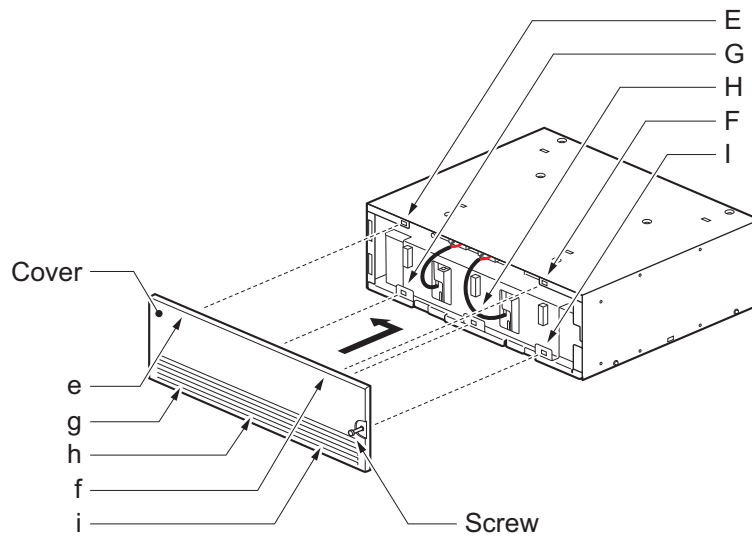
Step8: Plug the Battery Connection Cables into the Fuse Unit.

Connecting the Battery Cables



Step9: Insert tabs on cover into holes on CHSG LARGE BATT BOX. Slide the cover to the left until it is seated and tighten the screw.

Installing the Battery Cover



8.3 Installing External Batteries (CHS2UG B SMALL BATT BOX) on 9.5" Chassis

An optional, CHS2UG B SMALL BATT BOX can be installed to provide external battery power to the 9.5" chassis during a power failure. The Short-Term Battery Box will power the system for approximately 10 minutes.



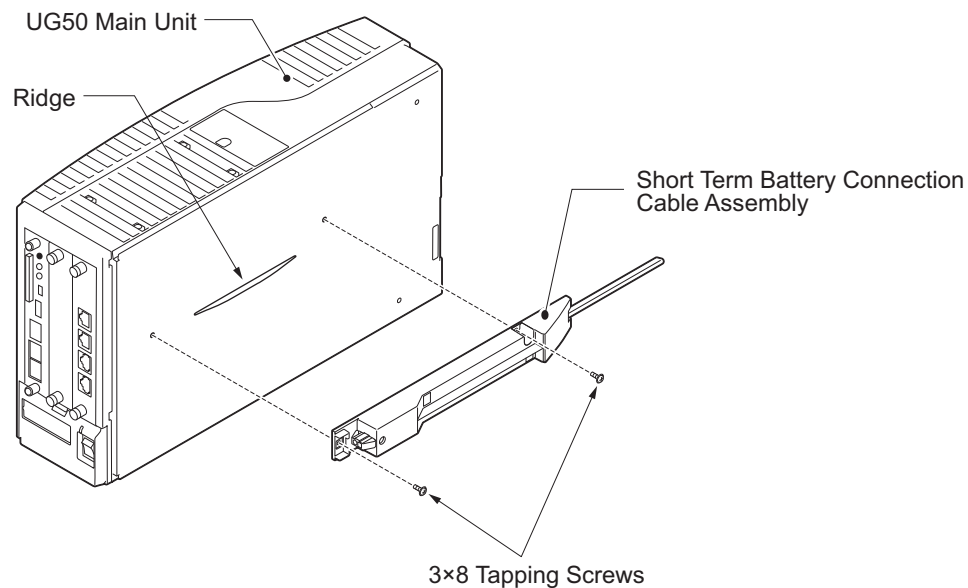
Note: Please consider the following important points when installing CHS2UG B SMALL BATT BOX:

- This installation must be carried out on a flat and stable surface with sufficient space to work (such as a table or a desk).
- The UG50 main unit must be placed in a vertical position during the installation process.
- When mounting the UG50 main unit on the wall, be sure to complete the installation of the battery box before wall mounting.

8.3.1 CHS2UG B SMALL BATT BOX Installation

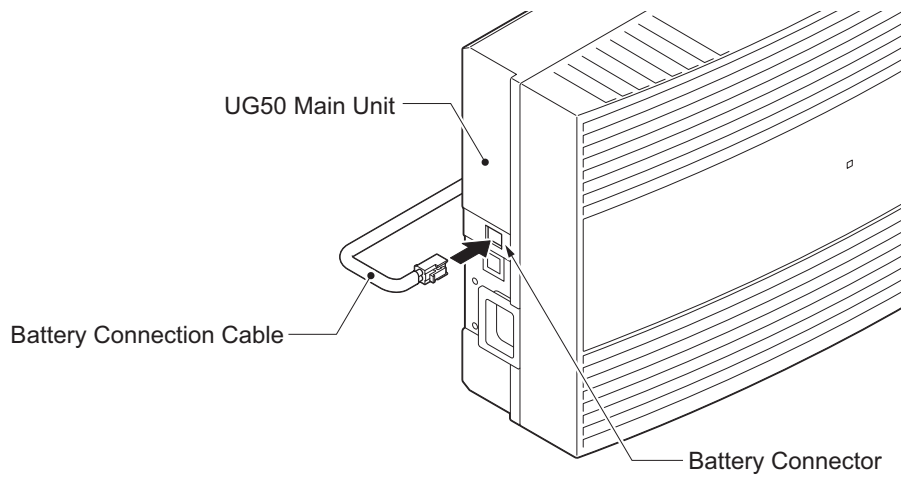
Step1: Position the Short Term Battery Connection Cable Assembly on the Rear Face side of the UG50 main unit chassis so that the ridge on the unit slides into the groove in the assembly. Secure it in place with the 3×8 tapping screws provided.

Attaching Short Term Battery Connection Cable Assembly to 9.5" Chassis



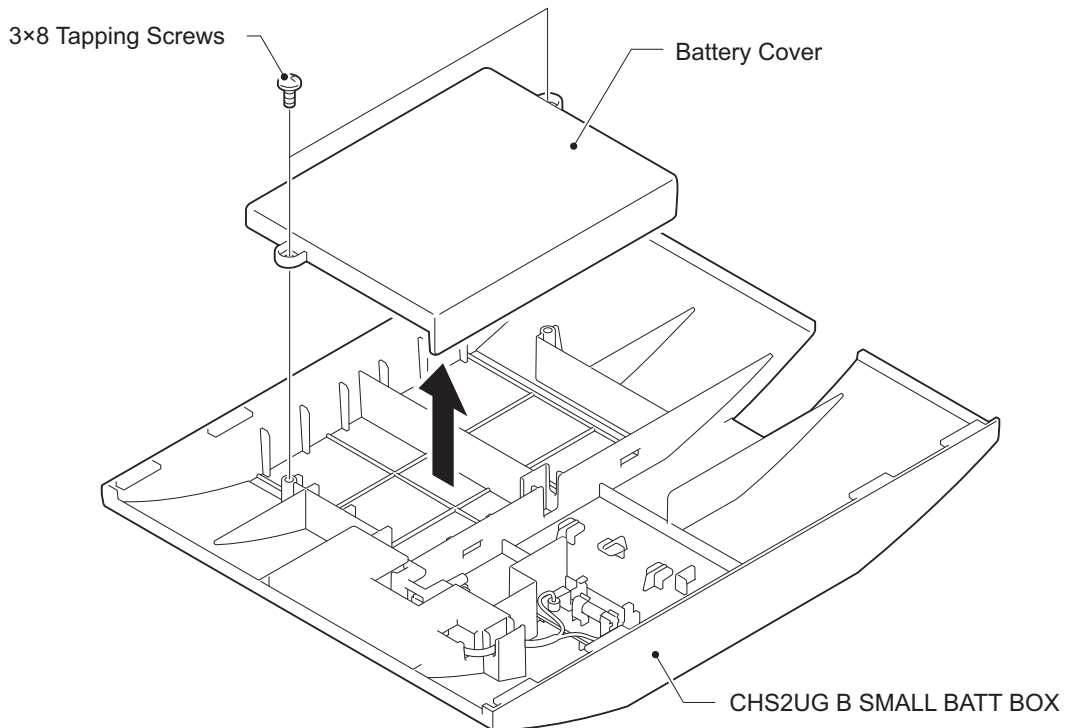
- Step2:** Remove the battery connector cover on the UG50 main unit chassis, and connect the battery connection cable to the unit.

Connecting Battery Connection Cable

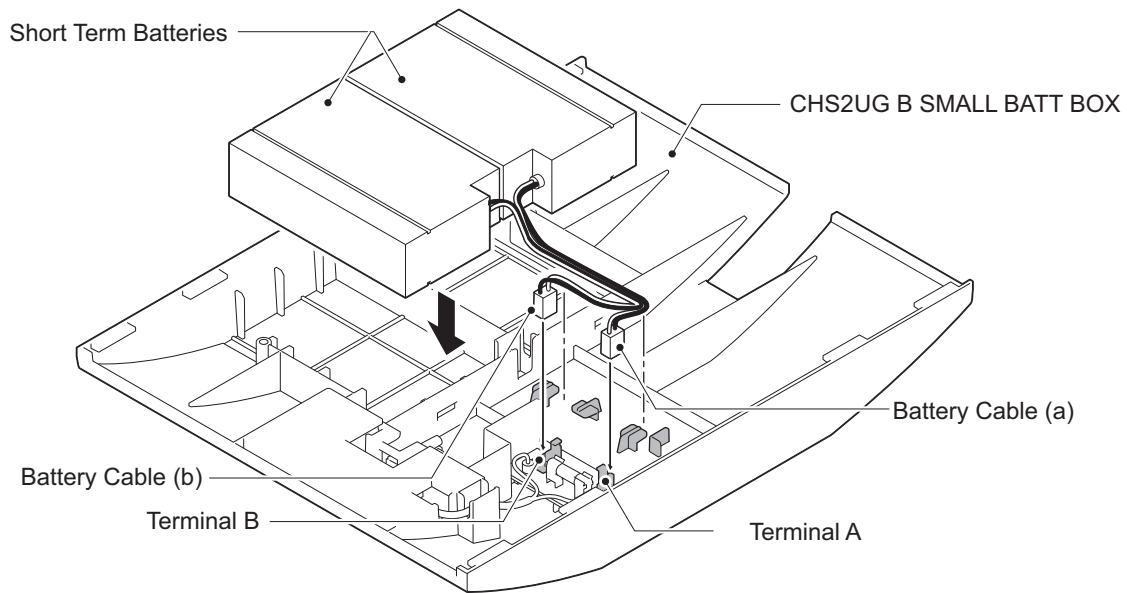


- Step3:** Unscrew the two 3×8 tapping screws from CHS2UG B SMALL BATT BOX, and remove the battery cover.

Installing the Batteries

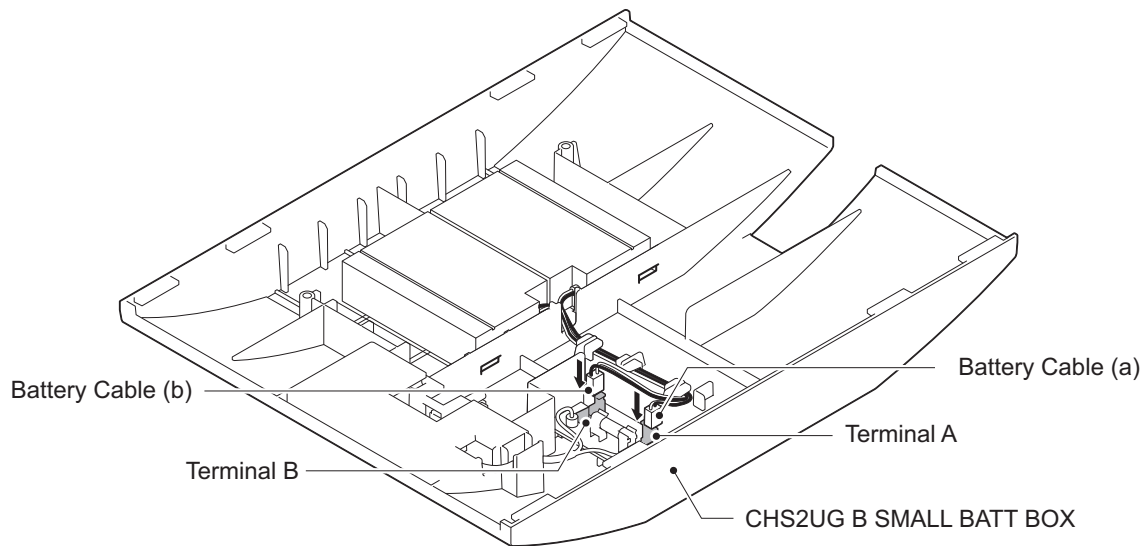


Step4: Position two Short Term Batteries in the CHS2UG B SMALL BATT BOX, as shown below.



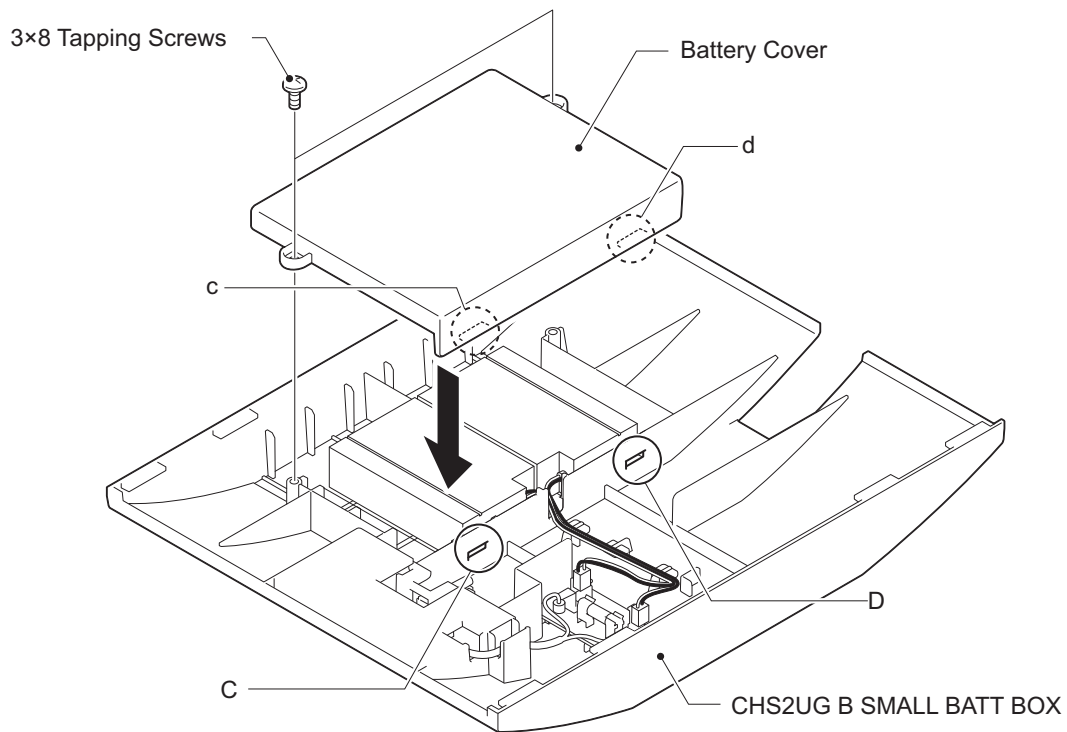
Step5: Route battery cables (a) and (b) through the guides in the CHS2UG B SMALL BATT BOX, and connect them to the terminals A and B, respectively.

Connecting Battery Cables



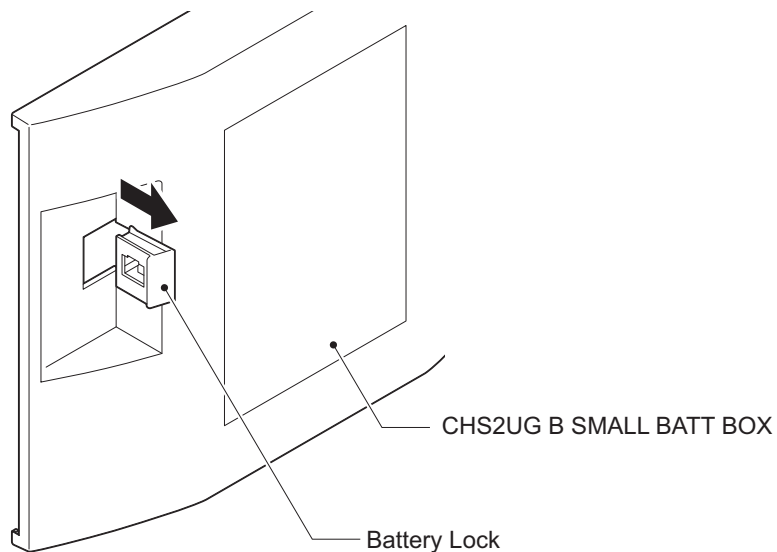
- Step6:** Insert tabs (c) and (d) on the battery cover into slots C and D in the CHS2UG B SMALL BATT BOX, and secure them with two 3×8 tapping screws.

Re-attaching Battery Cover



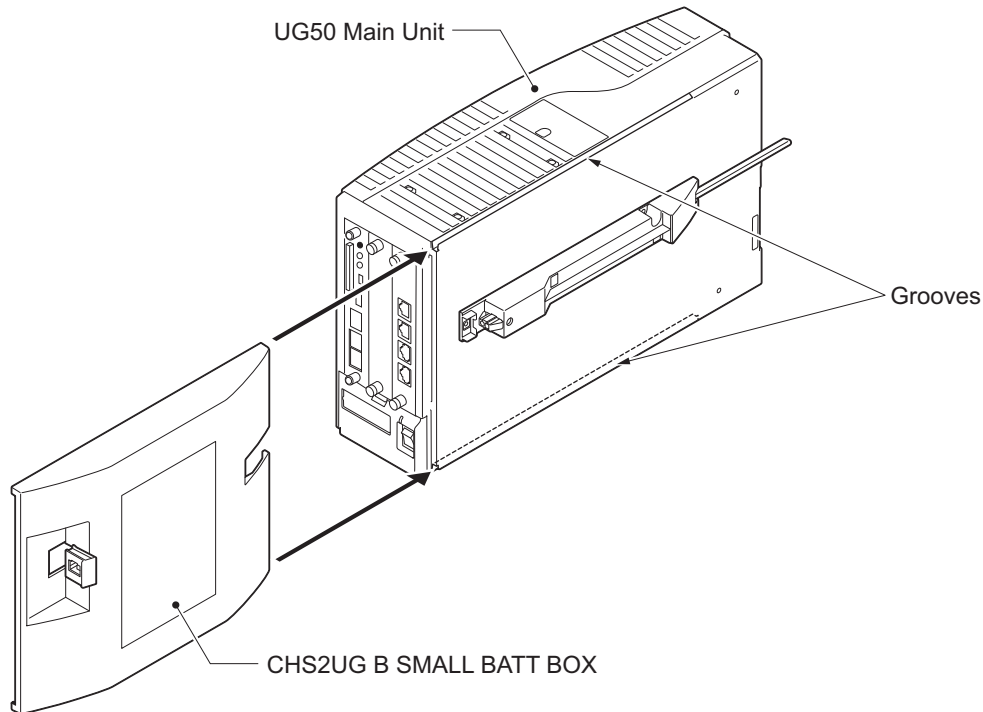
- Step7:** Pull the battery lock on the CHS2UG B SMALL BATT BOX to the unlock position.

Unlocking Battery Box Lock



Step8: Align the edges of the CHS2UG B SMALL BATT BOX with the grooves on the UG50 main unit chassis, and slide the battery box in place.

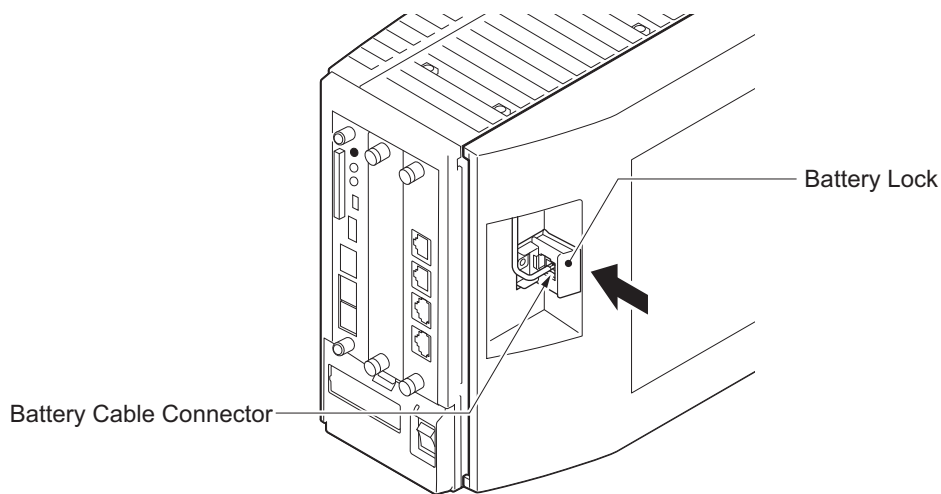
Attaching CHS2UG B SMALL BATT BOX to 9.5" Chassis



Note : Before pushing the CHS2UG B SMALL BATT BOX to slide on the UG50 main unit chassis, make sure that the battery box edges are properly aligned with the grooves on the chassis.

Step9: Push the battery lock to the lock position, and connect the battery cable connector.

Locking Battery Box and Connecting Battery Cable Connector

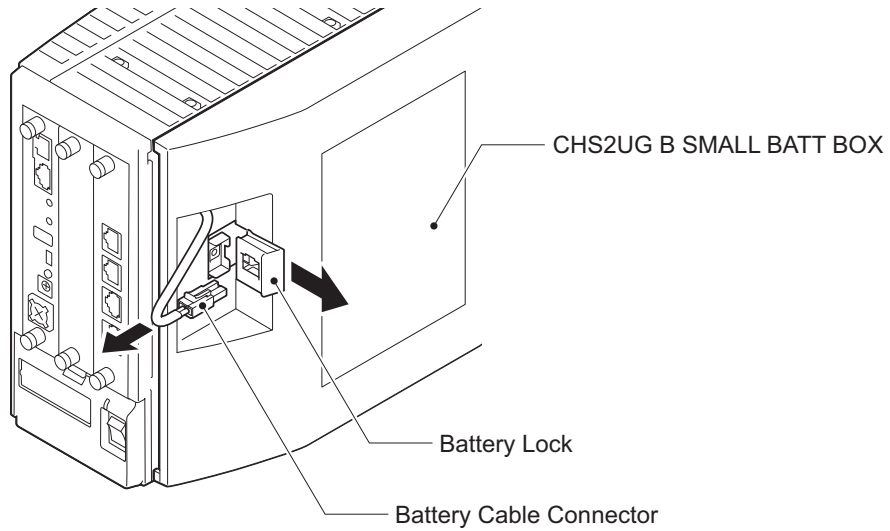


8.3.2 Short Term Battery Replacement

To replace the Short Term batteries (CHSGW SMALL BATT SET), follow the steps below:

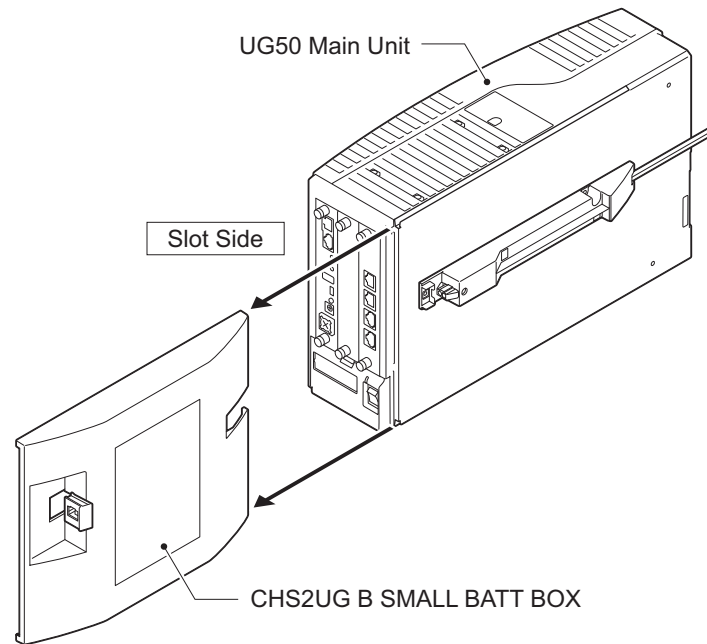
- Step1:** Remove the battery connection cable from the battery connector on the UG50 main unit chassis.
- Step2:** Unplug the battery cable connector, and pull the battery lock on the CHS2UG B SMALL BATT BOX to the unlock position.

Unlocking Battery Box and Unplugging Battery Cable Connector



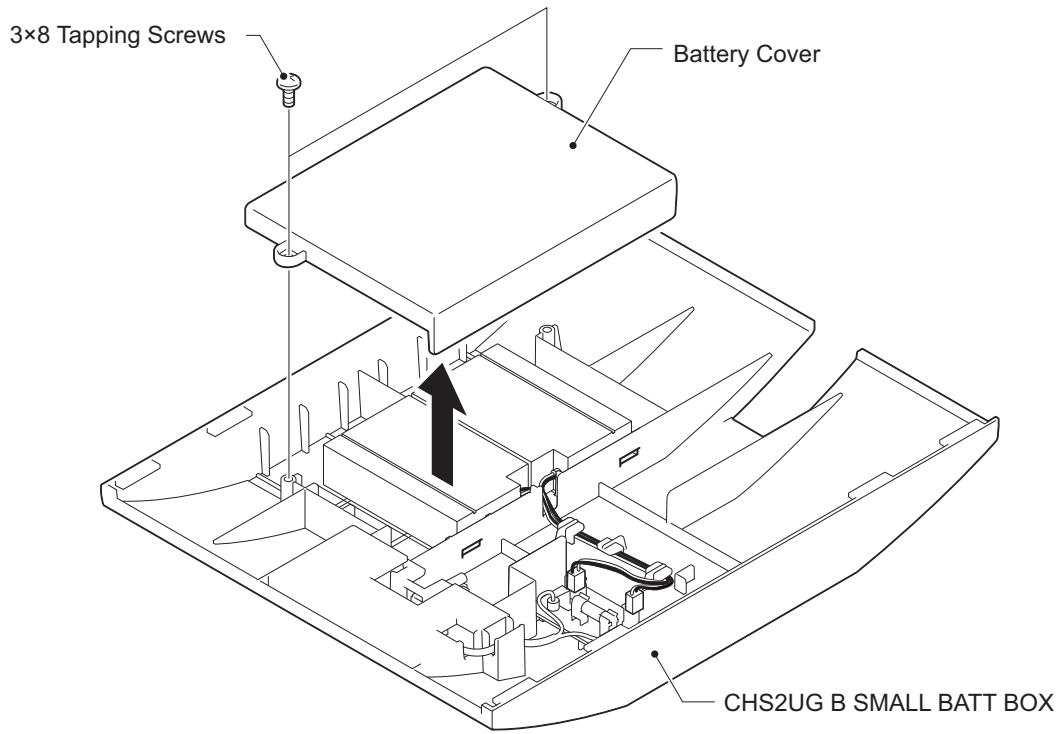
Step3: Remove the CHS2UG B SMALL BATT BOX from the UG50 main unit chassis by sliding it toward the Slot side of the unit.

Removing CHS2UG B SMALL BATT BOX from 9.5" Chassis



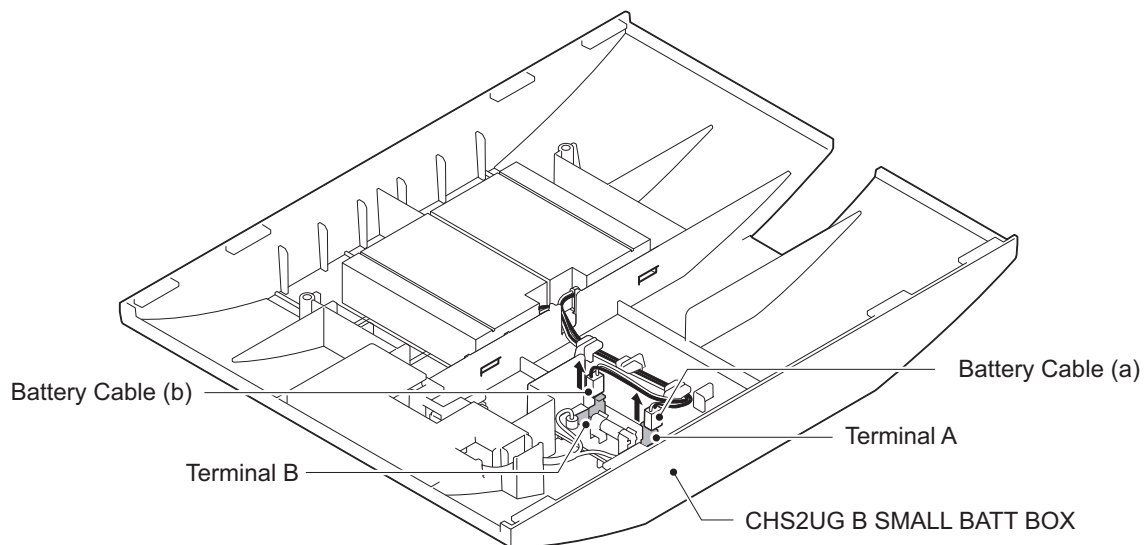
Step4: Unscrew the two 3×8 tapping screws from CHS2UG B SMALL BATT BOX, and remove the battery cover.

Installing the Batteries



Step5: Unplug the battery cables (a) and (b) from the terminals A and B, respectively.

Unplugging Battery Cables



Step6: Replace the old Short Term batteries with the new ones.

Step7: Referring to Step [5](#) to Step [9](#) in [8.3.1 CHS2UG B SMALL BATT BOX Installation](#), install the CHS2UG B SMALL BATT BOX on the UG50 main unit chassis.

8.3.3 CHS2UG B SMALL BATT BOX Fuse Replacement

Note: Please consider the following important points when replacing fuses in CHS2UG B SMALL BATT BOX:

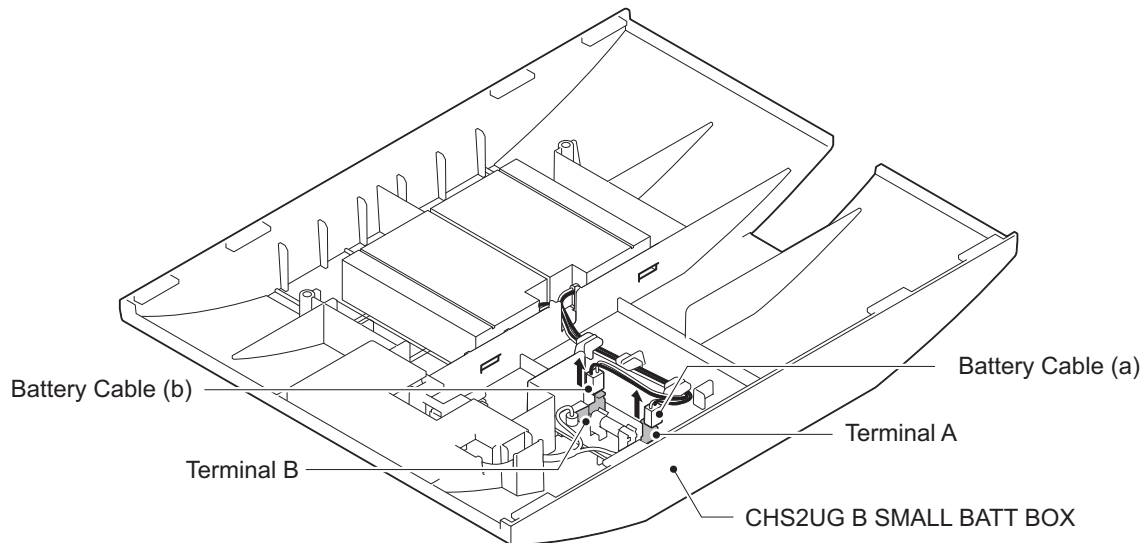
- Only use fuses of the same type and current rating as the original.
- Do not install the fuse in any location other than as specified in this section.
- Fuses may be hot, use caution when replacing them.

Step1: Correct the issue which caused the fuse problem. Replacing fuses without first correcting the issue could cause a fire and/or electric shock hazard.

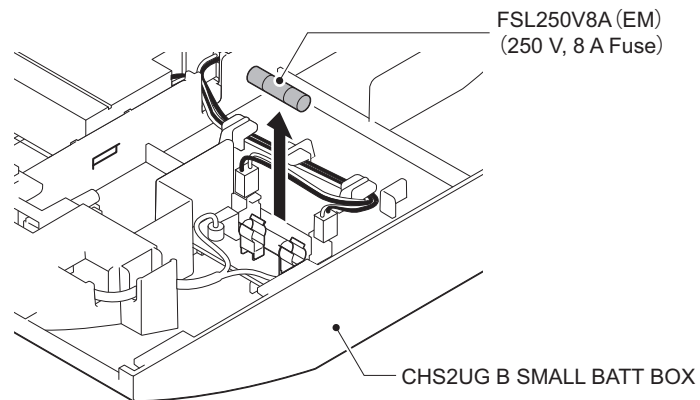
Step2: Remove the battery connection cable from the battery connector on the UG50 main unit chassis.

Step3: Referring to Step [1](#) to Step [3](#) in [8.3.2 Short Term Battery Replacement](#), remove the CHS2UG B SMALL BATT BOX from the UG50 main unit chassis.

Step4: In the CHS2UG B SMALL BATT BOX, unplug the battery cables (a) and (b) from the terminals A and B, respectively.



Step5: Replace the fuse(s) as needed.



Step6: Reconnect the battery cables (a) and (b) to the terminals A and B, respectively.

Step7: Referring to Step [2](#) to Step [9](#) in [8.3.1 CHS2UG B SMALL BATT BOX Installation](#), attach the CHS2UG B SMALL BATT BOX to the UG50 main unit chassis.

8.4 Installing the External Batteries (CHSG LARGE BATT BOX) on a 9.5" Chassis

An optional, CHSG LARGE BATT BOX can be installed to provide external battery power to the 9.5" Chassis during a power failure. The Long-Term Battery Box powers the system for approximately three hours.



Note:

- Because of injury from falling equipment, wall mounting the CHSG LARGE BATT BOX is not recommended.
- Mounting the CHSG LARGE BATT BOX directly on the floor is not recommended.
- Due to possible water damage, floor mounting the 9.5" chassis is not recommended by NEC.
- The CHS BASE UNIT raises the height of the CHSG LARGE BATT BOX 120 mm (4.72").

8.4.1 CHSG LARGE BATT BOX Installation

To install the batteries in the CHSG LARGE BATT BOX, refer to section [8.2.2 Battery Installation](#).

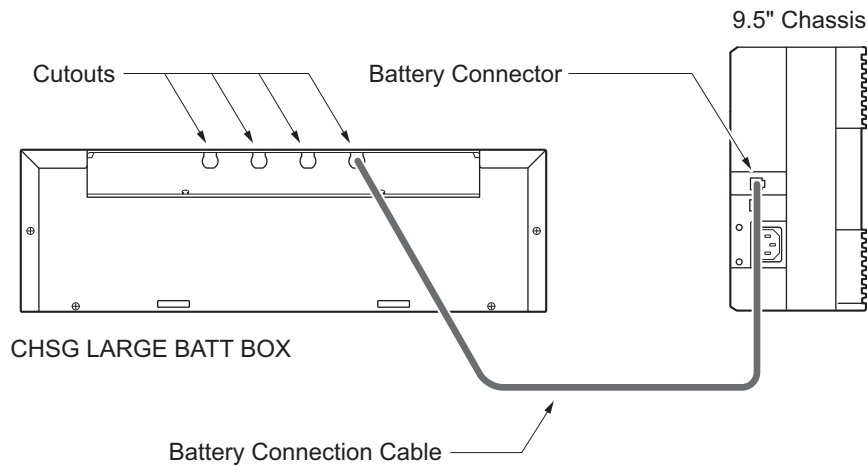
8.4.2 CHSG LARGE BATT BOX to 9.5" Chassis Connection

- Step1:** Ensure the chassis is powered down.
- Step2:** Disconnect AC power cable from the rear of chassis.
- Step3:** Connect one end of Battery Connection Cable to Battery Connector on the rear of 9.5" Chassis.

Step4: Connect the other end of cable to Battery Connector on the rear of CHSG LARGE BATT BOX chassis.

Note : The Battery Connection Cables must be used from right to left. Each cable is approximately 5'7" (1.7 m) in length.

CHSG LARGE BATT BOX to 9.5" Chassis Connection



Step5: Reconnect AC power cable to rear of 9.5" Chassis.

8.4.3 Long-Term Battery Replacement

To replace the batteries in the CHSG LARGE BATT BOX, refer to section [8.2.4 Long-Term Battery Replacement](#).

8.4.4 CHSG LARGE BATT BOX Fuse Replacement

To replace the fuse(s) in the CHSG LARGE BATT BOX, refer to section [8.2.5 CHSG LARGE BATT BOX Fuse Replacement](#).

9. Installing Grounding on Chassis

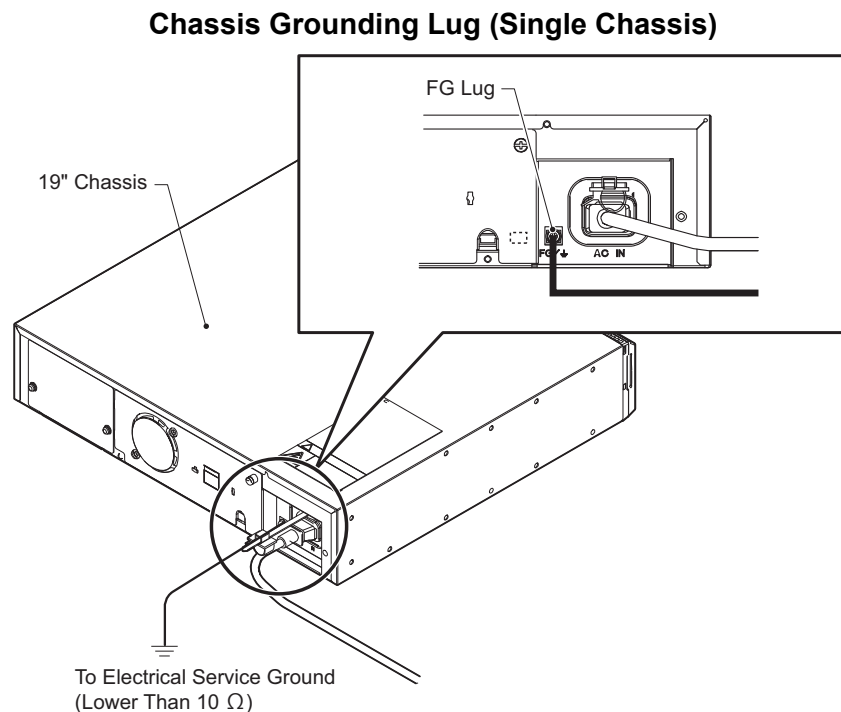
From the factory, the SG, ETH and PBXG grounds are located inside the chassis and are connected to the FG ground (frame ground) on the back of the chassis.



9.1 Installing Grounding on a 19" Chassis

9.1.1 Install Grounding on a Single 19" Chassis

- (1) Ensure the chassis is powered down and unplugged.
- (2) Ground the chassis by connecting a 14 AWG wire from the FG lug on the back side of the chassis to an electrical service ground (such as a cold water pipe).



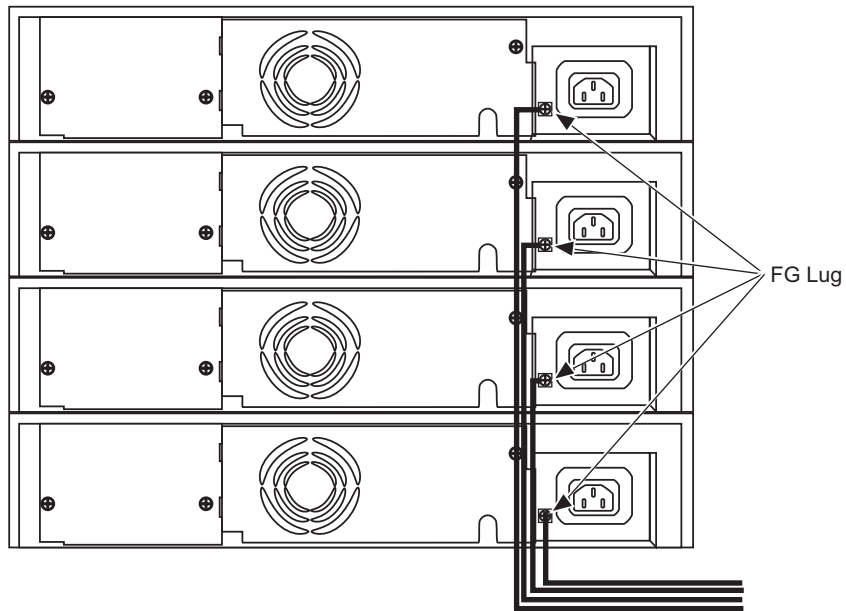
9.1.2 Install Grounding on a Multiple 19" Chassis

From the factory, the SG, ETH and PBXG grounds are located inside the chassis and are connected to the FG ground (frame ground) on the back of the chassis.

Each chassis must be grounded separately using the procedure listed below.

- (1) Ensure all chassis are powered down and unplugged.
- (2) Ground each chassis by connecting a 14 AWG wire from the FG lug on the back side of the chassis to an electrical service ground (such as a cold water pipe).

Chassis Grounding Lug (Multiple Chassis)



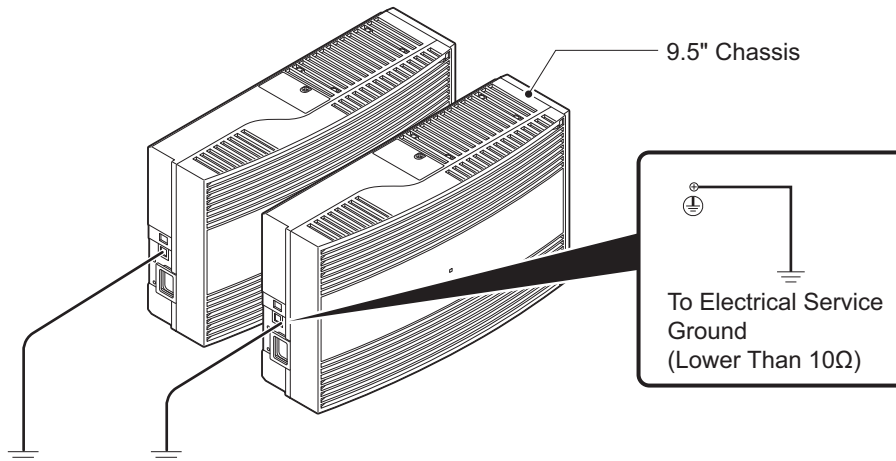
9.2 Installing Grounding on a 9.5" Chassis

9.2.1 Installing Grounding on Single 9.5" Chassis

- Step1:** Ensure the 9.5" Chassis is powered off and the AC power cord is unplugged.
- Step2:** Ground the chassis by connecting a 14 AWG wire from the FG lug on the back side of the chassis to an electrical service ground (such as a cold water pipe).



Grounding on 9.5" Chassis



9.2.2 Install Grounding on a Multiple 9.5" Chassis

From the factory, the SG, ETH and PBXG grounds are located inside the chassis and are connected to the FG ground (frame ground) on the back of the chassis.

Each chassis in the system must be grounded separately using the procedure listed below.

- Step1:** Ensure all chassis are powered down and unplugged.
- Step2:** Ground each chassis by connecting a 14 AWG wire from the FG lug on the back side of the chassis to an electrical service ground (such as a cold water pipe).

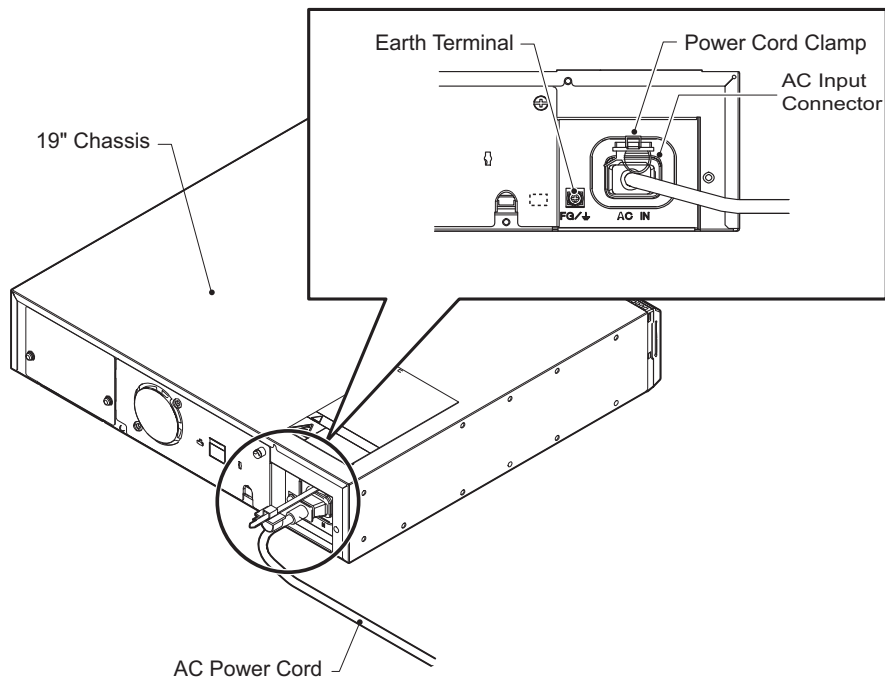
10. Installing AC Power Cord on Chassis

10.1 Installing AC Power Cords on a 19" Chassis

Locate the supplied AC power cord and attach to the AC Inlet located on the back of the 19" Chassis.



Install 19" AC Power Cords

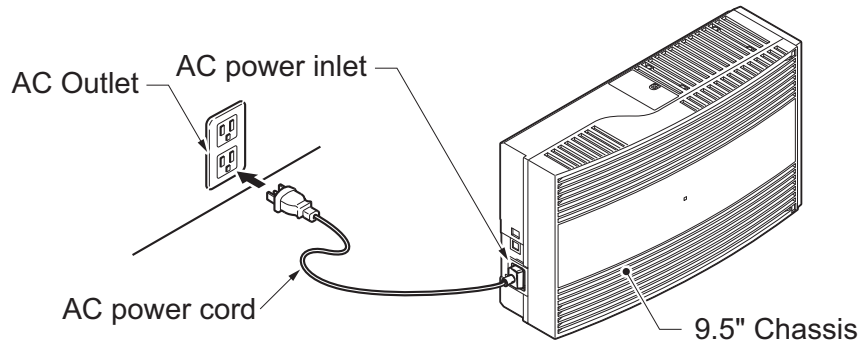


10.2 Installing AC Power Cord on a 9.5" Chassis

Locate the supplied AC power cord and attach to the AC Inlet located on the back of the chassis.



Install 9.5" AC Power Cords



11. Maintenance PC (Web Programming) Connection

A maintenance PC is directly connected to the UG50 (ETHERNET connector on GCD-CP00-GW) with a LAN cable.

[Example of Setting on Maintenance PC]

The following shows an example of network setting for the maintenance PC.

- IP address: 192.168.0.10

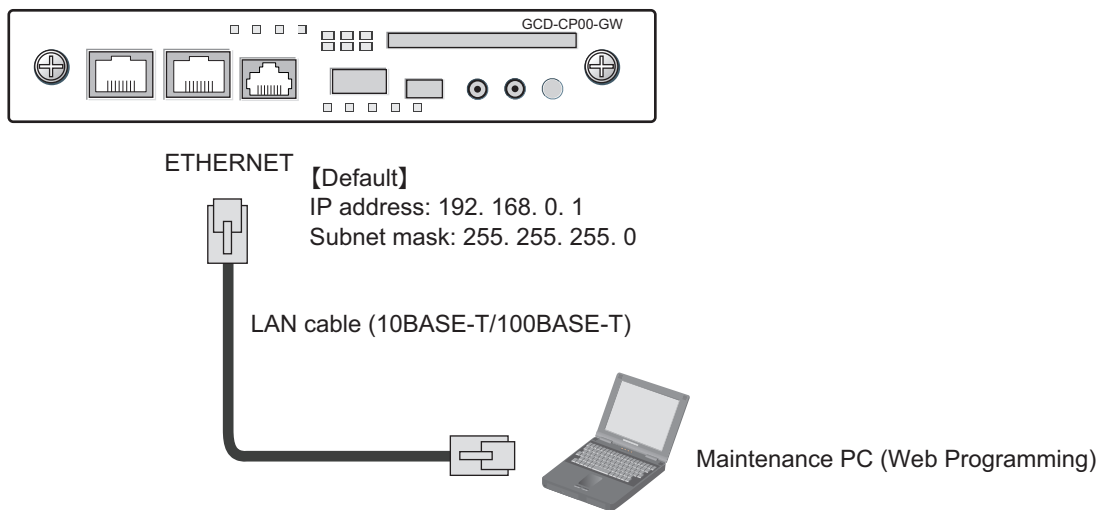
Note: When setting an IP address, consider the following:

- Set an IP address which does not overlap with the IP address of the GCD-CP-00-GW (ETHERNET port). The default of IP address of the GCD-CP00-GW is 192.168.0.1.
- For other considerations, see [6. IP Address](#) in Chapter 1.

- Subnet Mask: 255.255.255.0

Note: Set the same Subnet Mask as the GCD-CP-00-GW. The default Subnet Mask of the GCD-CP-00-GW is 255.255.255.0.

GCD-CP00-GW+GPZ-32/64/128IPLD



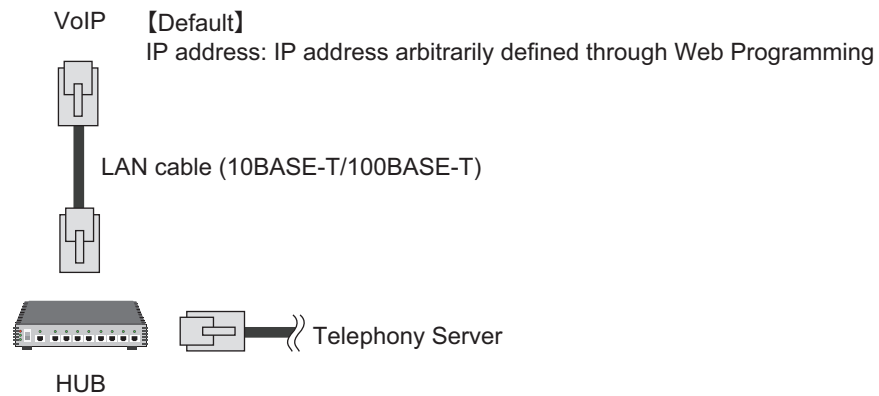
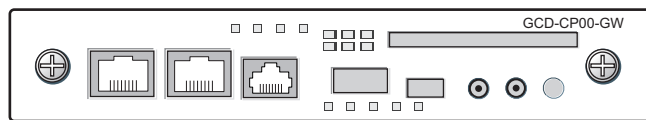
[Example of Network Setting]

IP address: 192.168.0.10
Subnet Mask: 255.255.255.0

12. Connection between the UG50 and the Telephony Server

The UG50 is connected to the Telephony Server with a LAN cable via a router or hub.

GCD-CP00-GW+GPZ-32/64/128IPLD



Note: For conditions regarding the IP address of the VoIP port (for voice network), see [6. IP Address](#) in Chapter 1.



CHAPTER 3 STARTUP

1. Overview

This section describes the initial start-up procedure including the power activation for the UG50, the system data programming on the UG50 and the office data settings on the Telephony Server (SV9500).

Follow the procedure below.

Procedure for System Startup

Start

1. **Preparation for PRT Card** ⇒ [Precautions for PRT Card](#)
2. **Preparation for Web Programming** ⇒ [Web Programming](#)
3. **Power Up UG50** ⇒ [Power Up the UG50](#)
4. **System Data Programming on UG50** ⇒ [UG50 System Data Programming](#)
5. **Save the System Data** ⇒ [Saving/Loading Data](#)
6. **Reset UG50** ⇒ [Reset the UG50.](#)
7. **Office Data Settings on Telephony Server** ⇒ [Office Data Settings on Telephony Server](#)

End

2. Precautions for PRT Card

Specify T1/E1 to use the PRT card of the UG50. Select “5: ISDN Card Setup” - “5-2: PRT Setup” - “PRT Basic Setup” - “ISDN_TYPE” on Web Programming to specify a mode (the default: T1). However, Setting of “ISDN_TYPE” needs to be changed before installing the PRT card. When changing the mode setting with the PRT card installed, you need to delete the information of the PRT card on the UG50.

Note: When “ISDN_TYPE” is changed, “ISDN_TYPE” Setting is validated after the UG50 rebooted.

The following shows how to set Program.

(1) Setting Program when installing the UG50 (with the PRT card installed)

Step1: Set “ISDN_TYPE”.

Step2: Install the PRT card on the UG50 Equipment.

Setting is completed after the process of Step 2 finished.

(2) Changing Program with the PRT card installed

Step1: Turn off the power switch of the UG50 Equipment.

Turn off the power switch of the UG50 Equipment.

Step2: Remove the PRT card from the UG50 Equipment.

Step3: Turn on the power to the UG50 Equipment.

Turn on the power switch of the UG50 Equipment, and wait for approximately two minutes.

Step4: Delete the information of the PRT card after the UG50 booted.

Select the PRT card and delete it on the Card Configuration screen of Web Programming.

Note : When multiple PRT cards are installed, all of that information needs to be deleted.

Step5: Set “ISDN_TYPE”.

Change the mode setting on Web Programming.

Step6: Turn off the power to the UG50 Equipment after logging out from Web Programming.

Log out from Web Programming (refer to [“3.3 Logout from Web Programming”](#)), and turn off the power switch of the UG50 Equipment.

Step7: Install the PRT card on the UG50 Equipment and turning on the power to the UG50 Equipment.

Turn on the power switch of the UG50 Equipment, and wait for approximately two minutes. Setting is completed after that.

3. Web Programming

The system data settings on the UG50 are configured via Web Programming. Data setting can be performed via HTTP access from a web browser on your computer.

- [System Requirements](#)
- [Login to Web Programming](#)
- [Logout from Web Programming](#)
- [Home Screen](#)
- [Feature Programming](#)
- [Card Configuration](#)

3.1 System Requirements

The required operating conditions for Web Programming are listed below.

Item	Operating Conditions
OS	Microsoft® Windows Vista® / Microsoft® Windows® 7/10
CPU	Microsoft® Windows Vista®: Pentium® processor or higher (at least 1 GHz Processor) Microsoft® Windows® 7: 1 GHz or faster 32-bit(x86) or 64-bit (x64) processor Microsoft® Windows® 10: 1 GHz or faster 64-bit (x64) processor
Memory	Microsoft® Windows Vista®: larger than 1G bytes Microsoft® Windows® 7: 1G byte RAM (32-bit) or 2G byte RAM (64-bit) Microsoft® Windows® 10: 2G byte RAM (64-bit)
Browser	<p>◆Microsoft Edge™ Note1 <How to Set Internet Browser> Follow the steps below to ensure the use of cookies. (Cookie is enabled by default.) (1) Click on the 3 dots button ([...]) to open Edge Settings. (2) Click the Advanced Settings. (3) In the Cookies area, ensure that Don't block cookies is selected. Active scripts setting is not required. Scripts are enabled all the time.</p> <p>◆Microsoft® Internet Explorer® 9.0/11.0 Note2, Note3 <How to Set Internet Browser> Follow the steps below to allow the use of active scripts and cookies. (1) Click Tools -> Internet Options to open the Internet Options dialog box. (2) Click the Security tab. (3) Click the Custom Level button to open the Security Settings dialog box. (4) Enable Active scripting in Scripting, and then click the OK button. (5) In the Internet Options dialog box, click the Privacy tab. (6) Click the Advanced button to open the Advanced Privacy Settings dialog box. (7) Select the Override automatic cookie handling check box, and then select the Always allow session cookies check box. Click the OK button to go back to the Internet Options dialog box. (8) Click the OK button to close the Internet Options dialog box.</p>
Monitor	SVGA (Minimum: 800×600 pixels, Recommended: 1024×768 pixels or more)
Others	Mouse, LAN connection port (NIC: RJ-45)

Note1: Supported from software version 2.00.

Note2: For software versions earlier than 1.20, images and text may be misaligned in Internet Explorer. Although this is a cosmetic issue and does not affect the operation of the software, the problem can be corrected by turning on the Compatibility View feature. To do this, open the **Tools** menu in Internet Explorer, and then select **Compatibility View**.
*Internet Explorer may automatically turn the feature on.

Note3: Internet Explorer 11 is supported for software version 1.20 or later.

3.2 Login to Web Programming

This section describes how to log in to Web Programming.

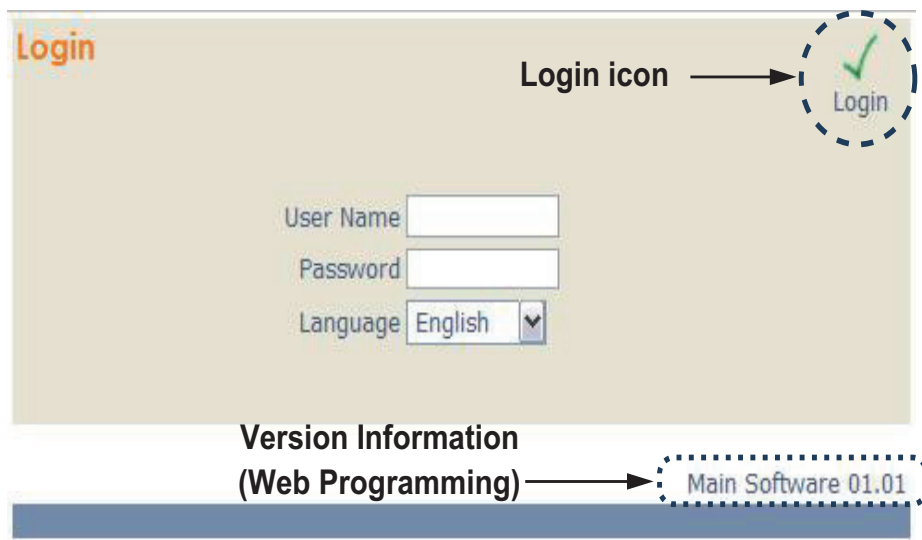
Note: The maximum number of users that can log in at the same time is four.

Note: Do not use the “Back” or “Close” button on the browser while operating Web Programming. If used by mistake, the session information about the user logged in to Web Programming remains and Web Programming is inoperable. In that case, it takes about 15 minutes before you can log in to Web Programming again.

Step1: Start the internet browser.

Step2: Input the IP address for the UG50 (Default Settings: 192.168.0.1) in the browser address bar, and press the **Enter** key or the **Move** button.

Login screen appears.



Step3: Input the data below, and click the [Login] icon.

User Name	admin
Password	8461426
Language	Select “English”

Note : To change the User Name/Password, see “[1-6-03: Web Programming Account Setup](#)”.

3.3 Logout from Web Programming

This section describes how to log out from Web Programming.

Note: If no operations have been performed for 15 minutes after login, or the “Back” or “Close” button is used during operation, the system will automatically log out from Web Programming. In this case, changes made on the data will be applied only if they have been saved with the Apply icon.

Step1: Click the **Logout** icon on the **Home** screen.

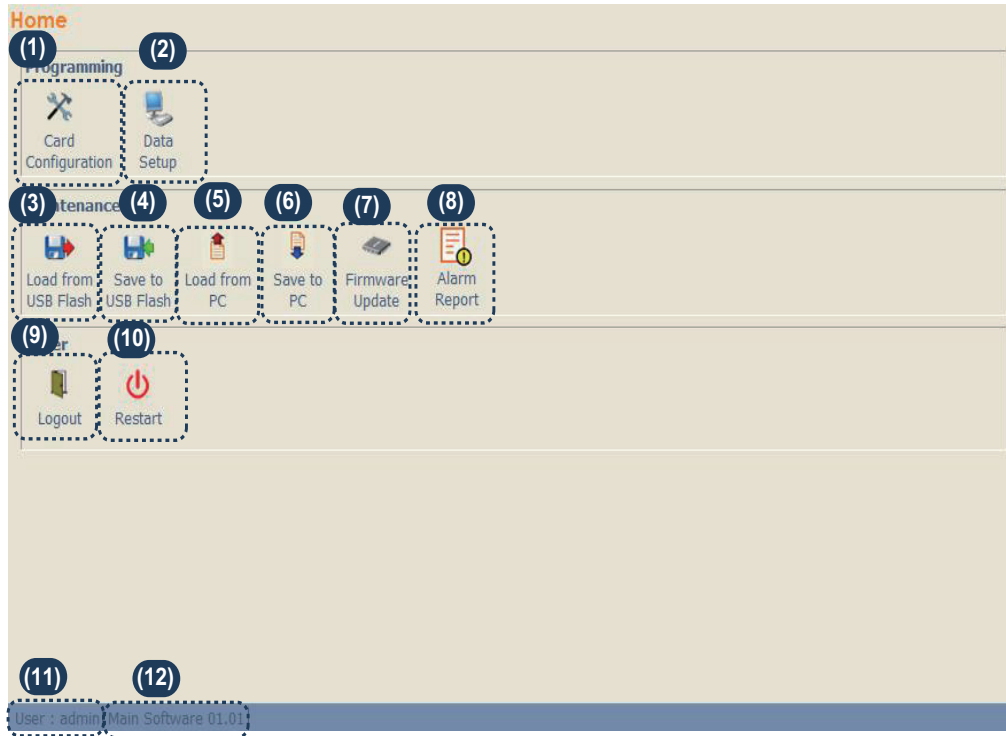


Step2: Close the internet browser.

3.4 Home Screen

This section describes the **Home** screen of Web Programming.

After Logging in to Web Programming on the **Login** screen, the **Home** screen appears.



Home Screen

No.	Menu Name	Function Description
(1)	Card Configuration	Confirmation of the card configuration (Virtual MAC address, channel number), slot reset, and deletion of slot information are performed. For more information, refer to “Card Configuration”
(2)	Data Setup	Displays the Setup screen of the UG50. For more information, refer to “Feature Programming”
(3)	Load from USB Flash	Loads the System Data from USB Flash. For more information, refer to “Loading Data from USB” .
(4)	Save to USB Flash	Saves the System Data of the UG50 to USB Flash. For more information, refer to “Saving Data to USB.”
(5)	Load from PC	Loads the System Data from a maintenance PC to the UG50. For more information, refer to “Loading Data from Maintenance PC.”
(6)	Save to PC	Saves the System data of the UG50 to a maintenance PC. For more information, refer to “Saving Data to Maintenance PC” .
(7)	Firmware Update	Updates firmware via remote access. For more information, refer to “Remote Update” in Appendix.

Home Screen

No.	Menu Name	Function Description
(8)	Alarm Report	Checks and clears the alarm reports. For more information, refer to " How to Check and Clear Alarm Reports "
(9)	Logout	Logout from Web Programming. For more information, refer to " Logout from Web Programming ".
(10)	Restart	Displays the Restart screen, and resets the UG50. For more information, refer to " Reset the UG50 "
(11)	User	Displays the User Name
(12)	Main Software	Displays the Version Information for the software

3.5 Feature Programming

This section describes the system data programming via Web Programming.

Note: The timing of activation may vary depending on each setting item. The changes made to the data will be valid when it is set or modified through one of the means listed below.

- When clicking the Apply icon.
- When logging out of Web Programming.
- When resetting the UG50.

Note: Reset the UG50 after setting/changing the IP address or VLAN data.

Note: Be sure to log out from Web Programming after the data configuration is complete. The modified data may not be saved if the web browser is closed without first logging out.

Step1: Click the **Data Setup** icon on the **Home** screen to display the **Feature Programming** screen.

Step2: Select the desired item from the list.

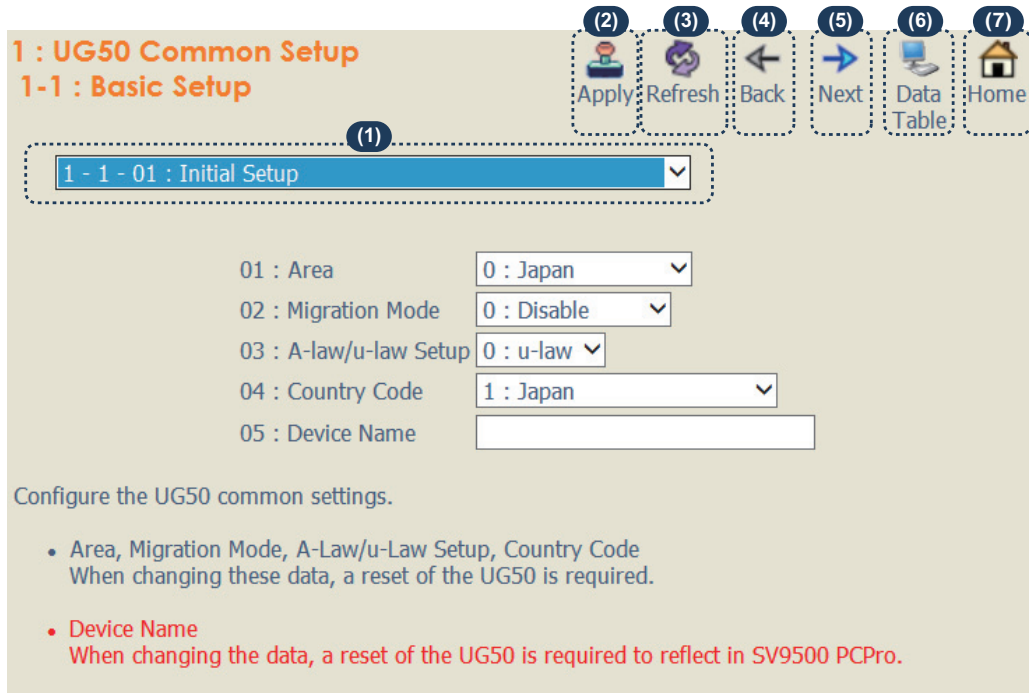
Feature Programming		Home
Configure settings for each item of the UG50.		
1 : UG50 Common Setup	1-1 : Basic Setup	1 - 1 - 01 : Initial Setup 1 - 1 - 02 : Music On Hold Setup 1 - 1 - 03 : Channel Setup
	1-2 : Network Setup	1 - 2 - 01 : CP00 Network Setup 1 - 2 - 02 : VoIP Port Network Setup 1 - 2 - 03 : VLAN Setup
	1-3 : Proprietary Protocol Setup	1 - 3 - 01 : Proprietary Protocol Mode Common Setup 1 - 3 - 02 : Proprietary Protocol Mode DRS Server Setup
	1-4 : SIP mode Setup	1 - 4 - 01 : SIP Common Setup 1 - 4 - 02 : SIP Server Setup
	1-5 : IPLD Setup	1 - 5 - 01 : IPLD Common Setup 1 - 5 - 02 : IPLD Channel Setup 1 - 5 - 03 : IPLD Setup for Each Card 1 - 5 - 04 : IPLD Port Setup

The selected item is displayed.

Step3: Input the required data and complete the data configuration.

For details on each item, refer to [System Data Menu List \(Feature Programming\)](#).

Note : The below is an example of **1-1-01: Initial Setup** being selected.



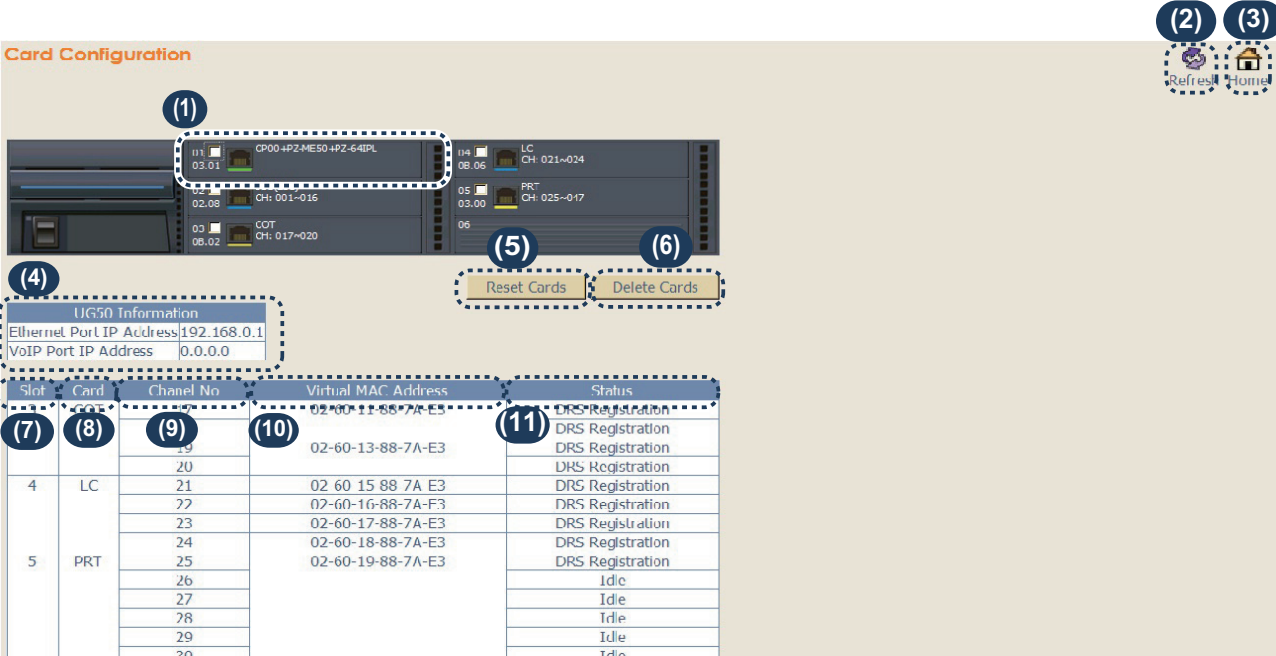
Settings Screen

No.	Name	Function Description
(1)	View page in wizard list box	Selects a desired system data menu.
(2)	Apply	Confirms the setting value of the displayed screen.
(3)	Refresh	Restores the setting value on the currently displayed screen to the previous state.
(4)	Back	Displays the previous page.
(5)	Next	Displays the next page.
(6)	Data Table	Displays the Feature Programming list.
(7)	Home	Displays the Home screen.

3.6 Card Configuration

This section describes the Card Configuration screen of Web Programming.

Click the **Card Configuration** icon on the **Home** screen of Web Programming. The **Card Configuration** screen appears.



Card Configuration Screen

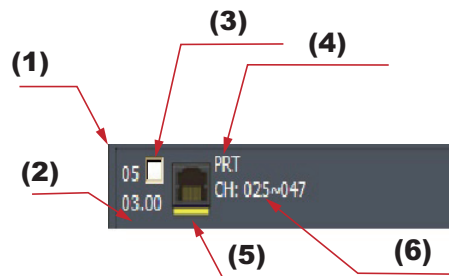
No.	Name	Function Description
1	Card Details	Displays the card information. For more details, refer to [Card Details] .
2	Refresh	Clears changes and refreshes the data.
3	Home	Returns to the Home screen.
4	The UG50 Information	Displays the IP address of VoIP port and ETHERNET port.
5	Reset Cards	Resets a card with a marked check box. Note: If the GCD-CP00-GW is specified, the IPLD card will be reset.

Card Configuration Screen

No.	Name	Function Description
6	Delete Cards	Deletes the information of a card with a marked check box. In the case of changing the accommodation location of a card or inserting an incorrect card, delete the card information. Turn off the UG50 to remove a card, then turn on the UG50 again to delete the information. Card information cannot be deleted while a card is inserted. If card information is deleted by mistake, insert the card to the same location to restore it. Note that the system data (5-2-01: PRT Card Configuration) will be lost when card information is deleted. Note: Unable to specify the GCD-CP00-GW.
7	Slot	Displays the slot number of the slot in which a card is installed. Note4
8	Card	Displays the name of a card. Note4
9	Channel No.	Displays the registered channel number. Note4
10	Virtual MAC Address	Displays the Virtual MAC Address per registration unit. Note4
11	Status	Displays the status of each channel (Note4). For more details, refer to [Status Details]

Note4: A DLC card with no terminal connected is not displayed in the list of installed cards on the Card Configuration screen.

[Card Details]



No.	Name	Function Description
1	Slot Number	Displays the slot number
2	Revision Display	Displays the firmware version.
3	Reset/Delete Check Box	Mark the check box for resetting or deleting the card data.
4	Card Name	Displays the card name

No.	Name	Function Description
5	Card Type Display	Displays in different colors according to the card type. Gray: Vacant Yellow: Trunk Blue: Station Green: Others
6	Registered Channel Number	Displays the registered channel number

[Status Details]

The Status field indicates channel status as follows:

-: Not Applicable

State		Card Already Installed in UG50		Card Not Installed in UG50
		Connected to Terminals/Trunks	Not Connected to Terminals/Trunks	Not Connected to Terminals/Trunks
Office Data Not Configured	Registration in Progress	DRS Registration Note5, Note8	DRS Registration Note5, Note8	Not Installed
Office Data Already Configured	Registration in Progress	DRS Registration Note5	DRS Registration Note5	Not Installed
	Registration Completed (Idle)	Idle Note7	Idle Note7	-
	During Ringing Tone	<ul style="list-style-type: none"> • For DLC/LC: Idle • For COT/PRT: Busy 	Idle	-
	During Conversation	Busy	-	-
	Make Busy	Make Busy Note6	Make Busy Note6	Not Installed

Note5: For the following cards, “DRS Registration” is displayed for the first channel only; “Idle” is displayed for subsequent channels:

- UG50 (PRT 1.5M) [Proprietary Protocol/SIP]
- UG50-24PRIA [Proprietary Protocol/SIP]
- UG50 (PRT 2M) [Proprietary Protocol/SIP]
- UG50-30PRIA [Proprietary Protocol/SIP]

Note6: For the following cards, “Idle” is displayed:

- UG50 (PRT 1.5M) [Proprietary Protocol/SIP]
- UG50-24PRIA [Proprietary Protocol/SIP]
- UG50 (PRT 2M) [Proprietary Protocol/SIP]
- UG50-30PRIA [Proprietary Protocol/SIP]

Note7: For the following cards, layer 2 connectivity information is available through the sys-

tem data menu “5-1-01: ISDN Layer Status Information.”

- UG50 (PRT 1.5M) [Proprietary Protocol/SIP]
- UG50-24PRIA [Proprietary Protocol/SIP]
- UG50 (PRT 2M) [Proprietary Protocol/SIP]
- UG50-30PRIA [Proprietary Protocol/SIP]

Note8: For the following cards, “Make Busy” is displayed:

- UG50 (COT-TYPE1)
- UG50 (COT-TYPE2) [Proprietary Protocol/SIP]
- UG50-4LC2COTA (COT)
- UG50-6COT [Proprietary Protocol/SIP]
- UG50 (PGT-TYPE1)
- UG50 (PGT-TYPE2) [Proprietary Protocol/SIP]
- UG50-4LC2COTA (PGT)

4. Power Up the UG50

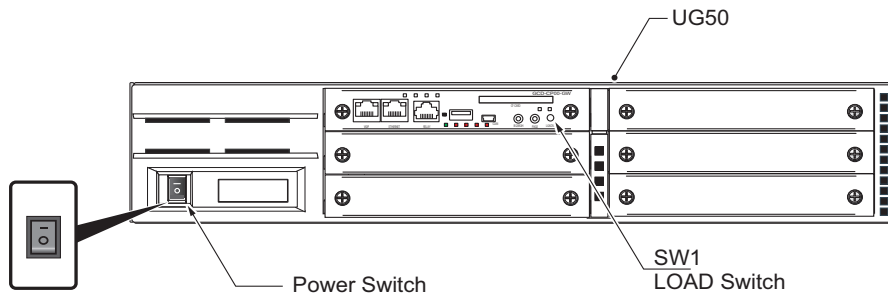
This section describes the procedure for powering up the UG50 (Cold Start) during initial startup.

Note: When Cold Start is executed, initialization programs run at power-up.

[19" Chassis]

Step1: While holding down the LOAD button (SW 1) on the GCD-CP00-GW, flip the power switch to the ON position.

System software is loaded from flash memory, and the data is loaded from RAM memory.



Note : Continue holding the Load button until LED2 on the GCD-CP00-GW starts flashing red. (approx. three seconds)

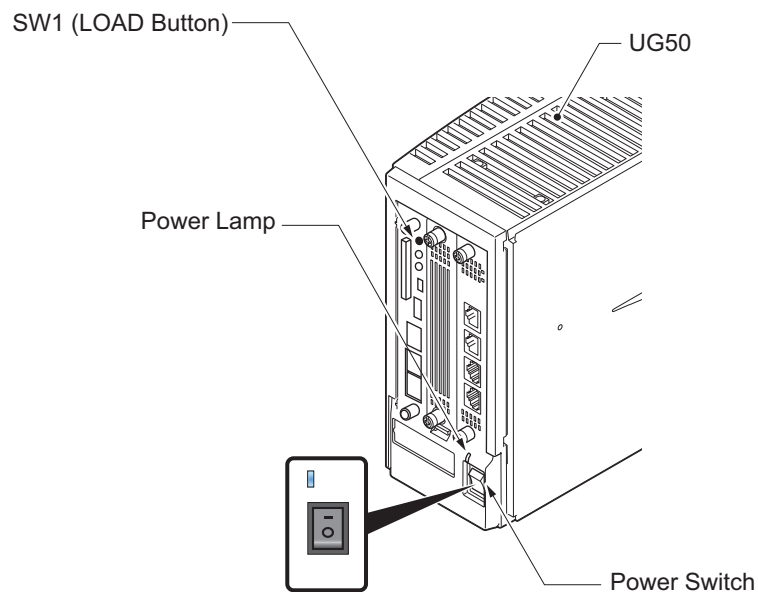
Step2: Release the Load button.

Step3: When the software (approx. two minutes) has been loaded, LED1(Status LED) on the GCD-CP00-GW flashes.

[9.5" Chassis]

Step1: While holding down the LOAD button (SW 1) on the GCD-CP00-GW, flip the power switch to the ON position.

System software is loaded from flash memory, and the data is loaded from RAM memory



Note : Continue holding the Load button until LED2 on the GCD-CP00-GW starts flashing red. (approx. three seconds)

Step2: Release the Load button.

Step3: When the software (approx. two minutes) has been loaded, LED1(Status LED) on the GCD-CP00-GW flashes.

5. UG50 System Data Programming

This section describes the system data required for the UG50. The system data settings on the UG50 are performed via Web Programming. Click the [Data Setup] icon on the home screen to display the [Feature Programming] screen, which enables you to set each system data.

For information on accessing to Web Programming, refer to “[3. Web Programming](#)”.

5.1 Basic Settings for Each Gateway Card

Basic settings for each GW are configured via Web Programming. For other data settings, refer to [System Data Menu List \(Feature Programming\)](#), and configure the settings according to the conditions for each GW.

Function	SV9500 Existing Device	Mode	Device Type	Reference
DLC	IPG (Digital)	Multi-slot	UG50 (DLC)	DLC Card Data Settings
		IPG	UG50-IPG (Digital)	
LC	Analog 2MC	Multi-slot	UG50 (LC) [Proprietary Protocol]	LC Card (Proprietary Protocol mode)
		Retrofit	UG50-2MC	
	IPG (Analog)	IPG	UG50-IPG (Analog)	LC Card (SIP mode)
	8LC	Multi-slot	UG50 (LC) [SIP]	
		Retrofit	UG50-8LC	
PRT	MG(PRI) (Proprietary Protocol)	Multi-slot	UG50 (PRT 1.5M) [Proprietary Protocol]	PRT Card (1.5M) Data Settings (Proprietary Protocol mode)
		Retrofit	UG50-24PRIA [Proprietary Protocol]	
	MG(PRI) (SIP)	Multi-slot	UG50 (PRT 1.5M) [SIP]	PRT Card (1.5M) Data Settings (SIP mode)
		Retrofit	UG50-24PRIA [SIP]	
	MG(PRI) (Proprietary Protocol)	Multi-slot	UG50 (PRT 2M) [Proprietary Protocol]	PRT Card (2M) Data Settings (Proprietary Protocol mode)
		Retrofit	UG50-30PRIA [Proprietary Protocol]	
MG(PRI) (SIP)	Multi-slot	UG50 (PRT 2M) [SIP]	PRT Card (2M) Data Settings (SIP mode)	
	Retrofit	UG50-30PRIA [SIP]		
COT	MC&MG-COT	Multi-slot	UG50 (COT-TYPE1)	COT/PGT Card Data Settings
		Retrofit	UG50-4LC2COTA (COT) (MG part)	
			UG50-4LC2COTA (COT) (MC part)	
	MG-COT (6COT) (Proprietary Protocol)	Multi-slot	UG50 (COT-TYPE2) [Proprietary Protocol]	6COT/PGT Card Data Settings (Proprietary Protocol mode)
		Retrofit	UG50-6COT [Proprietary Protocol]	
	MG-COT (6COT) (SIP)	Multi-slot	UG50 (COT-TYPE2) [SIP]	6COT/PGT Card Data Settings (SIP mode)
Retrofit		UG50-6COT [SIP]		
PGT	MC&MG-COT	Multi-slot	UG50 (PGT-TYPE1)	COT/PGT Card Data Settings
		Retrofit	UG50-4LC2COTA (PGT) (MG part)	
			UG50-4LC2COTA (PGT) (MC part)	
	MG-COT (6COT) (Proprietary Protocol)	Multi-slot	UG50 (PGT-TYPE2) [Proprietary Protocol]	6COT/PGT Card Data Settings (Proprietary Protocol mode)
	MG-COT (6COT) (SIP)	Multi-slot	UG50 (PGT-TYPE2) [SIP]	6COT/PGT Card Data Settings (SIP mode)

5.2 DLC Card Data Settings

This section describes the basic data settings (Web Programming) required on the UG50 for the DLC card.

<Target Mode/Device>

Operation Mode	Device Type
Multi-slot mode	UG50 (DLC)
IPG mode	UG50-IPG (Digital)

(1) 1: UG50 Common Setup

Configure the UG50 common settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	01: Area	Set the country code where the UG50 is installed.	1: North America 2: Australia 3: EMEA 4: ASIA/CALA 5: Brazil 6: China 7: UK
		02: Migration Mode	Select to enable Retrofit mode or IPG mode.	[Multi-slot mode] 0: Disable (Default) [IPG mode] 2: IPG-D mode
		03: A-law/ μ -law Setup	Select a suitable type according to the region.	0: μ -law 1: A-law

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	04: Country Code	Select the code of the country where the UG50 is located. UG50 uses the tone set table of the country you specify here.	2: North America 3: Australia 4: Other countries 5: Hong Kong 6: Malaysia 7: Singapore 8: UK 9: Mexico 10: Taiwan 11: New Zealand 12: Korea 13: Brazil 14: China 15: Thailand 17: Sri Lanka 200: Germany 201: Italy 202: Netherlands 204: Denmark 205: Sweden 211: Spain 212: Austria 213: Belgium 214: UK (United Kingdom) 215: Greece 216: Swiss 217: South Africa
1-2: Network Setup	1-2-02: VoIP Port Network Setup	VoIP Port IP Address	Set the IP Address for the VoIP port.	Arbitrary IP Address for the UG50 Note9
		VoIP Port Subnet Mask	Set the Subnet Mask for the VoIP port.	Arbitrary Subnet Mask for the UG50
1-3: Proprietary Protocol Setup	1-3-02: Proprietary Protocol Mode DRS Server Setup	DRS IP Address	Set the IP Address for the Telephony Server.	Input the IP Address (ACT) of LAN 1 for the Telephony Server. Note9

Note9: The range of data input is listed below. Anything beyond this range is invalid.
0.0.0.0 to 126.255.255.254
128.0.0.1 to 191.255.255.254
192.0.0.1 to 223.255.255.254

(2) 2: Digital Station Card Setup

Configure the Digital Station Card settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
2-1: DLC(ELC) Setup	2-1-03: Digital Station Channel Setup	01: Station Number	Set the station number of the accommodated terminal	Max of 16 digits (0 to 9, #, *)
		02: Password	Set the password of the accommodated terminal.	Max of 16 digits (0 to 9, #, *)

Note: When [01: DRS Password Omission] of [2-1-02: Digital Station Basic Setup] is enabled, the password is treated as the same value as the station number.

5.3 LC Card (Proprietary Protocol mode)

This section describes the basic data settings (Web Programming) required on the UG50 for the LC card (Proprietary Protocol mode)

<Target Mode/Device>

Mode	Device Name
Multi-slot mode	UG50 (LC) [Proprietary Protocol]
IPG mode	UG50-IPG (Analog)
Retrofit mode	UG50-2MC

(1) 1: UG50 Common Setup

Configure the UG50 common setup

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	01: Area	Set the country code where the UG50 is installed.	1: North America 2: Australia 3: EMEA 4: ASIA/CALA 5: Brazil 6: China 7: UK
		02: Migration mode	Select to enable Retrofit mode or IPG mode.	[Multi-slot mode] 0: Disable(Default) [Retrofit mode] 1:Retro mode [IPG mode] 3: IPG-A mode
		03: A-law/ μ -law Setup	Select a suitable type according to the region.	0: μ -law 1: A-law

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	04: Country Code	Select the code of the country where the UG50 is located. UG50 uses the tone set table of the country you specify here.	2: North America 3: Australia 4: Other countries 5: Hong Kong 6: Malaysia 7: Singapore 8: UK 9: Mexico 10: Taiwan 11: New Zealand 12: Korea 13: Brazil 14: China 15: Thailand 17: Sri Lanka 200: Germany 201: Italy 202: Netherlands 204: Denmark 205: Sweden 211: Spain 212: Austria 213: Belgium 214: UK (United Kingdom) 215: Greece 216: Swiss 217: South Africa
		05: Device Name Note1, Note2, Note3	Use Device Name to help identify UG50s.	Arbitrary Device Name for the UG50 (ASCII code, up to 32 single-byte characters). Note4 Allowable characters are: !"#\$%&'()*+,-./ 0123456789;<=>?@ ABCDEFGHIJKLM NOPQRSTUVWXYZ []^_`abcdefghijklmnopqrstuvwxyz{ }~
1-2: Network Setup	1-2-02: VoIP Port Network Setup	01: VoIP Port IP Address	Set the IP Address for the VoIP port.	Arbitrary IP Address for the UG50 Note5
		02: VoIP Subnet Mask	Set the Subnet Mask for the VoIP port.	Arbitrary Subnet Mask for the UG50
1-3: Proprietary Protocol Setup	1-3-02: Proprietary Protocol Mode DRS Server Setup	01: DRS IP Address	Set the IP Address for the Telephony Server.	Input the IP Address (ACT) of LAN 1 for the Telephony Server. Note5

- Note1:** Available from UG50 software version 2.00 or later.
- Note2:** Only one Device Name can be specified per UG50. It cannot be assigned to each slot or registration unit of a UG50.
- Note3:** Device Names do not need to be unique across different UG50s.
- Note4:** Device Name must not consist of only spaces. Also, do not put an space at the end of a Device Name, it will be automatically deleted from the name entered.
- Note5:** The range of data input is listed below. Anything beyond this range is invalid.
0.0.0.0 to 126.255.255.254
128.0.0.1 to 191.255.255.254
192.0.0.1 to 223.255.255.254

5.4 LC Card (SIP mode)

This section describes the basic data settings (Web Programming) required on the UG50 for the LC card (SIP mode)

<Target Mode/Device>

Mode	Device Name
Multi-slot mode	UG50 (LC) [SIP]
Retrofit mode	UG50-8LC

(1) 1: UG50 Common Setup

Configure the UG50 common settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	01: Area	Set the country code where the UG50 is installed.	1: North America 2: Australia 3: EMEA 4: ASIA/CALA 5: Brazil 6: China 7: UK
		02: Migration mode	Select to enable Retrofit mode or IPG mode.	[Multi-slot mode] 0: Disable (Default) [Retrofit mode] 1: Retro mode
		03: A-law/ μ -law Setup	Select a suitable type according to the region.	0: μ -law 1: A-law

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	04: Country Code	Select the code of the country where the UG50 is located. UG50 uses the tone set table of the country you specify here.	2: North America 3: Australia 4: Other countries 5: Hong Kong 6: Malaysia 7: Singapore 8: UK 9: Mexico 10: Taiwan 11: New Zealand 12: Korea 13: Brazil 14: China 15: Thailand 17: Sri Lanka 200: Germany 201: Italy 202: Netherlands 204: Denmark 205: Sweden 211: Spain 212: Austria 213: Belgium 214: UK (United Kingdom) 215: Greece 216: Swiss 217: South Africa
		05: Device Name Note1, Note2, Note3	Use Device Name to help identify UG50s.	Arbitrary Device Name for the UG50 (ASCII code, up to 32 single-byte characters). Note4 Allowable characters are: !"#\$%&'()*+,-./ 0123456789:;<=>?@ ABCDEFGHIJKLM NOPQRSTUVWXYZ []^_`abcdefghijklmnopqrstuvwxyz{~
1-2: Network Setup	1-2-02: VoIP Port Network Setup	01: VoIP Port IP Address	Set the IP Address for the VoIP Port.	Arbitrary IP Address for the UG50
		02: VoIP Subnet Mask	Set the Subnet Mask for the VoIP Port.	Arbitrary Subnet Mask for the UG50 Note5

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-4: SIP mode Setup	1-4-01: SIP Common Setup	01: ONE TIME PASS	Set the one time password to use for the registration of authentication.	Input the arbitrary password (Within 4 to 10 words, using 0 to 9. Signs except for * and # not allowed)
	1-4-02: SIP Server Setup	01: SIP Server IP Address	Set the IP Address for the SIP Server.	Input the IP Address (ACT) of LAN 1 for the Telephony Server. Note5, Note6

Note1: Available from UG50 software version 2.00.

Note2: Only one Device Name can be specified per UG50. It cannot be assigned to each slot or registration unit of a UG50.

Note3: Device Names do not need to be unique across different UG50s.

Note4: Device Name must not consist of only spaces. Also, do not put an space at the end of a Device Name, it will be automatically deleted from the name entered.

Note5: The range of data input is listed below. Anything beyond this range is invalid.
0.0.0.0 to 126.255.255.254
128.0.0.1 to 191.255.255.254
192.0.0.1 to 223.255.255.254

Note6: For CPU dual configuration set the Physical IP address (System 0/System 1) of LAN1 as the IP address for the Telephony Server.

(2) 3: Analog Station Card Setup

Configure the station settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
3-1: Common Setup	3-1-01: Analog Station Basic Setup	01: SIP_MODE	Enable SIP mode.	Checked: Valid

5.5 PRT Card (1.5M) Data Settings (Proprietary Protocol mode)

This section describes the basic data settings (Web Programming) required on the UG50 for the PRT card (1.5M)(Proprietary Protocol mode).

<Target Mode/Device>

Mode	Device Name
Multi-slot mode	UG50 (PRT 1.5M) [Proprietary Protocol]
Retrofit mode	UG50-24PRIA [Proprietary Protocol]

(1) 1: UG50 Common Setup

Configure the UG50 common settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	01: Area	Set the country code where the UG50 is installed.	1: North America 2: Australia 3: EMEA 4: ASIA/CALA 5: Brazil 6: China 7: UK
		02: Migration Mode	Select to enable Retrofit mode or IPG mode.	[Multi-slot mode] 0: Disable (Default) [Retrofit mode] 1: Retro mode
		03: A-law/ μ -law Setup	Select a suitable type according to the region.	0: μ -law 1: A-law

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	04: Country Code	Select the code of the country where the UG50 is located. UG50 uses the tone set table of the country you specify here.	2: North America 3: Australia 4: Other countries 5: Hong Kong 6: Malaysia 7: Singapore 8: UK 9: Mexico 10: Taiwan 11: New Zealand 12: Korea 13: Brazil 14: China 15: Thailand 17: Sri Lanka 200: Germany 201: Italy 202: Netherlands 204: Denmark 205: Sweden 211: Spain 212: Austria 213: Belgium 214: UK (United Kingdom) 215: Greece 216: Swiss 217: South Africa
1-2: Network Setup	1-2-02 VoIP Port Network Setup	01: VoIP Port IP Address	Set the IP Address for the VoIP port.	Arbitrary IP Address for the UG50 Note1
		02: VoIP Port Subnet Mask	Set the Subnet Mask for the VoIP port.	Arbitrary Subnet Mask for the UG50
1-3: Proprietary Protocol Mode Setup	1-3-02: Proprietary Protocol Mode DRS Server	DRS IP Address	Set the IP Address for the Telephony Server.	Input the IP Address (ACT) of LAN 1 for the Telephony Server. Note1

Note1: The range of data input is listed below. Anything beyond this range is invalid.
0.0.0.0 to 126.255.255.254
128.0.0.1 to 191.255.255.254
192.0.0.1 to 223.255.255.254

(2) 5: ISDN Card Setup

Configure the PRT card settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
5-2: PRT Setup	5-2-02: PRT Basic Setup	ISDN_TYPE Note2	Set the type of line used for the PRT card. Note3	0: T1 (1.5M) (Fixed)

Note2: When this system data is changed, a reset of the UG50 is required.

Note3: The setting for the PRT card installed in UG50 equipment cannot be changed. Remove the card from UG50 equipment once, and then change the setting. Refer to "[2. Precautions for PRT Card](#)"

5.6 PRT Card (1.5M) Data Settings (SIP mode)

This section describes the basic data settings (Web Programming) required on the UG50 for the PRT card (1.5M) (SIP mode).

<Target Mode/Device>

Mode	Device Name
Multi-slot mode	UG50 (PRT 1.5M) [SIP]
Retrofit mode	UG50-24PRIA [SIP]

(1) 1: UG50 Common Setup

Configure the UG50 common settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	01: Area	Set the country code where the UG50 is installed.	1: North America 2: Australia 3: EMEA 4: ASIA/CALA 5: Brazil 6: China 7: UK
		02: Migration mode	Enable Retrofit mode or IPG mode.	[Multi-slot mode] 0: Disable (Default) [Retrofit mode] 1:Retro mode
		03: A-law/ μ -law Setup	Select a suitable type according to the region.	0: μ -law 1: A-law

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	04: Country Code	Select the code of the country where the UG50 is located. UG50 uses the tone set table of the country you specify here.	2: North America 3: Australia 4: Other countries 5: Hong Kong 6: Malaysia 7: Singapore 8: UK 9: Mexico 10: Taiwan 11: New Zealand 12: Korea 13: Brazil 14: China 15: Thailand 17: Sri Lanka 200: Germany 201: Italy 202: Netherlands 204: Denmark 205: Sweden 211: Spain 212: Austria 213: Belgium 214: UK (United Kingdom) 215: Greece 216: Swiss 217: South Africa
1-2: Network Setup	1-2-02: VoIP Port Network Setup	01: VoIP Port IP Address	Set the IP Address for the VoIP port.	Arbitrary IP Address for the UG50
		02: VoIP Subnet Mask	Set the Subnet Mask for the VoIP port.	Arbitrary Subnet Mask for the UG50 Note1
1-4: SIP mode Setup	1-4-01: SIP Common Setup	01: ONE TIME PASS	Set the one time password to use for the registration of authentication.	Input the arbitrary password (Within 4 to 10 words, using 0 to 9. Signs except for */# not allowed)
	1-4-02: SIP Server Setup	01: SIP Server IP Address	Set the IP Address for the SIP Server.	Input the IP Address (ACT) of LAN 1 for the Telephony Server. Note1, Note2

Note1: The range of data input is listed below. Anything beyond this range is invalid.
0.0.0.0 to 126.255.255.254
128.0.0.1 to 191.255.255.254
192.0.0.1 to 223.255.255.254

Note2: For CPU dual configuration set the Physical IP address (System 0/System 1) of LAN1 as the IP address for the Telephony Server.

(2) 5: ISDN Card Setup

Configure the PRT card settings.

Setting Item			Description	Input Data
Middle Category	Small Category	Name		
5-2: PRT Setup	5-2-02: PRT Basic Setup	01: SIP_MODE	Enable SIP mode.	Checked: Valid
		02: ISDN_TYPE Note3	Set the type of line used for the PRT card. Note4.	0: T1 (1.5M)(Fixed)

Note3: When this system data is changed, a reset of the UG50 is required.

Note4: The setting for the PRT card installed in UG50 equipment cannot be changed. Remove the card from UG50 equipment once, and then change the setting. Refer to "[2. Precautions for PRT Card](#)"

5.7 PRT Card (2M) Data Settings (Proprietary Protocol mode)

This section describes the basic data settings (Web Programming) required on the UG50 for the PRT card (2M) (Proprietary Protocol mode)

<Target Mode/Device>

Mode	Device Name
Multi-slot mode	UG50 (PRT 2M) [Proprietary Protocol]
Retrofit mode	UG50-30PRIA [Proprietary Protocol]

(1) 1: UG50 Common Setup

Configure the UG50 common settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	01: Area	Set the country code where the UG50 is installed.	1: North America 2: Australia 3: EMEA 4: ASIA/CALA 5: Brazil 6: China 7: UK
		02: Migration mode	Enable Retrofit mode or IPG mode.	[Multi-slot mode] 0: Disable (Default) [Retrofit mode] 1:Retro mode
		03: A-law/ μ -law Setup	Select a suitable type according to the region.	0: μ -law 1: A-law

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	04: Country Code	Select the code of the country where the UG50 is located. UG50 uses the tone set table of the country you specify here.	2: North America 3: Australia 4: Other countries 5: Hong Kong 6: Malaysia 7: Singapore 8: UK 9: Mexico 10: Taiwan 11: New Zealand 12: Korea 13: Brazil 14: China 15: Thailand 17: Sri Lanka 200: Germany 201: Italy 202: Netherlands 204: Denmark 205: Sweden 211: Spain 212: Austria 213: Belgium 214: UK (United Kingdom) 215: Greece 216: Swiss 217: South Africa
1-2: Network Setup	1-2-02: VoIP Port Network Setup	01: VoIP Port IP Address	Set the IP Address for the VoIP port.	Arbitrary IP Address for the UG50
		02: VoIP Subnet Mask	Set the Subnet Mask for the VoIP port.	Arbitrary Subnet Mask for the UG50 Note1
1-3: Proprietary Protocol Mode Setup	1-3-02: Proprietary Protocol Mode DRS Server Setup	01: DRS IP Address	Set the IP Address for the Telephony Server.	Input the IP Address (ACT) of LAN 1 for the Telephony Server. Note1

Note1: The range of data input is listed below. Anything beyond this range is invalid.
0.0.0.0 to 126.255.255.254
128.0.0.1 to 191.255.255.254
192.0.0.1 to 223.255.255.254

(2) 5: ISDN Card Setup

Configure the PRT card settings.

Setting Item			Description	Input Data
Middle Category	Small Category	Name		
5-2: PRT Setup	5-2-02: PRT Basic Setup	02: ISDN_TYPE Note2	Set the type of line used for the PRT card. Note3	1: E1 (2M)

Note2: When this system data is changed, a reset of the UG50 is required.

Note3: The setting for the PRT card installed in UG50 equipment cannot be changed. Remove the card from UG50 equipment once, then change the setting. Refer to "[2. Precautions for PRT Card](#)"

5.8 PRT Card (2M) Data Settings (SIP mode)

This section describes the basic data settings (Web Programming) required on the UG50 for the PRT card (2M) (SIP mode).

<Target Mode/Device>

Mode	Device Name
Multi-slot mode	UG50 (PRT 2M) [SIP]
Retrofit mode	UG50-30PRIA [SIP]

(1) 1: UG50 Common Setup

Configure the UG50 common settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	01: Area	Set the country code where the UG50 is installed.	1: North America 2: Australia 3: EMEA 4: ASIA/CALA 5: Brazil 6: China 7: UK
		02: Migration mode	Enable Retrofit mode or IPG mode.	[Multi-slot mode] 0: Disable (Default) [Retrofit mode] 1:Retro mode
		03: A-law/ μ -law Setup	Select a suitable type according to the region.	0: μ -law 1: A-law

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	04: Country Code	Select the code of the country where the UG50 is located. UG50 uses the tone set table of the country you specify here.	2: North America 3: Australia 4: Other countries 5: Hong Kong 6: Malaysia 7: Singapore 8: UK 9: Mexico 10: Taiwan 11: New Zealand 12: Korea 13: Brazil 14: China 15: Thailand 17: Sri Lanka 200: Germany 201: Italy 202: Netherlands 204: Denmark 205: Sweden 211: Spain 212: Austria 213: Belgium 214: UK (United Kingdom) 215: Greece 216: Swiss 217: South Africa
1-2: Network Setup	1-2-02: VoIP Port Network Setup	01: VoIP Port IP Address	Set the IP Address for the VoIP port.	Arbitrary IP Address for the UG50
		02: VoIP Subnet Mask	Set the Subnet Mask for the VoIP port.	Arbitrary Subnet Mask for the UG50 Note1
1-4: SIP mode Setup	1-4-01: SIP Common Setup	01: ONE TIME PASS	Set the one time password to use for the registration of authentication.	Input the arbitrary password (Within 4 to 10 words, using 0 to 9. Signs except for */# not allowed)
	1-4-02: SIP Server Setup	01: SIP Server IP Address	Set the IP Address for the SIP Server.	Input the IP Address (ACT) of LAN 1 for the Telephony Server. Note1, Note2

Note1: The range of data input is listed below. Anything beyond this range is invalid.
0.0.0.0 to 126.255.255.254
128.0.0.1 to 191.255.255.254
192.0.0.1 to 223.255.255.254

Note2: For CPU dual configuration set the Physical IP address (System 0/System 1) of LAN1 as the IP address for the Telephony Server.

(2) 5: ISDN Card Setup

Configure the PRT card settings.

Setting Item			Description	Input Data
Middle Category	Small Category	Name		
5-2: PRT Setup	5-2-02: PRT Basic Setup	01: SIP_MODE	Enable SIP mode.	Checked: Valid
		02: ISDN_TYPE Note3	Set the type of line used for the PRT card. Note4	1: E1 (2M)

Note3: When this system data is changed, a reset of the UG50 is required.

Note4: The setting for the PRT card installed in UG50 equipment cannot be changed. Remove the card from UG50 equipment once, and then change the setting. Refer to "[2. Precautions for PRT Card](#)"

5.9 COT/PGT Card Data Settings

This section describes the basic data settings (Web Programming) required on the UG50 for the COT/PGT card.

<Target Mode/Device>

Mode	Device Name
Multi-slot mode	UG50 (COT-TYPE1)
	UG50 (PGT-TYPE1)
Retrofit mode	UG50-4LC2COTA (COT) (MG part)
	UG50-4LC2COTA (COT) (MC part) Note1
	UG50-4LC2COTA (PGT) (MG part)
	UG50-4LC2COTA (PGT) (MC part) Note1

Note1: The settings for the MC part are same as those for LC Card (Proprietary Protocol mode). For details, refer to [5.3 LC Card \(Proprietary Protocol mode\)](#).

(1) 1: UG50 Common Setup

Configure the UG50 common settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	01: Area	Set the country code where the UG50 is installed.	1: North America 2: Australia 3: EMEA 4: ASIA/CALA 5: Brazil 6: China 7: UK
		02: Migration Mode	Enable Retrofit mode or IPG mode.	[Multi-slot mode] 0: Disable (Default) [Retrofit mode] 1: Retro mode
		03: A-law/ μ -law Setup	Select a suitable type according to the region.	0: μ -law 1: A-law

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	04: Country Code	Select the code of the country where the UG50 is located. UG50 uses the tone set table of the country you specify here.	2: North America 3: Australia 4: Other countries 5: Hong Kong 6: Malaysia 7: Singapore 8: UK 9: Mexico 10: Taiwan 11: New Zealand 12: Korea 13: Brazil 14: China 15: Thailand 17: Sri Lanka 200: Germany 201: Italy 202: Netherlands 204: Denmark 205: Sweden 211: Spain 212: Austria 213: Belgium 214: UK (United Kingdom) 215: Greece 216: Swiss 217: South Africa
1-2: Network Setup	1-2-02: VoIP Port Network Setup	01: VoIP Port IP Address	Set the IP Address for the VoIP port.	Arbitrary IP Address for the UG50 Note2
		02: VoIP Port Subnet Mask	Set the Subnet Mask for the VoIP port.	Arbitrary Subnet Mask for the UG50
1-3: Proprietary Protocol Mode Setup	1-3-02: Proprietary Protocol Mode DRS Server Setup	01: DRS IP Address	Set the IP Address for the Telephony Server.	Input the IP Address (ACT) of LAN 1 for the Telephony Server. Note2

Note2: The range of data input is listed below. Anything beyond this range is invalid.
0.0.0.0 to 126.255.255.254
128.0.0.1 to 191.255.255.254
192.0.0.1 to 223.255.255.254

- (2) 4: Analog/Paging Trunk Card Setup
Configure the COT/PGT card data settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
4-1: COT/PGT Setup	4-1-02: COT/PGT Basic Setup	02: EQUIP_TYPE	Select the equipment type.	Type1 (Fixed)

5.10 6COT/PGT Card Data Settings (Proprietary Protocol mode)

This section describes the basic data settings (Web Programming) required on the UG50 for the 6COT/PGT card (Proprietary Protocol mode).

<Target Mode/Device>

Operation Mode	Device Name
Multi-slot mode	UG50 (COT-TYPE2) [Proprietary Protocol]
	UG50 (PGT-TYPE2) [Proprietary Protocol]
Retrofit mode	UG50-6COT [Proprietary Protocol]

Note: UG50-6COT [Proprietary Protocol] does not support paging feature.

(1) 1: UG50 Common Setup

Configure the UG50 common settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	01: Area	Set the country code where the UG50 is installed.	1: North America 2: Australia 3: EMEA 4: ASIA/CALA 5: Brazil 6: China 7: UK
		02: Migration Mode	Enable Retrofit mode or IPG mode.	[Multi-slot mode] 0: Disable (Default) [Retrofit mode] 1: Retro mode
		03: A-law/ μ -law Setup	Select a suitable type according to the region.	0: μ -law 1: A-law

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	04: Country Code	Select the code of the country where the UG50 is located. UG50 uses the tone set table of the country you specify here.	2: North America 3: Australia 4: Other countries 5: Hong Kong 6: Malaysia 7: Singapore 8: UK 9: Mexico 10: Taiwan 11: New Zealand 12: Korea 13: Brazil 14: China 15: Thailand 17: Sri Lanka 200: Germany 201: Italy 202: Netherlands 204: Denmark 205: Sweden 211: Spain 212: Austria 213: Belgium 214: UK (United Kingdom) 215: Greece 216: Swiss 217: South Africa
1-2: Network Setup	1-2-02: VoIP Port Network Setup	01: VoIP Port IP Address	Set the IP Address for the VoIP port.	Arbitrary IP Address for the UG50 Note1
		02: VoIP Port Subnet Mask	Set the Subnet Mask for the VoIP port.	Arbitrary Subnet Mask for the UG50
1-3: Proprietary Protocol Mode Setup	1-3-02: Proprietary Protocol Mode DRS Server Setup	01: DRS IP Address	Set the IP Address for the Telephony Server.	Input the IP Address (ACT) of LAN 1 for the Telephony Server. Note1

Note1: The range of data input is listed below. Anything beyond this range is invalid.
0.0.0.0 to 126.255.255.254
128.0.0.1 to 191.255.255.254
192.0.0.1 to 223.255.255.254

(2) 4: Analog/Paging Trunk Card Setup

Configure the COT/PGT card data settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
4-1: COT/PGT Set-up	4-1-02: COT/PGT Basic Setup	02: EQUIP_TYPE	Select the equipment type.	Type2 (Fixed)

5.11 6COT/PGT Card Data Settings (SIP mode)

This section describes the basic data settings (Web Programming) required on the UG50 for the 6COT/PGT card (SIP mode).

<Target Mode/Device>

Operation Mode	Device Name
Multi-slot mode	UG50 (COT-TYPE2) [SIP]
	UG50 (PGT-TYPE2) [SIP]
Retrofit mode	UG50-6COT [SIP]

Note: UG50-6COT [SIP] does not support paging feature.

(1) 1: UG50 Common Setup

Configure the UG50 common settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	01: Area	Set the country code where the UG50 is installed.	1: North America 2: Australia 3: EMEA 4: ASIA/CALA 5: Brazil 6: China 7: UK
		02: Migration Mode	Enable Retrofit mode.	[Multi-slot mode] 0: Disable (Default) [Retrofit mode] 1: Retro mode
		03: A-law/ μ -law Setup	Select a suitable type according to the region.	0: μ -law 1: A-law

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
1-1: Basic Setup	1-1-01: Initial Setup	04: Country Code	Select the code of the country where the UG50 is located. UG50 uses the tone set table of the country you specify here.	2: North America 3: Australia 4: Other countries 5: Hong Kong 6: Malaysia 7: Singapore 8: UK 9: Mexico 10: Taiwan 11: New Zealand 12: Korea 13: Brazil 14: China 15: Thailand 17: Sri Lanka 200: Germany 201: Italy 202: Netherlands 204: Denmark 205: Sweden 211: Spain 212: Austria 213: Belgium 214: UK (United Kingdom) 215: Greece 216: Swiss 217: South Africa
1-2: Network Setup	1-2-02: VoIP Port Network Setup	VoIP Port IP Address	Set the IP Address for the VoIP port.	Arbitrary IP Address for the UG50 Note2
		VoIP Port Subnet Mask	Set the Subnet Mask for the VoIP port.	Arbitrary Subnet Mask for the UG50
1-4: SIP mode Setup	1-4-01: SIP Common Setup	01: ONE TIME PASS	Set the one time password to use for the registration of authentication.	Input the arbitrary password (Within 4 to 10 words, using 0 to 9. Signs except for * and # not allowed)
	1-4-02: SIP Server Setup	01: SIP Server IP Address	Set the IP Address for the SIP Server.	Input the IP Address (ACT) of LAN 1 for the Telephony Server. Note2, Note3

Note2: The range of data input is listed below. Anything beyond this range is invalid.
0.0.0.0 to 126.255.255.254
128.0.0.1 to 191.255.255.254
192.0.0.1 to 223.255.255.254

Note3: For CPU dual configuration set the Physical IP address (System 0/System 1) of LAN1 as the IP address for the Telephony Server.

(2) 4: Analog/Paging Trunk Card Setup

Configure the COT/PGT card data settings.

Setting Items			Description	Input Data
Middle Category	Small Category	Parameter		
4-1: COT/PGT Setup	4-1-02: COT/PGT Basic Setup	01: SIP_MODE	Enable SIP mode.	Checked: Valid
		02: EQUIP_TYPE	Select the equipment type.	Type2 (Fixed)

6. System Data Menu List (Feature Programming)

This section describes each menu item on the **Feature Programming** screen in Web Programming.

A: Updated upon clicking the Apply icon

R: Updated upon restarting the UG50

Large Category	Middle Category	Small Category	Update Timing
1: UG50 Common Setup	1-1: Basic Setup	1-1-01: Initial Setup	R
		1-1-02: Music On Hold Setup	A
		1-1-03: Channel Setup	A
	1-2: Network Setup	1-2-01: CP00 Network Setup	R
		1-2-02: VoIP Port Network Setup	R
		1-2-03: VLAN Setup	R
	1-3: Proprietary Protocol Setup	1-3-01: Proprietary Protocol Mode Common Setup	R
		1-3-02: Proprietary Protocol Mode DRS Server Setup	A
	1-4: SIP mode Setup	1-4-01: SIP Common Setup	R
		1-4-02: SIP Server Setup	A
	1-5: IPLD Setup	1-5-01: IPLD Common Setup	A
		1-5-02: IPLD Channel Setup	A
		1-5-03: IPLD Setup for Each Card	A
		1-5-04: IPLD Port Setup	A
	1-6: Maintenance Setup	1-6-01: LAN Setup for External Equipment	R
		1-6-02: Installation Date Setup	A
		1-6-03: Web Programming Account Setup	A
		1-6-04: Alarm Data Setup	A
		1-6-05: Alarm Report Setup	A
		1-6-06: Alarm Report Notification Time Setup	A
1-6-07: Alarm Report CC Mail Setup		A	
1-6-08: DIM over LAN		A	
1-6-09: Firmware Update Time Setup		A	
1-6-10: Web Programming Setup		A	
2: Digital Station Card Setup	2-1: DLC(ELC) Setup	2-1-01: DLC(ELC) Card Configuration	A
		2-1-02: Digital Station Basic Setup	A
		2-1-03: Digital Station Channel Setup	A
3: Analog Station Card Setup	3-1: Common Setup	3-1-01: Analog Station Basic Setup	A
		3-1-02: Analog Station Channel Setup	A
	3-2: LC Setup	3-2-01: LC Card Configuration	A
		3-2-02: CODEC Filter Data Setup for each LC Card	A

Large Category	Middle Category	Small Category	Update Timing
4: Analog/Paging Trunk Card Setup	4-1: COT/PGT Setup	4-1-01: COT/PGT Card Configuration	A
		4-1-02: COT/PGT Basic Setup	A
		4-1-03: CODEC Filter Data Setup for each COT Card	A
5: ISDN Card Setup	5-1: Common Setup	5-1-01: ISDN Layer Status Information	A
	5-2: PRT Setup	5-2-01: PRT Card Configuration	A
		5-2-02: PRT Basic Setup	A
		5-2-03: PRT Flexible PAD Setup	A

6.1 1: UG50 Common Setup

This section describes each item of the UG50 Common Setup.

[1-1: Basic Setup](#)

[1-2: Network Setup](#)

[1-3: Proprietary Protocol Setup](#)

[1-4: SIP mode Setup](#)

[1-5: IPLD Setup](#)

[1-6: Maintenance Setup](#)

6.1.1 1-1: Basic Setup

(1) 1-1-01: Initial Setup

Configure the UG50 common settings. **Note1**

No.	Name	Description	Input Data	Default Settings
01	Area	Set the country code where the UG50 is installed.	0: Japan 1: North America 2: Australia 3: EMEA 4: ASIA/CALA 5: Brazil 6: China 7: UK	0: Japan
02	Migration Mode	Set to enable Retrofit mode or IPG mode.	0: Disable Note2 1: Retro mode 2: IPG-D mode 3: IPG-A mode	0: Disable
03	A-law/ μ -law Setup	Select a suitable type according to the region.	0: μ -law 1: A-law	0: μ -law

No.	Name	Description	Input Data	Default Settings
04	Country Code	Select the code of the country where the UG50 is located. UG50 uses the tone set table of the country you specify here.	1: Japan 2: North America 3: Australia 4: Other countries 5: Hong Kong 6: Malaysia 7: Singapore 8: UK 9: Mexico 10: Taiwan 11: New Zealand 12: Korea 13: Brazil 14: China 15: Thailand 17: Sri Lanka 200: Germany 201: Italy 202: Netherlands 204: Denmark 205: Sweden 211: Spain 212: Austria 213: Belgium 214: UK (United Kingdom) 215: Greece 216: Swiss 217: South Africa	1: Japan
05	05: Device Name Note3 , Note4 , Note5	Use Device Name to help identify UG50s.	Arbitrary Device Name for the UG50 (ASCII code, up to 32 single-byte characters). Note6 Allowable characters are: !"#%&'()*+,-./ 0123456789;<=>?@ ABCDEFGHIJKLM NOPQRSTUVWXYZ [] ^ _ ` abcdefghijklm nopqrstuvwxyz{ } ~	(Blank)

Note1: Changes in the parameters take effect when you restart the UG50.

Note2: The UG50 operates on Multi-slot mode when 0: Disable is selected.

Note3: Available from UG50 software version 2.00.

- Note4:** Only one Device Name can be specified per UG50. It cannot be assigned to each slot or registration unit of a UG50.
- Note5:** Device Names do not need to be unique across different UG50s.
- Note6:** Device Name must not consist of only spaces. Also, do not put an space at the end of a Device Name, it will be automatically deleted from the name entered.

(2) 1-1-02: Music On Hold Setup

Configure the Music On Hold settings.

No.	Name	Description	Input Data	Default Settings
01	Music Internal/External	Select either Internal Music or External Music. If External Music is selected, sounds from the audio source connected to GCD-CP00-GW are used.	0: Internal 1: External	0: Internal
02	Music No.	Select Music No. of the UG50 Internal Music.	1: La Chanson de L'Adieu (Frederic Francois Chopin) 2: Trout Quintet (Franz Peter Schubert) 3: Plaisir d'Amour (Jean Paul Egide Martini) 4: Menuet (Johann Sebastian Bach)	4: Menuet (Johann Sebastian Bach)
03	Music Gain control	Music Gain control setting	1 to 63 (dB)	32 (0 dB)

(3) 1-1-03: Channel Setup

Configure PAD value for each channel (Channel 01 to 96).

Item	Description	Input Data
Channel No.	Specify Channel Number	1 to 96

No.	Parameter	Description	Input Data	Default Settings
01	Receive PAD adjustment	PAD value can be set on both plus and minus. PAD settings are configured in the receiver direction. It is applied when a call is made to the outside of the UG50.	1 to 63 (-15.5 dB to +15.5 dB) Note7	32 (0 dB)
02	Transmit PAD adjustment	PAD value can be set on both plus and minus. PAD settings are configured in the sender direction. It is applied when a call is made to the outside of the UG50.	1 to 63 (-15.5 dB to +15.5 dB) Note7	32 (0 dB)
03	Receive PAD adjustment (inside the UG50)	PAD value can be set on both plus and minus. PAD settings are configured in the receiver direction. It is applied when a call is made to inside of the UG50.	1 to 63 (-15.5 dB to +15.5 dB) Note7	32 (0 dB)
04	Transmit PAD adjustment (inside the UG50)	PAD value can be set on both plus and minus. PAD settings are configured in the sender direction. It is applied when a call is made internally within the UG50.	1 to 63 (-15.5 dB to +15.5 dB) Note7	32 (0 dB)

Note7: The positive value in dB, with a leading plus sign, indicates gain or amplification. You can amplify the signal by assigning a parameter value ranging from 33 to 63. The negative value in dB, with a leading minus sign, indicates loss or attenuation. You can attenuate the signal by assigning a parameter value ranging from 1 to 31. For amplification (33 to 63), the greater the parameter value is, the louder the sound will be generated. For attenuation (1 to 31), the smaller the parameter value is, the softer the sound will be generated.

6.1.2 1-2: Network Setup

(1) 1-2-01: CP00 Network Setup

Configure the network related data settings for maintenance.

No.	Parameter	Description	Input Data	Default Settings
01	Ethernet port IP Address Note1	Set the IP Address for the Ethernet port.	IP Address	192.168.0.1
02	Ethernet port Subnet Mask	Set the Subnet mask for the Ethernet port.	Subnet Mask	255.255.255.0
05	NIC Setting (Ethernet port)	Set the NIC for the Ethernet port.	0: Automatic detection 1: 100 Mbps-Full Duplex 2: 100 Mbps-Half Duplex 3: 10 Mbps-Full Duplex 4: 10 Mbps-Half Duplex	Automatic detection
09	IP Address for Internal Control (CCPU)	Set the IP Address for the CC00 control port.	IP Address	169.254.111.115
10	Subnet Mask for Internal Control	Set the Subnet Mask for the Internal Control.	Subnet Mask	255.255.255.254
16	IP Address for Internal Control (IPLD)	Set the IP Address for the IPLD control port.	IP Address	169.254.111.114

Note: To reflect the changes made in data, reset the UG50.

Note1: The Ethernet port IP Address is purely for maintenance and only used for Web Programming and DIM. It cannot be connected to the network. It can only be connected directly to the maintenance PC. Do not change any settings unless necessary such as in the case of the VoIP IP address using the same segment as the Ethernet port.

(2) 1-2-02: VoIP Port Network Setup

Configure the IP Address and Subnet Mask for the VoIP network.

No.	Parameter	Description	Input Data	Default Settings
01	VoIP Port IP Address	Set the IP Address for the VoIP port.	IP Address	0.0.0.0 Note2
02	VoIP Port Subnet Mask	Set the Subnet Mask for the VoIP port.	Subnet Mask	128.0.0.0
03	VoIP Port Default Gateway	Set the Default Gateway for the VoIP port.	Default Gateway	0.0.0.0
04	VoIP Port NIC Setup	Set the NIC for the GPZ-32/64/128IP-LD card.	0: Auto Detect 1: 100 Mbps-Full Duplex 2: 100 Mbps-Half Duplex 3: 10 Mbps-Full Duplex 4: 10 Mbps-Half Duplex	0

Note: To reflect the changes made in data, reset the UG50.

Note2: The range of data input is listed below. Anything beyond this range is invalid.
 0.0.0.0 to 126.255.255.254
 128.0.0.1 to 191.255.255.254
 192.0.0.1 to 223.255.255.254

(3) 1-2-03: VLAN Setup

Configure the VLAN data settings for each port.

Parameter	Description
01: Ethernet port	Set the VLAN Tag for the packet sent from the Ethernet Port.
02: CCPU/IPLD control port	Set the VLAN Tag for the packet sent from the CCPU/ IPLD Control Port.
03: VoIP port	Set the VLAN Tag for the packet sent from the VoIP Port.

No.	Parameter	Description	Input Data	Default settings
01	01: VLAN Mode	Enable or disable VLAN mode.	Not Checked: Invalid Checked: Valid	[01: Ethernet port] Not Checked: Invalid [02: CCPU/IPLD control port] Not Checked: Invalid [03: VoIP port] Not Checked: Invalid
02	02: VLAN ID	Set the VLAN ID.	0 to 4094	[01: Ethernet port] 0 [02: CCPU/IPLD control port] 0 [03: VoIP port] 7
03	03: Priority	Set priority.	0 to 7	[01: Ethernet port] 0 [02: CCPU/IPLD control port] 0 [03: VoIP port] 5

Note: To reflect the changes made in data, reset the UG50.

6.1.3 1-3: Proprietary Protocol Setup

(1) 1-3-01: Proprietary Protocol Mode Common Setup

Configure the DRS common settings.

No.	Parameter	Description	Input Data	Default Settings
01	DRS Self 1st Port Number Note1	Set the DRS Self 1st Port Number.	0 to 65439 Note2	7001
02	DRS ToS	Set the ToS value of signaling packets for the DRS.	00 to FF Note4	C0
03	DLC (ELC) Signaling Self 1st Port Number	Set the Signaling Port for DLC cards.	0 to 65439 Note2	7201
04	LC Signaling Self 1st Port Number	Set the Signaling Port for LC cards.	0 to 65439 Note2	50000
05	COT/PGT Signaling Self 1st Port Number	Set the Signaling Port for COT/PGT cards.	0 to 65439 Note2	51000
06	BRI(BRT) Signaling Self 1st Port Number	Not used	-	-
07	PRT Signaling Self 1st Port Number Note3	Set the Signaling Port for PRT cards.	0 to 65439 Note2	7500

Note1: By specifying the value of the first port (Port 1), all the ports (Port 2 to Port 32) that follow will automatically input the incremented value for the input value.

i.e.) In the case of the input value "7001": Port1=7001 Port2=7002....Port32=7032

Note2: Do not set Well-Known Ports (0 to 1023). Restart the UG50 if the Port Number has been changed. (Except for [02:DRS ToS setup)

Note3: Only for PRT, TCP is used for signaling. UDP is used for others.

Note4: Lower two bits of the ToS field have no effect on signaling packets. (These bits are automatically set to 0.)

(2) 1-3-02: Proprietary Protocol Mode DRS Server Setup

Configure the DRS IP Address and Port Number for each Server Index.

Parameter	Input Range
Server Index	1 to 4

No.	Parameter	Description	Input Data	Default Settings
01	DRS IP Address	Set the IP Address for the Telephony Server.	Input the IP Address (ACT) of LAN1 for the Telephony Server. Note5	0.0.0.0
02	DRS Port Number	Set the Port Number for the Telephony Server.	0 to 65535 Note6	3456

Note: When this system data is changed, a reset of the card or the UG50 is required.

Note5: The range of data input is listed below. Anything beyond this range is invalid.
 0.0.0.0 to 126.255.255.254
 128.0.0.1 to 191.255.255.254
 192.0.0.1 to 223.255.255.254

Note6: Do not set Well-Known Ports (0 to 1023)

6.1.4 1-4: SIP mode Setup

(1) 1-4-01: SIP Common Setup

Configure the UG50 common SIP settings.

No.	Parameter	Description	Input Data	Default Settings
01	ONE TIME PASS	Set the one time password to use for the registration of authentication. Note1, Note2	Input the arbitrary password (Within 4 to 10 words, using 0 to 9. Signs except for */# not allowed)	Blank
02	SIGNALING PORT NO	Set the Port Number to use for the SP-PHI. Note3	0 to 64584 Note4	5060
03	SIGNALING ToS	Set the ToS for the SIP Signaling session.	00 to FF Note5	C0

Note1: This data is entered only once at the initial setup. Once the UG50 is connected to the Telephony Server, the input data cannot be viewed.

Note2: A one-time password must be set again when authentication data is deleted with the ASECL command via a Telephony Server.

[1] Delete a one-time password via ONE TIME PASS parameter.

[2] Click the Apply button.

[3] Set a one-time password again via ONE TIME PASS parameter.

[4] Click the Apply button.

[5] Reboot the UG50 or initialize a circuit card.

Note3: When the data for SIGNALING PORT NO is changed, a reset of the card or the UG50 is required.

Note4: Do not set Well-Known Ports (0 to 1023).

Note5: Lower two bits of the ToS field have no effect on signaling packets. (These bits are automatically set to 0.)

(2) 1-4-02: SIP Server Setup

Configure the IP Address and Port Number for the SIP server.

Parameter	Description	Input Range
Server Index (1-20)	Specify the Server Index to be set.	1 to 20

No.	Parameter	Description	Input Data	Default Settings
01	SIP Server IP Address	Set the IP Address for the SIP Server.	Input the IP Address (ACT) of LAN1 for the Telephony Server. Note6, Note7	0.0.0.0
02	SIP Server Port Number	Set the Port Number for the SIP Server.	1 to 65534	5060

Note: When this system data is changed, a reset of the card or the UG50 is required.

Note6: The range of data input is listed below. Anything beyond this range is invalid.
 0.0.0.0 to 126.255.255.254
 128.0.0.1 to 191.255.255.254
 192.0.0.1 to 223.255.255.254

Note7: For CPU dual configuration set the Physical IP address (System 0/System 1) of LAN1 as the IP address for the Telephony Server.

6.1.5 1-5: IPLD Setup

(1) 1-5-01: IPLD Common Setup

Configure the IPLD common settings.

No.	Parameter	Description	Input Data	Default Settings
01	RTP Stop Detect Timer	Set the value to use as one of the judging conditions for Call Retention function. If it doesn't receive RTP for longer than the set duration of time, it is judged as End Call.	3 to 32 (sec.)	3 (sec.)
02	WARNING Tone Note8	Set to enable or disable the warning tone to be sent when Health check failure occurs.	0: Disable 1: the IP NW side 2: the TDM side Note9 3: both the IP NW side and the TDM side Note9	3

Note8: The "WARNING Tone" differs from "RTP warning tone" described in [R-58] RTP Information Output in Data Programming-Business. The RTP warning tone cannot be set to OFF.

Note9: The TDM side means PRI/COT/PGT.

(2) 1-5-02: IPLD Channel Setup

Configure the settings for each IPLD Channel.

Parameter	Description	Input Range
Channel (1-96)	Specify the Channel Number to be set.	1 to 96

No.	Parameter	Description	Input Data	Default Settings
01	Resource kind	Determine whether DSP resource is made busy per channel of IPLD.	0: Available 255: Make Busy	0

(3) 1-5-03: IPLD Setup for Each Card

Configure the settings of the tone quality for each card.

Parameter	Description	Input Range
Card Type	Select the card type.	01: DLC (ELC) 02: LC 03: COT/PGT 04: BRI(BRT) (Not used) 05: PRT

No.	Parameter	Description	Input Data	Default Settings
01	Echo cancel training time	Set the training time for Echo cancel training time function.	0 to 96 (0 to 960 msec)	16 (160 msec)
02	Echo cancel training wait time	Set the wait time before Echo cancel training is executed.	0 to 100 (0 to 100 msec)	0
03	Echo cancel training	Set to enable or disable Echo cancel training function. In the case of 2 (recommended setting), the training is executed when the first call is made/ the line type is changed.	0: off 1: on 2: recommended setting	2: recommended setting
04	FAX ecm	FAX ECM (Error Correction mode) (Only used for T.38)	Not checked: Invalid Checked: Valid	Not checked: Invalid
05	Smooth PAD	Set DSP Smooth PAD mode.	0: Disable 1: Mode1(-4.91 to +2.12 dBm) 2: Mode2(-12.13 to -5.26 dBm) 3: Mode3(-9.15 to -2.13 dBm) 4: Mode4(-6.82 to +0.06 dBm) 5: Mode5(-11.02 to -4.24 dBm)	1: Mode1 (-4.91 to +2.12 dBm)
06	DTMF Relay Note1	Set the DTMF Relay system.	0: Pass through 1: H.245	1: H.245

Note1: Only for Proprietary Protocol mode.

(4) 1-5-04: IPLD Port Setup

Configure the IPLD port settings.

No.	Parameter	Description	Input Data	Default Settings
02	RTP Port Number	Set the RTP port number. Note2	0 to 65534	10020

Note2: Reset the GCD-CP00-GW when the system data has been changed.

6.1.6 1-6: Maintenance Setup

(1) 1-6-01: LAN Setup for External Equipment

Configure the TCP port settings to communicate with external equipment.

Parameter	Description	Input Range
06: DIM Output	Display only.	-

No.	Parameter	Description	Input Data	Default Settings
01	TCP Port	Set the TCP port.	0 to 65535 Note1	0
03	Keep Alive Time	Set the Keep Alive time.	1 to 255 (sec)	30

Note: To reflect the changes made in data, reset the UG50.

Note1: Do not set Well-Known Ports (0 to 1023).

(2) 1-6-02: Installation Date Setup

Set the operation start date.

No.	Parameter	Description	Input Data	Default Settings
01	Year	Set the year.	0 to 99	0
02	Month	Set the month.	0: No Set 1: January 2: February 3: March 4: April 5: May 6: June 7: July 8: August 9: September 10: October 11: November 12: December	0: No Set
03	Day	Set the date.	0 to 31	0

(3) 1-6-03: Web Programming Account Setup

Set the password to log in to Web Programming.

No.	Parameter	Description	Input Data	Default Settings
01	User Name	Set the User Name to log in to Web Programming.	String (Max of 10 characters)	admin

No.	Parameter	Description	Input Data	Default Settings
02	Password	Set the Password to log in to Web Programming.	Max of 8 digits (0 to 9, #,*)	8461426

(4) 1-6-04: Alarm Data Setup

Set to whether or not the alarm information is registered to Alarm Data Report.

Parameter	Description	Input Range
Alarm (1-100)	Specify the Alarm Number and configures the settings for each number.	1 to 100

No.	Parameter	Description	Input Data	Default Settings
01	Alarm Type	Set whether or not to recognize the each situation as alarm information Note2	0: Not set (Not recognized as alarm) 1: Major (MAJ lamp lights) 2: Minor (MIN lamp lights)	Note3
02	Report	Set whether or not to report the alarm system information.	0: Not reported (Not Report) 1: Reported (Report)	Note3

Note: For alarm numbers not used in this system, do not change the default settings (01: Alarm Type=0: Not set, 02: Report=Not reported (Not Report)).

Note2: In the event of abnormality, if relevant items are set to be recognized as alarm, the information will be stored and displayed.

Note3: For information on the description of each alarm and problem solutions, refer to [List of Alarm Reports](#)

(5) 1-6-05: Alarm Report Setup

Configure the various settings for Alarm Report.

No.	Parameter	Description	Input Data	Default Settings
02	Report Method	Set the Report Method to report the alarm report to the destination.	0: No report 1: E-mail	0: No report
06	SMTP Host Name	Set the host name of SMTP server if reporting the alarms by e-mail.	Alphanumeric characters (Max of 255 characters)	-
07	SMTP Host Port	Set the Port Number for SMTP server.	0 to 65535	25
08	To Address	Set the destination E-mail address.	Alphanumeric characters (Max of 255 characters)	-
09	Reply Address	Set the address to be displayed as a return destination in the sent E-mail.	Alphanumeric characters (Max of 255 characters)	-

No.	Parameter	Description	Input Data	Default Settings
10	From Address	Set the address to be displayed as mail source in the sent E-mail.	Alphanumeric characters (Max of 255 characters)	-
11	DNS Primary Address	Set the Primary Address for the DNS server.	0.0.0.0 to 255.255.255.255	0.0.0.0
12	DNS Secondly Address	Set the Secondly Address for the DNS server.	0.0.0.0 to 255.255.255.255	0.0.0.0
13	Customer Name	Set the Customer Name to be displayed in the sent E-mail.	Alphanumeric characters (Max of 255 characters)	-

(6) 1-6-06: Alarm Report Notification Time Setup

Configure the settings per Notification Number (1 to 12) to send the alarm report periodically.

Parameter	Range
Notification No.	01 to 12

No.	Parameter	Description	Input Data	Default Settings
01	Month	Set a desired month.	0 to 12 (0: Disabled)	0
02	Day	Set a desired day.	0 to 31	0
03	Hour	Set a desired hour.	0 to 23	0
04	Minute	Set a desired minute.	0 to 59	0

Note: If "0" is entered in [02: Day], it is set for every day.

(7) 1-6-07: Alarm Report CC Mail Setup

Set the address to send CC (Carbon Copy) at the time of sending the alarm report notification.

Parameter	Range
CC No.	1 to 5

No.	Parameter	Description	Input Data	Default Settings
01	CC Mail Address	Set the address to which CC is sent.	Alphanumeric characters (Max of 255 characters)	Not set

(8) 1-6-08: DIM over LAN

Configure the account settings to enable DIM access via LAN.

No.	Parameter	Description	Input Data	Default Settings
01	Access Enabling	Enable DIM access over LAN. If disabled, DIM access over LAN is not available.	0: Disabled 1: Enabled	0: Disabled
02	User Name	Set the user name for the account to use for DIM access over LAN.	Alphanumeric characters, Signs (Max of 20 characters)	admin
03	Password	Set the password for the account to use for DIM access over LAN.	Alphanumeric characters, Signs (Max of 20 characters)	8461426

(9) 1-6-09: Firmware Update Time Setup

Set the Firmware Update Time.

No.	Name	Description	Input Data	Default Settings
01	Firmware Update Schedule Time	This program defines data for firmware update feature. This data is available to set by Web Programming FW update feature. Configuration on this screen is not available.	-	-
02	Update Mode		-	-
03	Update Report		-	-

(10) 1-6-10: Web Programming Setup

Configure the Web Programming data settings.

No.	Name	Description	Input Data	Default Settings
01	Web Pro HTTP TCP Port	Set the TCP Port Number for Web Programming. It becomes valid when reconnecting Web Programming.	1 to 65535	80

Note: Do not set Well-Known Ports (0 to 1023)

6.2 2: Digital Station Card Setup

This section describes each item of the Digital Station Card setup list.

[2-1: DLC\(ELC\) Setup](#)

6.2.1 2-1: DLC(ELC) Setup

(1) 2-1-01: DLC(ELC) Card Configuration

Check the DLC card basic configuration.

Parameter	Range
SLOT No.	02 to 06
Physical Port No.	US(CNF): 01 to 32 OTHERS: 01 to 16

No.	Parameter	Description	Input Data	Default Settings
02	Logical Port No.	Display the Logical Port Number.	Display only	0
13	Virtual MAC Address	Display the Virtual MAC Address	Display only	00-00-00-00-00-00

(2) 2-1-02: Digital Station Basic Setup

Configure the common settings of the station.

No.	Parameter	Description	Input Data	Default Settings
01	DRS Password Omission	Check the box to validate this parameter to use the station number of each phone as the DRS authentication password. Note1	Not checked: Invalid Checked: Valid	Not checked: Invalid
02	Station Number Auto Assign	Check the box to validate automatic assignment of consecutive numbers to station numbers. Note2	Not checked: Invalid Checked: Valid	Not checked: Invalid

Note: To reflect the settings, any of the following: Soft Reset on Telephony Server, a reset of each card and a reset of the UG50 is required. (The settings become valid at the time of re-registration)

Note1: If enabled, the password becomes the same value as the station number.

Note2: Conditions for consecutive numbering are listed below. A physical terminal must be connected to the physical port number of the DLC to auto populate the Logical Port/Virtual MAC Address fields.

*Station Number Auto Assign is valid

*Terminal number is set to channel number 1.

*Terminal number is a station number of eight digits or less.

*Terminal number only includes numbers from 0 to 9.

(3) 2-1-03: Digital Station Channel Setup

Set the station number and authentication password of accommodated terminals. The authentication password is required for each terminal to log in to DRS (Telephony Server).

Parameter	Description	Input Range
Channel (1-96)	Specify a target Channel Number.	1 to 96

No.	Parameter	Description	Input Data	Default Settings
01	Station Number	Set the station number of accommodated terminal.	Max of 16 digits (0 to 9, #, *)	-
02	Password	Set the password for accommodated terminal.	Max of 16 digits (0 to 9, #, *)	-
03	Key Touch Tone Note3	Set to enable or disable key touch tone per terminal.	0: Enable 1: Disable 2: Enable (Only Digit Key in Voice Path On)	0

Note: Station number and authentication password remain at the default settings unless they have been changed. The changes will not be reflected in the data if Station Number Auto Assign and DRS Password Omission are valid. Actual numbers will not display even if Station Number Auto Assign is valid.

Note: Any of the following is required to update the settings. The settings become valid at the time of re-registration.

- Soft Reset on the Telephony Server
- Reset each card
- Restart the UG50

Note3: Available since UG50 (DLC) firmware version 2.00.

6.3 3: Analog Station Card Setup

This section describes each item of Analog Station Card setup list.

[3-1: Common Setup](#)

[3-2: LC Setup](#)

6.3.1 3-1: Common Setup

(1) 3-1-01: Analog Station Basic Setup

Configure the basic data settings for Analog Station.

No.	Name	Description	Input Data	Default Settings
01	SIP_MODE Note1	Set to operate on SIP mode	Not checked: Invalid Checked: Valid	Not checked: Invalid
02	HC_TIMER	Set the Health Check Timer value	150 to 330(sec)	150 (sec)
03	OPEN Note1	When receiving the "open/reverse" command, UG50 refers to this data. When "1" is set, it orders LCA firm to momentary open. When "0" is set, it orders to reverse the polarity of the line.	0: Open disable/Reverse enable 1: Open enable/Reverse disable	0
04	MW_LAMP	Set the operation of Message Waiting Lamp	0: Follows the telephony server setting 1: Flashes 2: Steady lights	0
05	FAXERRORDETECT	Set the change effective timer of FAX.	0 to 5, 255 (min.)	1
06	FAXRECVPAD	Set the FAX receiver PAD value. Note2 This command assigns the value to decrease the FAX signal level in the receiver (UG50 to analog terminal) direction when the FAX signal is detected.	0 to 15 (dB)	4
07	FAXSENDPAD	Set the FAX sender PAD value. This command assigns the value to decrease the FAX signal level in the sender (analog terminal to UG50) direction when FAX signal is detected. Note3	0 to 15 (dB)	0

No.	Name	Description	Input Data	Default Settings
08	PAD	Set the default receiver PAD value. This command assigns the value to decrease the voice level in the receiver (UG50 to analog terminal) direction.	0 to 15 (dB)	3
09	SENDPAD	Set the default sender PAD value. This command assigns the value to decrease the voice level in the sender (analog terminal to UG50). Note3	0 to 15 (dB)	0
10	GLOBAL_NET Note4	Inform the Telephony Server that the communication mode corresponding to global network will be in use. If valid, it communicates on global network mode.	Not checked: Invalid Checked: Valid	Not checked: Invalid
11	CALLER_ID	Set the Caller ID mode. Caller ID is sent to the terminal on the selected mode.	0: Bellcore 1: ETSI	0
12	RINGFREQ	Set the frequency of Ringer	0: 25 Hz 1: 20 Hz 2: 16 Hz	1

Note1: When this data is changed, a reset of the card or the UG50 is required.

Note2: FAX receiver PAD value: the default receiver PAD value + loss value.

Note3: FAX sender PAD value: the default sender PAD value + loss value.

Note4: This system data is valid only for Multi-slot mode.

(2) 3-1-02: Analog Station Channel Setup

Configure the data settings for each channel of the LC card.

Parameter	Description	Input Range
Channel (1-96)	Specify a target Channel Number.	1 to 96

No.	Name	Description	Input Data	Default Settings
01	STUTTERDT	Set the presence/absence of stutter dial tone.	Not checked: Invalid Checked: Valid	Not checked: Invalid
02	BURSTPATTERN	Set the Burst Ringer Pattern.	1: 0.35s On/0.3s Off/0.35s On 2: 0.4s On/0.2s Off/0.4s On 3: 0.2s On/0.2s Off/0.2s On/0.2s Off/0.2s On 4: 0.2s On/0.4s Off/0.2s On/0.2s Off 5: 0.25s On/0.25s Off/0.25s On/0.25s Off	1: 0.35s On/ 0.3s Off/0.35s On

No.	Name	Description	Input Data	Default Settings
03	SYNCRINGING	Set the presence/absence of synchronous ringing mode.	Not checked: Invalid Checked: Valid	Not checked: Invalid
04	PRERINGING	Set Pre-ringing to be activated or not when synchronous ringing mode is valid.	Not checked: Invalid Checked: Valid	Checked: Valid

6.3.2 3-2: LC Setup

(1) 3-2-01: LC Card Configuration

Configure and check the basic configuration data of the LC card.

Parameter	Range
SLOT No.	02 to 06
Physical Port No.	01 to 16

No.	Parameter	Description	Input Data	Default Settings
01	Logical Port No.	Display the Logical Port Number.	Display only	0
06	Virtual MAC Address	Display the Virtual MAC Address	Display only	00-00-00-00-00-00

(2) 3-2-02: CODEC Filter Data Setup for each LC Card

Configure the Terminal Impedance and Balancing Network for each LCT card. The CODEC filter operates according to a set value of the COT CODEC Filter Data Setup when the CODEC filter type 255: Specified Data, has been set.

No.	Name	Data Description	Input Data	Default Value
01	CODEC Filter Type	-	0: Filter Disable 1: [Japan] 1200 Ω/(367 Ω+ 112 nF) 600 Ω 2: [Japan] 600 Ω+1 uF 600 Ω 3: [Japan] 220 Ω+(160 nF//890 Ω) 600 Ω 4: [Japan] 205 Ω+(133 nF//815 Ω) 600 Ω 5: [Japan] 190 Ω+(105 nF//740 Ω) 600 Ω 6: [Australia/Brazil/UK] 600 Ω 600 Ω 7: [Japan/North America/China/Other] 600 Ω 600 Ω 21: [Australia] 220 Ω+(820 Ω//120 nF) 600 Ω (nonzero) 22: [Australia] 220 Ω+(820 Ω//120 nF) 600 Ω 23: [Australia] 220 Ω+(820 Ω//120 nF) 220 Ω+ (820 Ω//120 nF) (nonzero) 24: [Australia] 220 Ω+(820 Ω//120 nF) 220 Ω+ (820 Ω//120 nF) 26: [Brazil] 900 Ω 900 Ω (nonzero) 27: [Brazil] 900 Ω 900 Ω 28: [Brazil] 900 Ω 800 Ω//50 nF 29: [Brazil] 900 Ω 800 Ω//50 nF 30: [Brazil] 900 Ω 600 Ω 31: [Brazil] 900 Ω 600 Ω 32: [China] 200 Ω+(560 Ω//100 nF) 200 Ω+ (560 Ω//100 nF) 33: [China] 200 Ω+(560 Ω//100 nF) 600 Ω 34: [China] 160 Ω+(1100 Ω+150 nF) 160 Ω+ (1100 Ω+150 nF) 35 [China] 200 Ω+(560 Ω//100 nF) 200 Ω+ (560 Ω//100 nF) (nonzero) 36: [UK] 300 Ω+(1000 Ω//220 nF) 370 Ω+(620 Ω//310 nF) (nonzero) 37: [UK] 300 Ω+(1000 Ω//220 nF) 370 Ω+(620 Ω//310 nF) 38: [UK] 300 Ω+(1000 Ω//220 nF) 600 Ω 39: [UK] 300 Ω+(1000 Ω//220 nF) 600 Ω 40: [UK] 370 Ω+(620 Ω//310 nF) 370 Ω+(620 Ω//310 nF) (nonzero) 41: [UK] 370 Ω+(620 Ω//310 nF) 370 Ω+(620 Ω//310 nF) 255: Specified Data	Note5

Note5: When the setting of “01 Area” in “Basic Setup” - “Initial Setup” is changed, each initial value listed below is applied depending on the area selected.

Input Data	Initial Value
Japan	1
North America	7
Australia	21

Input Data	Initial Value
EMEA	7
ASIA/CALA	7
Brazil	30
China	33
UK	38

6.4 4: Analog/Paging Trunk Card Setup

This section describes each item of the Analog/Paging Trunk Card setup list.

[4-1: COT/PGT Setup](#)

6.4.1 4-1: COT/PGT Setup

(1) 4-1-01: COT/PGT Card Configuration

Check the basic configuration data of the COT/PGT card.

Parameter	Range
SLOT No.	02 to 06
Physical Port No.	1 to 8

No.	Parameter	Description	Input Data	Default Settings
01	Logical Port Number	Display the Logical Port Number.	Display only	0
03	Virtual MAC Address	Display the Virtual MAC Address.	Display only	00-00-00-00-00-00

(2) 4-1-02: COT/PGT Basic Setup

Configure the common settings of the COT/PGT card.

No.	Parameter	Description	Input Data	Default Settings
01	SIP_MODE Note1	Set to operate on SIP mode.	Not checked: Invalid Checked: Valid	Not checked: Invalid
02	EQUIP_TYPE Note1	Select the equipment type.	1: Type1 2: Type2 Note2	1
03	HC_TIMER	Set the Health Check Timer value.	120 to 240 (sec)	150 (sec)
04	CALL_HOLD	Set to enable or disable MG Based Call Retention.	Not checked: Disabled Checked: Enabled	Not checked: Disabled
05	CAR_DETECT Note3	Set the presence/absence of CAR Detection.	Not checked: Invalid Checked: Valid	Not checked: Invalid
06	FAXERRORDETECT_MG Note3	Set the FAX enable timer.	0: Invalid to switch to FAX mode at all times 1 to 5: Valid time frame to switch to FAX mode. (min) 255: Valid to switch to FAX mode at all times.	1
07	FAXRECVPAD_MG Note3	Set the FAX Receiver PAD value. This command assigns the value to decrease the Fax signal level in the receiver (C.O. line→LAN) direction when the Fax signal is detected.	0 to 20 (dB)	0

No.	Parameter	Description	Input Data	Default Settings
08	FAXSENDPAD_MG Note3	Set the Fax Sender PAD value. This command assigns the value to decrease the Fax signal level in the sender (LAN→C.O. line) direction when Fax signal is detected.	0 to 20 (dB)	3
09	PSTN_RELEASE_JP Note3	Not used	-	-
10	RELEASE_SIGNAL Note3	Set the presence/absence of Release Signal.	Not checked: Invalid Checked: Valid	Not checked: Invalid
11	CURRENT_DETECT Note3	Set the presence/absence of Loop Open Detection for the line side.	Not checked: Invalid Checked: Valid	Not checked: Invalid
12	AUTO_POLARITY Note3	Set the presence/absence of Auto Polarity Reverse.	Not checked: Invalid Checked: Valid	Checked: Valid Note5
13	RVS_AUST Note3, Note4	Set RVS mode.	0: ROA Reversal on Answer When originating a call, it indicates if the counter party answers the call by displaying RVS ON. 1: ROS Reversal on Seizure Regardless of incoming/outgoing call, RVS ON is displayed only during a call in progress.	0: ROA
14	IC_ABANDON_TIME Note3	Set I/C Call Abandon Timer.	1 to 255 (64 to 16320 ms)	94 (6016 ms)
15	NO_LOOP_TIME Note3	Set Loop Prohibition Timer.	0: 0 ms 1 to 10 (100 to 1000 ms)	6 (600 ms)

Note1: When this system data is changed, a reset of the card or the UG50 is required.

Note2: Select [2: Type2] for 6COT type. Settings related to **EQUIP_TYPE** and others are listed below.

No.	Parameter	Type1	Type2
01	SIP_MODE	Supported	Supported
03	HC_TIMER	Supported	Supported
04	CALL_HOLD	Supported	Supported
05	CAR_DETECT	Supported	Not supported
06	FAXERRORDetect_MG	Supported	Supported
07	FAXRECVPAD_MG	Supported	Supported
08	FAXSENDPAD_MG	Supported	Supported
09	PSTN_RELEASE_JP	Supported	Not supported

No.	Parameter	Type1	Type2
10	RELEASE_SIGNAL	Supported	Supported
11	CURRENT_DETECT	Supported	Not supported
12	AUTO_PORALITY	Supported	Supported
13	RVS_AUST	Supported	Supported
14	IC_ABANDON_TIME	Supported	Supported
15	NO_LOOP_TIME	Supported	Not supported

Note3: In case of PGT, this data is fixed to invalid settings.

Note4: This parameter is used only for Australia.

Note5: Default setting for UG50 software version 2.00 or later. Prior to that, the default setting is Not checked: Invalid.

(3) 4-1-03: CODEC Filter Data Setup for each COT Card

Configure the Terminal Impedance and Balancing Network for each COT card. The CODEC filter operates according to a set value of the COT CODEC Filter Data Setup when the CODEC filter type 255: Specified Data, has been set.

No.	Name	Data Description	Input Data	Default Value
01	CODEC Filter Type	-	0: Filter Disable 1: [Japan/North America/Other] 600 Ω+ 2.16 μF 600 Ω+2.16 μF 2: [Japan/North America/Other] 600 Ω+ 2.16 μF 350 Ω+(1,000 Ω//210 nF) 3: [Japan] 600 Ω+ 2.16 μF 1,200 Ω//(367 Ω+112 nF) 4: [Japan] 600 Ω 600 Ω+1 μF 5: [Japan] 600 Ω φ0.5 Line Loss 2 dB-Z 6: [Japan] 600 Ω 190 Ω+(105 nF//740 Ω) 7: [Japan] 600 Ω 220 Ω+(160 nF//890 Ω) 8: [Japan] 600 Ω φ0.5 Line Loss 10 dB-Z 11: [Australia] 600 Ω 600 Ω (nonzero) 12: [Australia/Other] 600 Ω 600 Ω 13: [Other] 600 Ω 350 Ω+(1,000 Ω//210 nF) 14: [Other] 370 Ω+(620 Ω//310 nF) 370 Ω+(620 Ω//310 nF) (nonzero) 15: [Other] 370 Ω+(620 Ω//310 nF) 370 Ω+(620 Ω//310 nF) 16: [North America] 600 Ω 600 Ω 21: [Australia] 220 Ω+(820 Ω//120 nF) 600 Ω (nonzero) 22: [Australia] 220 Ω+(820 Ω//120 nF) 600 Ω 23: [Australia] 220 Ω+(820 Ω//120 nF) 220 Ω+(820 Ω//120 nF) (nonzero) 24: [Australia] 220 Ω+(820 Ω//120 nF) 220 Ω+(820 Ω//120 nF) 26: [Brazil/Other] 900 Ω 900 Ω (nonzero) 27: [Brazil/Other] 900 Ω 900 Ω 28: [Brazil] 900 Ω 800 Ω//50 nF (nonzero) 29: [Brazil] 900 Ω 800 Ω//50 nF 31: [China] 200 Ω+(680 Ω//100 nF) 200 Ω+(680 Ω//100 nF) 32: [China] 160 Ω+(1100 Ω+ 150 nF) 160 Ω+(1100 Ω+ 150 nF) 33: [China] 200 Ω+(680 Ω//100 nF) 200 Ω+(680 Ω// 100 nF) (nonzero) 255: Specified Data	Note6 Note7

Note: This system data change takes effect automatically when all the channels of the COT/PGT card become idle.

Note6: For the PGT card, input data is fixed to 600 Ω | 600 Ω regardless of the settings.

Note7: When the setting of “01 Area” in “Basic Setup” - “Initial Setup” is changed, each initial value listed below is applied depending on the area selected.

Input Data	Initial Value
Japan	2
North America	1
Australia	21
EMEA	1

Input Data	Initial Value
ASIA/CALA	1
Brazil	28
China	31
UK	1

6.5 5: ISDN Card Setup

This section describes each item of PRT Card setup menu.

[5-1: Common Setup](#)

[5-2: PRT Setup](#)

6.5.1 5-1: Common Setup

(1) 5-1-01: ISDN Layer Status Information

It displays the layer status of the PRT card.

Parameter	Description	Range
Slot	Specify a Slot Number.	CP00+PZ-ME50 - Cabinet 1 - Slot 01 (1) - Cabinet 1 - Slot 02 (2) - Cabinet 1 - Slot 03 (3) - Cabinet 1 - Slot 04 (4) - Cabinet 1 - Slot 05 (5) - Cabinet 1 - Slot 06 (6)

No.	Parameter	Description	Input Data	Default Settings
01	Link Status	Display the Layer 1 link status for ISDN unit. O: Link -: No link n/a: No target card is mounted.	Display only	-

6.5.2 5-2: PRT Setup

(1) 5-2-01: PRT Card Configuration

Configure and check the basic configuration data of each card.

Note: An appropriate card automatically resets itself after this system data has been changed.

Parameter	Description	Input Range
SLOT No.	Specify a Slot Number.	02 to 06

No.	Parameter	Description	Input Data	Default Settings
01	ISDN Line Mode	Line mode setting. The only option available is "User mode," where the clock operates as a secondary clock.	0: No setting 1: User mode 2: Net mode (Do not select this option.)	1: User mode
02	Logical Port Number	Display Logical Port Number	Display only	0
03	CRC Multi-frame(CRC4)	Set to use CRC-4 (Cyclic Redundancy Check 4) for extended error on the E1 line.	Not Checked: Invalid Checked: Valid	Checked: Valid
06	Transmit pulse shape	Set the cable distance from the PRT card to network.	0: 0 to 40 m 1: 40 to 81 m 2: 81 to 122 m 3: 122 to 162 m 4: 162 to 200 m	2: 81 to 122 m

No.	Parameter	Description	Input Data	Default Settings
13	Loss-Of-Signal detection limit	Set the sensitivity of Layer 1 for receiving signals.	0: Level 0 (0.8 to 2.25 V) 1: Level 1 (0.63 to 1.1 V) 2: Level 2 (0.44 to 0.6 V) 3: Level 3 (0.24 to 0.35 V) 4: Level 4 (0.15 to 0.21 V) 5: Level 5 (0.07 to 0.14 V) 6: Level 6 (0.025 to 0.1 V) 7: Level 7 (0.01 to 0.05 V)	2: Level 2 (0.44 to 0.6 V)
23	Straight/Cross Wiring	Switch the Transmit/Receive lines.	0: Auto 1: Manual (Cross) 2: Manual (Straight)	0: Auto
24	Virtual MAC Address	Display the Virtual MAC address of the PRT card.	-	-

(2) 5-2-02: PRT Basic Setup

Configure the common settings of the PRT card.

No.	Parameter	Description	Input Data	Default Settings
01	SIP_MODE Note1	Set to operate on SIP mode.	Not checked: Invalid Checked: Valid	Not checked: Invalid
02	ISDN_TYPE Note2	Set the type of line used for the PRT card. Note4	0: T1 (1.5M) 1: E1 (2M)	1: T1 (1.5M)
03	CALL_HOLD	Set to enable or disable MG Based Call Retention.	Not checked: Disabled Checked: Enabled	Not checked: Disabled
04	FAXERRORDETECT	Set the valid FAX switching time.	0: Invalid to switch to FAX mode at all times 1 to 5: Valid time frame to switch to FAX mode. (min) 255: Valid to switch to FAX mode at all times.	1
05	PAD Selection Note3, Note5	Select a type of PAD selection.	0: standard PAD 1: flexible PAD	0: standard PAD
06	PAD Control Note3, Note5	Select a type of PAD control	0: receive 1: send 2: ARTD 3: send and receive	0: receive
07	PAD Pattern No. Note3, Note5	Select a Pattern No.	0: Pattern 1 1: Pattern 2 2: Pattern 3 3: Pattern 4 4: Pattern 5	0: Pattern 1

No.	Parameter	Description	Input Data	Default Settings
08	TCP_TIMER	Set the timer waiting for TCP link connection. Specify in the range of 60 to 180 sec. at intervals of 30 sec. It is only used for Proprietary Protocol Control mode.	0: 60 (sec) 1: 90 (sec) 2: 120 (sec) 3: 150 (sec) 4: 180 (sec)	0: 60 (sec)
09	HC_RCV_TIMER	Set the Health Check Packet reception time-out value. This data is available for SIP mode only.	0: 120 (sec) 1: 150 (sec) 2: 180 (sec) 3: 210 (sec) 4: 240 (sec) 5: 270 (sec) 6: 300 (sec)	1: 150 (sec)

Note1: When this system data is changed, a reset of the card or the UG50 is required.

Note2: When this system data is changed, a reset of the UG50 is required.

Note3: When [0: standard PAD] is selected in [PAD Selection], the standard PAD has been set. However, with the [PAD Pattern No.] settings and the ARTD command settings, PAD control shown below becomes valid. Note that either [send] or [receive] may result in 0 dB according to the [PAD Control] settings.

Note4: The setting for the PRT card installed in UG50 equipment cannot be changed. Remove the card from UG50 equipment once, and then change the setting. Refer to "[2. Precautions for PRT Card](#)".

Standard PAD Pattern

ARTD"PAD"	Pattern 1		Pattern 2		Pattern 3		Pattern 4		Pattern 5	
	Send	Receive	Send	Receive	Send	Receive	Send	Receive	Send	Receive
0	8	8	3	9	8	8	0	8	7	7
1	2	2	-3	3	2	2	8	16	1	1
2	4	4	3	3	4	4	8	4	3	3
3	6	6	0	6	12	12	4	12	5	5
4	8	8	3	9	8	8	0	8	7	7
5 (Data PAD)	Maintenance Console Settings									
7	0	0	0	0	0	0	0	0	0	0

*Lowers the gain as per the value shown in the table.

Note5: When [1: flexible PAD] is selected in [PAD Selection], flexible PAD has been set. The parameter to be set changes according to “PAD” of the ARTD command.

Flexible PAD Pattern

ARTD “PAD”	PAD No.
0, 4	PAD 4
1	PAD 1
2	PAD 2
3	PAD 3
5, 6, 7	Flexible PAD is invalid.

(3) 5-2-03: PRT Flexible PAD Setup

Configure the Flexible PAD settings.

Parameter	Range
Pad	1 to 4

No.	Parameter	Description	Input Data	Default Settings
01	Recv	Set the receiver PAD value.	0 to 36 (-16 dB to 20 dB)	16 (0 dB)
02	Send	Set the sender PAD value.	0 to 36 (-16 dB to 20 dB)	16 (0 dB)

7. Saving/Loading Data

Registered data can be saved or loaded in a USB flash drive or maintenance PC.

Saving to/Loading from USB flash drive

- [7.2 Saving Data to USB](#)
- [7.3 Loading Data from USB](#)

Saving to/Loading from Maintenance PC

- [7.4 Saving Data to Maintenance PC](#)
- [7.5 Loading Data from Maintenance PC](#)

Precautions for Saving/Loading to the Maintenance PC

- (1) Do not use terminals under the control of the UG50 when loading the system data. The UG50 needs to be reset after the loading. The terminals can be set in the make-busy status through the command setting on the Telephony Server side.
- (2) The system data only supports bulk loading/saving.
- (3) The system data saved with this function, has been saved as a compressed gzip format file (extension:.gz).
- (4) When loading the system data with this function, the system data is required to be a compressed gzip format file.
- (5) Loading/saving the UG50 system data cannot be performed while other users are logged in to Web Programming.
- (6) While loading/saving the system data, other users cannot log in to Web Programming. If the LAN connection between the UG50 and the maintenance PC is disconnected while loading/saving, login can be enabled at time of a disconnection being detected.
- (7) Once the system data loading has completed, the UG50 automatically resets itself. The system data loaded from the maintenance PC is temporarily saved in the temporary file, and reloaded again at time of reset. After reloading has completed, the temporary file is deleted.
- (8) If the version of the loaded system data or CRC is not correct, an error message appears and the UG50 will not reset itself. The temporary file will be deleted.
- (9) The files in gzip format with the extension (.gz) are checked while being loaded. If there are files with different extensions, an error message appears and loading will not proceed.

(10) The below is the list of messages and their genesis timing during loading/saving.

Message	Cause
UG50 will set automatically after loading process completed. Are you sure?	When starting the UG50 system data loading.
Loading process completed. The UG50 will reboot.	When the UG50 system data loading is complete.
Saving process completed.	When the system data saving is complete.
Other users are logged in, a save cannot be performed.	When trying to save while other users are logged in.
Other users are logged in, an upload cannot be performed.	When trying to load while other users are logged in.
The UG50 data has a version mismatch, and upload cannot be performed.	When the version of a system data file to load is higher than the version of the UG50.
The UG50 upload data is invalid or corrupt and will not be applied.	When the CRC of the UG50 system data file to load is incorrect.

- (11) When saving the system data with this function, the history data or license information is not saved. Therefore, reference to the history data or license information is not available offline.
- (12) When loading the system data with this function, the history data or license information is not loaded.

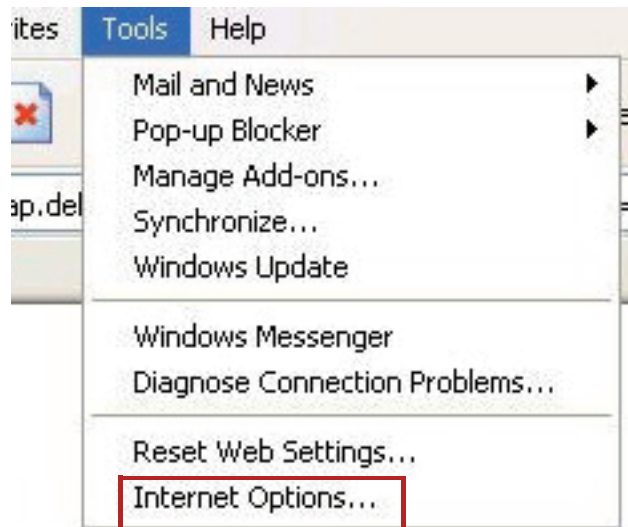
7.1 IE Setup for Saving Data to PC

The block screen may be displayed by IE (Internet Explorer) when saving data to PC.

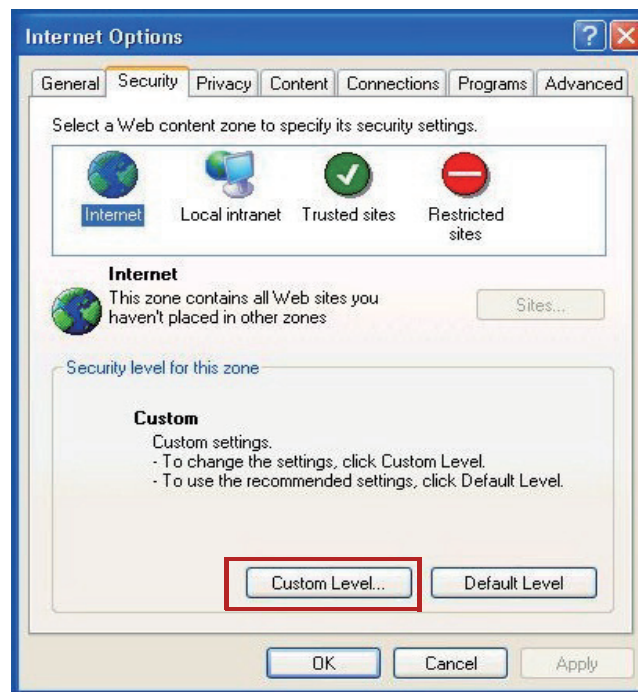
Configure the settings below to not display the block screen.

*Internet Explorer8 is used for the example below:

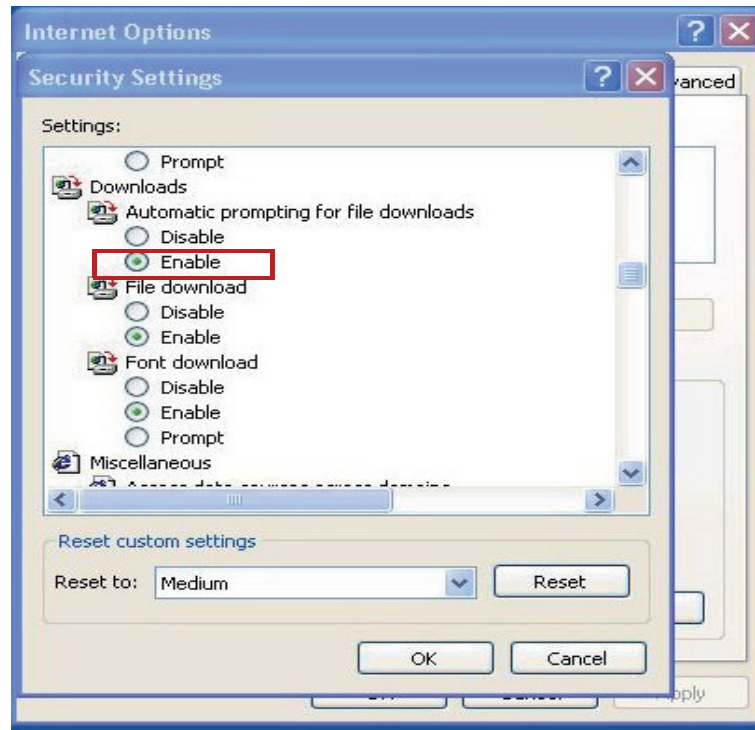
Step1: Select the internet option in the tool bar located on the IE Menu bar.



Step2: Click on the Custom Level button on the security tab.



Step3: Select “Enable” of Automatic prompting for file downloads.



7.2 Saving Data to USB

Save the UG50 system data to a USB flash drive following the procedure below. The data to be saved is as follows:

- UG50 system data
- Alarm reports
- Data related to Digital terminals (the ringer volume, the voice volume and the screen density)

Note: When executing data save, ensure a USB flash drive with sufficient memory (10 MB or larger recommended).

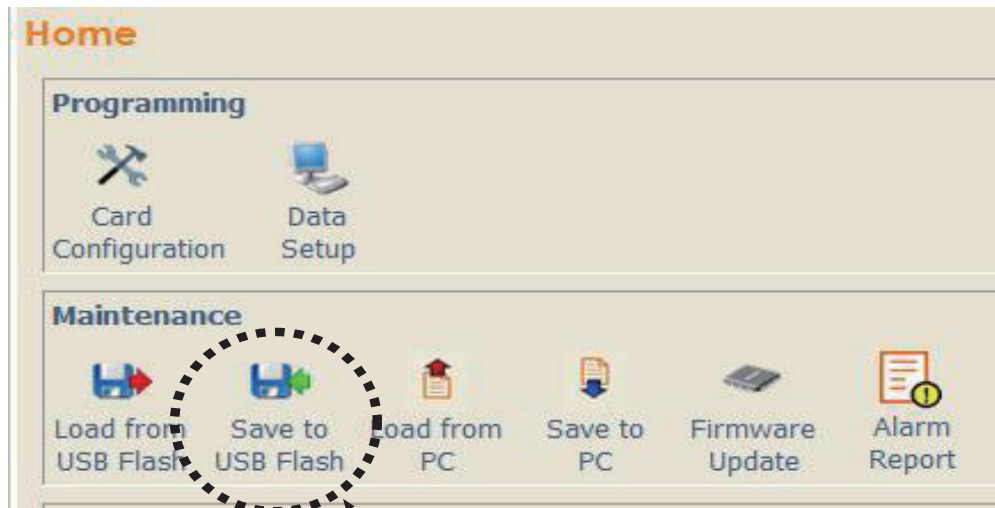
Note: Changes made in the system data via Web Programming during data save will not be reflected in the saved data.

Step1: Login to Web Programming

Refer to [3.2 Login to Web Programming](#) for details on how to log in to Web Programming.

Step2: Click the **Save to USB Flash** icon on the **Home** screen.

The **USB Save** screen is displayed.

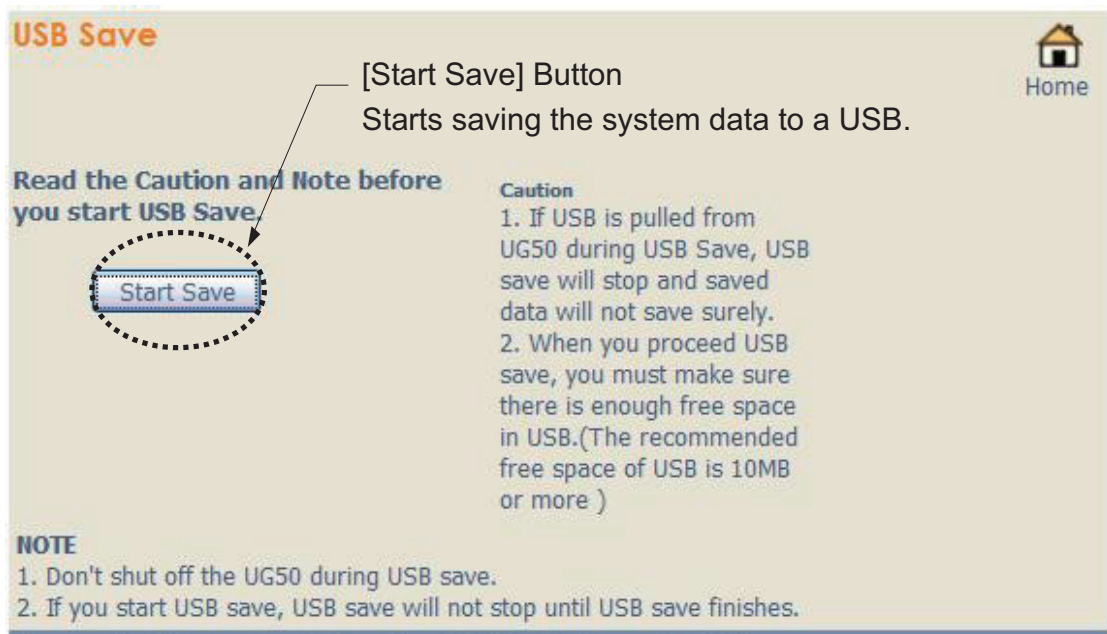


[Save to USB Flash] Icon
Saves the system data to a USB.

Step3: Click on the **Start Save** button on the **USB Save** screen.

A pop-up window appears on the screen.

Note : Once saving has started, it cannot be canceled.



Step4: Click on the **OK** button.

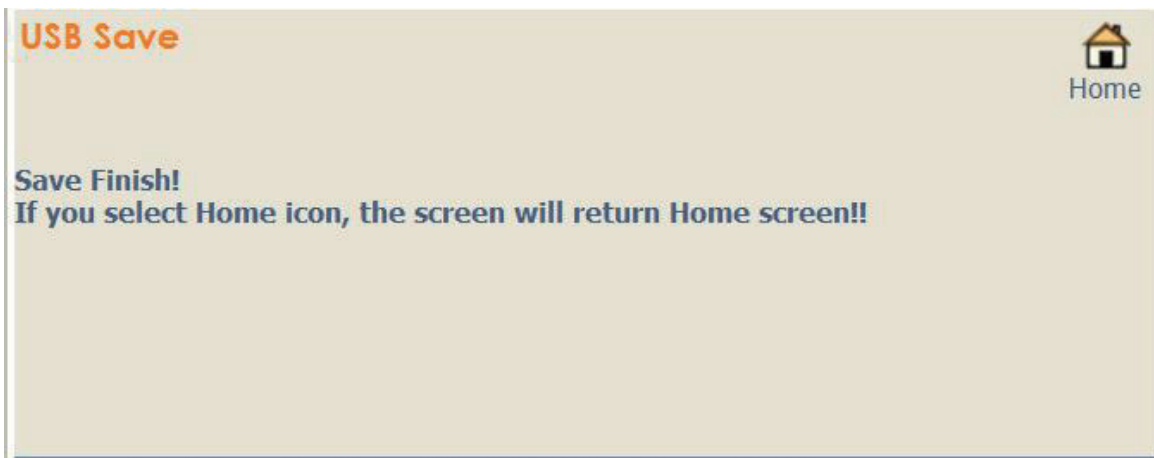
“Saving!” is displayed on the USB Save screen.

Note : Notice the following precautions.

- Do not switch off the power to the UG50 during data save.
- Do not remove a USB flash drive during data save.
- Even in the event of the LAN cable being unplugged unexpectedly, data save is executed properly. However, even after data save has completed, the Web programming screen will not show the complete screen.



Step5: Confirm the **Save Finish** display after USB Save has been completed.



7.3 Loading Data from USB

Load the UG50 system data from a USB flash drive to the UG50 following the procedure below. The data to be loaded is as follows:

- UG50 system data
- Alarm reports
- Data related to Digital terminals (the ringer volume, the voice volume and the screen density)

Note: Reset the UG50 after loading the program data.

Note: If data load is executed during the data save execution, data load proceeds after data save has been complete. On the data load screen, the data load in execution screen appears at the time of data load execution.

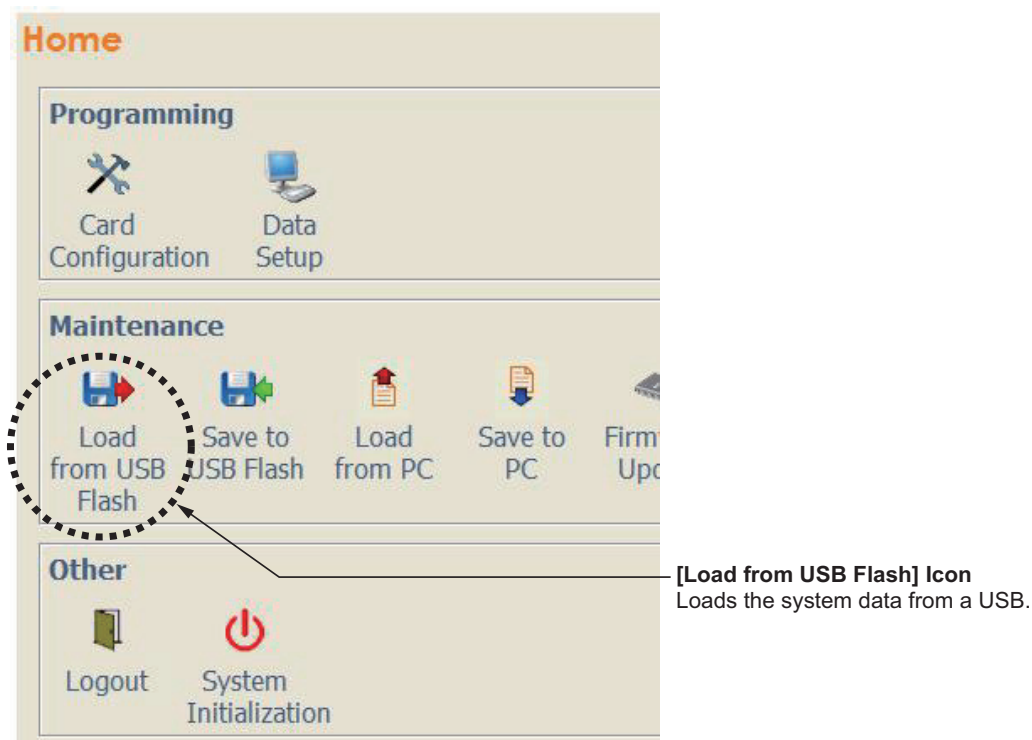
Note: When you load data from a USB flash drive to UG50, the system data existing on the UG50 is overwritten with the last data stored in the USB flash drive. To ensure consistency in the operation of UG50, check if any change is made to the system data after the last backup. If so, perform the steps in [7.2 Saving Data to USB](#) first to update the data stored in the USB flash drive, and then load the data from the USB flash drive, following the steps in this section.

Step1: Login to Web Programming

Refer to [3.2 Login to Web Programming](#) for details on how to log in to Web Programming.

Step2: Click the **Load from USB Flash** icon on the **Home** screen.

The **USB Load** screen is displayed.



Step3: Click on the **Start Load** button on the **USB Load** screen.

A pop up window appears on the screen.

Note : Once loading has started, it cannot be canceled.



Step4: Click on the **OK** button.

“Loading!” is displayed on the **USB Load** screen.



Note : Notice the following precautions.

- Do not switch off the power to the UG50 while loading. In the event of unexpected power-off (i.e. blackout, unplugged cable) loading will not complete properly and the system will not start. The cold start is required in this case.
- Do not remove a USB flash drive while loading in progress.
- Even in the event of the LAN cable being unplugged unexpectedly, loading is executed properly. However, even after loading has completed, the Web Programming screen will not show the complete screen.

Step5: Confirm “Load Finish!” display after USB Load has been completed.



Step6: Reset the UG50.

Refer to [8. Reset the UG50](#) for details on how to reset the UG50.

7.4 Saving Data to Maintenance PC

Save the UG50 system data to a maintenance PC following the procedure below.

Note: Changes made in the system data via Web Programming during data save will not be reflected in the saved data.

Note: Alarm reports and the data related to Digital terminals such as ringer volume, voice volume and display density will not be saved.

Step1: Login to Web Programming

Refer to [3.2 Login to Web Programming](#) for details on how to log in to Web Programming.

Step2: Click the **Save to PC icon** on the **Home** screen.

The **Save to PC** screen appears.



Save to PC Icon
Saves the system data to a maintenance PC.

Step3: Click the **Save** button on the **Save to PC** screen.

Note : Once saving has started, it cannot be canceled.



Step4: “Do you wish to proceed?” message appears. Click on the **OK** button.

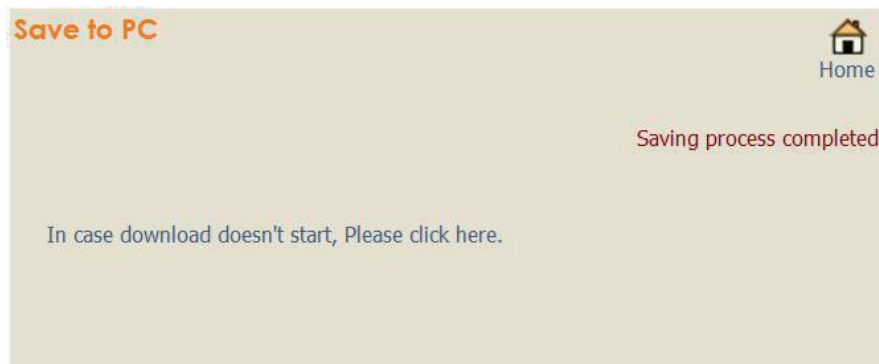
The **File Download** dialog box appears.

Step5: Click on the **Save** button. Then select the backup destination to save the system data.

Select the backup destination and click the **Save** button.

Step6: Confirm data save has been completed, and the complete screen appears.

After data save has been completed, “Save completed” is displayed.



7.5 Loading Data from Maintenance PC

Load the UG50 system data from a maintenance PC to the UG50 following the procedure below.

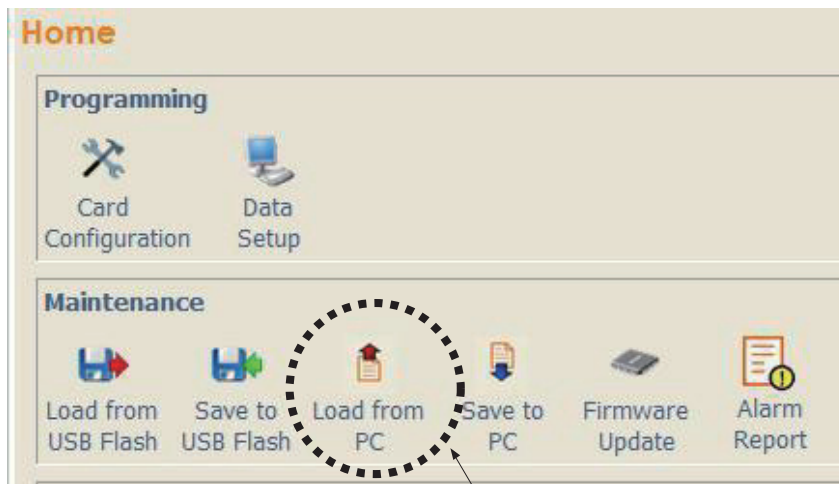
Note: If data load is executed during the data save execution, data load proceeds after data save has been complete. On the data load screen, the data load in execution screen appears at the time of data load execution.

Step1: Login to Web Programming

Refer to [3.2 Login to Web Programming](#) for details on how to log in to Web Programming.

Step2: Click the **Load from PC** icon on the Home screen.

The **Load from PC** screen appears on the screen.



[Load from PC] Icon

Loads the system data from a maintenance PC.

Step3: Click on the **Refer** button on the **Load from PC** screen.

The **Choose load file** dialog box appears.

Step4: Select the system data file (extension:.gz). Then click the **Open** button.

It returns to the **Load from PC** screen.

Step5: Click on the **Load** button.

The **Message from Web Page** screen appears.

Note : Do not switch off the power to the system while loading. In the event of unexpected power-off (i.e. blackout, unplugged cable) loading will not complete properly and the system will not start. The cold start is required in this case.

Step6: Click on the **OK** button.

Loading the system data from a maintenance PC starts.

Note : The UG50 automatically resets itself after loading has completed.

Step7: Confirm loading has completed.

After loading has been completed, the message “Loading process completed. The CPU will reboot” is displayed.

8. Reset the UG50

After all the necessary system data settings have been completed, a reset of the UG50 is required before commencing operations.

There are two procedures to reset the UG50 as shown below.

- [8.1 Hot Start](#)
- [8.2 Execute from Web Programming](#)

8.1 Hot Start

Reset the UG50 with the power switch.

Note: Load the system software from the flash memory and the data from RAM memory.

Step1: Turn off the power switch.

Step2: Turn on the power switch once the power is off.

Wait for approximately two minutes after turning off the power switch before turning it back on.

Step3: Check that LED1 (Status LED) on the GCD-CP00-GW flashes after the software has been reloaded.

Note : Refer to "[How to Check and Clear Alarm Reports](#)" in Appendix for how to clear the GCD-CP00-GW alarms.

8.2 Execute from Web Programming

Note: In the case of changing data via Web Programming, make sure to log out from Web Programming and login again for reset. The changes made in the data will be saved by logging out from Web Programming.

Step1: Login to Web Programming

Display the **Login** screen, and log in to Web Programming.

Refer to [3.2 Login to Web Programming](#) for details on how to login to Web Programming.

Step2: Display the **Restart** screen.

After logging in to Web Programming, the **Home** screen appears. Click on the **Restart** icon to display the **Restart** screen.

Step3: Execute reset

Click on **Reset start** on the **Restart** screen. A pop up window appears for confirmation, then click **OK**. The UG50 resets itself.

9. Office Data Settings on Telephony Server

This section describes the office data settings required for Telephony Server according to various types of UG50 cards.

9.1 Virtual Media Access Control (MAC) Address

The UG50 (Multi-slot Mode, IPG Mode, Retrofit Mode common) performs registration by virtually generating a MAC address required for registration per port, based on the MAC address of the IPLD card. This MAC address is called Virtual MAC Address.

In Multi-slot mode, several types of devices correspond to the MAC address of the IPLD card since a UG50 unit accommodates several line cards. Therefore, a Virtual Mac address is required for each line card to register to the Telephony Server.

9.1.1 The Idea of a Virtual MAC Address

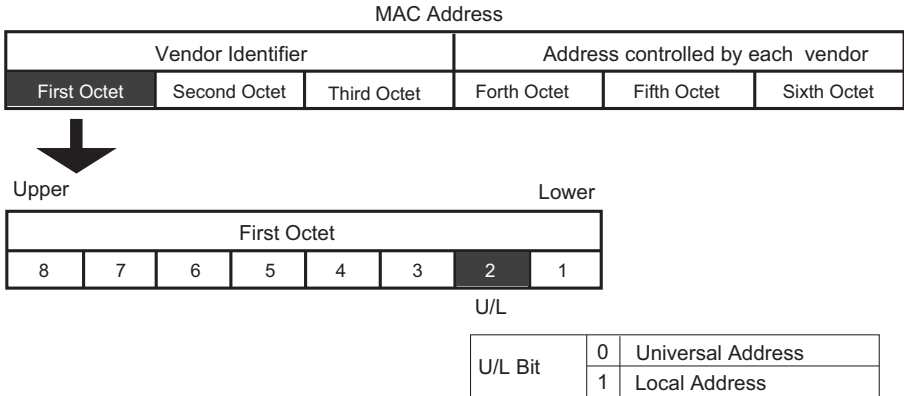
A Virtual MAC address is generated by the Web Programming when registering line cards, according to the law shown below. A produced Virtual MAC address can be checked on the **Card Configuration** screen of the Web Programming.

- (a) MAC Address for the IPLD Card

Virtual MAC address is generated based on the MAC address of the IPLD card.

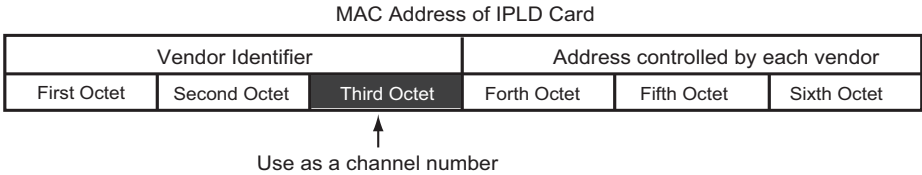
- (b) U/L (Universal/Local) bit of the first octet

U/L bit distinguishes between Universal address and Local address; “0” for Universal address, “1” for Local address. The U/L bit is changed to “1”.



(c) Use the third octet for a channel number

Virtual MAC address is generated for the number of channels required for each line card.



[Example]

If the MAC address of the IPLD card is **00-12-34-56-78-90**, the MAC address of Channel 1 becomes **02-12-01-56-78-90**.

MAC address information displayed with the DRAI command, IPAN command, DISD command, DIMG command and DFTD command shows the information of Virtual MAC addresses.

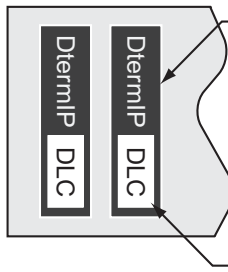
9.2 Registration Unit

The list below shows the registration units for each line card.

Refer to [9.3 Registration Unit List](#) for information on the registration units for each line card.

Function (Line Card)	SV9500 Existing Device	Mode	Device Type	
DLC	IPG (Digital)	Multi-slot	UG50 (DLC)	
		IPG	UG50-IPG (Digital)	
LC	Analog 2MC	Multi-slot	UG50 (LC) [Proprietary Protocol]	
		Retrofit	UG50-2MC	
	8LC	Multi-slot	UG50 (LC) [SIP]	
		Retrofit	UG50-8LC	
	IPG (Analog)	IPG		UG50-IPG (Analog)
PRT	MG(PRI) [Proprietary Protocol/ SIP]	Multi-slot	UG50 (PRT 1.5M) [Proprietary Protocol]	
			UG50 (PRT 1.5M) [SIP]	
			UG50 (PRT 2M) [Proprietary Protocol]	
			UG50 (PRT 2M) [SIP]	
		Retrofit	UG50-24PRIA [Proprietary Protocol]	
			UG50-24PRIA [SIP]	
			UG50-30PRIA [Proprietary Protocol]	
			UG50-30PRIA [SIP]	
COT	MC&MG-COT	Multi-slot	UG50 (COT-TYPE1)	
		Retrofit	UG50-4LC2COTA (COT)	
	MG-COT (6COT) [Proprietary Protocol/SIP]	Multi-slot	UG50 (COT-TYPE2) [Proprietary Protocol]	
			UG50 (COT-TYPE2) [SIP]	
		Retrofit	UG50-6COT [Proprietary Protocol]	
			UG50-6COT [SIP]	
PGT	MC&MG-COT	Multi-slot	UG50 (PGT-TYPE1)	
		Retrofit	UG50-4LC2COTA (PGT)	
	MG-COT (6COT) [Proprietary Protocol/SIP]	Multi-slot	UG50 (PGT-TYPE2) [Proprietary Protocol]	
			UG50 (PGT-TYPE2) [SIP]	

<Description of Figure>



It represents the channel unit for registration.
A Virtual MAC address is assigned to this channel unit.
White text in a black frame indicates "KIND (Kind of IP terminal)" assigned with the AISTL command or "KIND (Kind of MG Trunk)" assigned with the AMGIL command.

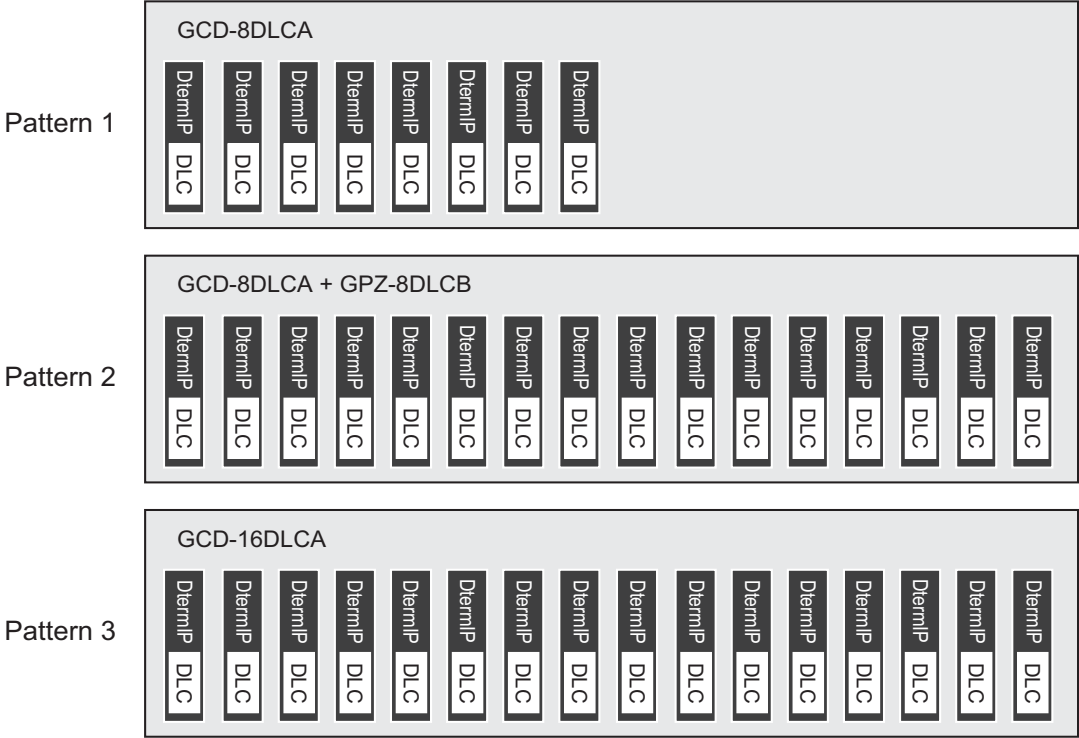
It represents a channel.

9.2.1 DLC

[SV9500 Existing Device: IPG (Digital)]

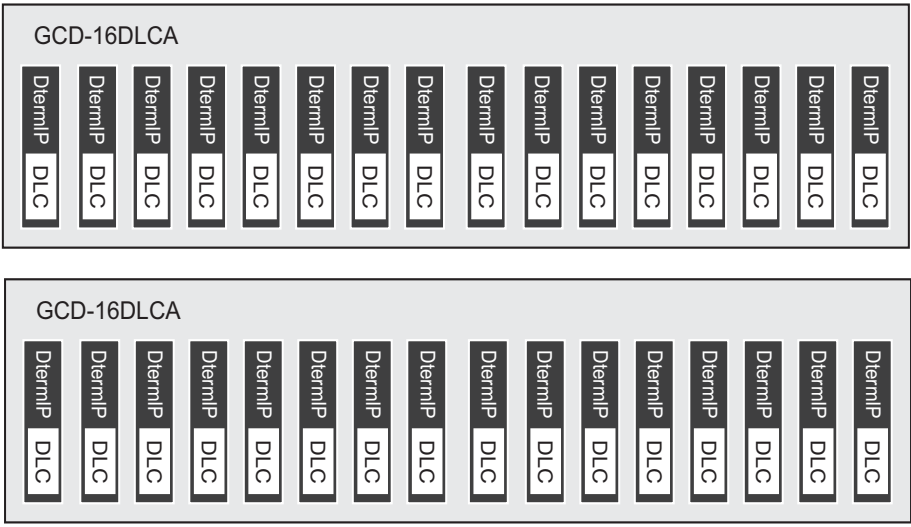
<Multi-slot mode>

- UG50 (DLC)



<IPG mode>

- UG50-IPG (Digital)



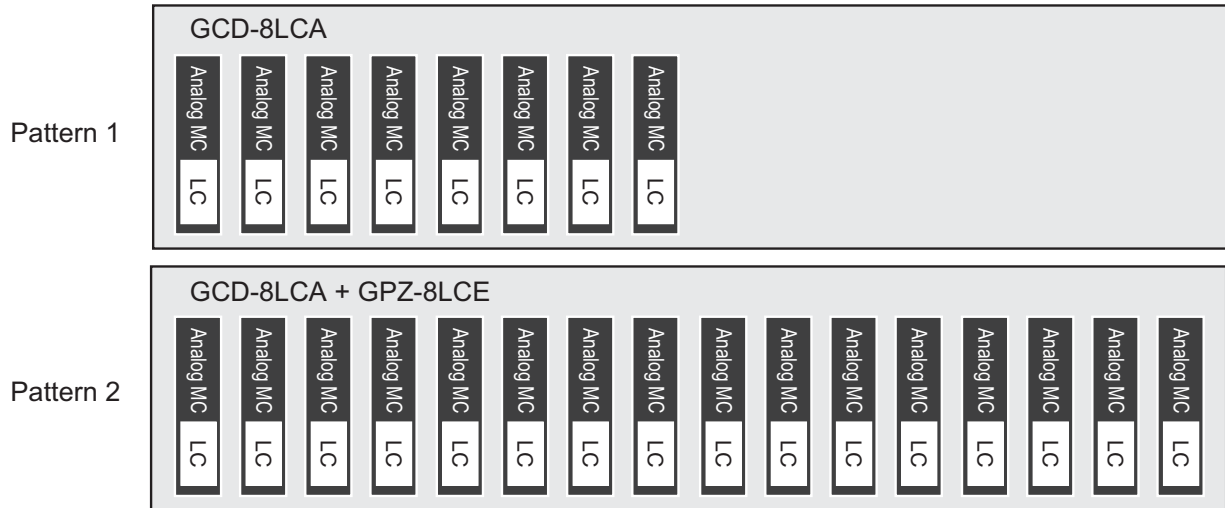
Two cards are accommodated

9.2.2 LC

[SV9500 Existing Device: Analog 2MC]

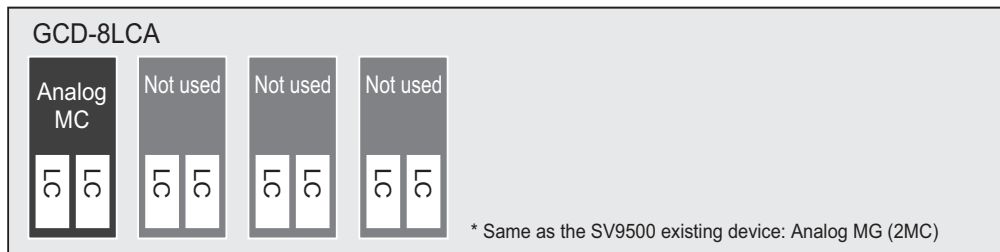
<Multi-slot mode>

- UG50 (LC) [Proprietary Protocol]



<Retrofit mode>

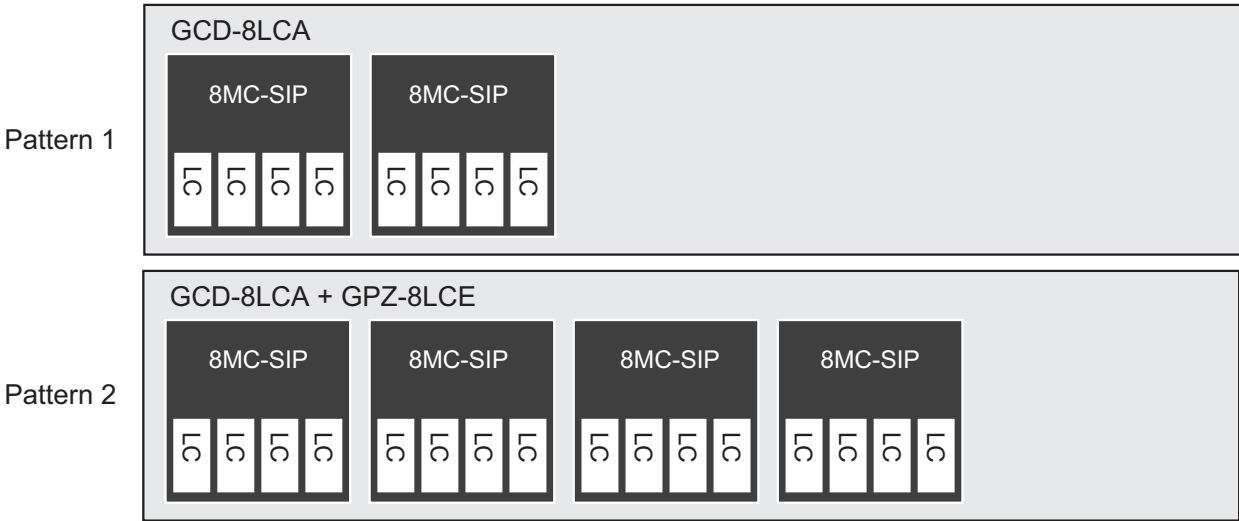
- UG50-2MC



[SV9500 Existing Device: 8LC]

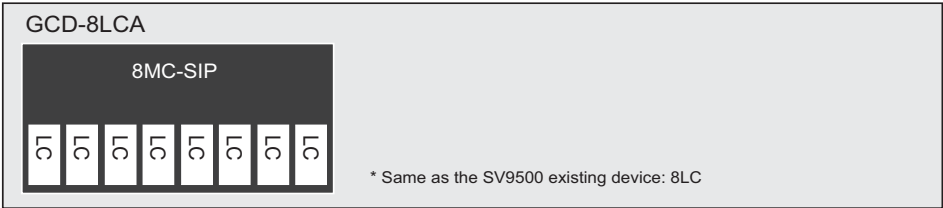
<Multi-slot mode>

- UG50 (LC) [SIP]



<Retrofit mode>

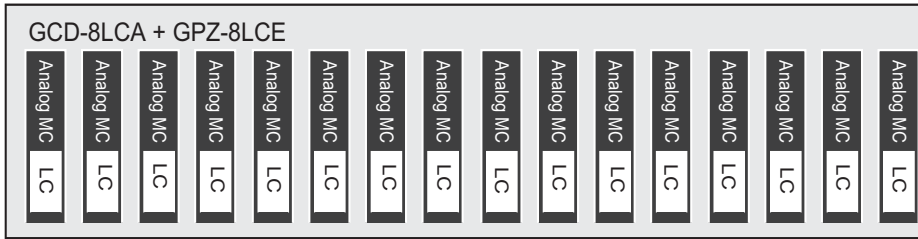
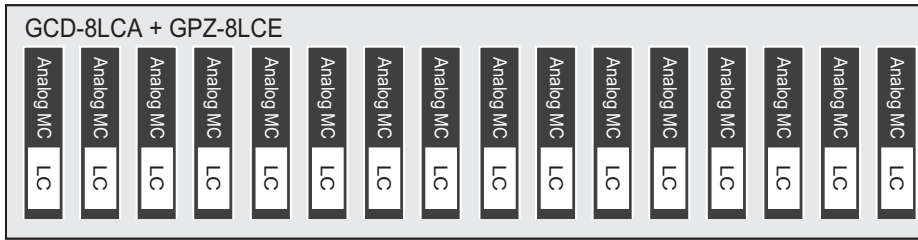
- UG50-8LC



[SV9500 Existing Device: IPG (Analog)]

<IPG Mode>

- UG50-IPG (Analog)



Two cards are accommodated

9.2.3 PRT

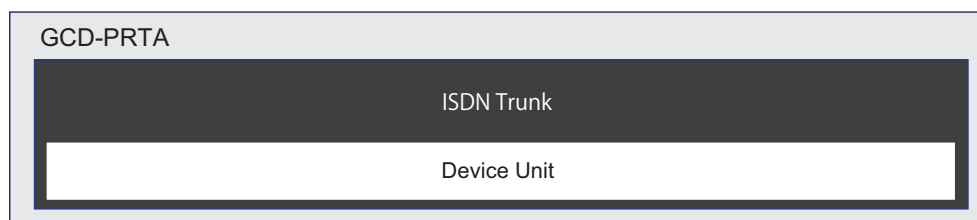
[SV9500 Existing Device: MG (PRI) [Proprietary Protocol/SIP]]

<Multi-slot mode>

- UG50 (PRT 1.5M) [Proprietary Protocol]
- UG50 (PRT 1.5M) [SIP]
- UG50 (PRT 2M) [Proprietary Protocol]
- UG50 (PRT 2M) [SIP]

<Retrofit mode>

- UG50-24PRIA [Proprietary Protocol]
- UG50-24PRIA [SIP]
- UG50-30PRIA [Proprietary Protocol]
- UG50-30PRIA [SIP]



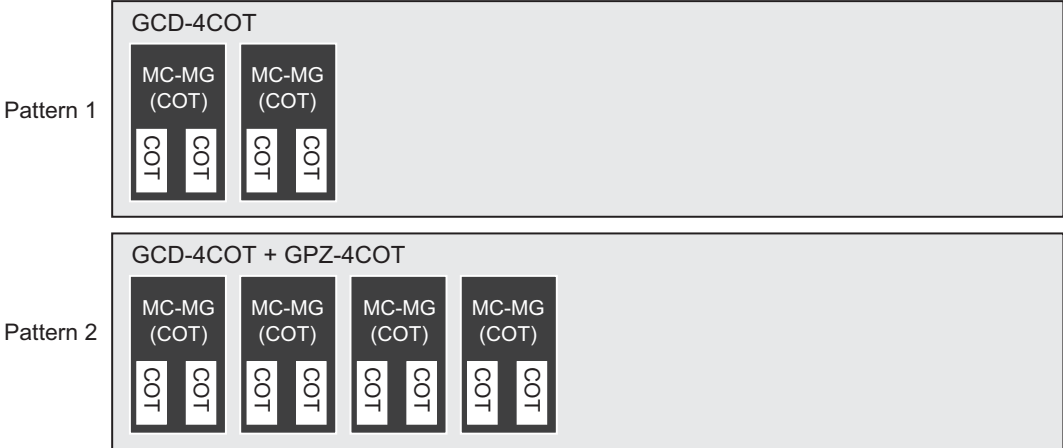
* Same as the SV9500 existing device: MG(PRI) (Proprietary Protocol/SIP)

9.2.4 COT

[SV9500 Existing Device: MC&MG-COT]

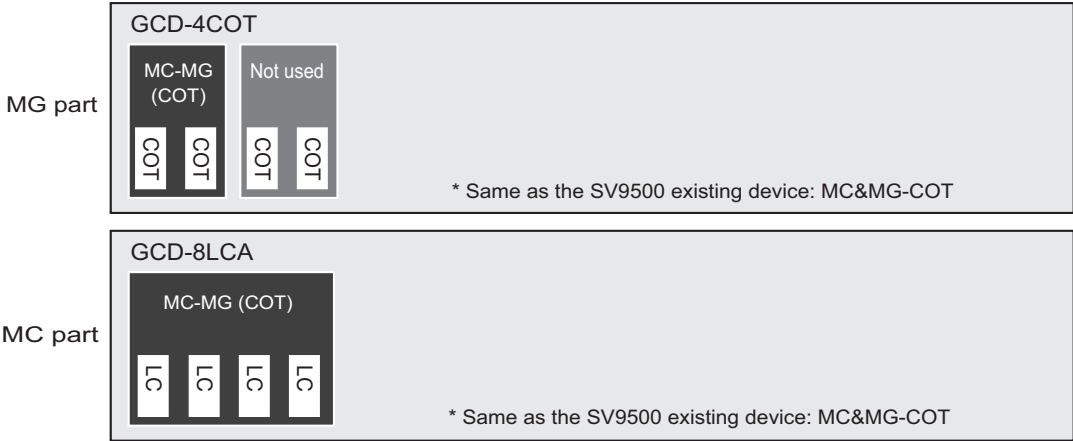
<Multi-slot mode>

- UG50 (COT-TYPE1)



<Retrofit mode>

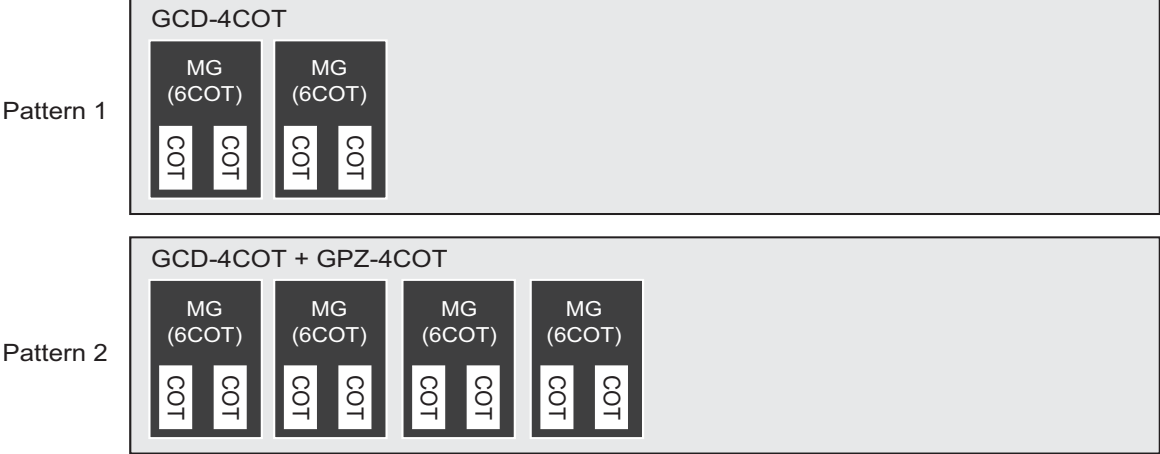
- UG50-4LC2COTA (COT)



[SV9500 Existing Device: MG (6COT) [Proprietary Protocol/SIP]]

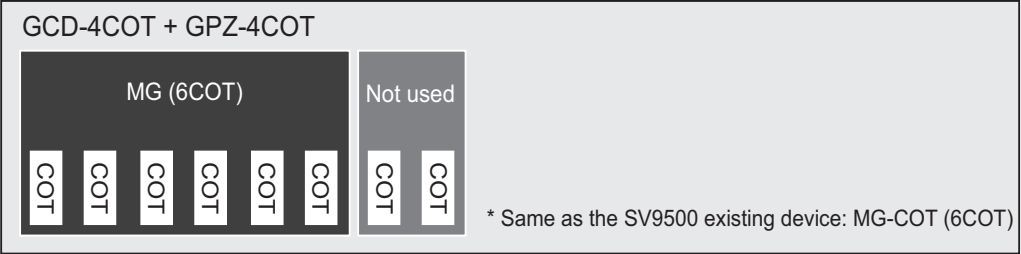
<Multi-slot mode>

- UG50 (COT-TYPE2) [Proprietary Protocol]
- UG50 (COT-TYPE2) [SIP]



<Retrofit Mode>

- UG50-6COT [Proprietary Protocol]
- UG50-6COT [SIP]

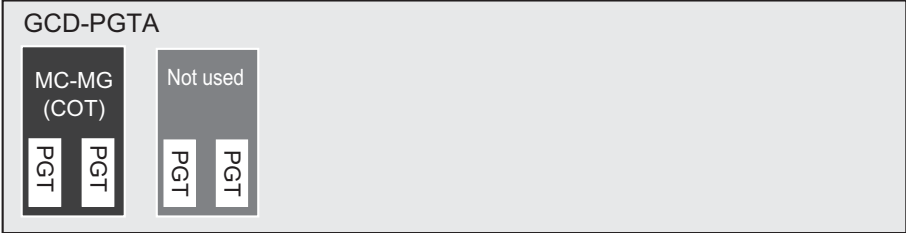


9.2.5 PGT

[SV9500 Existing Device: MC&MG-COT]

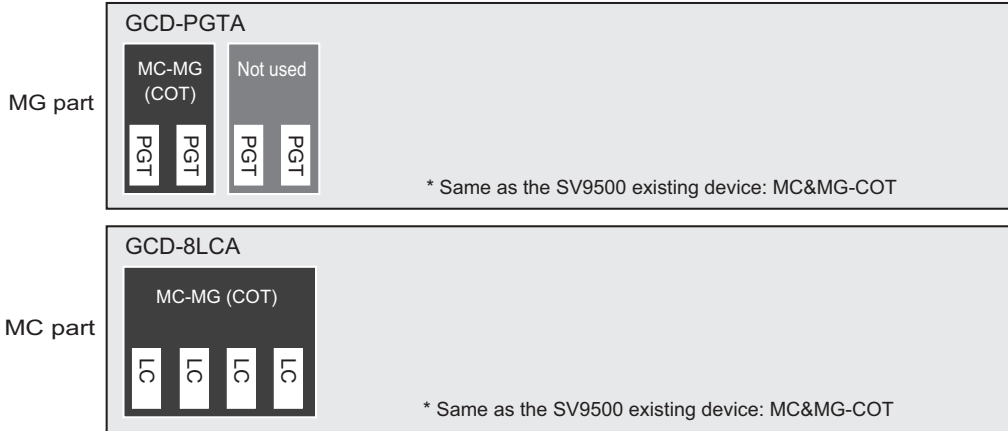
<Multi-slot mode>

- UG50 (PGT-TYPE1)



<Retrofit mode>

- UG50-4LC2COTA (PGT)



[SV9500 Existing Device: MG (6COT) [Proprietary Protocol/SIP]]

<Multi-slot mode>

- UG50 (PGT-TYPE2) [Proprietary Protocol]
- UG50 (PGT-TYPE2) [SIP]



9.3 Registration Unit List

The list below shows the registration units for each line card.

M: Multi-slot Mode, I: IPG Mode, R: Retrofit Mode

X: Available, N: Not Available, -: Not Applicable

Function (Line Card)	Mode	Protocol	Registration Unit	Station Data Settings					Remarks
				AISTL Command		AMGIL Command		ARAI Command Note 5, Note 6	
				KIND	MC- CH	KIND	LINE/CH		
DLC	M	Proprietary	1ch	DtermIP	-	-	-	N	
		SIP	-	-	-	-	-	N	
	I	Proprietary	1ch	DtermIP	-	-	-	N	
		SIP	-	-	-	-	-	N	
LC	M	Proprietary	1ch	Analog MC	0	-	-	X	Note 1
		SIP	4ch	8MC(SIP)	0 to 3	-	-	X	Note 1
	I	Proprietary	1ch	Analog MC	0	-	-	N	
		SIP	-	-	-	-	-	N	
	R	Proprietary	2ch	Analog MC	0, 1	-	-	N	
		SIP	8ch	8MC(SIP)	0 to 7	-	-	N	
PRT	M	Proprietary	Device Unit	-	-	ISDN Trunk (PRI 1.5M)	LINE=0 CH=0	N	
				-	-	ISDN Trunk (PRI 2M)	LINE=0 CH=0	N	
		SIP	Device Unit	-	-	ISDN Trunk (PRI 1.5M) [SIP]	LINE=0 CH=0	N	
				-	-	ISDN Trunk (PRI 2M) [SIP]	LINE=0 CH=0	N	
	R	Proprietary	Device Unit	-	-	ISDN Trunk (PRI 1.5M)	LINE=0 CH=0	N	
				-	-	ISDN Trunk (PRI 2M)	LINE=0 CH=0	N	
		SIP	Device Unit	-	-	ISDN Trunk (PRI 1.5M) [SIP]	LINE=0 CH=0	N	
				-	-	ISDN Trunk (PRI 2M) [SIP]	LINE=0 CH=0	N	

M: Multi-slot Mode, I: IPG Mode, R: Retrofit Mode
X: Available, N: Not Available, -: Not Applicable

Function (Line Card)	Mode	Protocol	Registra- tion Unit	Station Data Settings					Remarks
				AISTL Command		AMGIL Command		ARAI Command Note 5, Note 6	
				KIND	MC- CH	KIND	LINE/CH		
COT	TYPE 1	Proprietary	MG Part: 2ch	-	-	MC-MG(COT)	LINE=0, 1 CH=0	N	Note 3
			MC Part: -	-	-	-	-	N	Note 2
		Proprietary	MG Part: 2ch	-	-	MC-MG(COT)	LINE=0, 1 CH=0	N	Note 3
			MC Part: 4ch	MC- MG(COT)	0 to 3	-	-	N	
	TYPE 2	Proprietary	2ch	-	-	MG(6COT)	LINE=0, 1 CH=0	N	Note 4 Note 3
			SIP	2ch	-	-	MG(6COT) [SIP]	LINE=0, 1 CH=0	N
		Proprietary	6ch	-	-	MG(6COT)	LINE=0 to 5 CH=0	N	Note 3
			SIP	6ch	-	-	MG(6COT) [SIP]	LINE=0 to 5 CH=0	N
PGT	TYPE 1	Proprietary	MG Part: 2ch	-	-	MC-MG(COT)	LINE=0 CH=0	N	Note 3
			MC Part: -	-	-	-	-	N	Note 2
		Proprietary	MG Part: 2ch	-	-	MC-MG(COT)	LINE=0 CH=0	N	Note 3
			MC Part: 4ch	MC- MG(COT)	0 to 3	-	-	N	
	TYPE 2	Proprietary	2ch	-	-	MG(6COT)	LINE=0 CH=0	N	Note 4 Note 3
			SIP	2ch	-	-	MG(6COT) [SIP]	LINE=0 CH=0	N

Note1: The channel range is different from the SV9500 existing device. Also the channel range between Retrofit Mode and Multi-slot mode is different. The AISTL command data needs to be changed when switching modes.

Note2: The UG50 (COT-TYPE1) and UG50 (PGT-TYPE1) in Multi-slot mode does not support the MC part of the existing MC&MG-COT (4LC2COTA). Change the settings to KIND=Analog MC and MC-CH=0 (fixed) with the AISTL command.

- Note3:** The range of LINE/CH is different from the SV9500 existing device. Also, the range of LINE/CH is different between Retrofit Mode and Multi-slot Mode. The AMGIL command data needs to be changed when switching the mode.
- Note4:** The existing MG-COT (including the UG50-6COT [Proprietary Protocol/SIP] in Retrofit mode) occupies all channels in a group even if some channels are actually not used. You should not assign any trunk data including a UG50 (COT-TYPE1) and UG50 (COT-TYPE2) [Proprietary Protocol/SIP] or UG50 (PGT-TYPE1) and UG50 (PGT-TYPE2) [Proprietary Protocol/SIP] in Multi-slot mode to the LENS in the same group as the existing MG-COT. You can assign the office data, but it's not guaranteed to work.
- Note5:** Available from FP95-114 V4 Issue 2.0.
- Note6:** Available from UG50 software version 2.00.

9.4 PH (Protocol Handler) Data Settings

This section describes the PH data settings required for each gateway card. Required data settings vary according to each line card.

System Data needed for each Line Card

R: Required N: Not Required

	Data Setting	Line Card						
		DLC	LC (Proprietary)	LC (SIP)	PRT (Proprietary) <i>Note 1</i>	PRT (SIP)	COT/PGT (Proprietary) <i>Note 2</i>	COT/ PGT (SIP)
Step1:	ASYDL, Index 880, Bit1=1 (Internal PHI)	N	N	R	R	R	R	R
Step2:	ASYDL, Index 880, Bit 3=1 (Internal PHE)	R	R	R	N	R	N	R
Step3:	ASYDL, Index 884, Bit 0=1 (PHI Re-transmission Timer)	R	R	R	N	R	R	R
Step4:	ASYDL, Index 885, Bit 7=1 (SP Implementation)	R	N	R	N	R	N	R
Step5:	ALOCL	R	R	R	N	R	R	R
Step6:	ALIDL (Internal PHE)	R	R	R	N	R	N	R
Step7:	ALIDL (Internal PHI)	N	N	N	N	N	R	N
Step8:	ALIDL (SP-PHD)	R	N	N	N	N	N	N
Step9:	ALIDL (SP-PHI)	N	N	R	N	R	N	R
Step10:	ADPM	R	R	R	R	R	R	R
Step11:	ADTM	R	R	R	R	R	R	R

Note1: Set the ToS value with the AMGIL command for the internal PHI (PRI) to control the PRT card (Proprietary Protocol mode).

Note2: For Proprietary Protocol mode, if SP-PHI is enabled on the Telephony Server a card will be controlled by the SP-PHI side.

Step1: **ASYDL** - SYS 1, Index 880, Bit 1=1 (Internal PHI is enabled)

Step2: **ASYDL** - SYS 1, Index 880, Bit 3=1 (Internal PHE is enabled)

Step3: **ASYDL** - SYS 1, Index 884, Bit 0: PHI Re-transmission Timer

0/1: 256 ms (Default Setting)/512 ms

Step4: **ASYDL** - SYS 1, Index 885, Bit 7=1 [SP (Signaling Processor) is enabled]

Step5: **ALOCL** - Assign the IP location ID data. **Note 1**

Register the ToS settings as follows.

Card Name	PH
DLC card	Internal PHE
LC card (Proprietary Protocol)	Internal PHE
LC card (SIP)	Internal PHE
PRT card (SIP)	Internal PHE
COT card (Proprietary Protocol)	Internal PHI(BRI)
COT card (SIP)	Internal PHE
PGT card (Proprietary Protocol)	Internal PHI(BRI)
PGT card (SIP)	Internal PHE

Note : Internal PHE/Internal PHI-BRI module needs to be initialized or reset with the ADPM command after Location ID has been changed.

Note : The ToS value set for the Network address of the Telephony Server's IP address is used by SP-PHD and SP-PHI to control the DLC Card/LC Card (SIP mode)/ PRT card (SIP mode)/ COT card (SIP mode).

IP ADDRESS : 0.0.0.0
 MASK BIT : 32
 LOC-ID : Assign Location ID to the network address in the range of 1 to 4095.

* LOC-ID=0 is used for Telephony Server (such as IPPAD). In this case, "0.0.0.0" is set for NETWORK ADDRESS.

Setting Type of Signaling Packet : Select the check box if you specify a ToS value for signaling packets. **Note 2**

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When "IP PRECEDENCE" is chosen>

Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).

Low Delay : Select the check box to enable the low delay routing.

Through Put : Select the check box to enable the high throughput routing.

Reliability : Select the check box to enable the maximum reliability routing.

Min Cost : Select the check box to enable the minimum cost routing. **Note 3**

<When "DIFFSERV" is chosen>

Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.

Note1: Location ID (LOC-ID) is a group of equipment to be connected to the Telephony Server divided by network addresses. Service features such as bandwidth control can be performed by using this Location ID. Refer to each service feature for further information.

Note2: After registering the service type (Signaling Packet) data, initialize Internal PHE module with the ADPM command or the system for the change to take effect.

Note3: This check box has no effect on UG50.

Step6: ALIDL - Assign the data settings for Internal PHE.

LENS: Specify LENS of Internal PHE (Even-numbered Group No.).

Note : Both Physical PIR/ Virtual PIR can be registered. For Physical PIR, use the vacant slots to register the data. However, the following limitations apply:

- Group numbers 24 to 31 cannot be used.
- LENS:000000 is not available for the users.

PH TYPE= Select "Internal PHE."

REGMAX: Capacity of Registration (1 to 6144)

Step7: ALIDL - Assign the data settings for Internal PHI-BRI.

LENS: Specify LENS of Internal PHI-BRI (Even-numbered Group No.).

Note : Both Physical PIR/ Virtual PIR can be registered. For Physical PIR, use the vacant slots to register the data. However, the following limitations apply:

- Group numbers 24 to 31 cannot be used.
- LENS:000000 is not available for the users.

PH TYPE= Select "Internal PHI."

REGMAX: Capacity of Registration (1 to 6144)

Step8: ALIDL - Assign the data settings for MPH and SP-PHD.

LENS: Specify LENS of MPH (Even-numbered Group No.).

Note : Both Physical PIR/ Virtual PIR can be registered. For Physical PIR, use the vacant slots to register the data. However, the following limitations apply:

- Group numbers 24 to 31 cannot be used.
- LENS:000000 is not available for the users.

Note : For UMGi/RNIP System MPH-ID 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.

PH TYPE: Select "MPH."

MPH-ID: Identification Number of MPH (1 to 4095)

Single CPU: MPH-ID=1 (Fixed)

Dual CPU: MPH-ID=1 and 2 (Fixed)

PH KIND: Select "PHD (SP-PHD)."

Use this PH: Mark the check box

LENS: Specify LENS of SP-PHD.

Note : It cannot be the same accommodated location that has already been assigned.

REGMAX: Capacity of Registration (1 to 4095)

Note : For reducing the Capacity of Registration, delete the assigned data first, then re-assign. For increasing, skip the delete process and simply re-assign.

MGC PORT: SP control port for TP (control between Internal PHE and SP-PHD) (1 to 65535) (Default=64102)

TERM PORT: SP control port for IP device (1 to 65535) (Default=60090)

Note : The same port number cannot be assigned to both MGC PORT and TERM PORT.

Note : For details on changing the setting value, refer to “IP station Data” in Chapter 2 of Data Programming Manual - Business. For details on each parameter, refer to the Command Manual.

Step9: ALIDL - Assign the data settings for MPH and SP-PHI.

PH LENS: Specify LENS of MPH (Even-numbered Group No.).

Note : Both Physical PIR/ Virtual PIR can be registered. For Physical PIR, use the vacant slots to register the data. However, the following limitations apply:

- Group numbers 24 to 31 cannot be used.
- LENS:000000 is not available for the users.

PH TYPE: Select “MPH.”

MPH-ID: Identification Number of MPH (1 to 4095)

Single CPU: MPH-ID=1 (Fixed)

Dual CPU: MPH-ID=1 and 2 (Fixed) **Note 4**

Note4: Assign 1 and 2 to CPU #0 and #1, respectively.

PH KIND: Select “PHI (SP-PHI).”

Use this PH: Mark the check box

LENS: Specify LENS of SP-PHI.

Note : It cannot be the same accommodated location that has already been assigned.

REGMAX: Capacity of Registration (1 to 4095)

Note : For reducing the Capacity of Registration, delete the assigned data first, then re-assign. For increasing, skip the delete process and simply re-assign.

MGC PORT: SP control port for TP (control between Internal PHE and SP-PHI) (1 to 65535) (Default=64105)

TERM PORT: SP control port for IP device (1 to 65535) (Default=64010)

Note : The same port number cannot be assigned to both MGC PORT and TERM PORT.

Note : For details on changing the setting value, refer to “IP station Data” in Chapter 2 of Data Programming Manual - Business. For details on each parameter, refer

to the Command Manual.

Step10: ADPM - Initialize Internal PHE or Internal PHI-BRI module.

Step11: ADTM - It is used for changing the port number of Internal PHE, Internal PHI-PRI or Internal PHI-BRI from the default setting. (Internal PHI-PRI and Internal PHI-BRI share the same port number. Default port number is 64000.)

Note : Initialize the Internal PHI-PRI module with the ADPM command when changing the port number with this command. Initialization of the Internal PHI-BRI is also required if there are devices controlled by the Internal PHI-BRI in use.

9.5 DLC Card Data Settings

This section describes the required data settings on the SV9500 for the UG50 (DLC card).

Target Mode and Device

Operation Mode	Device Type
Multi-slot mode	UG50 (DLC)
IPG mode	UG50-IPG (Digital)

Step1: **ASYDL/ASYDN** - Assign the following system data into LDM/NDM:

SYS 1, Index 680, Bit 0 = 1 (IPG-Digital: Enabled)

Step2: **ASYDL** - Assign the following system data into LDM:

SYS 1, Index 811 : Specify the country code for the IP terminal tone.

Step3: **ANPD** - Assign the first Digit Code of station number and the total digit number of station number.

Step4: **ASPA** - Assign the Access Code of station number (SRV=STN: station number)

TN : Tenant Number (1 to 63)

ACC : Access Code (A maximum of six digits)

CI : Connection Index

SRV = STN (station number)

Step5: **AISTL** - Assign the Station data accommodated in the UG50.

TN : Tenant Number

IP STN : Station number of a Multiple Line telephone connected to the DLC Card (a maximum of 5 digits)

KIND : Select DtermIP **Note 1**

UG50 Multi-Slot Mode : Mark the check box when registering DLC of Multi-slot mode. **Note 2**

TEC : Telephone Equipment Class (12: Dterm, 13: Data Terminal via Dterm, 16: Data Terminal via Data Module)

RSC : Route Restriction Class (0 to 15)

SFC : Service Feature Restriction Class (0 to 15)

LENS : Station Equipment Numbers (6 digits) **Note 3**

It can be assigned to the vacant slot on which the station/trunk is not mounted. (It cannot overwrite the station/trunk that has already been assigned.) For details on Virtual PIR, refer to “Virtual PIR Data” in Chapter 2 of the Data Programming Manual - Business.

Note : When accommodating the Multiple Line by using the Virtual Line, set up the My

Line with the AISTL command. Then set up the Virtual Line with the ASDT command to assign the Line key with the AKYD command.

Note1: Parameter “KIND” corresponds to Station Data “TEC”. When overwriting, any change that alters the value of “TEC” cannot be made.

Note2: Do not mark the check box when using IPG mode. If marked, registration cannot be performed.

Note3: LENS:000000 is not available for the users.

Step6: ALOCL - Assign the IP location ID data. Note 4

IP ADDRESS : Enter the network address for the UG50.
 MASK BIT : Assign the mask bit in the range of 1 to 31.
 LOC-ID : Assign Location ID to the network address for the UG50 in the range of 1 to 4095.

* LOC-ID=0 is used for Telephony Server (such as IPPAD). Network address for Telephony Server is “0.0.0.0.” **Note 5**

Setting Type of Signaling Packet : Select the check box if you specify a ToS value for signaling packets.
 Service

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

Priority (PRECEDENCE/ : Enter an IP Precedence value in the range of 0 to 7 (low to high)
 DSCP)

Low Delay : Select the check box to enable the low delay routing.

Through Put : Select the check box to enable the high throughput routing.

Reliability : Select the check box to enable the maximum reliability routing.

Min Cost : Select the check box to enable the minimum cost routing.

Note 6

<When “DIFFSERV” is chosen>

Priority (PRECEDENCE/ : Enter a DiffServ Code Point in the range of 0 to 63.
 DSCP)

Note4: Location ID (LOC-ID) is a group of equipment to be connected to the Telephony Server divided by network addresses. Service features such as bandwidth control can be performed by using this location ID. Refer to each service feature for further information.

Note5: Location ID=0 is used for the location ID of the Telephony Server (IPPAD). It is also used when configuring the settings for signal packets of Internal PH (ToS value) and voice packets (ToS value, bandwidth, PAD/EC Control) between IP station and IPPAD.

Note6: This check box has no effect on UG50.

Step7: AIVCL - Assign the IP service Voice Control data.

- A LOC-ID : Location ID A (0 to 4095)
 B LOC-ID : Location ID B (0 to 4095)
 Setting of Jitter Buffer : When setting the Jitter Buffer, select the check box.
 JB MIN : Jitter Buffer minimum value (0 to 30 (x10 ms))
 JB MAX : Jitter Buffer maximum value (0 to 30 (x10 ms))
 Setting Type of Voice Packet Service : When specifying a ToS value for voice packets, select the check box.
 IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.
 <When “IP PRECEDENCE” is chosen>
 Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).
 Low Delay : Select the check box to enable the low delay routing.
 Through Put : Select the check box to enable the high throughput routing.
 Reliability : Select the check box to enable the maximum reliability routing.
 Min Cost : Select the check box to enable the minimum cost routing.
 <When “DIFFSERV” is chosen>
 Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.
 Setting of Payload **Note 7** : When assigning the Payload data, select the check box.
 TYPE : Select a payload type from the drop-down list box.
 SIZE : Select a payload size from the drop-down list box.

Note7: Specify a payload type (TYPE) and payload size (SIZE) in the order of priority 1 to 4 (PRI1 through PRI4).

Payload Type	Payload Size	Remarks
G.711	20 ms, 30 ms, 40 ms	Use G.711a or G.711 μ by setting the system data (ASYD, SYS1. Index 64, Bit 0)
G.723.1 (6.3k→5.3k)	30 ms, 60 ms Note 8	-
G.729a	20 ms, 30 ms, 40 ms	-

Note : Consider the following points:

- For available payload type for each IP terminal and IP device, refer to the “System Description”-“CHAPTER 3 IP EQUIPMENT”-“Payload Setting for Each IP Equipment”.
- Set each pay load type and pay load size supported by all the IP devices in use, when different types of IP devices are in the same environment. If a payload type not supported by one of the IP devices has been set, a call may not be made or a tone may not be received properly.

Note8: When negotiating the IPPAD, “60 ms” cannot be set (Only “30 ms” available).

<Setting of PAD>

KIND1 : PAD value (0 to 15) of Digital terminals accommodated in the UG50.

KIND3 : PAD value (0 to 15) of IPPAD.

Set the PAD Number of the IPPAD. PAD value is determined by the number used here (0 to 15) and SW settings for the IPPAD (SW10). Refer to Circuit Card Description for more information.

<Setting of Echo Canceller>

Select one of the following radio buttons. **Note 9**

- A EC-ON/B EC-ON
- A EC-ON/B EC-OFF
- A EC-OFF/B EC-ON
- A EC-OFF/B EC-OFF

Note9: When the same value is assigned to both A LOC-ID and B LOC-ID parameters, the settings for “A EC-ON/B EC-OFF” and “A EC-OFF/B EC-ON” are invalid.

Step8: **AKYD** - Assign service functions to the Programmable Line/Feature key of Digital terminals accommodated in the UG50.

Step9: **ADSL** - Assign service functions to the soft keys of Digital terminals accommodated in the UG50 if necessary.

Step10: **ADKS** - Assign each Soft Key Pattern data.

9.6 LC Card Data Settings (Proprietary Protocol Mode)

This section describes the required data settings on the SV9500 for the UG50 (LC card) in Proprietary Protocol mode.

Target Mode and Device

Operation Mode	Device Type	Reference Data Setting
Multi-slot mode	UG50 (LC) [Proprietary Protocol]	9.6.1 Data Setting for the UG50 (LC) [Proprietary Protocol]/UG50-IPG (Analog)
IPG mode	UG50-IPG (Analog)	
Retrofit mode	UG50-2MC	9.6.2 Data Setting for the UG50-2MC

9.6.1 Data Setting for the UG50 (LC) [Proprietary Protocol]/UG50-IPG (Analog)

Assign the following data for the UG50 (LC) [Proprietary Protocol] or UG50-IPG (Analog).

Step1: **ASYDL/ASYDN** - Assign the following system data into LDM/NDM:

SYS 1, Index 680, Bit 1 = 1 (IPG-Analog: Enabled)

Note : This system data setting (ASYDL/ASYDN, SYS1, Index 680, Bit 1=1) is required for the UG50-IPG (Analog) except when registering the LC card on Multi-slot mode.

Step2: **ASYDL** - Assign the following system data into LDM:

SYS 1, Index 811 : Specify the country code for the IP terminal tone.

Step3: **ANPD** - Assign the first Digit Code of station number and the total digit number of station number.

Step4: **ASPA** - Assign the Access Code of station number (SRV=STN: station number)

TN : Tenant Number

ACC : Access Code (A maximum of six digits)

CI : Connection Index

SRV = STN (station number)

Step5: **ARAI** or **AISTL**- Assign the data of stations connected to the UG50.

In case of UG50 (LC) [Proprietary Protocol], see [Settings with the ARAI command](#).

In case of UG50 (LC) [Proprietary Protocol] with FCCS CLUSTER of LOCATION DIVERSITY [L-55] service enabled or UG50-IPG (Analog), see [Settings with the AISTL command](#).

Step6: ALOCL - Assign the IP location ID data. Note 1

IP ADDRESS : Enter the network address for the UG50.

MASK BIT : Assign the mask bit in the range of 1 to 31.

LOC-ID : Assign Location ID to the network address for the UG50 in the range of 1 to 4095.

* LOC-ID=0 is used for the Telephony Server (such as the IPPAD). Network address for the Telephony Server is "0.0.0.0." **Note 2**

Setting Type of Signaling Packet : Select the check box if you specify a ToS value for signaling packets.

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When "IP PRECEDENCE" is chosen>

Priority (PRECE- : Enter an IP Precedence value in the range of 0 to 7 (low
DENCE/DSCP) to high).

Low Delay : Select the check box to enable the low delay routing.

Through Put : Select the check box to enable the high throughput routing.

Reliability : Select the check box to enable the maximum reliability routing.

Min Cost : Select the check box to enable the minimum cost routing. **Note 3**

<When "DIFFSERV" is chosen>

Priority (PRECE- : Enter a DiffServ Code Point in the range of 0 to 63.
DENCE/DSCP)

Note1: Location ID (LOC-ID) is a group of equipment to be connected to the Telephony Server divided by network addresses. Service features such as bandwidth control can be performed by using this location ID. Refer to each service feature for further information.

Note2: Location ID=0 is used for the location ID of the Telephony Server (IPPAD). It is also used when configuring the settings for signal packets of Internal PH (ToS value) and voice packets (ToS value, bandwidth, PAD/EC Control) between an IP station and the IPPAD.

Note3: This check box has no effect on UG50.

Step7: AIVCL - Assign the IP service Voice Control data.

A LOC-ID : Location ID A (0 to 4095)

B LOC-ID : Location ID B (0 to 4095)

- Setting of Jitter Buffer : When setting the Jitter Buffer, select the check box.
 - JB MIN : Jitter Buffer minimum value (0 to 30 (x10 ms))
 - JB MAX : Jitter Buffer maximum value (0 to 30 (x10 ms))
- Setting Type of Voice Packet Service : When specifying a ToS value for voice packets, select the check box.
- IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.
 - <When “IP PRECEDENCE” is chosen>
 - Priority (PRECE-DENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).
 - Low Delay Through Put : Select the check box to enable the low delay routing.
 - Reliability : Select the check box to enable the high throughput routing.
 - Min Cost : Select the check box to enable the maximum reliability routing.
 - <When “DIFFSERV” is chosen>
 - Priority (PRECE-DENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.
- Setting of Payload **Note 4** : When assigning the Payload data, select the check box. Specify a payload type (TYPE) and payload size (SIZE) in the order of priority 1 to 4 (PRI1 through PRI4).
 - TYPE : Select a payload type from the drop-down list box.
 - SIZE : Select a payload size from the drop-down list box.

Note4: Specify a payload type (TYPE) and payload size (SIZE) in the order of priority 1 to 4 (PRI1 through PRI4).

Payload Type	Payload Size	Remarks
G.711	20 ms, 30 ms, 40 ms	Use G.711a or G.711 μ by setting the system data (ASYD, SYS1. Index 64, Bit 0)
G.723.1 (6.3k→5.3k)	30 ms, 60 ms Note 5	-
G.729a	20 ms, 30 ms, 40 ms	-

- Note :** Consider the following points:
- For available payload type for each IP terminal and IP device, refer to the “System Description”-”CHAPTER 3 IP EQUIPMENT”-”Payload Setting for Each IP Equipment”.
 - Set each payload type and payload size supported by all the IP devices in use when different types of IP devices are in the same environment. If a payload type not supported by one of the IP devices has been set, a call may not be made or a tone may not be received properly.

Note5: When negotiating the IPPAD, “60 ms” cannot be set (Only “30 ms” available).

<Setting of PAD>

KIND2 : PAD value (0 to 3) of the UG50 (LC) [Proprietary Protocol]/UG50-IPG (Analog).

Input Value	0	1	2	3
dB	Note 6	0 dB	3 dB	6 dB

Note6: 5 dB PAD: Controlled by ASYD, SYS1, Index 4, Bit 5.

KIND3 : PAD Value when connected to IPPAD (0 to 15).
PAD value is determined by the number used here (0 to 15) and Switch settings for the IPPAD (SW10). Refer to Circuit Card Description for more information.

<Setting of Echo Canceller>

Select the “Setting of Echo Canceller” check box. **Note 7**

- A EC-ON/B EC-ON
- A EC-ON/B EC-OFF
- A EC-OFF/B EC-ON
- A EC-OFF/B EC-OFF

Note7: When the same value is assigned to both A LOC-ID and B LOC-ID parameters, the settings for “A EC-ON/B EC-OFF” and “A EC-OFF/B EC-ON” are invalid.

<Appendix Explanation>

[1] Settings with the ARAI command

Perform the settings as follows.

Note : Available from FP95-114 V4 Issue 2.0 and UG50 software version 2.00.

Note : For details of the ARAI command, see "How to Use the ARAI Command to Assign or Delete Office Data for a UG50" section in Assignment of Basic Office Data chapter of Data Programming Manual - Business.

Device Type : (Fixed to “UG50.”)

[List of Remote Equipment Data]

Select the IP address of a UG50 of your choice.

[Choose Slot]

Card : Select the slot containing the card with the office data that you want to assign in the Telephony Server.

[List of Remote Equipment Office Data] **Note 8**

TN : Tenant Number (1 to 63)

STN : Station number of the Analog terminal accommodated in the LC card (up to 5 digits) **Note 9**

LENS : Station Equipment Numbers (6 digits)

Assign a unique LENS to each station. Do not use a LENS that is already in use by other station/trunk.

TEC : Telephone Equipment Class (2=PB, 3=DP/PB, 14=Hot Line)

KIND : Select “Analog MC.”

RSC : Route Restriction Class (0 to 15)

SFC : Service Feature Restriction Class (0 to 15)

Note8: Appears when the GET button is clicked.

Note9: The ARAI command does no validation. It is the user’s responsibility to enter valid Station Numbers and LENS.

[2] Settings with the AISTL command

Note : For the FCCS Cluster settings with UG50 refer to the programming part of FCCS Cluster in Data Programming Manual - FCCS.

Perform the settings as follows.

TN	: Tenant Number (1 to 63)
IP STN	: Station number of the Analog terminal accommodated in the LC card (up to 5 digits)
KIND	: Select “Analog MC.”
UG50 Multi-Slot Mode	: Mark the check box when registering the LC card on Multi-slot mode. Note 10
TEC	: Telephone Equipment Class (2=PB, 3=DP/PB, 14=Hot Line)
RSC	: Route Restriction Class (0 to15)
SFC	: Service Feature Restriction Class (0 to 15)
LENS	: Station Equipment Numbers (6 digits)

It can be assigned to the vacant slot on which the station/trunk is not mounted. (It cannot overwrite the station/trunk that has already been assigned.) For details on Virtual PIR, refer to “Virtual PIR Data” in Chapter 2 of Data Programming Manual - Business.

MC-ID	: Virtual MAC address of the UG50 (LC Card) (6 bytes)
MC-CH	: Channel Number of the UG50 (LC) [Proprietary Protocol]/UG50-IPG (Analog) [0 (Port 0)/1(Port 1)] Note 11, Note 12

Note10: Do not mark the check box when using IPG mode. If marked, registration cannot be performed.

Note11: If the **Multi-Slot Mode** check box is marked, only Channel Number 0 (Port 0) can be input.

Note12: For UG50-IPG (Analog), do not input Port 1.

9.6.2 Data Setting for the UG50-2MC

The data settings below are required for the UG50-2MC.

Step1: ASYDL - Assign the following system data into LDM:

SYS1, Index 811 : Specify the country code for the IP terminal tone.

Step2: ANPD - Assign the first Digit Code of station number and the total digit number of station number.

Step3: ASPA - Assign the Access Code of station number (SRV=STN: station number)

TN : Tenant Number
 ACC : Access Code (A maximum of six digits)
 CI : Connection Index
 SRV = STN (station number)

Step4: AISTL - Assign the Station data accommodated in the UG50.

TN : Tenant Number (1 to 63)
 IP STN : Station number of the Analog terminal accommodated in the LC card (up to 5 digits)
 KIND : Select "Analog MC."
 UG50 Multi-Slot Mode : Do not mark the check box. **Note 13**
 TEC : Telephone Equipment Class (2=PB, 3=DP/PB, 14=Hot Line)
 RSC : Route Restriction Class (0 to 15)
 SFC : Service Feature Restriction Class (0 to 15)
 LENS : IP Station Equipment Numbers (6 digits)

It can be assigned to the vacant slot on which the station/trunk is not mounted. (It cannot overwrite the station/trunk that has already been assigned.) For details on Virtual PIR, refer to "Virtual PIR Data" in Chapter 2 of the Data Programming Manual - Business.

MC-ID : Virtual MAC address of the UG50 (LC Card) (6 bytes)
 MC-CH : Channel Number of the UG50-2MC [0 (Port 0)/1(Port 1)]

Note13: Do not mark the check box when using Retrofit Mode. If marked, registration cannot be performed.

Step5: ALOCL - Assign the IP location ID data. **Note 14**

IP ADDRESS : Enter the network address for the UG50.
 MASK BIT : Assign the mask bit in the range of 1 to 31.
 LOC-ID : Assign Location ID to the network address for the UG50 in the range of 1 to 4095.

* LOC-ID=0 is used for the Telephony Server (such as IPPAD). Network address for the Telephony Server is “0.0.0.0.” **Note 15**

Setting Type of Signaling Packet : Select the check box if you specify a ToS value for signaling packets.

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).

Low Delay : Select the check box to enable the low delay routing.

Through Put : Select the check box to enable the high throughput routing.

Reliability : Select the check box to enable the maximum reliability routing.

Min Cost : Select the check box to enable the minimum cost routing.

Note 16

<When “DIFFSERV” is chosen>

Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.

Note14: Location ID (LOC-ID) is a group of equipment to be connected to the Telephony Server divided by network addresses. Service features such as bandwidth control can be performed by using this location ID. Refer to each service feature for further information.

Note15: Location ID=0 is used for the location ID of the Telephony Server (IPPAD). It is also used when configuring the settings for signal packets of Internal PH (ToS value) and voice packets (ToS value, bandwidth, PAD/EC Control) between an IP station and the IPPAD.

Note16: This check box has no effect on UG50.

Step6: AIVCL - Assign the IP service Voice Control data.

When adjusting the PAD settings for the UG50, input the PAD value in “KIND=2”. For details, refer to the Command Manual.

A LOC-ID : Location ID A (0 to 4095)

B LOC-ID : Location ID B (0 to 4095)

Setting of Jitter Buffer : When setting the Jitter Buffer, select the check box.

JB MIN : Jitter Buffer minimum value (0 to 30 (x10 ms))

JB MAX : Jitter Buffer maximum value (0 to 30 (x10 ms))

Setting Type of Voice Packet Service : When specifying a ToS value for voice packets, select the check box.

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

- Priority (PRECEDENCE/ DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).
 - Low Delay : Select the check box to enable the low delay routing.
 - Through Put : Select the check box to enable the high throughput routing.
 - Reliability : Select the check box to enable the maximum reliability routing.
 - Min Cost : Select the check box to enable the minimum cost routing.
- <When “DIFFSERV” is chosen>
- Priority (PRECEDENCE/ DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.
- Setting of Payload **Note 17** : When assigning the Payload data, select the check box.
 - TYPE : Select a payload type from the drop-down list box.
 - SIZE : Select a payload size from the drop-down list box.

Note17: Specify a payload type (TYPE) and payload size (SIZE) in the order of priority 1 to 4 (PRI1 through PRI4).

Payload Type	Payload Size	Remarks
G.711	20 ms, 30 ms, 40 ms	Use G.711a or G.711 μ by setting the system data (ASYD, SYS1, Index 64, Bit 0)
G.723.1 (6.3k→5.3k)	30 ms, 60 ms Note 18	-
G.729a	20 ms, 30 ms, 40 ms	-

Note : Consider the following points:

- For available payload type for each IP terminal and IP device, refer to the “System Description”-”CHAPTER 3 IP EQUIPMENT”-”Payload Setting for Each IP Equipment”.
- Set each pay load type and pay load size supported by all the IP devices in use, when different types of IP devices are in the same environment. If a payload type not supported by one of the IP devices has been set, a call may not be made or a tone may not be received properly.

Note18: When negotiating the IPPAD, “60 ms” cannot be set (Only “30 ms” available)

- <Setting of PAD> :
- KIND2 : PAD value (0 to 3) of UG50-2MC.

Input Value	0	1	2	3
dB	Note 19	0 dB	3 dB	6 dB

Note19: 5 dB PAD: Controlled by ASYD, SYS1, Index 4, Bit 5.

KIND3 : PAD Value when connected to the IPPAD (0 to 15).
Set the PAD Number of the IPPAD.
PAD value is determined by the number used here (0 to 15)
and Switch settings for the IPPAD (SW10). Refer to Circuit Card Description for more information.

Setting of Echo Canceller : Select the “Setting of Echo Canceller” check box. **Note 20**

- A EC-ON/B EC-ON
- A EC-ON/B EC-OFF
- A EC-OFF/B EC-ON
- A EC-OFF/B EC-OFF

Note20: When the same value is assigned to both A LOC-ID and B LOC-ID parameters, the settings for “A EC-ON/B EC-OFF” and “A EC-OFF/B EC-ON” are invalid.

9.7 LC Card Data Settings (SIP Mode)

This section describes the required data settings on the SV9500 for the UG50 (LC card) in SIP mode.

Target Mode and Device

Operation Mode	Device Type
Multi-slot mode	UG50 (LC) [SIP]
Retrofit mode	UG50-8LC

Step1: **ASYDL** - Assign the following system data into LDM:

SYS1, Index 811 : Specify the country code for the IP terminal tone.

Step2: **ANPD** - Assign the first Digit Code of station number and the total digit number of station number.

Step3: **ASPA** - Assign the Access Code of station number (SRV=STN: station number)

TN : Tenant Number

ACC : Access Code (A maximum of six digits)

CI : Connection Index

SRV = STN : Station Number

Step4: **ARAI** or **AISTL**- Assign the data of stations connected to the UG50.

In case of UG50 (LC) [SIP], see [Settings with the ARAI command](#).

In case of UG50 (LC) [SIP] with FCCS CLUSTER of [L-55] service enabled or UG50-IPG (Analog), see [Settings with the AISTL command](#).

Step5: **ALOCL** - Assign the IP location ID data

Assign a LOC-ID to the network address corresponding to the IP address of the Telephony Server. Set the ToS in the LOC-ID.

IP ADDRESS : Enter the network address for the Telephony Server.

MASK BIT : Assign a value corresponding to the network address.

LOC-ID : Assign an arbitrary ID.

Setting Type of Signaling Packet Service : Select the check box if you specify a ToS value for signaling packets processed by SP-PHI to control the UG50.

When the check box is not selected, the default setting “IP Precedence” with the precedence value 6 is used.

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

Priority (PRECEDENCE/ DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).

Low Delay	: Select the check box to enable the low delay routing.
Through Put	: Select the check box to enable the high throughput routing.
Reliability	: Select the check box to enable the maximum reliability routing.
Min Cost	: Select the check box to enable the minimum cost routing.

Note 1

<When “DIFFSERV” is chosen>

Priority (PRECEDENCE/ DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.

Note : Notice the following conditions.

- The initialization of the Telephony Sever is required to reflect the data change made in the Setting Type of Signaling Packet Service in the online Internal PH/IPPAD card or IP station.
- When changing the ToS value in the MG (PRI) direction from the Telephony Server, refer to “Appliance Model Installation Manual”- “Chapter 6: System Startup”- “Initial Startup”.

Note1: This check box has no effect on UG50.

Step6: **AIVCL** - Assign the IP service Voice Control data.

When adjusting the PAD settings for the UG50, input the PAD value in “KIND=2”. For details, refer to the Command Manual.

A LOC-ID	: Location ID A (0 to 4095)
B LOC-ID	: Location ID B (0 to 4095)
Setting of Jitter Buffer	: When setting the Jitter Buffer, select the check box.
JB MIN	: Jitter Buffer minimum value (0 to 30 (x10 ms))
JB MAX	: Jitter Buffer maximum value (0 to 30 (x10 ms))
Setting Type of Voice Packet Service	: When specifying a ToS value for voice packets, select the check box.
IP PRECEDENCE/DIFFSERV	: Choose IP Precedence or DiffServ.
<When “IP PRECEDENCE” is chosen>	
Priority (PRECEDENCE/ DSCP)	: Enter an IP Precedence value in the range of 0 to 7 (low to high).
Low Delay	: Select the check box to enable the low delay routing.
Through Put	: Select the check box to enable the high throughput routing.
Reliability	: Select the check box to enable the maximum reliability routing.
Min Cost	: Select the check box to enable the minimum cost routing.

<When “DIFFSERV” is chosen>

Priority (PRECEDENCE/ DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.

- Setting of Payload **Note 2** : When assigning the Payload data, select the check box.
- TYPE : Select a payload type from the drop-down list box.
- SIZE : Select a payload size from the drop-down list box.

Note2: Specify a payload type (TYPE) and payload size (SIZE) in the order of priority 1 to 4 (PRI1 through PRI4).

Payload Type	Payload Size	Remarks
G.711	20 ms, 30 ms, 40 ms	Use G.711a or G.711 μ by setting the system data (ASYD, SYS1, Index 64, Bit 0)
G.723.1 (6.3k→5.3k)	30 ms, 60 ms Note 3	-
G.729a	20 ms, 30 ms, 40 ms	-

Note : Consider the following points:

- For available payload type for each IP terminal and IP device, refer to the “System Description”-“CHAPTER 3 IP EQUIPMENT”-“Payload Setting for Each IP Equipment”.
- Set each pay load type and pay load size supported by all the IP devices in use, when different types of IP devices are in the same environment. If a payload type not supported by one of the IP devices has been set, a call may not be made or a tone may not be received properly.

Note3: When negotiating the IPPAD, “60 ms” cannot be set (Only “30 ms” available)

- <Setting of PAD> :
- KIND2 : PAD value (0 to 3) of the UG50 (LC) [SIP]/UG50-8LC.

Input Value	0	1	2	3
dB	Note 4	0 dB	3 dB	6 dB

Note4: 5 dB PAD: Controlled by ASYD, SYS1, Index 4, Bit 5.

- KIND3 : PAD Value when connected to the IPPAD (0 to 15).
Set the PAD Number of the IPPAD.
PAD value is determined by the number used here (0 to 15) and Switch settings for the IPPAD (SW10). Refer to Circuit Card Description for more information.

- Setting of Echo Canceller : Select the “Setting of Echo Canceller” check box. **Note 5**
 - A EC-ON/B EC-ON
 - A EC-ON/B EC-OFF
 - A EC-OFF/B EC-ON
 - A EC-OFF/B EC-OFF

Note5: When the same value is assigned to both A LOC-ID and B LOC-ID parameters,

the settings for “A EC-ON/B EC-OFF” and “A EC-OFF/B EC-ON” are invalid.

<Appendix Explanation>

[1] Settings with the ARAI command

Perform the settings as follows.

Note : Available from FP95-114 V4 Issue 2.0 and from UG50 software version 2.00.

Note : For details of the ARAI command, see "How to Use the ARAI Command to Assign or Delete Office Data for a UG50" section in Assignment of Basic Office Data chapter of Data Programming Manual - Business.

Device Type : (Fixed to “UG50.”)

[List of Remote Equipment Data]

Select the IP address of a UG50 of your choice.

[Choose Slot]

Card : Select the slot containing the card with the office data that you want to assign in the Telephony Server.

[List of Remote Equipment Office Data] **Note 6,**

TN : Tenant Number (1 to 63)

STN : Station number of the Analog terminal accommodated in the LC card (up to 5 digits) **Note 7**

LENS : Station Equipment Numbers (6 digits)

Assign a unique LENS to each station. Do not use a LENS that is already in use by other station/trunk.

TEC : Telephone Equipment Class (2=PB, 3=DP/PB, 14=Hot Line)

KIND : Select “8MC(SIP)”.

RSC : Route Restriction Class (0 to15)

SFC : Service Feature Restriction Class (0 to 15)

Note6: Appears when the GET button is clicked.

Note7: The ARAI command does no validation. It is the user’s responsibility to enter valid Station Numbers and LENS.

[2] Settings with the AISTL command

Note : For the FCCS Cluster settings with UG50 refer to the programming part of FCCS Cluster in Data Programming Manual - FCCS.

Perform the settings as follows.

TN	: Tenant Number (1 to 63)
IP STN	: Station number of the Analog terminal accommodated in the LC card (up to 5 digits)
KIND	: Select “8MC(SIP).”
UG50 Multi-Slot Mode	: Mark the check box when registering the LC card on Multi-slot mode. Note 8
TEC	: Telephone Equipment Class (2=PB, 3=DP/PB, 14=Hot Line)
RSC	: Route Restriction Class (0 to15)
SFC	: Service Feature Restriction Class (0 to 15)
LENS	: Station Equipment Numbers (6 digits)

It can be assigned to the vacant slot on which the station/trunk is not mounted. (It cannot overwrite the station/trunk that has already been assigned.) For details on Virtual PIR, refer to “Virtual PIR Data” in Chapter 2 of Data Programming Manual - Business.

MC-ID	: Virtual MAC address of the UG50 (LC Card) (6 bytes)
MC-CH	: Channel Number of the UG50 (LC) [SIP]/UG50-8LC [0(Port 0) to 7(Port 7)] Note 9, Note 10

Note8: Do not mark the check box when using IPG mode. If marked, registration cannot be performed.

Note9: If the **Multi-Slot Mode** check box is marked, only Channel Number 0 (Port 0) can be input.

Note10: For UG50-IPG (Analog), do not input Port 1.

9.7.1 Registration of Authentication Data

Step1: **ASECL** - Register a one-time password and its valid time.

<Certified Terminal Assignment>

One-Time Password	: Password setting for authentication registration. (4 to 10 digits)
Available Period	: Duration of time for a one-time password to be valid. (Unlimited duration or 1 min. to 7 days)

Note : To register the authentication data, the same password to be set here needs to be set on the UG50 as well. For information on how to set One-Time Password, refer to “[LC Card \(SIP mode\)](#)”.

9.8 PRT Card (1.5M) Data Settings (Proprietary Protocol Mode)

This section describes the required data settings on the SV9500 for the UG50 (PRT card) (1.5M) in Proprietary Protocol mode.

Target Mode and Device

Operation Mode	Device Type
Multi-slot mode	UG50 (PRT 1.5M) [Proprietary Protocol]
Retrofit mode	UG50-24PRIA [Proprietary Protocol]

Step1: **ASYD** - Assign the following system data into DM:

SYS 1,

Index 186, Bit6 = 1 (ISDN is in service)

Index 187=00 HEX (Fixed)

Index 474 (Guard Timer for Originating Call)

Bit 0 to 3: MTC (Timer Counter for Originating Call)

Bit 4 to 6: TC (Timer Class), assign 1H (64 ms Cycle)

Step2: **ARTD** - Assign the route class data for the Virtual Speech Channel Route and the Virtual Signaling Channel Route. The following is an example when the Virtual Signaling Channel=Route 10 and the Virtual Speech Channel=Route 20:

- For ISDN Trunk Data

RT=20 (Virtual Speech Channel)				RT=10 (Virtual Signaling Channel)			
CDN	2	(ONSG)	= 2	CDN	2	(ONSG)	= 2
	4	(INSG)	= 2		4	(INSG)	= 2
	5	(TF)	= 3				
	6	(TCL)	= 1		6	(TCL)	= 1
	7	(L/T)	= 1		7	(L/T)	= 1
	8	(RLP)	= 2		8	(RLP)	= 2
	10	(SMDR)	= 1				
	15	(LSG)	= 12		15	(LSG)	= 13
	28	(ANS)	= 1		28	(ANS)	= 1
	30	(PAD)	= 4		30	(PAD)	= 7
	31	(OGRL)	= 1				
	32	(ICRL)	= 1				
	34	(GUARD)	= 1				
	45	(A/D)	= 1				
	50	(DPLY)	= 1				

60 (TC/EC)	=	1			
65 (INT)	=	Note 1		65 (INT)	= Note 1
66 (DC)	=	Note 2		66 (DC)	= Note 2

The other data should be “0” (default data).

Note : Reset the GCD-PRTA card from the Card Configuration screen of Web Programming when changing data on the existing route (RT).

Note1: INT (CDN65): 1 N-ISDN2
2 Australia
4 PRI (ITU-T/ETSI)
5 AT&T (#4/#5 ESS)
7 NT DMS 100 / DMS 250

Note2: In the case of “SUB ADDRESS - ADDRESSING”, assign “0”. (Refer to SUB ADDRESS-ADDRESSING [S-95] in the Data Programming Manual - ISDN.)
In the case of “DID ADDRESSING”, refer to DIRECT INWARD DIALING (DID) ADDRESSING [D-123] in the Data Programming Manual - ISDN.

Step3: **ARTI** - Assign Trunk Application Data to the Virtual Speech Channel Route and the Virtual Signal Channel Route. The following is an example when the Virtual Signaling Channel=Route 10 and the Virtual Speech Channel=Route 20:

RT	=	10 (Virtual Signaling Channel)
RT	=	20 (Virtual Speech Channel)
CDN68 (VIR)	=	2 (MG Connection)

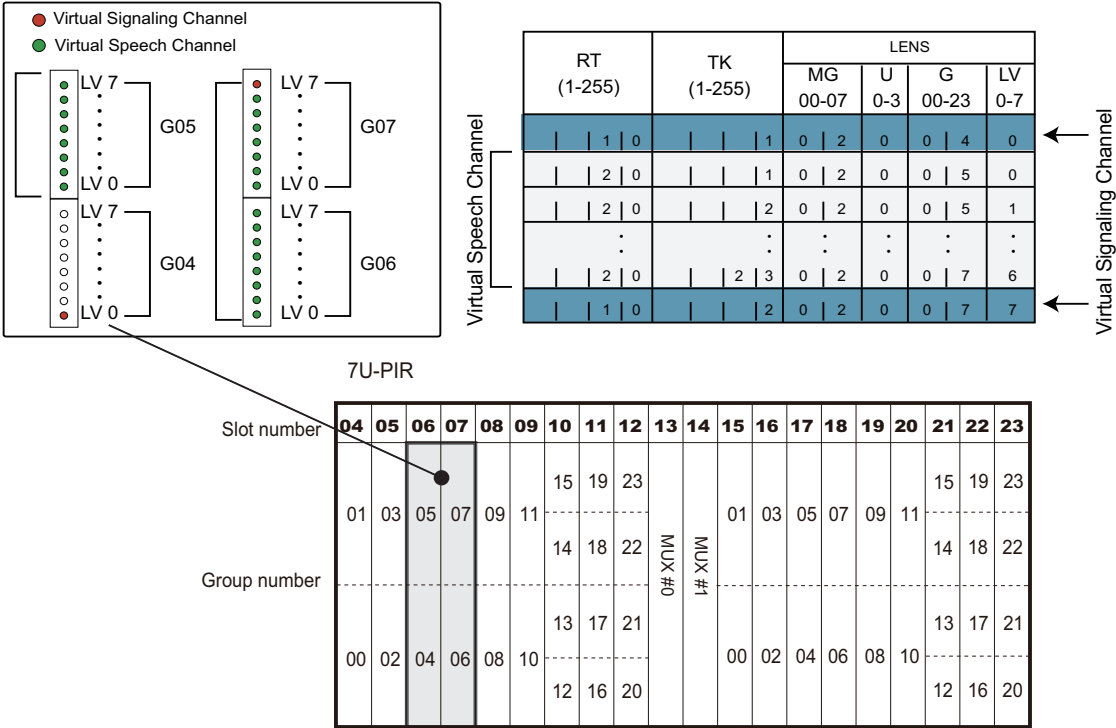
Note : Reset the GCD-PRTA card from the Card Configuration screen of Web Programming when changing data on the existing route (RT).

Step4: **ATRK** - Assign Trunk Data to each Virtual Speech Channel.

Note :

- Virtual trunk occupies 1 Highway (4-Group). For example, if one channel is registered for Virtual Trunk, the whole HW is occupied exclusively for the Virtual Trunk.
- Do not assign any trunk data to Group 0 of Unit 0 in an even number Module Group.
- Be sure to assign route data by ARTD/ARTI before assigning trunk data by ATRK.
- The total number of B-channels must not exceed 460 per two Module Group (MG) pair (i.e. MG0/1, MG2/3, MG4/5 and MG6/7).

Example of Trunk Data Setting



Step5: ADPC - Assign an arbitrary point code in the range of 1 through 16383 to the routes for the Virtual Speech Channel and the Virtual Signaling Channel. However, do not use the same PC that is already assigned to the CCIS data settings. (Normally, PC is not used for ISDN. However it is required for the office data.)

Note : The NDM command (ADPCN) cannot be used here.

Step6: ACSC - Assign the basic accommodated location of the Virtual Signaling Channel to an even number ranging from 130 to 254, and the basic accommodated location of the Virtual Speech Channel to an odd number of CSC Group.

Note : The NDM command (ACSCN) cannot be used here.

Example of ACSC Settings

CSCG	CICG	CCH		
		MG 00-07	U 0-3	G 00-23
130 (Virtual Signaling Channel)	0	02	0	04
	1	02	0	04
	2	02	0	04
	3	02	0	04
	4	02	0	04
	5	02	0	04
	6	02	0	04
	7	02	0	04
131 (Virtual Speech Channel)	0	02	0	04
	1	02	0	04
	2	02	0	04
	3	02	0	04
	4	02	0	04
	5	02	0	04
	6	02	0	04
	7	02	0	04

Step7: **ACIC1** - Assign an accommodated location of the Virtual Signaling Channel to a Point Code (PC).

PC : Point Code specified with the ADPC command.

CSCG : CSC group of Virtual Signaling Channel specified with the ACSC command.

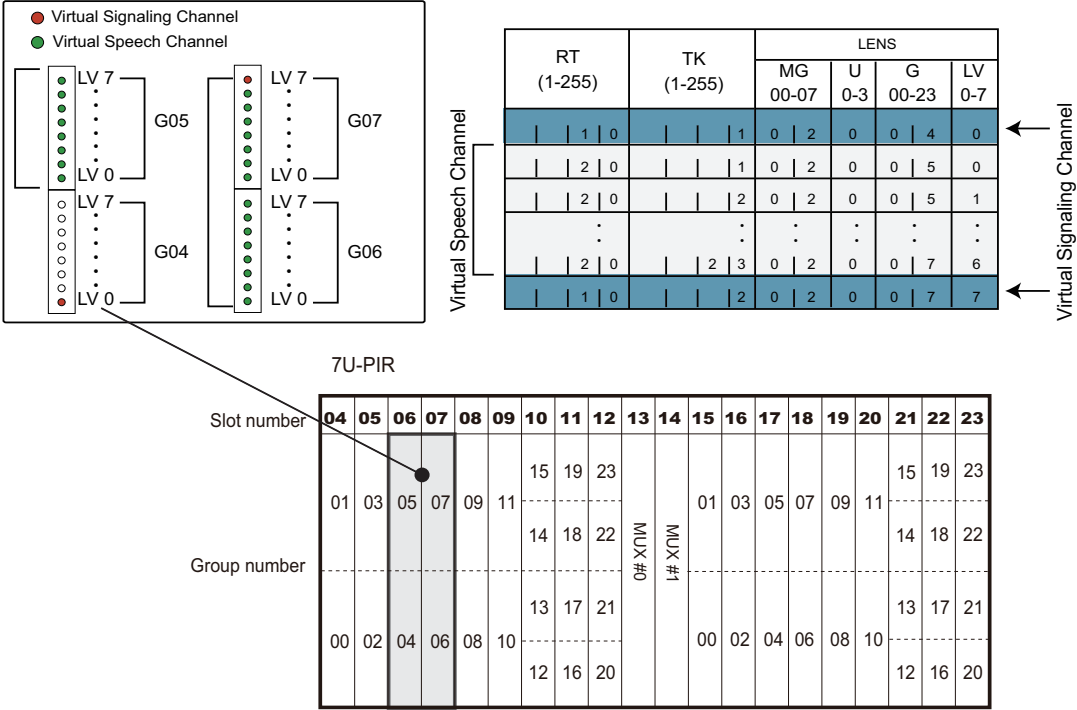
Note : The NDM command (ACIC1N) cannot be used here.

Step8: **ATRK** - Assign Trunk Data to each Virtual Signaling Channel.

Note :

- Be sure to assign route data with ARTD/ARTI before assigning trunk data with ATRK.
- Virtual trunk occupies 1 Highway (4-Group). For example, if one channel is registered for a Virtual Trunk, the whole HW is occupied exclusively for the Virtual Trunks.
- Do not assign any trunk data to Group 0 of Unit 0 in an even number Module Group.
- Location of Dch is fixed to the last channel of the highway.

Example of Trunk Data Setting



Step9: MBTK - Cancel the make-busy state of the Virtual Speech channel.

- RT : Route Number
- TK : Trunk Number
- MB = 0 (Make-Busy Cancel)

Step10: AMGIL - Assign the information of the UG50.

- MG-ID : Virtual MAC address of the PRT card (6 bytes)
- KIND = ISDN Trunk (PRI 1.5M)
- UG50 Multi-Slot Mode : Select the check box when registering PRT card in Multi-slot mode. **Note 3**
- LINE = 0 (Fixed)
- CH = 0 (Fixed)
- LENS : Assign the first channel of HW to which the Virtual Speech/Signal Channel is allocated. **Note 4**
- CALL HOLD (MG-PRI Call Hold Service) : Select the check box to enable CALL PROTECTED RE-REGISTRATION [C-203].
- Retry : Number of retry to request connection to the PRT card. (0 to 15)

Setting Type of Signaling Packet Service : Select the check box if you specify a ToS value for the UG50 (PRT card) by Signaling Channel QoS Setup (Internal PHI (PRI)).

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).

Low Delay : Select the check box to enable the low delay routing.

Through Put : Select the check box to enable the high throughput routing.

Reliability : Select the check box to enable the maximum reliability routing.

Min Cost : Select the check box to enable the minimum cost routing.

Note 5

<When “DIFFSERV” is chosen>

Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.

Note3: Do not select the check box when using Retrofit mode. If marked, registration cannot be performed.

Note4: LENS:000000 is not available for the users.

Note5: This check box has no effect on UG50.

Step11: AMGVL - Assign the Voice Control data for connecting to the UG50.

A RT (Storing MG) : Physical Route Number for the Virtual Speech Channel of the target PRT card.

TYPE : Choose Route Specified or Location ID Specified.

<When “Route Specified” is chosen>

B RT (Storing MG) : Select for the tandem connection of the MG with MG. Register the physical route number for the Virtual Speech Channel of the destination MG.

<When “Location ID Specified” is chosen>

B LOC-ID : Register the location ID which the destination IP terminal belongs to.
*LOC-ID is normally selected.

Setting of Jitter Buffer : When setting the Jitter Buffer, select the check box.

JB MIN : Jitter Buffer minimum value (0 to 30 (x10 ms))

JB MAX : Jitter Buffer maximum value (0 to 30 (x10 ms))

Setting Type of Voice Packet Service : When specifying a ToS value for voice packets, select the check box.

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

Priority (PRECEDENCE/ DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).

Low Delay : Select the check box to enable the low delay routing.

Through Put : Select the check box to enable the high throughput routing.

Reliability : Select the check box to enable the maximum reliability routing.

Min Cost : Select the check box to enable the minimum cost routing.

<When “DIFFSERV” is chosen>

Priority (PRECEDENCE/ DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.

Setting of Payload : When entering payload information, select the check box.

TYPE : Select a payload type from the drop-down list box.

SIZE : Select a payload size from the drop-down list box.

9.9 PRT Card (1.5M) Data Settings (SIP Mode)

This section describes the required data settings on the SV9500 for the UG50 (PRT card) (1.5M) in SIP mode.

Target Mode and Device

Operation Mode	Device Name
Multi-slot Mode	UG50 (PRT 1.5M) [SIP]
Retrofit Mode	UG50-24PRIA [SIP]

Step1: **ASYD** - Assign the following system data into DM:

SYS 1,

Index 186, Bit 6=1 (ISDN is in service)

Index 187=00 HEX (Fixed)

Index 474 (Guard Timer for Originating Call)

Bit 0 to 3: MTC (Timer Counter)

Bit 4 to 6: TC (Timer Class), assign 1H (64 ms Cycle)

Step2: **ASYDL** - Assign the following system data into LDM:

SYS 1,

Index 810, Bit 2: External Music On Hold service for IP terminal.

0/1: Internal Music On Hold (IP terminal)/External Music On Hold (EMA/PLO)

Note : It is only valid when the Music On Hold service is not set with the AMGIL command.

Step3: **ARTD** - Assign the route class data for the Virtual Speech Channel Route and the Virtual Signaling Channel Route. The following is an example when the Virtual Signaling Channel=Route 10 and the Virtual Speech Channel=Route 20:

- For ISDN Trunk Data

RT=20 (Virtual Speech Channel)				RT=10 (Virtual Signaling Channel)			
CDN	2	(ONSG)	= 2	CDN	2	(ONSG)	= 2
	4	(INSG)	= 2		4	(INSG)	= 2
	5	(TF)	= 3				
	6	(TCL)	= 1		6	(TCL)	= 1
	7	(L/T)	= 1		7	(L/T)	= 1
	8	(RLP)	= 2		8	(RLP)	= 2
	10	(SMDR)	= 1				
	15	(LSG)	= 12		15	(LSG)	= 13
	28	(ANS)	= 1		28	(ANS)	= 1
	30	(PAD)	= 4		30	(PAD)	= 7

31 (OGRL)	=	1		
32 (ICRL)	=	1		
34 (GUARD)	=	1		
45 (A/D)	=	1		
50 (DPLY)	=	1		
60 (TC/EC)	=	1		
65 (INT)	=	Note 1	65 (INT)	= Note 1
66 (DC)	=	Note 2	66 (DC)	= Note 2

The other data should be “0” (default data).

Note : Reset the GCD-PRTA card from the Card Configuration screen of Web Programming when changing data on the existing route (RT).

Note1: INT (CDN65): 1 N-ISDN2
2 Australia
4 PRI (ITU-T/ETSI)
5 AT&T (#4/#5 ESS)
7 NT DMS 100 / DMS 250

Note2: In the case of “SUB ADDRESS - ADDRESSING”, assign “0”. (Refer to SUB ADDRESS-ADDRESSING [S-95] in the Data Programming Manual - ISDN.)
In the case of “DID ADDRESSING”, refer to DIRECT INWARD DIALING (DID) ADDRESSING [D-123] in the Data Programming Manual - ISDN.

Step4: **ARTI** - Assign Trunk Application Data to the Virtual Speech Channel Route and the Virtual Signaling Channel Route. The following is an example when the Virtual Signaling Channel=Route 10 and the Virtual Speech Channel=Route 20:

RT = 10 (Virtual Signaling Channel)
RT = 20 (Virtual Speech Channel)
CDN68 (VIR) = 2 (MG Connection)

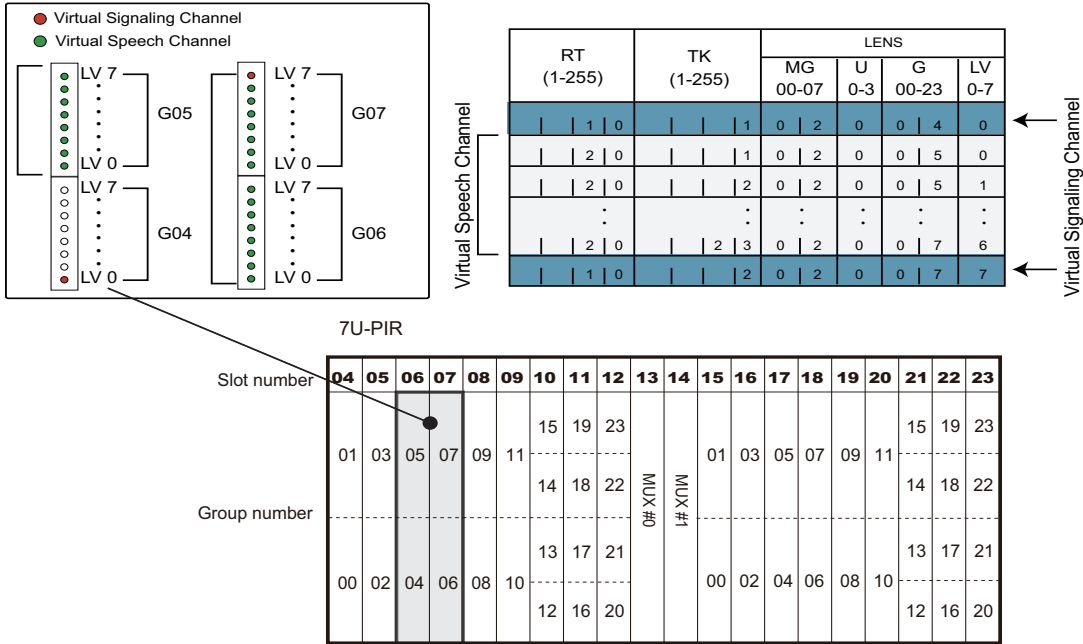
Note : Reset the GCD-PRTA card from the Card Configuration screen of Web Programming when changing data on the existing route (RT).

Step5: ATRK - Assign Trunk Data to each Virtual Speech Channel.

Note :

- Virtual trunk occupies 1 Highway (4-Group). For example, if one channel is registered for Virtual Trunk, the whole HW is occupied exclusively for the Virtual Trunk.
- Do not assign any trunk data to Group 0 of Unit 0 in an even number Module Group.
- Be sure to assign route data by ARTD/ARTI before assigning trunk data by ATRK.
- The total number of B-channels must not exceed 460 per two Module Group (MG) pair (i.e. MG0/1, MG2/3, MG4/5 and MG6/7).

Example of Trunk Data Setting



Step6: ADPC - Assign an arbitrary point code in the range from 1 through 16383 to the routes for the Virtual Speech Channel and the Virtual Signaling Channel. However, do not use the same PC that is already assigned to the CCIS data settings. (Normally, PC is not used for ISDN. However, it is required for the office data.)

Note : The NDM command (ADPCN) cannot be used here.

Step7: ACSC - Assign the basic accommodated location of the Virtual Signaling Channel to an even number ranging from 130 to 254, and the basic accommodated location of the Virtual Speech Channel to an odd number of CSC Group.

Note : The NDM command (ACSCN) cannot be used here.

Example of ACSC Settings

CSCG	CICG	CCH		
		MG 00-07	U 0-3	G 00-23
130 (Virtual Signaling Channel)	0	02	0	04
	1	02	0	04
	2	02	0	04
	3	02	0	04
	4	02	0	04
	5	02	0	04
	6	02	0	04
	7	02	0	04
131 (Virtual Speech Channel)	0	02	0	04
	1	02	0	04
	2	02	0	04
	3	02	0	04
	4	02	0	04
	5	02	0	04
	6	02	0	04
	7	02	0	04

Step8: **ACIC1** - Assign the accommodated location of the Virtual Signaling Channel to a Point Code (PC).

PC : Point Code specified with the ADPC command.

CSCG : CSC group of Virtual Signaling Channel specified with the ACSC command.

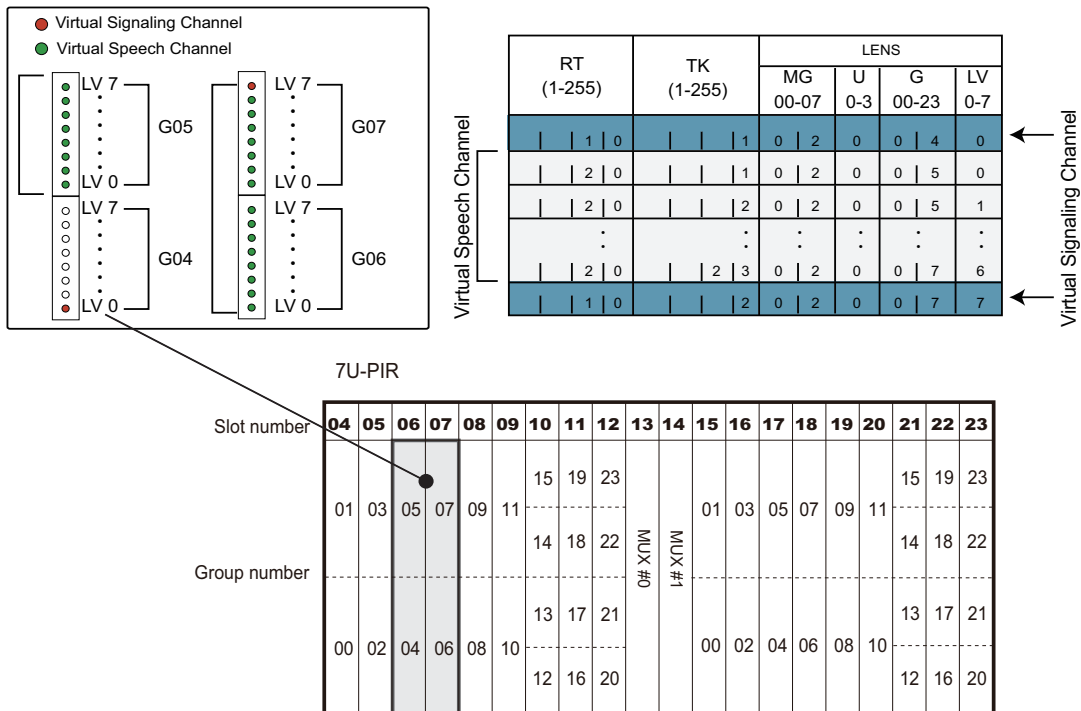
Note : The NDM command (ACIC1N) cannot be used here.

Step9: ATRK - Assign Trunk Data to each Virtual Signaling Channel.

Note :

- Be sure to assign route data with ARTD/ARTI before assigning trunk data with ATRK.
- Virtual trunk occupies 1 Highway (4-Group). For example, if one channel is registered for a Virtual Trunk, the whole HW is occupied exclusively for the Virtual Trunks.
- Do not assign any trunk data to Group 0 of Unit 0 in an even number Module Group.
- Location of Dch is fixed to the last channel of the highway.

Example of Trunk Data Setting



Step10: MBTK - Cancel the make-busy state of each Virtual Speech channel.

- RT : Route Number
- TK : Trunk Number
- MB = 0 (Make-Busy Cancel)

Step11: AMGIL - Assign the information of the UG50.

- MG-ID : Virtual MAC address of the PRT card (6 bytes)
- KIND = ISDN Trunk (PRI 1.5M) [SIP]
- UG50 Multi-Slot Mode : Select the check box when registering PRT card in Multi-slot mode. **Note 3**
- LINE = 0 (Fixed)

CH	= 0 (Fixed)
LENS	: Assign the first channel of HW to which the Virtual Speech/Signal Channel is allocated. Note 4
Setting Type of Signaling Packet Service	: Select the check box if you specify a ToS value for Signaling Route used by the UG50 (PRT card).
IP PRECEDENCE/DIFFSERV	: Choose IP Precedence or DiffServ.
<When “IP PRECEDENCE” is chosen>	
Priority (PRECEDENCE/DSCP)	: Enter an IP Precedence value in the range of 0 to 7 (low to high).
Low Delay	: Select the check box to enable the low delay routing.
Through Put	: Select the check box to enable the high throughput routing.
Reliability	: Select the check box to enable the maximum reliability routing.
Min Cost	: Select the check box to enable the minimum cost routing. Note 5
<When “DIFFSERV” is chosen>	
Priority (PRECEDENCE/DSCP)	: Enter a DiffServ Code Point in the range of 0 to 63.
Music On Hold Exists	: Not used. Note 6
Country Code	: Note 7
Law of A/D Conversion	: Note 7

Note3: Do not select the check box when using Retrofit mode. If marked, registration cannot be performed.

Note4: LENS:000000 is not available for the users.

Note5: This check box has no effect on UG50.

Note6: It is not available for the UG50 (PRT card). Do not select the check box.

Note7: The value that has been specified with Web Programming on the UG50 is valid.

Step12: AMGVL - Assign the Voice Control data for connecting to the UG50.

A RT (Storing MG)	: Physical Route Number for the Virtual Speech Channel of the target PRT card.
TYPE	: Choose Route Specified or Location ID Specified.
<When “Route Specified” is chosen>	
B RT (Storing MG)	: Select for the tandem connection of the MG with MG. Register the physical route number for the Virtual Speech Channel of the destination MG.

<When “Location ID Specified” is chosen>

- B LOC-ID : Register the location ID which the destination IP terminal belongs to.
*LOC-ID is normally selected.
- Setting of Jitter Buffer : When setting the Jitter Buffer, select the check box.
- JB MIN : Jitter Buffer minimum value (0 to 30 (x10 ms))
- JB MAX : Jitter Buffer maximum value (0 to 30 (x10 ms))
- Setting Type of Voice Packet Service : When specifying a ToS value for voice packets, select the check box.
- IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

- Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).
- Low Delay : Select the check box to enable the low delay routing.
- Through Put : Select the check box to enable the high throughput routing.
- Reliability : Select the check box to enable the maximum reliability routing.
- Min Cost : Select the check box to enable the minimum cost routing.

<When “DIFFSERV” is chosen>

- Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.
- Setting of Payload : When entering payload information, select the check box.
- TYPE : Select a payload type from the drop-down list box.
- SIZE : Select a payload size from the drop-down list box.

9.9.1 Registration of Authentication Data

Step1: **ASECL** - Assign a one-time password and its valid time.

<Authentication Registration Tab>

One-time Password : Password setting for authentication registration. (4 to 10 digits)

Valid Time : Duration of time for a one-time password to be valid. (Unlimited duration or 1 min. to 7days)

Note : To register the authentication data, the same password to be set here needs to be set on the UG50 as well. For information on how to set One-Time Password, refer to [“PRT Card \(1.5M\) Data Settings \(SIP mode\)”](#).

9.10 PRT Card (2M) Data Settings (Proprietary Protocol Mode)

This section describes the required data settings on the SV9500 for the UG50 (PRT card) (2M) in Proprietary Protocol mode.

Target Mode and Device

Operation Mode	Device Type
Multi-slot mode	UG50 (PRT 2M) [Proprietary Protocol]
Retrofit mode	UG50-30PRIA [Proprietary Protocol]

Step1: **ASYD** - Assign the following system data into DM:

SYS 1,

Index 186, Bit6 = 1 (ISDN is in service)

Index 187=00 HEX (Fixed)

Index 474 (Guard Timer for Originating Call)

Bit 0 to 3: MTC (Timer Counter for Originating Call)

Bit 4 to 6: TC (Timer Class), assign 1H (64 ms Cycle)

Step2: **ARTD** - Assign the route class data for the Virtual Speech Channel Route and the Virtual Signaling Channel Route. The following is an example when the Virtual Signaling Channel=Route 10 and the Virtual Speech Channel=Route 20:

[1] For ISDN Trunk Data

RT=20 (Virtual Speech Channel)				RT=10 (Virtual Signaling Channel)			
CDN	2	(ONSG)	= 2	CDN	2	(ONSG)	= 2
	4	(INSG)	= 2		4	(INSG)	= 2
	5	(TF)	= 3				
	6	(TCL)	= 1		6	(TCL)	= 1
	7	(L/T)	= 1		7	(L/T)	= 1
	8	(RLP)	= 2		8	(RLP)	= 2
	10	(SMDR)	= 1				
	15	(LSG)	= 12		15	(LSG)	= 13
	28	(ANS)	= 1		28	(ANS)	= 1
	30	(PAD)	= 4		30	(PAD)	= 7
	31	(OGRL)	= 1				
	32	(ICRL)	= 1				
	34	(GUARD)	= 1				
	45	(A/D)	= 1				
	50	(DPLY)	= 1				

60 (TC/EC)	=	1			
63 (LYER1)	=	1		63 (LYER1)	= 1
65 (INT)	=	Note 1		65 (INT)	= Note 1
		Note 2			Note 2
66 (DC)	=	Note 3		66 (DC)	= Note 3
116 (PREF)	=	0/1			
		Note 4			

The other data should be “0” (default data).

Note : Reset the GCD-PRTA card from the Card Configuration screen of Web Programming when changing data on the existing route (RT).

Note1: INT (CDN65): 1 N-ISDN2
2 Australia
4 PRI (ITU-T/ETSI)
5 AT&T (#4/#5 ESS)
7 NT DMS 100 / DMS 250

Note2: When you assign 65(INT)=4, refer to 5. ETSI ISDN Data Assignment in Chapter 3 of Data Programming Manual - ISDN.

Note3: In the case of “SUB ADDRESS - ADDRESSING”, assign “0”. (Refer to SUB ADDRESS-ADDRESSING [S-95] in the Data Programming Manual - ISDN.)
In the case of “DID ADDRESSING”, refer to DIRECT INWARD DIALING (DID) ADDRESSING [D-123] in the Data Programming Manual - ISDN.

Note4: Required for EMEA. When you use ETSI Channel Negotiation, refer to 6. ETSI Channel Negotiation in Chapter 3 of Data Programming Manual - ISDN.

[2] For Q-SIG Trunk Data

RT=20 (Virtual Speech Channel)			RT=10 (Virtual Signaling Channel)		
CDN	2 (ONSG)	= 2	CDN	2 (ONSG)	= 2
	4 (INSG)	= 2		4 (INSG)	= 2
	5 (TF)	= 3		5 (TF)	= 3
	6 (TCL)	= 4		6 (TCL)	= 4
	7 (L/T)	= 1		7 (L/T)	= 1
	8 (RLP)	= 2			
	15 (LSG)	= 12		15 (LSG)	= 13
	28 (ANS)	= 1			
	30 (PAD)	= 4 Note 5		30 (PAD)	= 7
	31 (OGRL)	= 1		31 (OGRL)	= 1
	32 (ICRL)	= 1		32 (ICRL)	= 1
	34 (GUARD)	= 1		34 (GUARD)	= 1
	45 (A/D)	= 1		45 (A/D)	= 1
	49 (TRKS)	= 0/1 Note 6			

50 (DPLY)	=	1	Note 7
60 (TC/EC)	=	1	
63 (LYER1)	=	1	
65 (INT)	=	10	
66 (DC)	=	15	Note 8
113 (UUI)	=	1	Note 9
116 (PREF)	=	0/1	Note 10
118 (BOB)	=	1	Note 11

The other data should be “0” (default data).

Note5: Depending on the level diagram of the network, data “4” is standard.

Note6: Each office must be assigned a different value to avoid collision at the time of call origination.

Note7: Assign “1” when the number display on LCD of terminal is required.

Note8: ACDD is not available if DC=15.

Note9: Assign “1” when the User-to-User Signaling notification is required.

Note10: Required for EMEA. To provide the system with channel negotiation, see 7. Q-SIG CHANNEL NEGOTIATION in Chapter 3 of Data Programming Manual - ISDN.

Note11: Assign “1” when the multi-rate bearer service is used.

Step3: **ARTI** - Assign Trunk Application Data to the Virtual Speech Channel Route and the Virtual Signal Channel Route. The following is an example when the Virtual Signaling Channel=Route 10 and the Virtual Speech Channel=Route 20:

RT	=	10 (Virtual Signaling Channel)
RT	=	20 (Virtual Speech Channel)
CDN68 (VIR)	=	2 (MG Connection)
CDN89 (REGION)	=	1 (ETSI ISDN) *Required for EMEA

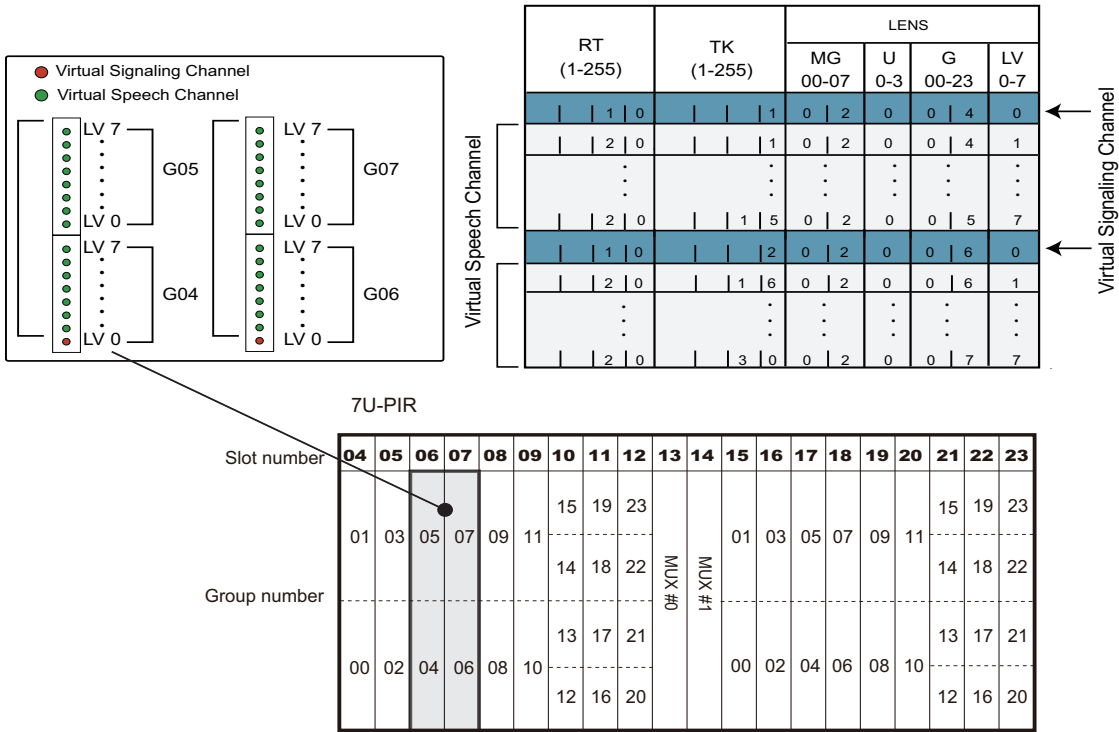
Note : Reset the GCD-PRTA card from the Card Configuration screen of Web Programming when changing data on the existing route (RT).

Step4: ATRK - Assign Trunk Data to each Virtual Speech Channel.

Note :

- Virtual trunk occupies 1 Highway (4-Group). For example, if one channel is registered for Virtual Trunk, the whole HW is occupied exclusively for the Virtual Trunk.
- Do not assign any trunk data to Group 0 of Unit 0 in an even number Module Group.
- Be sure to assign route data by ARTD/ARTI before assigning trunk data by ATRK.
- The total number of B-channels must not exceed 460 per two Module Group (MG) pair (i.e. MG0/1, MG2/3, MG4/5 and MG6/7).

Example of Trunk Data Setting



Step5: ADPC - Assign an arbitrary point code in the range from 1 through 16383 to the routes for the Virtual Speech Channel and the Virtual Signaling Channel. However, do not use the same PC that is already assigned to the CCIS data settings. (Normally, PC is not used for ISDN. However it is required for the office data.)

Note : The NDM command (ADPCN) cannot be used here.

Step6: ACSC - Assign the basic accommodated location of the Virtual Signaling Channel to an even number ranging from 130 to 254, and the basic accommodated location of the Virtual Speech Channel to an odd number of CSC Group.

Note : The NDM command (ACSCN) cannot be used here.

Example of ACSC Settings

CSCG	CICG	CCH		
		MG 00-07	U 0-3	G 00-23
130 (Virtual Signaling Channel)	0	02	0	04
	1	02	0	04
	2	02	0	04
	3	02	0	04
	4	02	0	04
	5	02	0	04
	6	02	0	04
	7	02	0	04
131 (Virtual Speech Channel)	0	02	0	04
	1	02	0	04
	2	02	0	04
	3	02	0	04
	4	02	0	04
	5	02	0	04
	6	02	0	04
	7	02	0	04

Step7: ACIC1 - Assign an accommodated location of the Virtual Signaling Channel to a Point Code (PC).

PC : Point Code specified with the ADPC command.

CSCG : CSC group of Virtual Signaling Channel specified with the ACSC command.

Note : The NDM command (ACIC1N) cannot be used here.

Step8: ACIC2 - Assign the CIC Number and accommodated location of Virtual Speech Channel to the Point Code. **Required only for Q-SIG trunk.*

PC : Point Code specified with the ADPC command.

CIC : The same CIC number must be given to one speech line between two nodes.

LENS : Accommodated location of Virtual Speech Channel. **Note 12**

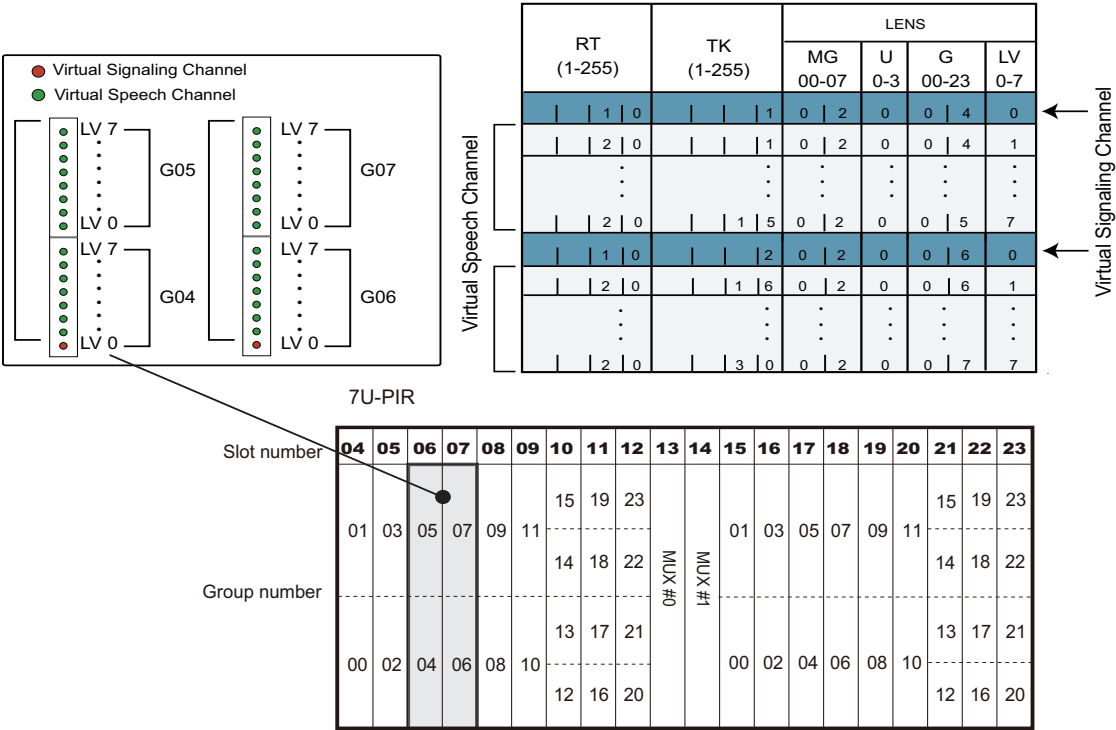
Note12: LENS:000000 is not available for the users.

Step9: ATRK - Assign Trunk Data to each Virtual Signaling Channel.

Note :

- Be sure to assign route data with ARTD/ARTI before assigning trunk data with ATRK.
- Virtual trunk occupies 1 Highway (4-Group). For example, if one channel is registered for a Virtual Trunk, the whole HW is occupied exclusively for the Virtual Trunk.
- Do not assign any trunk data to Group 0 of Unit 0 in an even number Module Group.
- In the case of the below figure, location of Dch is fixed to Level 0 of Group 06 (the first Level of the third Group).

Example of Trunk Data Setting



Step10: MBTK - Cancel the make-busy state of the Virtual Speech channel.

- RT : Route Number
- TK : Trunk Number
- MB = 0 (Make-Busy Cancel)

Step11: AMGIL - Assign the information of the UG50.

- MG-ID : Virtual MAC address of the PRT card (6 bytes)
- KIND = ISDN Trunk (PRI 2M)
- UG50 Multi-Slot Mode : Select the check box when registering PRT card in Multi-slot mode. **Note 13**

LINE	= 0 (Fixed)
CH	= 0 (Fixed)
LENS	: Assign the first channel of HW to which the Virtual Speech/Signal Channel is allocated. Note 14
CALL HOLD (MG-PRI Call Hold Service)	: Select the check box to enable CALL PROTECTED RE-REGISTRATION [C-203].
Retry	: Number of retry to request connection to the PRT card. (0 to 15)
Setting Type of Signaling Packet Service	: Select the check box if you specify a ToS value for the UG50 (PRT card) by Signaling Channel QoS Setup (Internal PHI (PRI)).
IP PRECEDENCE/DIFFSERV	: Choose IP Precedence or DiffServ.
<When “IP PRECEDENCE” is chosen>	
Priority (PRECEDENCE/DSCP)	: Enter an IP Precedence value in the range of 0 to 7 (low to high).
Low Delay	: Select the check box to enable the low delay routing.
Through Put	: Select the check box to enable the high throughput routing.
Reliability	: Select the check box to enable the maximum reliability routing.
Min Cost	: Select the check box to enable the minimum cost routing.
Note 15	
<When “DIFFSERV” is chosen>	
Priority (PRECEDENCE/DSCP)	: Enter a DiffServ Code Point in the range of 0 to 63.

Note13: Do not select the check box when using Retrofit mode. If marked, registration cannot be performed.

Note14: LENS:000000 is not available for the users.

Note15: This check box has no effect on UG50.

Step12: AMGVL - Assign the Voice Control data for connecting to the UG50.

A RT (Storing MG)	: Physical Route Number for the Virtual Speech Channel of the target PRT card.
TYPE	: Choose Route Specified or Location ID Specified.
<When “Route Specified” is chosen>	
B RT (Storing MG)	: Select for the tandem connection of the MG with MG. Register the physical route number for the Virtual Speech Channel of the destination MG.

<When “Location ID Specified” is chosen>

B LOC-ID : Register the location ID which the destination IP terminal belongs to.
*LOC-ID is normally selected.

Setting of Jitter Buffer : When setting the Jitter Buffer, select the check box.

JB MIN Jitter Buffer minimum value (0 to 30 (x10 ms))

JB MAX Jitter Buffer maximum value (0 to 30 (x10 ms))

Setting Type of Voice Packet Service : When specifying a ToS value for voice packets, select the check box.

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).

Low Delay : Select the check box to enable the low delay routing.

Through Put : Select the check box to enable the high throughput routing.

Reliability : Select the check box to enable the maximum reliability routing.

Min Cost : Select the check box to enable the minimum cost routing.

<When “DIFFSERV” is chosen>

Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.

Setting of Payload : When entering payload information, select the check box.

TYPE : Select a payload type from the drop-down list box.

SIZE : Select a payload size from the drop-down list box.

9.11 PRT Card (2M) Data Settings (SIP Mode)

This section describes the required data settings on the SV9500 for the UG50 (PRT card) (2M) in SIP mode.

Target Mode and Device

Operation Mode	Device Name
Multi-slot Mode	UG50 (PRT 2M) [SIP]
Retrofit Mode	UG50-30PRIA [SIP]

Step1: **ASYD** - Assign the following system data into DM:

SYS 1,

Index 186, Bit 6=1 (ISDN is in service)

Index 187=00 HEX (Fixed)

Index 474 (Guard Timer for Originating Call)

Bit 0 to 3: MTC (Timer Counter)

Bit 4 to 6: TC (Timer Class), assign 1H (64 ms Cycle)

Step2: **ASYDL** - Assign the following system data into LDM:

SYS 1,

Index 810, Bit 2: External Music On Hold service for IP terminal.

0/1: Internal Music On Hold (IP terminal)/External Music On Hold (EMA/PLO)

Note : It is only valid when the Music On Hold service is not set with the AMGIL command.

Step3: **ARTD** - Assign the route class data for the Virtual Speech Channel Route and the Virtual Signaling Channel Route. The following is an example when the Virtual Signaling Channel=Route 10 and the Virtual Speech Channel=Route 20:

[1] For ISDN Trunk Data

RT=20 (Virtual Speech Channel)				RT=10 (Virtual Signaling Channel)			
CDN	2	(ONSG)	= 2	CDN	2	(ONSG)	= 2
	4	(INSG)	= 2		4	(INSG)	= 2
	5	(TF)	= 3				
	6	(TCL)	= 1		6	(TCL)	= 1
	7	(L/T)	= 1		7	(L/T)	= 1
	8	(RLP)	= 2		8	(RLP)	= 2
	10	(SMDR)	= 1				
	15	(LSG)	= 12		15	(LSG)	= 13
	28	(ANS)	= 1		28	(ANS)	= 1
	30	(PAD)	= 4		30	(PAD)	= 7

31 (OGRL)	=	1		
32 (ICRL)	=	1		
34 (GUARD)	=	1		
45 (A/D)	=	1		
50 (DPLY)	=	1		
60 (TC/EC)	=	1		
63 (LYER1)	=	1	63 (LYER1)	= 1
65 (INT)	=	Note 1	65 (INT)	= Note 1
		Note 2		Note 2
66 (DC)	=	Note 3	66 (DC)	= Note 3
116 (PREF)	=	0/1 Note 4		

The other data should be “0” (default data).

Note : Reset the GCD-PRTA card from the Card Configuration screen of Web Programming when changing data on the existing route (RT).

Note1: INT (CDN65): 1 N-ISDN2
2 Australia
4 PRI (ITU-T/ETSI)
5 AT&T (#4/#5 ESS)
7 NT DMS 100 / DMS 250

Note2: When you assign 65(INT)=4, refer to 5. ETSI ISDN Data Assignment in Chapter 3 of Data Programming Manual - ISDN.

Note3: In the case of “SUB ADDRESS - ADDRESSING”, assign “0”. (Refer to SUB ADDRESS-ADDRESSING [S-95] in the Data Programming Manual - ISDN.)
In the case of “DID ADDRESSING”, refer to DIRECT INWARD DIALING (DID) ADDRESSING [D-123] in the Data Programming Manual - ISDN.

Note4: Required for EMEA. When you use ETSI Channel Negotiation, refer to 6. ETSI Channel Negotiation in Chapter 3 of Data Programming Manual - ISDN.

[2] For Q-SIG Trunk Data

RT=20 (Virtual Speech Channel)				RT=10 (Virtual Signaling Channel)			
CDN	2 (ONSG)	=	2	CDN	2 (ONSG)	=	2
	4 (INSG)	=	2		4 (INSG)	=	2
	5 (TF)	=	3		5 (TF)	=	3
	6 (TCL)	=	4		6 (TCL)	=	4
	7 (L/T)	=	1		7 (L/T)	=	1
	8 (RLP)	=	2				

15 (LSG)	=	12	15 (LSG)	=	13
28 (ANS)	=	1			
30 (PAD)	=	4 Note 5	30 (PAD)	=	7
31 (OGRL)	=	1	31 (OGRL)	=	1
32 (ICRL)	=	1	32 (ICRL)	=	1
34 (GUARD)	=	1	34 (GUARD)	=	1
45 (A/D)	=	1	45 (A/D)	=	1
49 (TRKS)	=	0/1 Note 6			
50 (DPLY)	=	1 Note 7			
60 (TC/EC)	=	1			
63 (LYER1)	=	1			
65 (INT)	=	10	65 (INT)	=	10
66 (DC)	=	15 Note 8			
113 (UII)	=	1 Note 9			
116 (PREF)	=	0/1 Note 10			
118 (BOB)	=	1 Note 11	118 (BOB)	=	1 Note 11

The other data should be “0” (default data).

Note5: Depending on the level diagram of the network, data “4” is standard.

Note6: Each office must be assigned a different value to avoid collision at the time of call origination.

Note7: Assign “1” when the number display on LCD of terminal is required.

Note8: ACDD is not available if DC=15.

Note9: Assign “1” when the User-to-User Signaling notification is required.

Note10: Required for EMEA. To provide the system with channel negotiation, see 7. Q-SIG CHANNEL NEGOTIATION in Chapter 3 of Data Programming Manual - ISDN.

Note11: Assign “1” when the multi-rate bearer service is used.

Step4: **ARTI** - Assign Trunk Application Data to the Virtual Speech Channel Route and the Virtual Signaling Channel Route. The following is an example when the Virtual Signaling Channel=Route 10 and the Virtual Speech Channel=Route 20:

RT	=	10 (Virtual Signaling Channel)
RT	=	20 (Virtual Speech Channel)
CDN68 (VIR)	=	2 (MG Connection)
CDN89 (REGION)	=	1 (ETSI ISDN) *Required for EMEA

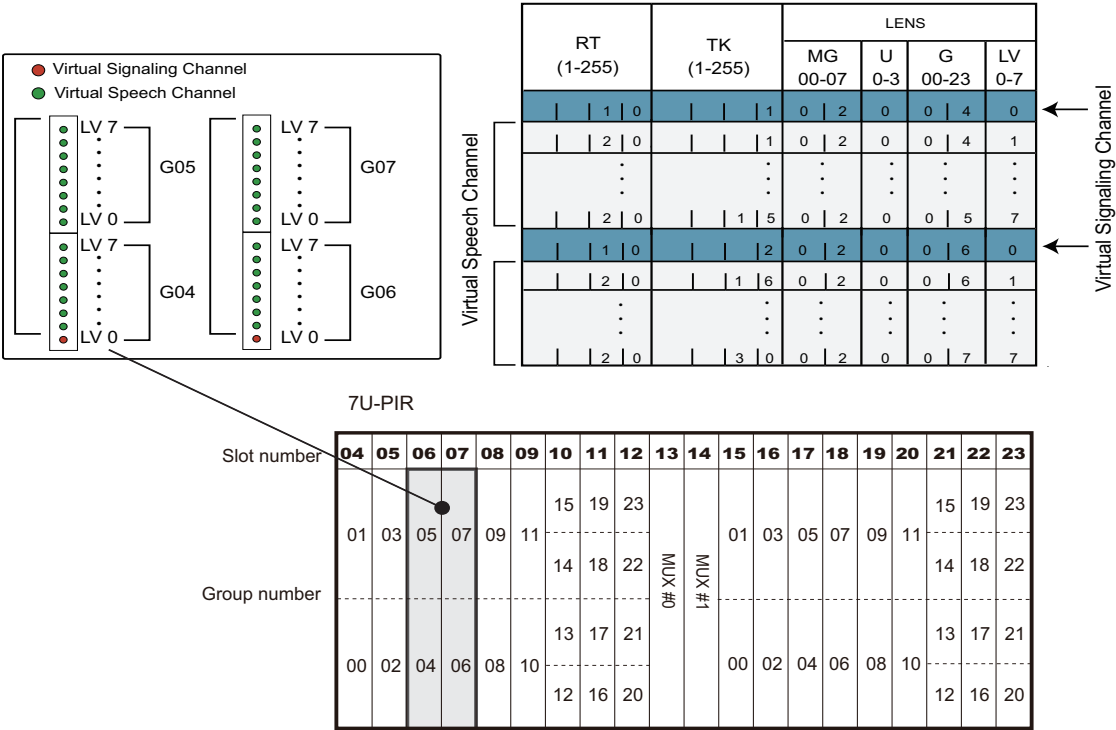
Note : Reset the GCD-PRTA card from the Card Configuration screen of Web Programming when changing data on the existing route (RT).

Step5: ATRK - Assign Trunk Data to each Virtual Speech Channel.

Note :

- Be sure to assign route data with ARTD/ARTI before assigning trunk data with ATRK.
- Virtual trunk occupies 1 Highway (4-Group). For example, if one channel is registered for a Virtual Trunk, the whole HW is occupied exclusively for the Virtual Trunk.
- Do not assign any trunk data to Group 0 of Unit 0 in an even number Module Group.
- The total number of B-channels must not exceed 460 per two Module Group (MG) pair (i.e. MG0/1, MG2/3, MG4/5 and MG6/7).

Example of Trunk Data Setting



Step6: ADPC - Assign an arbitrary point code in the range from 1 through 16383 to the routes for the Virtual Speech Channel and the Virtual Signaling Channel. However, do not use the same PC that is already assigned to the CCIS data settings. (Normally, PC is not used for ISDN. However, it is required for the office data.)

Note : The NDM command (ADPCN) cannot be used here.

Step7: ACSC - Assign the basic accommodated location of the Virtual Signaling Channel to an even number ranging from 130 to 254, and the basic accommodated location of the Virtual Speech Channel to an odd number of CSC Group.

Note : The NDM command (ACSCN) cannot be used here.

Example of ACSC Settings

CSCG	CICG	CCH		
		MG 00-07	U 0-3	G 00-23
130 (Virtual Signaling Channel)	0	02	0	04
	1	02	0	04
	2	02	0	04
	3	02	0	04
	4	02	0	04
	5	02	0	04
	6	02	0	04
	7	02	0	04
131 (Virtual Speech Channel)	0	02	0	04
	1	02	0	04
	2	02	0	04
	3	02	0	04
	4	02	0	04
	5	02	0	04
	6	02	0	04
	7	02	0	04

Step8: ACIC1 - Assign the accommodated location of the Virtual Signaling Channel to a Point Code (PC).

PC : Point Code specified with the ADPC command.

CSCG : CSC group of the Virtual Signaling Channel specified with the ACSC command.

Note : The NDM command (ACIC1N) cannot be used here.

Step9: ACIC2 - Assign the CIC Number and accommodated location of Virtual Speech Channel to the Point Code. **Required only for Q-SIG trunk.*

PC : Point Code specified with the ADPC command.

CIC : The same CIC number must be given to one speech line between two nodes.

LENS : Accommodated location of Virtual Speech Channel. **Note 12**

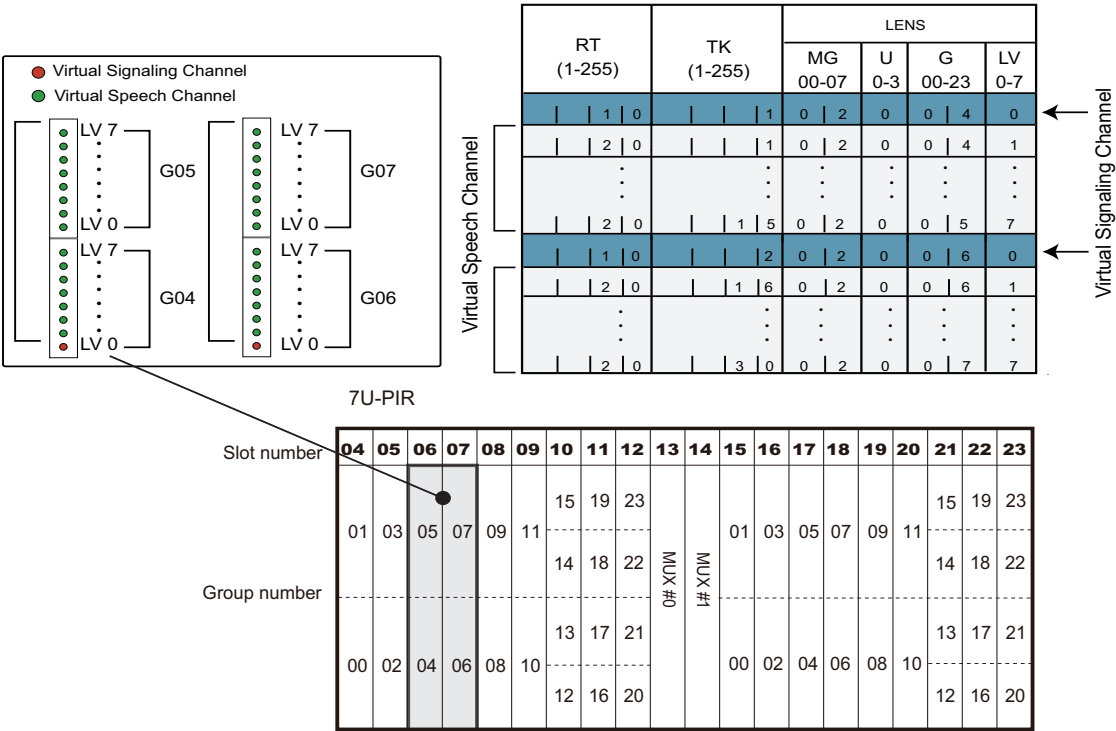
Note12: LENS:000000 is not available for the users.

Step10: ATRK - Assign Trunk Data to each Virtual Signaling Channel.

Note :

- Be sure to assign route data with ARTD/ARTI before assigning trunk data with ATRK.
- Virtual trunk occupies 1 Highway (4-Group). For example, if one channel is registered for a Virtual Trunk, the whole HW is occupied exclusively for the Virtual Trunks.
- Do not assign any trunk data to Group 0 of Unit 0 in an even number Module Group.
- In the case of the below figure, location of Dch is fixed to Level 0 of Group 06 (the first Level of the third Group).

Example of Trunk Data Setting



Step11: MBTK - Cancel the make-busy state of each Virtual Speech channel.

- RT : Route Number
- TK : Trunk Number
- MB = 0 (Make-Busy Cancel)

Step12: AMGIL - Assign the information of the UG50.

- MG-ID : Virtual MAC address of the PRT card (6 bytes)
- KIND = ISDN Trunk (PRI 2M) [SIP]

UG50 Multi-Slot Mode	:	Select the check box when registering PRT card in Multi-slot mode. Note 13
LINE	=	0 (Fixed)
CH	=	0 (Fixed)
LENS	:	Assign the first channel of HW to which the Virtual Speech/Signal Channel is allocated. Note 14
Setting Type of Signaling Packet Service	:	Select the check box if you specify a ToS value for Signaling Route used by the UG50 (PRT card).
IP PRECEDENCE/DIFFSERV	:	Choose IP Precedence or DiffServ.
<When “IP PRECEDENCE” is chosen>		
Priority (PRECEDENCE/DSCP)	:	Enter an IP Precedence value in the range of 0 to 7 (low to high).
Low Delay	:	Select the check box to enable the low delay routing.
Through Put	:	Select the check box to enable the high throughput routing.
Reliability	:	Select the check box to enable the maximum reliability routing.
Min Cost	:	Select the check box to enable the minimum cost routing. Note 15
<When “DIFFSERV” is chosen>		
Priority (PRECEDENCE/DSCP)	:	Enter a DiffServ Code Point in the range of 0 to 63.
Music On Hold Exists	:	Not used. Note 16
Country Code	:	Note 17
Law of A/D Conversion	:	Note 17

Note13: Do not select the check box when using Retrofit mode. If marked, registration cannot be performed.

Note14: LENS:000000 is not available for the users.

Note15: This check box has no effect on UG50.

Note16: It is not available for the UG50 (PRT card). Do not select the check box.

Note17: The value that has been input with Web Programming on the UG50 is valid.

Step13: AMGVL - Assign the Voice Control data for connecting to the UG50.

A RT (Storing MG)	:	Physical Route Number for the Virtual Speech Channel of the target PRT card.
TYPE	:	Choose Route Specified or Location ID Specified.
<When “Route Specified” is chosen>		
B RT (Storing MG)	:	Select for the tandem connection of the MG with MG. Register the physical route number for the Virtual Speech Channel of the destination MG.

<When “Location ID Specified” is chosen>

- B LOC-ID : Register the location ID which the destination IP terminal belongs to.
*LOC-ID is normally selected.
- Setting of Jitter Buffer : When setting the Jitter Buffer, select the check box.
- JB MIN : Jitter Buffer minimum value (0 to 30 (x10 ms))
- JB MAX : Jitter Buffer maximum value (0 to 30 (x10 ms))
- Setting Type of Voice Packet Service : When specifying a ToS value for voice packets, select the check box.
- IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

- Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).
- Low Delay : Select the check box to enable the low delay routing.
- Through Put : Select the check box to enable the high throughput routing.
- Reliability : Select the check box to enable the maximum reliability routing.
- Min Cost : Select the check box to enable the minimum cost routing.

<When “DIFFSERV” is chosen>

- Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.
- Setting of Payload : When entering payload information, select the check box.
- TYPE : Select a payload type from the drop-down list box.
- SIZE : Select a payload size from the drop-down list box.

9.11.1 Registration of Authentication Data

Step1: **ASECL** - Assign a one-time password and its valid time.

<Authentication Registration Tab>

One-time Password : Password setting for authentication registration. (4 to 10 digits)

Valid Time : Duration of time for a one-time password to be valid.
(Unlimited duration or 1 min. to 7days)

Note : To register the authentication data, the same password to be set here needs to be set on the UG50 as well. For information on how to set One-Time Password, refer to [“PRT Card \(2M\) Data Settings \(SIP mode\)”](#).

9.12 COT Card Data Settings

This section describes the required data settings on the SV9500 for the UG50 (COT card)/UG50 (LC&COT card).

Note: The MC part is not supported as MC-MG(COT) in Multi-slot mode. If the MC function is required, register KIND=Analog MC, CH=0 with the AISTL command. Register as the UG50 (LC) [Proprietary Protocol/SIP].

<Target Mode and Device>

Operation Mode	Device Name	Reference Data Settings
Multi-slot mode	UG50 (COT-TYPE1)	9.12.1 Data Settings on the MG Side
Retrofit mode	UG50-4LC2COTA (MG Part) Note 1	
	UG50-4LC2COTA (MC Part) Note 1	9.12.2 Data Settings on the MC Side

Note1: The UG50-4LC2COTA has both functions of MC and MG. Thereby data setting is required for each function.

9.12.1 Data Settings on the MG Side

Step1: **ASYD** - Assign the following system data into DM:

SYS 1,

Index 186, Bit 6=1 (ISDN in service)

Index 187=00 HEX (fixed)

Index 474 (Guard Timer for Originating Call) **Note 2**

Bit 0 to 3: MTC (Timer Counter)

Bit 4 to 6: TC (Timer Class), assign 1H (64 ms Cycle)

Note2: The Setting Value for the Guard Timer for Originating Call: MTC x TC (64 ms).

Step2: **ARTD** - Assign the Route Class Data for the Virtual Speech Channel Route. The following data setting is necessary in addition to the Analog C.O BWT setting.

CDN 1	OSGS	=0 (CCIS)
CDN 60	TC/EC	=1 (EC)
CDN 114	DCH	=1 (Channel Integration)
CDN 125	MGCOT	=1 (Use MG (COT))

When digits conversion is required for the received digits, assign the following data.

CDN 66 DC : Dialed Number Confirmation **Note 3**

Note3: Assign the number of digits for identifying the incoming line. Count from the last digit of the received number.

<Related to MF>

CDN 72	MFSP	Sending Speed (0 to 15)
CDN 73	KPPT	Duration of KP sending (0 to 15)
CDN 74	KPST	Pause after KP sending (0 to 15)
CDN 75	MT	Step Code (0/1)

Note :

- If Reset the COT card from the Card Configuration screen of Web Programming when changing data on the existing route (RT).
- The setting "PB, 60 milliseconds Interruption" for "CDN 2" is only valid for UG50. Other settings are not valid.

Step3: **ARTI** - Assign Trunk Application Data to the Virtual Speech Channel Route.

CDN 68 VIR =2 (MG connection)

When using fax connection via MG, following assignment is necessary.

CDN 71	MFSP	IP FAX data
CDN 72	KPPT	Jitter Buffer Size for IP FAX
CDN 73	KPST	Payload Type for IP FAX
CDN 74	MT	Payload Size for IP FAX

Note : Reset the COT card from the Card Configuration screen of Web Programming when changing data on the existing route (RT).

Step4: **ATRK** - Assign Trunk Data to each Virtual Speech Channel.

Note :

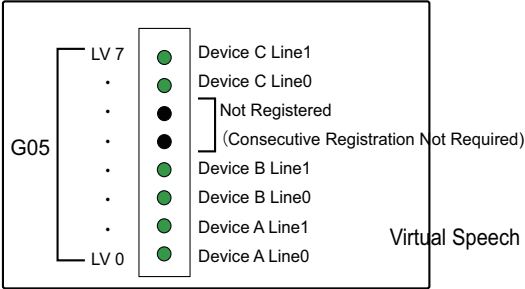
- If one channel is registered, the whole group is occupied.
- Do not assign any trunk data to Group 0 of Unit 0 in an even number Module Group.

<Example of Data Settings>

RT20: Device A, Device B

RT21: Device C

Example of Settings (Virtual Speech Channel)



Example of Data Settings

RT (1~255)	TK (1~255)	LENS			
		MG 00-07	U 0-3	G 00-23	LV 0-7
2 0	1	0 1	2	0 5	0
2 0	2	0 1	2	0 5	1
2 0	3	0 1	2	0 5	2
2 0	4	0 1	2	0 5	3
2 1	1	0 1	2	0 5	6
2 1	2	0 1	2	0 5	7

7U-PIR

Slot number	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
								15	19	23								15	19	23		
Group number	01	03	05	07	09	11		14	18	22			01	03	05	07	09	11		14	18	22
								13	17	21										13	17	21
	00	02	04	06	08	10						00	02	04	06	08	10			12	16	20

Assign the accommodation Location of Internal PHI with the ALIDL command. ("01204" is used here)

Step5: **MBTK** - Cancel the make-busy state of each Virtual Speech Channel.

- RT : Route Number
- TK : Trunk Number
- MB = 0 (Make-Busy Cancel)

Step6: **AMGIL** - Assign the information of the UG50.

Note : Be sure to see [9.18 Precautions for the registration of COT/PGT card and 6COT card](#) before assigning the LENS data.

Note : The device resets itself when the data registration/deletion being executed while it is operating.

- MG-ID : Virtual MAC address for each port of the COT card (6 bytes)
- KIND = MC-MG (COT)
- UG50 Multi-Slot Mode : Select the check box when registering COT card in Multi-slot mode. **Note 4**
- LINE : 0/1 (MG Line Number)
- CH = 0

- LENS : Assign the accommodated location of Virtual Speech Channel. **Note 5**
- Setting Type of Signaling Packet Service : Select the check box if you specify a ToS value for Signaling Route used by the UG50 (COT card) / UG50 (LC&COT card).
- IP PRECEDENCE/DIFF-SERV : Choose IP Precedence or DiffServ.
- <When “IP PRECEDENCE” is chosen>
- Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).
- Low Delay : Select the check box to enable the low delay routing.
- Through Put : Select the check box to enable the high throughput routing.
- Reliability : Select the check box to enable the maximum reliability routing.
- Min Cost : Select the check box to enable the minimum cost routing. **Note 6**
- <When “DIFFSERV” is chosen>
- Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.
- Music On Hold Exists : Not used. **Note 7**
- Country Code : **Note 8**
- Law of A/D Conversion : **Note 8**
- PB Receive Complete Timing of Dial-In : 0 to 15
- False Answer Timing : 0 to 15

Note4: Do not select the check box when using Retrofit mode. If marked, registration cannot be performed.

Note5: LENS:000000 is not available for the users.

Note6: This check box has no effect on UG50.

Note7: It is not available for the UG50 (COT card). Do not select the check box.

Note8: The value that has been input with Web Programming on the UG50 is valid.

Step7: AMGVL - Assign the Voice Control data for connecting to the UG50.

Note : The settings of the AIVCL command are valid if this command data is not assigned.

- A RT (Storing MG) : Physical Route Number for the Virtual Speech Channel of the target COT card.
- TYPE : Choose Route Specified or Location ID Specified.

<When “Route Specified” is chosen>

B RT (Storing MG) : Select for the tandem connection of the MG with MG. Register the physical route number for the Virtual Speech Channel of the destination MG.

<When “Location ID Specified” is chosen>

B LOC-ID : Register the location ID which the destination IP terminal belongs to.
*LOC-ID is normally selected.

Setting of Jitter Buffer : When setting the Jitter Buffer, select the check box.

JB MIN Jitter Buffer minimum value (0 to 30 (x10 ms))

JB MAX Jitter Buffer maximum value (0 to 30 (x10 ms))

Setting Type of Voice Packet Service : When specifying a ToS value for voice packets, select the check box.

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).

Low Delay : Select the check box to enable the low delay routing.

Through Put : Select the check box to enable the high throughput routing.

Reliability : Select the check box to enable the maximum reliability routing.

Min Cost : Select the check box to enable the minimum cost routing.

<When “DIFFSERV” is chosen>

Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.

Setting of Payload : When entering payload information, select the check box.

TYPE : Select a payload type from the drop-down list box.

SIZE : Select a payload size from the drop-down list box.

Setting of PAD : When setting PAD value, select the check box.

- No : Select the number corresponding to terminals or network equipment listed below:
 1 = PAD value of MG when DtermIP/Soft Phone/IN-ASET is connected
 2 = PAD value of MG when Analog MC/Digital MC is connected
 3 = PAD value of MG when IPPAD is connected
 4 = PAD value of MG when MG is connected
- Setting of Detail **Note 9** : Not Setting/Setting
 If you set the PAD value by selecting from the pre-defined options, choose “Not Setting.”
 If you set the PAD value to a custom value, choose “Setting.”
- KIND **Note 10** : Enter a PAD value (0 to 15, except when you select “2” for the No parameter, in which case the valid range is 0 to 3).
- SEND **Note 11** : Specify a PAD value for sending side.
- RECV **Note 11** : Specify a PAD value for receiving side.

Note9: The PAD value of MG (COT) is valid only when a custom value is specified for the parameter.

Note10: Available only when “Not Setting” is chosen for the Setting of Detail parameter.

Note11: Available only when “Setting” is chosen for the Setting of Detail parameter.

9.12.2 Data Settings on the MC Side

Configure the data settings of MC function, referring to “[9.6 LC Card Data Settings \(Proprietary Protocol Mode\)](#)”. However, the data settings of the AISTL command are shown as below.

Step1: **AISTL** - Assign the IP terminal data.

- TN : Tenant Number (1 to 63)
- IP STN : Station number of the Analog terminal accommodated in the LC Card (A maximum of 5 digits)
- KIND : Select “MC-MG (COT)”.
- TEC : Telephone Equipment Class (2, 3, 14)
- RSC : Route Restriction Class (0 to 15)
- SFC : Service Feature Restriction Class (0 to 15)
- LENS : IP Station Equipment Numbers **Note 12**

It can be assigned to the vacant slot on which the station/trunk is not mounted. (It cannot overwrite the station/trunk that has already been assigned.) For details on Virtual PIR, refer to “Virtual PIR Data” in Chapter 2 of Data Programming Manual - Business.

MC-ID : MAC address of the UG50-4LC2COTA (6 bytes)
MC-CH : Channel Number of the UG50-4LC2COTA [0 (Port 0) to 3
(Port 3)]

Note12: LENS:000000 is not available for the users.

9.13 6COT Card Data Settings (Proprietary Protocol Mode)

This section describes the required data settings on the SV9500 for the UG50 (6COT card) in Proprietary Protocol mode.

Target Mode and Device

Mode	Device Name
Multi-slot Mode	UG50 (COT-TYPE2) [Proprietary Protocol]
Retrofit Mode	UG50-6COT [Proprietary Protocol]

Step1: **ASYD** - Perform the following system data setting:

SYS 1,

Index 186, Bit 6=1 (ISDN is in service)

Index 187=00 HEX (Fixed)

Index 474 (Guard Timer for Originating Call)

Bit 0 to 3: MTC (Timer Counter)

Bit 4 to 6: TC (Timer Class), assign 1H (64 ms Cycle)

* The Setting Value for the Guard Timer for Originating Call: MTC x TC (64ms)

Step2: **ARTD** - Assign the Route Class Data for the Virtual Speech Channel Route. The following data setting is necessary in addition to the Analog C.O BWT setting.

CDN 1	OSGS	= 0 (CCIS)
CDN 60	TC/EC	= 1 (EC)
CDN 114	DCH	= 1 (Channel Integration)
CDN 125	MGCOT	= 1 (Use MG (6COT))

When digits conversion is required for the received digits, assign the following data.

CDN 66	DC	: Dialed Number Confirmation Note 1
--------	----	--

Note1: Assign the number of digits for identifying the incoming line. Count from the last digit of the received number.

<Related to MF>

CDN 72	MFSP	Sending Speed (0 to 15)
CDN 73	KPPT	Duration of KP sending (0 to 15)
CDN 74	KPST	Pause after KP sending (0 to 15)
CDN 75	MT	Step Code (0/1)

<Loop Start>

CDN 15	LSG	= 0 (Loop Start is available)
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Note :

- Reset the COT card from the Card Configuration screen of Web Programming when changing data on the existing route (RT).
- The setting “PB, 60 milliseconds Interruption” for “CDN 2” is only valid for UG50. Other settings are not valid.

Step3: ARTI - Assign Trunk Application Data to the Virtual Speech Channel Route

CDN 68 VIR = 2 (MG connection)

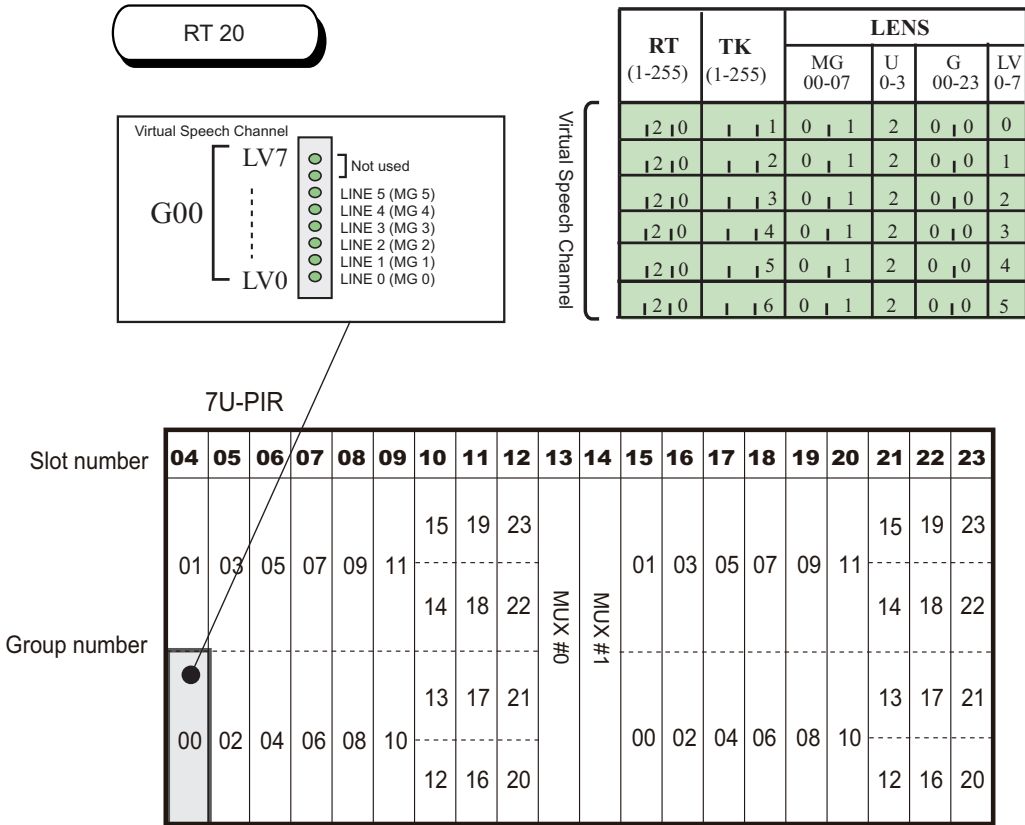
When using fax connection via MG, following assignment is necessary.

- CDN 71 IP FAX data
- CDN 72 Jitter Buffer Size for IP FAX
- CDN 73 Payload Type for IP FAX
- CDN 74 Payload Size for IP FAX

Step4: ATRK - Assign Trunk Data to each Virtual Speech Channel.

Note :

- If one channel is registered, the whole group is occupied.
- Do not assign any trunk data to Group 0 of Unit 0 in an even number Module Group.



Step5: MBTK - Assign the IDLE/BUSY status of trunks for Virtual Speech Channel.

RT : Route Number
 TK : Trunk Number
 MB : Make-Busy Information
 MB = 0 (Make Idle)

Step6: AMGIL - Assign the information of the UG50 (6COT card).

MG-ID : Virtual MAC address for each port of the UG50 (6COT card).
 (6 bytes)
 KIND = MG(6COT)
 UG50 Multi-Slot Mode : Select the check box when registering UG50 (6COT card) of
 Multi-slot mode. **Note 2**
 LINE : 0 to 5 (MG Line Number) **Note 3**
 For Multi-slot mode : 0, 1 **Note 3**
 For Retrofit mode : 0 to 5
 CH = 0 (Fixed)
 LENS : Accommodated location of the Virtual Speech Channel **Note 4**
 Setting Type of Signaling Packet : Select the check box if you specify a ToS value for Signaling
 Service : Route used by the UG50 (6COT card).
 IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.
 <When "IP PRECEDENCE" is chosen>
 Priority (PRECE- : Enter an IP Precedence value in the range of 0 to 7 (low to
 DENCE/DSCP) : high).
 Low Delay : Select the check box to enable the low delay routing.
 Through Put : Select the check box to enable the high throughput routing.
 Reliability : Select the check box to enable the maximum reliability rout-
 ing.
 Min Cost : Select the check box to enable the minimum cost routing.
 Note 5
 <When "DIFFSERV" is chosen>
 Priority (PRECE- : Enter a DiffServ Code Point in the range of 0 to 63.
 DENCE/DSCP)
 Music On Hold Exists : Not used. **Note 6**
 Country Code : **Note 7**
 Law of A/D Conversion : **Note 7**
 PB Receive Complete Timing of : 0 to 15
 Dial-In

False Answer Timing : 0 to 15

Note2: Do not select the check box when using Retrofit mode. If marked, registration cannot be performed.

Note3: MG Line Number 0 and 1 are only available for the LENS settings when the **UG50 Multi-Slot Mode** check box is marked.

Note4: Assign the accommodated location of LINE0 (6 digits of Even-numbered level (Lv)) when the **UG50 Multi-Slot Mode** check box is marked. The accommodated location of LINE1 shall be the LENS of LINE0 plus one (Lv).

Note5: This check box has no effect on UG50.

Note6: It is not available for the UG50 (6COT card). Do not select the check box.

Note7: The value that has been specified in Web Programming on the UG50 is applied.

Step7: AMGVL - Assign the Voice Control data for connecting to the UG50.

Note :

- The settings of the AIVCL command are valid if this command data is not assigned.
- The PAD value of UG50 (6COT card) is valid only when you select "Setting from" the drop-down box of "Setting of Detail" to specify the detail PAD value.

A RT (Storing MG) : Physical Route Number for the Virtual Speech Channel of the target UG50 (6COT card)

TYPE : Choose Route Specified or Location ID Specified.

<When "Route Specified" is chosen>

B RT (Storing MG) : Physical Route Number for Virtual Speech Channel of terminal connected to MG

<When "Location ID Specified" is chosen>

B LOC-ID : Location ID of IP terminal connected to UG50 (6COT card)

Setting of Jitter Buffer : When setting the Jitter Buffer, select the check box.

JB MIN : Jitter Buffer minimum value (0 to 30 (x10 ms))

JB MAX : Jitter Buffer maximum value (0 to 30 (x10 ms))

Setting Type of Voice Packet Service : When specifying a ToS value for voice packets processed by UG50 (6COT card), select the check box.

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When "IP PRECEDENCE" is chosen>

Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).

Low Delay : Select the check box to enable the low delay routing.

Through Put : Select the check box to enable the high throughput routing.

Reliability	:	Select the check box to enable the maximum reliability routing.
Min Cost	:	Select the check box to enable the minimum cost routing.
<When “DIFFSERV” is chosen>		
Priority (PRECEDENCE/ DSCP)	:	Enter a DiffServ Code Point in the range of 0 to 63.
Setting of Payload	:	When entering payload information, select the check box.
TYPE	:	Select a payload type from the drop-down list box.
SIZE	:	Select a payload size from the drop-down list box.
Setting of PAD	:	When setting PAD value of MG, select the check box.
No	:	Select the number corresponding to terminals or network equipment listed below: 1 = PAD value of MG when DtermIP/Soft Phone/INASET is connected 2 = PAD value of MG when Analog MC/Digital MC is connected 3 = PAD value of MG when IPPAD is connected 4 = PAD value of MG when MG is connected
Setting of Detail	:	Not Setting/Setting If you set the PAD value by selecting from the predefined options, choose “Not Setting.” If you set the PAD value to a custom value, choose “Setting.”
KIND Note 8	:	Enter a PAD value (0 to 15, except when you select “2” for the No parameter, in which case the valid range is 0 to 3).
SEND Note 9	:	Specify a PAD value for sending side.
RECV Note 9	:	Specify a PAD value for receiving side.

Note8: Available only when “Not Setting” is chosen for the Setting of Detail parameter.

Note9: Available only when “Setting” is chosen for the Setting of Detail parameter.

Step8: **AIVCL** - Assign the IP service Voice Control data.

Assign the voice packet control data for terminal that is connected to UG50 (6COT card).

A LOC-ID	:	Location ID of UG50 (6COT card) or IP terminal
B LOC-ID	:	Location ID of UG50 (6COT card) or IP terminal
Setting of Jitter Buffer	:	
JB MIN	:	Jitter Buffer minimum value (0 to 30 (x10 ms))

JB MAX	:	Jitter Buffer maximum value (0 to 30 (x10 ms))
Setting Type of Voice Packet Service	:	When specifying a ToS value for voice packets processed by UG50 (6COT card), select the check box.
IP PRECEDENCE/DIFFSERV	:	Choose IP Precedence or DiffServ.
<When “IP PRECEDENCE” is chosen>		
Priority (PRECEDENCE/DSCP)	:	Enter an IP Precedence value in the range of 0 to 7 (low to high).
Low Delay	:	Select the check box to enable the low delay routing.
Through Put	:	Select the check box to enable the high throughput routing.
Reliability	:	Select the check box to enable the maximum reliability routing.
Min Cost	:	Select the check box to enable the minimum cost routing.
<When “DIFFSERV” is chosen>		
Priority (PRECEDENCE/DSCP)	:	Enter a DiffServ Code Point in the range of 0 to 63.
Setting of Payload TYPE	:	When assigning the Payload data, select the check box.
SIZE	:	Select a payload type from the drop-down list box.
	:	Select a payload size from the drop-down list box.

Note10: Specify a payload type (TYPE) and payload size (SIZE) in the order of priority 1 to 4 (PRI1 through PRI4).

Step9: ALOCL - Assign the IP location ID data.

Assign a LOC-ID to the network address corresponding to the IP address of the Telephony Server. Set the ToS in the LOC-ID.

TYPE	=	Network Address
IP ADDRESS	:	Network address for the Telephony Server For the Telephony Server (IPPAD), assign “0.0.0.0.”
MASK BIT	:	Enter the Mask Bit in the range of 1-31 except when IP Address 0.0.0.0 is determined. Mask Bit=32 is automatically set when IP Address=0.0.0.0
NETWORK ADDRESS	:	(Read-only.)
LOC-ID	:	Assign the Location ID in the range of 0-4095, associated with the IP Address. When IP Address=0.0.0.0, LOC-ID=0 is automatically set (the value cannot be changed).

Note : LOC-ID=0 is predetermined to the Location ID of the Telephony Server (i.e. IPPAD).

Setting Type of Signaling Packet Service	:	Select the check box if you specify a ToS value for signaling packets.
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IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).

Low Delay : Select the check box to enable the low delay routing.

Through Put : Select the check box to enable the high throughput routing.

Reliability : Select the check box to enable the maximum reliability routing.

Min Cost : Select the check box to enable the minimum cost routing.

Note 11

<When “DIFFSERV” is chosen>

Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.

Note : Default settings (IP PRECEDENCE, Priority=6, Low Delay = OFF, Throughput = OFF, Reliability = OFF, Min Cost = OFF) is applied when the check box is cleared.

Note11: This check box has no effect on UG50.

Step10: AIVCL - Assign the IP service Voice Control data.

A LOC-ID : Location ID of the self-location (0 to 4095)

B LOC-ID : Location ID of the destination location (0 to 4095)

Setting of Jitter Buffer

JB MIN : Jitter Buffer minimum value (0 to 30 (x10 ms))

JB MAX : Jitter Buffer maximum value (0 to 30 (x10 ms))

Note : Default settings (JB MIN=1 (10 ms), JB MAX=30 (300 ms)) is applied when the check box is cleared.

Setting Type of Voice Packet Service : When specifying a ToS value for voice packets processed by UG50 (6COT card), select the check box.

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).

Low Delay : Select the check box to enable the low delay routing.

Through Put : Select the check box to enable the high throughput routing.

Reliability : Select the check box to enable the maximum reliability routing.

- Min Cost : Select the check box to enable the minimum cost routing.
<When “DIFFSERV” is chosen>
- Priority (PRECEDENCE/DSCP) : Specify the DiffServ Code Point in the range of 0 to 63.
- Note :** Default settings (IP PRECEDENCE, Priority (PRECEDENCE/DSCP) = 5, Low Delay = OFF, Through Put = OFF, Reliability = OFF, Min Cost = OFF) is applied when the check box is cleared.
- Setting of Payload : Select the check box to assign the Payload data. Specify a payload type (TYPE) and payload size (SIZE) in the order of priority 1 to 4 (PRI1 through PRI4).
- TYPE : Select a payload type from the combo box.
- No data
 - G.711
 - G.729a
 - G.723.1 (5.3K → 6.3K)
 - G.723.1 (6.3K → 5.3K)
- SIZE : Select a payload size from the combo box according to the payload type.
- No data
 - 10 milliseconds
 - 20 milliseconds
 - 30 milliseconds
 - 40 milliseconds
 - 60 milliseconds
- Note :**
- If payload type G.711 is specified to more than two priorities in PRI1 through PRI4, assign different payload size to each priority.
 - When payload types G.723.1 (5.3K to 6.3K) and G.723.1 (6.3K to 5.3K) are to be assigned on the same terminal, specify the same value to the payload size of both types.
 - It is not necessary to assign the payload type/size to the whole priorities. Specifying the first priority only is allowed.
 - For available payload type/payload size, refer to “Payload Setting for Each IP Equipment” in the System Description.
- Setting of PAD : Select the check box to assign the PAD data manually. If not marked, default value 0 is applied.

- KIND2 : Specify the PAD value of Analog MC in the range of 0 to 3.
- No PAD control (determined by ASYD, SYS1, Index 4, bit5 (5 dB PAD))
 - PAD OFF (0 dB)
 - 3 dB
 - 6 dB
- KIND3 : Specify the PAD No. of IPPAD in the range of 0 to 15. PAD value is determined by this PAD No. (0 to 15) and the setting of SW10-6/7 on IPPAD card. Refer to the Circuit Card Description for more details.
- Setting of Echo Canceller : Select the check box to assign the Echo Canceller data, and select one of the radio buttons.
- A EC-ON/B EC-ON
 - A EC-ON/B EC-OFF
 - A EC-OFF/B EC-ON
 - A EC-OFF/B EC-OFF

Note : When the same value is assigned to both “A LOC-ID” and “B LOC-ID” parameters, select either “A EC-ON/B EC-ON” or “A EC-OFF/B EC-OFF.”

Note : MG-COT needs to be rebooted after station data is assigned to reflect change. Confirm that there is no conversation in progress when rebooting.

9.14 6COT Card Data Settings (SIP Mode)

This section describes the required data settings on the SV9500 for the UG50 (6COT card) in SIP mode.

Target Mode and Device

Mode	Device Name
Multi-slot mode	UG50 (COT-TYPE2) [SIP]
Retrofit mode	UG50-6COT [SIP]

Step1: **ASYD** - Perform the following system data setting:

SYS 1,

Index 186, Bit 6=1 (ISDN is in service)

Index 187=00 HEX (Fixed)

Index 474 (Guard Timer for Originating Call) **Note 1**

Bit 0 to 3: MTC (Timer Counter)

Bit 4 to 6: TC (Timer Class), assign 1H (64 ms Cycle)

Note1: The Setting Value for the Guard Timer for Originating Call: MTC x TC (64ms).

Step2: **ARTD** - Assign the Route Class Data for the Virtual Speech Channel Route. The following data setting is necessary in addition to the Analog C.O BWT setting.

CDN 1	OSGS	= 0 (CCIS)
CDN 60	TC/EC	= 1 (EC)
CDN 114	DCH	= 1 (Channel Integration)
CDN 125	MGCOT	= 1 (Use MG (6COT))

When digits conversion is required for the received digits, assign the following data.

CDN 66	DC	: Dialed Number Confirmation Note 2
--------	----	--

Note2: Assign the number of digits for identifying the incoming line. Count from the last digit of the received number.

<Related to MF>

CDN 72	MFSP	Sending Speed (0 to 15)
CDN 73	KPPT	Duration of KP sending (0 to 15)
CDN 74	KPST	Pause after KP sending (0 to 15)
CDN 75	MT	Step Code (0/1)

<Ground Start>

CDN 15	LSG	= 1 (Ground Start is available)
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Step5: MBTK - Assign the IDLE/BUSY status of trunks for Virtual Speech Channel.

RT : Route Number
 TK : Trunk Number
 MB : Make-Busy Information
 MB = 0 (Make Idle)

Step6: AMGIL - Assign the information of the UG50 (6COT card).

MG-ID : Virtual MAC address for each port of the UG50 (6COT card).
 (6 bytes)
 KIND = MG(6COT) [SIP]
 UG50 Multi-Slot Mode : Select the check box when registering UG50 (6COT card) of
 Multi-slot mode. **Note 3**
 LINE : 0 to 5 (MG Line Number) **Note 4**
 For Multi-slot mode : 0, 1
 For Retrofit mode : 0 to 5
 CH = 0 (Fixed)
 LENS : Accommodated location of the Virtual Speech Channel **Note 5**
 Setting Type of Signaling Packet : Select the check box if you specify a ToS value for Signaling
 Service : Route used by the UG50 (6COT card)
 IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.
 <When "IP PRECEDENCE" is chosen>
 Priority (PRECE- : Enter an IP Precedence value in the range of 0 to 7 (low to
 DENCE/DSCP) : high).
 Low Delay : Select the check box to enable the low delay routing.
 Through Put : Select the check box to enable the high throughput routing.
 Reliability : Select the check box to enable the maximum reliability rout-
 ing.
 Min Cost : Select the check box to enable the minimum cost routing.
 Note 6
 <When "DIFFSERV" is chosen>
 Priority (PRECE- : Enter a DiffServ Code Point in the range of 0 to 63.
 DENCE/DSCP)
 Music On Hold Exists : Not used. **Note 7**
 Country Code : **Note 8**
 Law of A/D Conversion : **Note 8**
 PB Receive Complete Timing of : 0 to 15
 Dial-In

False Answer Timing : 0 to 15

Note3: Do not select the check box when using Retrofit mode. If marked, registration cannot be performed.

Note4: MG Line Number 0 and 1 are only available for the LENS settings when the **UG50 Multi-Slot Mode** check box is marked.

Note5: Assign the accommodated location of LINE0 (6 digits of Even-numbered level (Lv)) when the **UG50 Multi-Slot Mode** check box is marked. The accommodated location of LINE1 shall be the LENS of LINE0 plus one (Lv).

Note6: This check box has no effect on UG50.

Note7: It is not available for the UG50 (6COT card). Do not select the check box.

Note8: The value that has been specified in Web Programming on the UG50 is applied.

Step7: AMGVL - Assign the Voice Control data for connecting to the UG50.

Note :

- The settings of the AIVCL command are valid if this command data is not assigned
- The PAD value of UG50 (6COT card) is valid only when you select "Setting from" the drop-down box of "Setting of Detail" to specify the detail PAD value.

A RT (Storing MG) : Physical Route Number for the Virtual Speech Channel of the target UG50 (6COT card)

TYPE : Select one of the following:

- Route Specified
- Location ID Specified

<When "Route Specified" is chosen>

B RT (Storing MG) : Physical Route Number for Virtual Speech Channel of terminal connected to MG

<When "Location ID Specified" is chosen>

B LOC-ID : Location ID of IP terminal connected to UG50 (6COT card)

Setting of Jitter Buffer : When setting the Jitter Buffer, select the check box.

JB MIN : Jitter Buffer minimum value (0 to 30 (x10 ms))

JB MAX : Jitter Buffer maximum value (0 to 30 (x10 ms))

Setting Type of Voice Packet Service : When specifying a ToS value for voice packets processed by UG50 (6COT card), select the check box.

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When "IP PRECEDENCE" is chosen>

Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).

Low Delay	:	Select the check box to enable the low delay routing.
Through Put	:	Select the check box to enable the high throughput routing.
Reliability	:	Select the check box to enable the maximum reliability routing.
Min Cost	:	Select the check box to enable the minimum cost routing.
<When “DIFFSERV” is chosen>		
Priority (PRECEDENCE/ DSCP)	:	Enter a DiffServ Code Point in the range of 0 to 63.
Setting of Payload TYPE	:	When entering payload information, select the check box. Select a payload type from the drop-down list box.
SIZE	:	Select a payload size from the drop-down list box.
Setting of PAD	:	When setting PAD value of MG, select the check box.
No	:	Select the number corresponding to terminals or network equipment listed below: 1 = PAD value of MG when DtermIP/Soft Phone/INASET is connected 2 = PAD value of MG when Analog MC/Digital MC is connected 3 = PAD value of MG when IPPAD is connected 4 = PAD value of MG when MG is connected
Setting of Detail	:	Not Setting/Setting If you set the PAD value by selecting from the predefined options, choose “Not Setting.” If you set the PAD value to a custom value, choose “Setting.”
KIND Note 9	:	Enter a PAD value (0 to 15, except when you select “2” for the No parameter, in which case the valid range is 0 to 3).
SEND Note 10	:	Specify a PAD value for sending side.
RECV Note 10	:	Specify a PAD value for receiving side.

Note9: Available only when “Not Setting” is chosen for the Setting of Detail parameter.

Note10: Available only when “Setting” is chosen for the Setting of Detail parameter.

Step8: AIVCL - Assign the IP service Voice Control data.

Assign the voice packet control data for terminal that is connected to UG50 (6COT card).

A LOC-ID	:	Location ID of UG50 (6COT card) or IP terminal
B LOC-ID	:	Location ID of UG50 (6COT card) or IP terminal
Setting of Jitter Buffer		
JB MIN	:	Jitter Buffer minimum value (0 to 30 (x10 ms))
JB MAX	:	Jitter Buffer maximum value (0 to 30 (x10 ms))

- Setting Type of Voice Packet Service : When specifying a ToS value for voice packets processed by UG50 (6COT card), select the check box.
- IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.
- <When “IP PRECEDENCE” is chosen>
- Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).
 - Low Delay : Select the check box to enable the low delay routing.
 - Through Put : Select the check box to enable the high throughput routing.
 - Reliability : Select the check box to enable the maximum reliability routing.
 - Min Cost : Select the check box to enable the minimum cost routing.
- <When “DIFFSERV” is chosen>
- Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.
- Setting of Payload **Note 11** : When assigning the Payload data, select the check box.
- TYPE : Select a payload type from the drop-down list box.
 - SIZE : Select a payload size from the drop-down list box.
- Note11:** Specify a payload type (TYPE) and payload size (SIZE) in the order of priority 1 to 4 (PRI1 through PRI4).

Step9: ALOCL - Assign the IP location ID data.

Assign a LOC-ID to the network address corresponding to the IP address of the Telephony Server. Set the ToS in the LOC-ID.

- TYPE = Network Address
- IP ADDRESS : Network address for the Telephony Server
For the Telephony Server (IPPAD), assign “0.0.0.0.”
- MASK BIT : Enter the Mask Bit in the range of 1 to 31 except when IP Address 0.0.0.0 is determined. Mask Bit = 32 is automatically set when IP Address = 0.0.0.0
- NETWORK ADDRESS : (Read-only.)
- LOC-ID : Assign the Location ID in the range of 0 to 4095, associated with the IP Address. When IP Address = 0.0.0.0, LOC-ID = 0 is automatically set (the value cannot be changed).

Note : LOC-ID = 0 is predetermined to the Location ID of the Telephony Server (i.e. IPPAD).

- Setting Type of Signaling Packet Service : Select the check box if you specify a ToS value for signaling packets.
- IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

- Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).
- Low Delay : Select the check box to enable the low delay routing.
- Through Put : Select the check box to enable the high throughput routing.
- Reliability : Select the check box to enable the maximum reliability routing.
- Min Cost : Select the check box to enable the minimum cost routing.

Note 12

<When “DIFFSERV” is chosen>

- Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.

Note : Default settings (IP PRECEDENCE, Priority=6, Low Delay = OFF, Throughput = OFF, Reliability = OFF, Min Cost = OFF) is used when the check box is cleared.

Note12: This check box has no effect on UG50.

Step10: AIVCL - Assign the IP service Voice Control data.

- A LOC-ID : Location ID of the self-location (0 to 4095)
- B LOC-ID : Location ID of the destination location (0 to 4095)
- Setting of Jitter Buffer : When setting the Jitter Buffer, select the check box.
- JB MIN : Jitter Buffer minimum value (0 to 30 (x10 ms))
- JB MAX : Jitter Buffer maximum value (0 to 30 (x10 ms))

Note : Default settings (JB MIN=1 (10 ms), JB MAX=30 (300 ms)) is applied when the check box is cleared

- Setting Type of Voice Packet Service : When specifying a ToS value for voice packets processed by UG50 (6COT card), select the check box.
- IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

- Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).
- Low Delay : Select the check box to enable the low delay routing.
- Through Put : Select the check box to enable the high throughput routing.
- Reliability : Select the check box to enable the maximum reliability routing.
- Min Cost : Select the check box to enable the minimum cost routing.

<When “DIFFSERV” is chosen>

- Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.

Note : Default settings (IP PRECEDENCE, Priority (PRECEDENCE/DSCP) = 5, Low Delay = OFF, Through Put = OFF, Reliability = OFF, Min Cost = OFF) is applied when the check box is cleared.

- Setting of Payload : Select the check box to assign the Payload data. Specify a payload type (TYPE) and payload size (SIZE) in the order of priority 1 to 4 (PRI1 through PRI4).
- TYPE : Select a payload type from the combo box.
- No data
 - G.711
 - G.729a
 - G.723.1 (5.3K → 6.3K)
 - G.723.1 (6.3K → 5.3K)
- SIZE : Select a payload size from the combo box according to the payload type.
- No data
 - 10 milliseconds
 - 20 milliseconds
 - 30 milliseconds
 - 40 milliseconds
 - 60 milliseconds

Note :

- If payload type G.711 is specified to more than two priorities in PRI1 through PRI4, assign different payload size to each priority.
- When payload types G.723.1 (5.3K to 6.3K) and G.723.1 (6.3K to 5.3K) are to be assigned on the same terminal, specify the same value to the payload size of both types.
- It is not necessary to assign the payload type/size to the whole priorities. Specifying the first priority only is allowed.
- For available payload type/payload size, refer to “Payload Setting for Each IP Equipment” in the System Description.

- Setting of PAD : Select the check box to assign the PAD data manually. If the check box is not selected, default value 0 is applied.
- KIND2 : Specify the PAD value of Analog MC in the range of 0 to 3.
- No PAD control (determined by ASYD, SYS1, Index 4, bit5 (5 dB PAD))
 - PAD OFF (0 dB)
 - 3 dB
 - 6 dB

KIND3 : Specify the PAD No. of IPPAD in the range of 0 to 15.
PAD value is determined by this PAD No. (0 to 15) and the setting of SW10-6/7 on IPPAD card. Refer to the Circuit Card Description for more details.

Setting of Echo Cancellor : Select the check box to assign the Echo Cancellor data, and select one of the radio buttons.

- A EC-ON/B EC-ON
- A EC-ON/B EC-OFF
- A EC-OFF/B EC-ON
- A EC-OFF/B EC-OFF

Note : When the same value is assigned to both “A LOC-ID” and “B LOC-ID” parameters, select either “A EC-ON/B EC-ON” or “A EC-OFF/B EC-OFF.”

Note : MG-COT needs to be rebooted after station data is assigned to reflect change. Confirm that there is no conversation in progress when rebooting.

9.15 PGT Card Data Settings (UG50 (PGT-TYPE1)/UG50-4LC2COTA (PGT))

This section describes the required data settings on the SV9500 for the UG50 (PGT-TYPE1) and UG50-4LC2COTA (PGT).

Note: The MC part is not supported as MC-MG(COT) in Multi-slot mode. If the MC function is required, register KIND=Analog MC, CH=0 with the AISTL command. Register as the UG50 (LC) [Proprietary Protocol/SIP].

<Target Mode and Device>

Operation Mode	Device Name	Reference Data Settings
Multi-slot mode	UG50 (PGT-TYPE1)	
Retrofit mode	UG50-4LC2COTA (PGT) (MG Part) Note 1	9.15.1 Data Settings on the MG Side
	UG50-4LC2COTA (PGT) (MC Part) Note 1	9.15.2 Data Settings on the MC Side

Note1: The UG50-4LC2COTA (PGT) has both functions of MC and MG. Thereby data setting is required for each function.

9.15.1 Data Settings on the MG Side

Step1: **ASYD** - Assign the following system data into DM:

SYS 1,

Index 73, Bit 1 and Bit 0: 00 = No answer, 01 = No delay, 10 = Delay, 11 = Delay with Paging Transfer.

Index 74, Bit 0-3: Cancel Timer for unanswered Paging

Index 186, Bit 6=1 (ISDN in service)

Index 187=00 HEX (fixed)

Index 474 (Guard Timer for Originating Call) **Note 2**

Bit 0 to 3: MTC (Timer Counter)

Bit 4 to 6: TC (Timer Class), assign 1H (64 ms Cycle)

Note2: The Setting Value for the Guard Timer for Originating Call: MTC x TC (64 ms).

Step2: **ASTD** - Assign the following system attributes translation.

STM 2, STS 2= ST 1 (Outgoing call to a C.O. line or a Tie Line after holding the COT allowed)

STM 2, STS 3= ST 1 (Outgoing call to a C.O. line after holding a station or a Tie Line allowed)

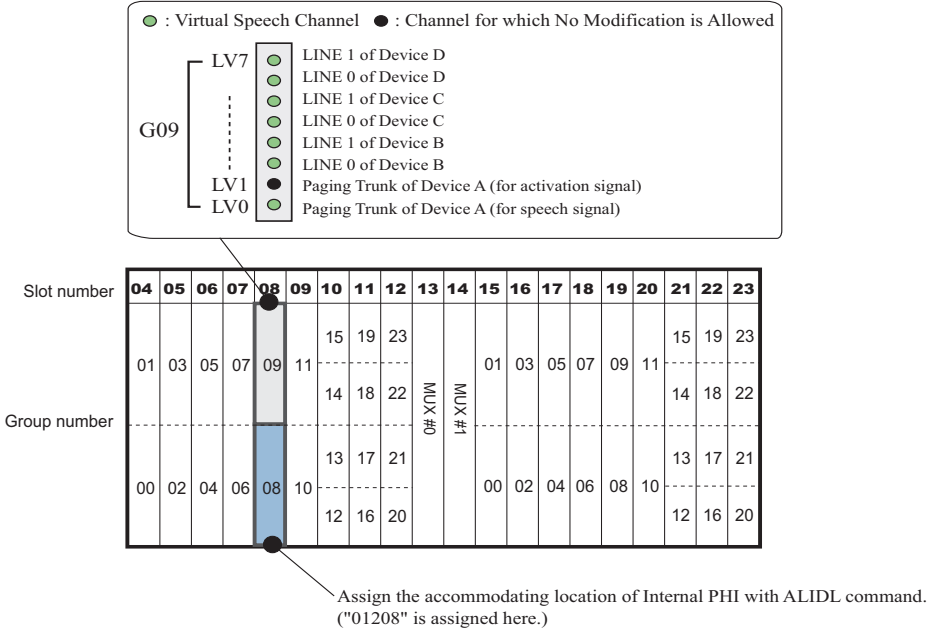
-
- Step3:** **ANPD/ANPDL** - Numbering Plan Data. Assign the minimum number of digits to the first digit of Access Code for Paging Access and Paging Answer.
- Step4:** **ASPA/ASPAL** - Assign Special Access Code.
- SRV = “OGC: Outgoing Call,” assign the route number to the Access Code of Paging Access.
- SRV = “PAGA: Paging Answer,” assign the route number to the Access Code of Paging Answer.
- SRV = “PAGC: Paging Cancel,” assign the route number to the Access Code of Paging Cancel
- Step5:** **ARSC** - Route Restriction Class. Release the restriction of Paging Trunk access on stations.
- Step6:** **ARRC** - Alternate Route Restriction Data. Release the restriction of Paging Trunk access on incoming trunk.
- Step7:** **ASFC** - Service Feature Restriction Class. Assign the Service Feature Restriction Class of Paging Answer.
- SFI 38= Meet-Me Paging is allowed
- Step8:** **ARTD** - Route Class Data. Assign the following route class data to the Paging Trunk route.
- CDN 1: OSGS (Signal Interface for Outgoing) = 2 (Second Dial Tone)
- CDN 6: TCL (Trunk Class) = 8 (Paging)
- In addition to the basic data of Paging Trunk, the following data assignment is required:
- CDN 60: TC/EC = 1 (Echo Canceller is available)
- CDN 114: DCH = 1 (Channel integration is available)
- CDN 125: MGCOT = 1 (MG-COT is available)
- Note :** To change the data for existing route (RT), reboot the PGT card using Web Programming.
- Step9:** **ARTI** - Assign Trunk Application Data to the Paging Trunk Route.
- CDN 68: VIR = 2 (MG connection)
- Note :** To change the data for existing route (RT), reboot the PGT card using Web Programming.
- Step10:** **ATRK** - Assign Paging Trunk Data.
- Note :** Please note the following when assigning the data:
- Be sure to assign the LENS of the registered trunk to even numbered level.
-

- Be sure to see [9.18 Precautions for the registration of COT/PGT card and 6COT card](#) before assigning the LENS data.
- The lead two channels of UG50 (PGT-TYPE1) and UG50-4LC2COTA (PGT) (MG Part) are used as paging trunks.

<Example of Data Settings>

RT20: Paging Trunk of Device A

RT21: C.O Trunk of Device B, C, and D



Example Data Assignment

	RT (1-255)	TK (1-255)	LENS			
			MG 00-07	U 0-3	G 00-23	LV 0-7
Virtual Speech Channel	2 0	1	0 2	0	0 9	0
	2 1	2	0 2	0	0 9	2
	2 1	3	0 2	0	0 9	3
	2 1	4	0 2	0	0 9	4
	2 1	5	0 2	0	0 9	5
	2 1	6	0 2	0	0 9	6
	2 1	7	0 2	0	0 9	7

Step11: MBTK - Cancel the make-busy state of each Paging Trunk.

RT : Route Number
 TK : Trunk Number
 MB = 0 (Make-Busy Cancel)

Step12: AMGIL - Assign the information of the UG50.

- Note :** Perform the assignment in the order ATRK -> AMGIL.
- Note :** The device resets itself when the data registration/deletion being executed

while it is operating.

MG-ID	:	Virtual MAC address for each port of the PGT card (6 bytes)
KIND	=	MC-MG (COT)
UG50 Multi-Slot Mode	:	Select the check box when registering PGT card in Multi-slot mode. Note 3
LINE	=	0
CH	=	0
LENS	:	Assign the accommodated location of Virtual Speech Channel (Paging Trunk). Note 4
Setting Type of Signaling Packet Service	:	QoS setting for the signal route of MG-COT (ToS value for signal control)
Music On Hold Exists	:	Not used. Note 5
Country Code	:	Note 6
Law of A/D Conversion	:	Note 6
PB Receive Complete Timing of Dial-In	=	0
False Answer Timing	=	0

Note3: Do not select the check box when using Retrofit mode. If marked, registration cannot be performed.

Note4: Note the following:

- Register 5 digits on the even level.
- Verify that the register LENS are entered in the ATRK command.
- Do not use the AMGIL command to register the ch1 of the lead 2 channels.
- LENS:000000 is not available for the users.

Note5: It is not available for the UG50 (PGT card). Do not select the check box.

Note6: The value that has been input with Web Programming on the UG50 is valid.

Step13: AMGV L - Assign the Voice Control data for connecting to the UG50.

Note : The settings of the AIVCL command are valid if this command data is not assigned.

A RT (Storing MG)	:	Physical Route Number for the Virtual Speech Channel of the target POT card.
TYPE	:	Choose Route Specified or Location ID Specified.
<When "Route Specified" is chosen>		
B RT (Storing MG)	:	Select for the tandem connection of the MG with MG. Register the physical route number for the Virtual Speech Channel of the destination MG.
<When "Location ID Specified" is chosen>		

- B LOC-ID : Register the location ID which the destination IP terminal belongs to.
*LOC-ID is normally selected.
- Setting of Jitter Buffer : When setting the Jitter Buffer, select the check box.
- JB MIN : Jitter Buffer minimum value (0 to 30 (x10 ms))
- JB MAX : Jitter Buffer maximum value (0 to 30 (x10 ms))
- Setting Type of Voice Packet Service : When specifying a ToS value for voice packets, select the check box.
- IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.
- <When “IP PRECEDENCE” is chosen>
- Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).
- Low Delay : Select the check box to enable the low delay routing.
- Through Put : Select the check box to enable the high throughput routing.
- Reliability : Select the check box to enable the maximum reliability routing.
- Min Cost : Select the check box to enable the minimum cost routing.
- <When “DIFFSERV” is chosen>
- Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.
- Setting of Payload : When entering payload information, select the check box.
- TYPE : Select a payload type from the drop-down list box.
- SIZE : Select a payload size from the drop-down list box.
- Setting of PAD : When setting PAD value, select the check box.
- No : Select the number corresponding to terminals or network equipment listed below:
1 = PAD value of MG when DtermIP/Soft Phone/IN-ASET is connected
2 = PAD value of MG when Analog MC/Digital MC is connected
3 = PAD value of MG when IPPAD is connected
4 = PAD value of MG when MG is connected

Note : The PAD value of UG50 (PGT card) is valid only when you select “Setting from” the drop-down box of “Setting of Detail” to specify the detail PAD value.

9.15.2 Data Settings on the MC Side

Configure the data settings of MC function, referring to “[9.6 LC Card Data Settings \(Proprietary Protocol Mode\)](#)”. However, the data settings of the AISTL command are shown as below.

Note: The MC part is not supported as MC-MG(PGT) in Multi-slot mode

Step1: AISTL - Assign the IP terminal data.

TN	: Tenant Number (1 to 63)
IP STN	: Station number of the Analog terminal accommodated in the LC Card (A maximum of 5 digits)
KIND	: Select “MC-MG (COT)”.
TEC	: Telephone Equipment Class (2, 3, 14)
RSC	: Route Restriction Class (0 to 15)
SFC	: Service Feature Restriction Class (0 to 15)
LENS	: IP Station Equipment Numbers

It can be assigned to the vacant slot on which the station/trunk is not mounted. (It cannot overwrite the station/trunk that has already been assigned.) For details on Virtual PIR, refer to “Virtual PIR Data” in Chapter 2 of Data Programming Manual - Business.

MC-ID	: MAC address of the UG50-4LC2COTA (PGT) (6 bytes)
MC-CH	: Channel Number of the UG50-4LC2COTA (PGT) [0 (Port 0) to 3 (Port 3)]

9.16 PGT Card Data Settings (PGT-TYPE2 [Proprietary Protocol])

This section describes the required data settings on the SV9500 for the UG50 (PGT-TYPE2) in Proprietary Protocol mode.

Target Mode and Device

Mode	Device Name
Multi-slot Mode	UG50 (PGT-TYPE2) [Proprietary Protocol]

Step1: **ASYD** - Perform the following system data setting:

SYS 1,

Index 73, Bit 1 and Bit 0: 00 = No answer, 01 = No delay, 10 = Delay, 11 = Delay with Paging Transfer.

Index 74, Bit 0-3: Cancel Timer for unanswered Paging

Index 186, Bit 6=1 (ISDN is in service)

Index 187=00 HEX (Fixed)

Index 474 (Guard Timer for Originating Call)

Bit 0 to 3: MTC (Timer Counter)

Bit 4 to 6: TC (Timer Class), assign 1H (64 ms Cycle)

* The Setting Value for the Guard Timer for Originating Call: MTC x TC (64ms)

Step2: **ASTD** - Assign the following system attributes translation.

STM 2, STS 2= ST 1 (Outgoing call to a C.O. line or a Tie Line after holding the COT allowed)

STM 2, STS 3= ST 1 (Outgoing call to a C.O. line after holding a station or a Tie Line allowed)

Step3: **ANPD/ANPDL** - Numbering Plan Data. Assign the minimum number of digits to the first digit of Access Code for Paging Access and Paging Answer.

Step4: **ASPA/ASPAL** - Assign Special Access Code.

SRV = "OGC: Outgoing Call," assign the route number to the Access Code of Paging Access.

SRV = "PAGA: Paging Answer," assign the route number to the Access Code of Paging Answer.

SRV = "PAGC: Paging Cancel," assign the route number to the Access Code of Paging Cancel.

Step5: **ARSC** - Route Restriction Class. Release the restriction of Paging Trunk access on stations.

Step6: **ARRC** - Alternate Route Restriction Data. Release the restriction of Paging Trunk access on incoming trunk.

Step7: ASFC - Service Feature Restriction Class. Assign the Service Feature Restriction Class of Paging Answer.

SFI 38= Meet-Me Paging is allowed

Step8: ARTD - Assign the following route class data to the Paging Trunk route.

CDN 1 OSGS = 2 (Second Dial Tone)

CDN 6 TCL = 8 (Paging)

In addition to the basic data of Paging Trunk, the following data assignment is required:

CDN 60 TC/EC = 1 (EC)

CDN 114 DCH = 1 (Channel Integration)

CDN 125 MGCOT = 1 (Use MG (COT))

Note: To change the data for existing route (RT), reboot the PGT card using Web Programming.

Step9: ARTI - Assign Trunk Application Data to the Virtual Speech Channel Route

CDN 68 VIR = 2 (MG connection)

Step10: ATRK - Assign Trunk Data to each Virtual Speech Channel.

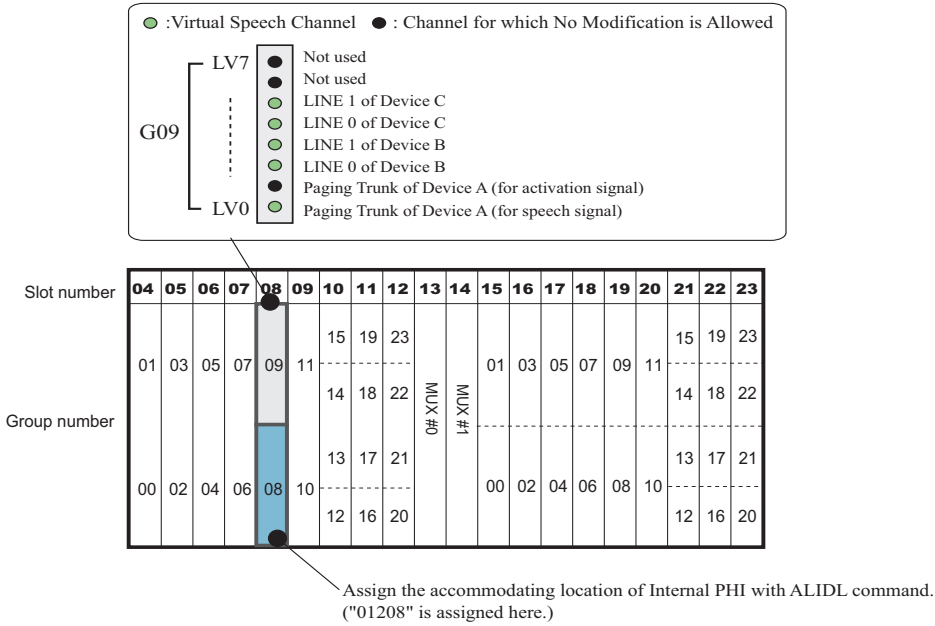
Note : Please note the following when assigning the data:

- Be sure to assign the LENS of the registered trunk to even numbered level.
- Be sure to see [9.18 Precautions for the registration of COT/PGT card and 6COT card](#) before assigning the LENS data.
- The lead two channels of UG50 (PGT-TYPE1) and UG50-4LC2COTA (PGT) (MG Part) are used as paging trunks.

<Example of Data Settings>

RT20: Paging Trunk of Device A

RT21: C.O Trunk of Device B, and C



Example Data Assignment

Virtual Speech Channel	RT (1-255)	TK (1-255)	LENS						
			MG 00-07	U 0-3	G 00-23	LV 0-7			
1	2	0	1	0	2	0	0	9	0
2	2	1	2	0	2	0	0	9	2
3	2	1	3	0	2	0	0	9	3
4	2	1	4	0	2	0	0	9	4
5	2	1	5	0	2	0	0	9	5

Step11: MBTK - Assign the IDLE/BUSY status of trunks for Virtual Speech Channel.

- RT : Route Number
- TK : Trunk Number
- MB : Make-Busy Information
MB = 0 (Make Idle)

Step12: AMGIL - Assign the information of the UG50.

- MG-ID : Virtual MAC address for each port of the UG50 (PGT). (6 bytes)
- KIND = MG(6COT)
- UG50 Multi-Slot Mode : Select the check box when registering UG50 of Multi-slot mode.
- LINE = 0
- CH = 0
- LENS : Mounting location of Paging Trunk (5 digits). **Note 1**

Setting Type of Signaling Packet Service	: QoS setting for the signal route of MCMG/MG-COT (ToS value for signal control)
Music On Hold Exists	: Not used. Note 2
Country Code	: Note 3
Law of A/D Conversion	: Note 3
PB Receive Complete Timing of Dial-In	= 0
False Answer Timing	= 0

Note1: Note the following:

- Register 5 digits on the even level.
- Verify that the register LENS are entered in the ATRK command.
- Do not use the AMGIL command to register the ch1 of the lead 2 channels.
- LENS:000000 is not available for the users.

Note2: This is not available for the UG50. Do not select the check box.

Note3: The value that has been input with Web Programming on the UG50 is valid.

Step13: AMGVL - Assign the Voice Control data for connecting to the UG50.

Note : The settings of the AIVCL command are valid if this command data is not assigned.

A RT (Storing MG)	: Physical Route Number for the Virtual Speech Channel of the target UG50
TYPE	: Choose Route Specified or Location ID Specified.
<When “Route Specified” is chosen>	
B RT (Storing MG)	: Physical Route Number for Virtual Speech Channel of terminal connected to MG
<When “Location ID Specified” is chosen>	
B LOC-ID	: Location ID of IP terminal connected to UG50
Setting of Jitter Buffer	: When setting the Jitter Buffer, select the check box.
JB MIN	: Jitter Buffer minimum value (0 to 30 (x10 ms))
JB MAX	: Jitter Buffer maximum value (0 to 30 (x10 ms))
Setting Type of Voice Packet Service	: When specifying a ToS value for voice packets processed by UG50 (PGT card), select the check box.
IP PRECEDENCE/DIFFSERV	: Choose IP Precedence or DiffServ.
<When “IP PRECEDENCE” is chosen>	
Priority (PRECEDENCE/DSCP)	: Enter an IP Precedence value in the range of 0 to 7 (low to high).
Low Delay	: Select the check box to enable the low delay routing.

Through Put	:	Select the check box to enable the high throughput routing.
Reliability	:	Select the check box to enable the maximum reliability routing.
Min Cost	:	Select the check box to enable the minimum cost routing.
<When “DIFFSERV” is chosen>		
Priority (PRECEDENCE/ DSCP)	:	Enter a DiffServ Code Point in the range of 0 to 63.
Setting of Payload	:	When entering payload information, select the check box.
TYPE	:	Select a payload type from the drop-down list box.
SIZE	:	Select a payload size from the drop-down list box.
Setting of PAD	:	When setting PAD value of MG, select the check box.
No	:	Select the number corresponding to terminals or network equipment listed below: 1 = PAD value of MG when DtermIP/Soft Phone/INASET is connected 2 = PAD value of MG when Analog MC/Digital MC is connected 3 = PAD value of MG when IPPAD is connected 4 = PAD value of MG when MG is connected

Note : The PAD value of UG50 (PGT card) is valid only when you select “Setting from” the drop-down box of “Setting of Detail” to specify the detail PAD value.

Step14: AIVCL - Assign the IP service Voice Control data.

Assign the voice packet control data for terminal that is connected to UG50.

A LOC-ID	:	Location ID of UG50 or IP terminal
B LOC-ID	:	Location ID of UG50 or IP terminal
Setting of Jitter Buffer	:	
JB MIN	:	Jitter Buffer minimum value (0 to 30 (x10 ms))
JB MAX	:	Jitter Buffer maximum value (0 to 30 (x10 ms))
Setting Type of Voice Packet Service	:	When specifying a ToS value for voice packets processed by UG50, select the check box.
IP PRECEDENCE/DIFFSERV	:	Choose IP Precedence or DiffServ.
<When “IP PRECEDENCE” is chosen>		
Priority (PRECEDENCE/ DSCP)	:	Enter an IP Precedence value in the range of 0 to 7 (low to high).
Low Delay	:	Select the check box to enable the low delay routing.
Through Put	:	Select the check box to enable the high throughput routing.
Reliability	:	Select the check box to enable the maximum reliability routing.

- Min Cost : Select the check box to enable the minimum cost routing.
 <When “DIFFSERV” is chosen>
- Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.
- Setting of Payload **Note 4** : When assigning the Payload data, select the check box.
- TYPE : Select a payload type from the drop-down list box.
- SIZE : Select a payload size from the drop-down list box.
- Note4:** Specify a payload type (TYPE) and payload size (SIZE) in the order of priority 1 to 4 (PRI1 through PRI4).
- Setting of PAD : Select the check box to assign the PAD data manually. If not marked, default value 0 is applied.
- KIND2 : Specify the PAD value of Analog MC in the range of 0 to 3.
 - No PAD control (determined by ASYD, SYS1, Index 4, bit5 (5 dB PAD))
 - PAD OFF (0 dB)
 - 3 dB
 - 6 dB
- KIND3 : Specify the PAD No. of IPPAD in the range of 0 to 15. PAD value is determined by this PAD No. (0 to 15) and the setting of SW10-6/7 on IPPAD card. Refer to the Circuit Card Description for more details.
- Setting of Echo Canceller : Select the check box to assign the Echo Canceller data, and select one of the radio buttons.
 - A EC-ON/B EC-ON
 - A EC-ON/B EC-OFF
 - A EC-OFF/B EC-ON
 - A EC-OFF/B EC-OFF

Step15: ALOCL - Assign the IP location ID data.

Assign a LOC-ID to the network address corresponding to the IP address of the Telephony Server. Set the ToS in the LOC-ID.

- TYPE = Network Address
- IP ADDRESS : Network address for the Telephony Server
 For the Telephony Server (IPPAD), assign “0.0.0.0.”
- MASK BIT : Enter the Mask Bit in the range of 1-31 except when IP Address 0.0.0.0 is determined. Mask Bit=32 is automatically set when IP Address=0.0.0.0
- NETWORK ADDRESS : (Read-only.)

LOC-ID : Assign the Location ID in the range of 0-4095, associated with the IP Address. When IP Address=0.0.0.0, LOC-ID=0 is automatically set (the value cannot be changed).

Note : LOC-ID=0 is predetermined to the Location ID of the Telephony Server (i.e.IP-PAD).

Setting Type of Signaling Packet Service : Select the check box if you specify a ToS value for signaling packets.

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).

Low Delay : Select the check box to enable the low delay routing.

Through Put : Select the check box to enable the high throughput routing.

Reliability : Select the check box to enable the maximum reliability routing.

Min Cost : Select the check box to enable the minimum cost routing.

Note 5

<When “DIFFSERV” is chosen>

Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.

Note : Default settings (IP PRECEDENCE, Priority=6, Low Delay = OFF, Throughput = OFF, Reliability = OFF, Min Cost = OFF) is applied when the check box is cleared.

Note5: This check box has no effect on UG50.

9.17 PGT Card Data Settings (PGT-TYPE2 [SIP])

This section describes the required data settings on the SV9500 for the UG50 (PGT-TYPE2) in SIP mode.

Target Mode and Device

Mode	Device Name
Multi-slot mode	UG50 (PGT-TYPE2) [SIP]

Step1: **ASYD** - Perform the following system data setting:

SYS 1,

Index 73, Bit 1 and Bit 0: 00 = No answer, 01 = No delay, 10 = Delay, 11 = Delay with Paging Transfer.

Index 74, Bit 0-3: Cancel Timer for unanswered Paging

Index 186, Bit 6=1 (ISDN is in service)

Index 187=00 HEX (Fixed)

Index 474 (Guard Timer for Originating Call) **Note 1**

Bit 0 to 3: MTC (Timer Counter)

Bit 4 to 6: TC (Timer Class), assign 1H (64 ms Cycle)

Note1: The Setting Value for the Guard Timer for Originating Call: $MTC \times TC$ (64ms).

Step2: **ASTD** - Assign the following system attributes translation.

STM 2, STS 2= ST 1 (Outgoing call to a C.O. line or a Tie Line after holding the COT allowed)

STM 2, STS 3= ST 1 (Outgoing call to a C.O. line after holding a station or a Tie Line allowed)

Step3: **ANPD/ANPDL** - Numbering Plan Data. Assign the minimum number of digits to the first digit of Access Code for Paging Access and Paging Answer.

Step4: **ASPA/ASPAL** - Assign Special Access Code.

SRV = "OGC: Outgoing Call," assign the route number to the Access Code of Paging Access.

SRV = "PAGA: Paging Answer," assign the route number to the Access Code of Paging Answer.

SRV = "PAGC: Paging Cancel," assign the route number to the Access Code of Paging Cancel

Step5: **ARSC** - Route Restriction Class. Release the restriction of Paging Trunk access on stations.

Step6: **ARRC** - Alternate Route Restriction Data. Release the restriction of Paging Trunk access on incoming trunk.

Step7: ASFC - Service Feature Restriction Class. Assign the Service Feature Restriction Class of Paging Answer.

SFI 38= Meet-Me Paging is allowed

Step8: ARTD - Assign the following route class data to the Paging Trunk route.

CDN 1 OSGS = 2 (Second Dial Tone)

CDN 6 TCL = 8 (Paging)

In addition to the basic data of Paging Trunk, the following data assignment is required:

CDN 60 TC/EC = 1 (EC)

CDN 114 DCH = 1 (Channel Integration)

CDN 125 MGCOT = 1 (Use MG (COT))

Note: To change the data for existing route (RT), reboot the PGT card using Web Programming.

Step9: ARTI - Assign Trunk Application Data to the Virtual Speech Channel Route

CDN 68 VIR = 2 (MG connection)

Step10: ATRK - Assign Trunk Data to each Virtual Speech Channel.

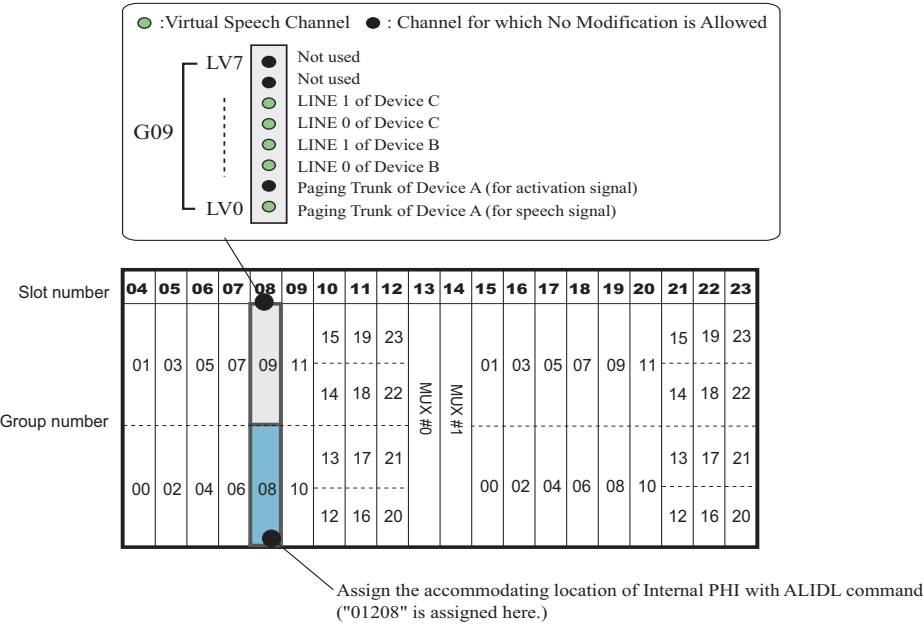
Note : Please note the following when assigning the data:

- Be sure to assign the LENS of the registered trunk to even numbered level.
- Be sure to see [9.18 Precautions for the registration of COT/PGT card and 6COT card](#) before assigning the LENS data.
- The lead two channels of UG50 (PGT-TYPE1) and UG50-4LC2COTA (PGT) (MG Part) are used as paging trunks.

<Example of Data Settings>

RT20: Paging Trunk of Device A

RT21: C.O Trunk of Device B, and C



Example Data Assignment

Virtual Speech Channel	RT (1-255)	TK (1-255)	LENS						
			MG 00-07	U 0-3	G 00-23	LV 0-7			
1	2	0	1	0	2	0	0	9	0
2	2	1	2	0	2	0	0	9	2
3	2	1	3	0	2	0	0	9	3
4	2	1	4	0	2	0	0	9	4
5	2	1	5	0	2	0	0	9	5

Step11: MBTK - Assign the IDLE/BUSY status of trunks for Virtual Speech Channel.

- RT : Route Number
- TK : Trunk Number
- MB : Make-Busy Information
- MB = 0 (Make Idle)

Step12: AMGIL - Assign the information of the UG50.

- MG-ID : Virtual MAC address for each port of the UG50 (PGT). (6 bytes)
- KIND = MG(6COT) [SIP]
- UG50 Multi-Slot Mode : Select the check box when registering UG50 of Multi-slot mode.
- LINE = 0
- CH = 0
- LENS : Mounting location of Paging Trunk (5 digits). **Note 1**

Setting Type of Signaling Packet Service	: QoS setting for the signal route of MCMG/MG-COT (ToS value for signal control)
Music On Hold Exists	: Not used. Note 2
Country Code	: Note 3
Law of A/D Conversion	: Note 3
PB Receive Complete Timing of Dial-In	= 0
False Answer Timing	= 0

Note1: Note the following:

- Register 5 digits on the even level.
- Verify that the register LENS are entered in the ATRK command.
- Do not use the AMGIL command to register the ch1 of the lead 2 channels.
- LENS:000000 is not available for the users.

Note2: This is not available for the UG50. Do not select the check box.**Note3:** The value that has been input with Web Programming on the UG50 is valid.**Step13: AMGVL** - Assign the Voice Control data for connecting to the UG50.**Note :** The settings of the AIVCL command are valid if this command data is not assigned.

A RT (Storing MG)	: Physical Route Number for the Virtual Speech Channel of the target UG50
TYPE	: Choose Route Specified or Location ID Specified.
<When “Route Specified” is chosen>	
B RT (Storing MG)	: Physical Route Number for Virtual Speech Channel of terminal connected to MG
<When “Location ID Specified” is chosen>	
B LOC-ID	: Location ID of IP terminal connected to UG50
Setting of Jitter Buffer	: When setting the Jitter Buffer, select the check box.
JB MIN	: Jitter Buffer minimum value (0 to 30 (x10 ms))
JB MAX	: Jitter Buffer maximum value (0 to 30 (x10 ms))
Setting Type of Voice Packet Service	: When specifying a ToS value for voice packets processed by UG50 (PGT card), select the check box.
IP PRECEDENCE/DIFFSERV	: Choose IP Precedence or DiffServ.
<When “IP PRECEDENCE” is chosen>	
Priority (PRECEDENCE/DSCP)	: Enter an IP Precedence value in the range of 0 to 7 (low to high).
Low Delay	: Select the check box to enable the low delay routing.

Through Put	:	Select the check box to enable the high throughput routing.
Reliability	:	Select the check box to enable the maximum reliability routing.
Min Cost	:	Select the check box to enable the minimum cost routing.
<When “DIFFSERV” is chosen>		
Priority (PRECEDENCE/ DSCP)	:	Enter a DiffServ Code Point in the range of 0 to 63.
Setting of Payload	:	When entering payload information, select the check box.
TYPE	:	Select a payload type from the drop-down list box.
SIZE	:	Select a payload size from the drop-down list box.
Setting of PAD	:	When setting PAD value of MG, select the check box.
No	:	Select the number corresponding to terminals or network equipment listed below: 1 = PAD value of MG when DtermIP/Soft Phone/INASET is connected 2 = PAD value of MG when Analog MC/Digital MC is connected 3 = PAD value of MG when IPPAD is connected 4 = PAD value of MG when MG is connected

Note : The PAD value of UG50 (PGT card) is valid only when you select “Setting from” the drop-down box of “Setting of Detail” to specify the detail PAD value.

Step14: AIVCL - Assign the IP service Voice Control data.

Assign the voice packet control data for terminal that is connected to UG50.

A LOC-ID	:	Location ID of UG50 or IP terminal
B LOC-ID	:	Location ID of UG50 or IP terminal
Setting of Jitter Buffer		
JB MIN	:	Jitter Buffer minimum value (0 to 30 (x10 ms))
JB MAX	:	Jitter Buffer maximum value (0 to 30 (x10 ms))
Setting Type of Voice Packet Service	:	When specifying a ToS value for voice packets processed by UG50, select the check box.
IP PRECEDENCE/DIFFSERV	:	Choose IP Precedence or DiffServ.
<When “IP PRECEDENCE” is chosen>		
Priority (PRECEDENCE/ DSCP)	:	Enter an IP Precedence value in the range of 0 to 7 (low to high).
Low Delay	:	Select the check box to enable the low delay routing.
Through Put	:	Select the check box to enable the high throughput routing.
Reliability	:	Select the check box to enable the maximum reliability routing.

- Min Cost : Select the check box to enable the minimum cost routing.
<When “DIFFSERV” is chosen>
- Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.
- Setting of Payload **Note 4** : When assigning the Payload data, select the check box.
- TYPE : Select a payload type from the drop-down list box.
- SIZE : Select a payload size from the drop-down list box.
- Note4:** Specify a payload type (TYPE) and payload size (SIZE) in the order of priority 1 to 4 (PRI1 through PRI4).
- Setting of PAD : Select the check box to assign the PAD data manually. If the check box is not selected, default value 0 is applied.
- KIND2 : Specify the PAD value of Analog MC in the range of 0 to 3.
 - No PAD control (determined by ASYD, SYS1, Index 4, bit5 (5 dB PAD))
 - PAD OFF (0 dB)
 - 3 dB
 - 6 dB
- KIND3 : Specify the PAD No. of IPPAD in the range of 0 to 15. PAD value is determined by this PAD No. (0 to 15) and the setting of SW10-6/7 on IPPAD card. Refer to the Circuit Card Description for more details.
- Setting of Echo Cancellor : Select the check box to assign the Echo Cancellor data, and select one of the radio buttons.
 - A EC-ON/B EC-ON
 - A EC-ON/B EC-OFF
 - A EC-OFF/B EC-ON
 - A EC-OFF/B EC-OFF

Step15: ALOCL - Assign the IP location ID data.

Assign a LOC-ID to the network address corresponding to the IP address of the Telephony Server. Set the ToS in the LOC-ID.

- TYPE = Network Address
- IP ADDRESS : Network address for the Telephony Server
For the Telephony Server (IPPAD), assign “0.0.0.0.”
- MASK BIT : Enter the Mask Bit in the range of 1 to 31 except when IP Address 0.0.0.0 is determined. Mask Bit = 32 is automatically set when IP Address = 0.0.0.0
- NETWORK ADDRESS : (Read-only.)

LOC-ID : Assign the Location ID in the range of 0 to 4095, associated with the IP Address. When IP Address = 0.0.0.0, LOC-ID = 0 is automatically set (the value cannot be changed).

Note : LOC-ID = 0 is predetermined to the Location ID of the Telephony Server (i.e. IP-PAD).

Setting Type of Signaling Packet Service : Select the check box if you specify a ToS value for signaling packets.

IP PRECEDENCE/DIFFSERV : Choose IP Precedence or DiffServ.

<When “IP PRECEDENCE” is chosen>

Priority (PRECEDENCE/DSCP) : Enter an IP Precedence value in the range of 0 to 7 (low to high).

Low Delay : Select the check box to enable the low delay routing.

Through Put : Select the check box to enable the high throughput routing.

Reliability : Select the check box to enable the maximum reliability routing.

Min Cost : Select the check box to enable the minimum cost routing.

Note 5

<When “DIFFSERV” is chosen>

Priority (PRECEDENCE/DSCP) : Enter a DiffServ Code Point in the range of 0 to 63.

Note : Default settings (IP PRECEDENCE, Priority=6, Low Delay = OFF, Throughput = OFF, Reliability = OFF, Min Cost = OFF) is used when the check box is cleared.

Note5: This check box has no effect on UG50.

9.18 Precautions for the registration of COT/PGT card and 6COT card

Do not register the UG50 (COT-TYPE1/PGT-TYPE1)/UG50-4LC2COTA (COT)/4L2COTA (PGT) and UG50 (COT-TYPE2/PGT-TYPE2) [Proprietary Protocol/SIP] to the vacant accommodated location of the same group (same highway) as the accommodated location where the existing MG-COT (6COT) [Proprietary Protocol/SIP] or UG50-6COT[Proprietary Protocol/SIP] has been already registered. *Registration may be performed, however the operation cannot be guaranteed.

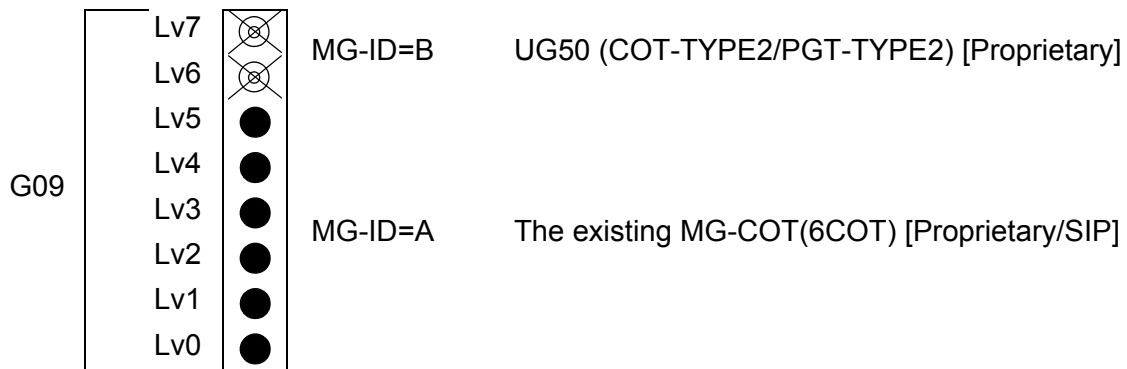
The NG registration patterns are shown below.

[NG Registration Patterns]









Register devices other than MG-COT(6COT) [Proprietary Protocol/SIP]/UG50-6COT [Proprietary Protocol/SIP] to the available level of the group, where MG-COT(6COT) [Proprietary Protocol/SIP]/UG50-6COT [Proprietary Protocol/SIP] have been registered.

- = (UG50 Multi-slot mode check box OFF)
The existing MG-COT(6COT) [Proprietary Protocol/SIP] or UG50-6COT [Proprietary Protocol/SIP]
- ⊙ = (UG50 Multi-slot mode check box OFF)
The existing MC&MG-COT (MG part), UG50-4LC2COTA (COT)/4L2COTA (PGT) in Retrofit mode
(UG50 Multi-slot mode check box on the AMGIL command ON)
UG50 (COT-TYPE2/PGT-TYPE2) [Proprietary Protocol/SIP], UG50 (COT-TYPE1/PGT-TYPE1) in Multi-slot mode

<Pattern 1>



<Pattern 2>

G09	Lv7		MG-ID=F	UG50 (COT-TYPE2/PGT-TYPE2) [SIP]
	Lv6			
	Lv5		MG-ID=E	UG50-6COT [Proprietary/SIP]
	Lv4			
	Lv3		MG-ID=D	UG50 (COT-TYPE1/PGT-TYPE1)
	Lv2			
	Lv1		MG-ID=C	The existing MC&MG-COT (MG part)
	Lv0			

9.19 UG50 Data Listing

With the DRAI (Display of Remote Equipment Data by Autofill Input) command, you can list the channel records of all UG50s registered with the Telephony Server or only the records of a specific UG50.

For a detailed explanation of DRAI command and its service conditions, see the DRAI section of Maintenance Commands chapter in Operations and Maintenance Manual.

Note: Available from FP95-114 V4 Issue 2.0 and from UG50 software version 2.00.

9.19.1 Listing UG50 Device Information

This section describes the steps to list the office data of UG50 that is registered with the Telephony Server.

(1) Listing UG50 Office Data Records Corresponding to the Specified IP Address

Step1: Start the DRAI command.

The DRAI command screen is displayed.

Step2: Choose "Specify IP Address" for the **Target** parameter.

Step3: In the **IP ADDRESS** text box, enter the IP address for the UG50 of your choice, and then click the **GET** button.

Note : The search process can be stopped at any time by clicking the **ABORT** button. In that case, [List of Remote Equipment Office Data] only displays the office data that was collected before the interruption.

The following two lists appear, providing information about the UG50:

- List of Remote Equipment Data
- List of Remote Equipment Office Data

For details of office data that can be viewed on the screen, see the DRAI section of Maintenance Commands chapter in Operations and Maintenance Manual.

(2) Listing All UG50 Office Data Records

Step1: Start the DRAI command.

The DRAI command screen is displayed.

Step2: Choose "Specify IP Address" for the **Target** parameter.

Step3: Click the **GET** button.

Note : The retrieval process can be stopped at any time by clicking the **ABORT** button. In that case, [List of Remote Equipment Office Data] only displays the office data that was collected before the interruption.

The following two lists appear, providing information about the UG50s that already have a channel registered with the Telephony Server:


- List of Remote Equipment Data

- List of Remote Equipment Office Data

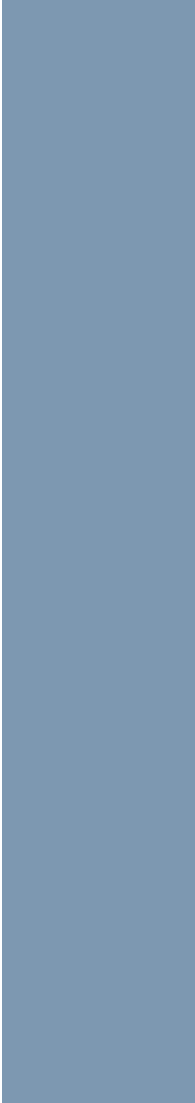
For details of office data that can be viewed on the screen, see the DRAI section of Maintenance Commands chapter in Operations and Maintenance Manual.

Step4: In [List of Remote Equipment Data], click the UG50 of your choice to find information about channels on it.

[List of Remote Equipment Office Data] automatically scrolls to the first record corresponding to the selected UG50.



CHAPTER 4
INSTALLATION TEST
AND WORK AFTER IN-
STALLATION TEST



1. Installation Test

It is very important to perform an installation test after installation to prevent troubles after operation begins. Be sure to perform an installation test, referring to “Chapter 7 Installation Test” in Appliance Model Installation Manual.

2. Work after Installation test

Cleaning and visual check will be performed after an installation test.

Proceed with each process, referring to “Chapter 9 Work After Installation” in Appliance Model Installation Manual.

- [1] Manage station data
- [2] Preparation for test result report
- [3] Attach Front Covers
- [4] Cleaning



APPENDIX

1. Diagnostic Information Maintenance (DIM) Access Setup

Collecting logs, checking/clearing alarm reports and referring to a result of Echo Canceller Training can be performed by DIM from a maintenance PC via TELNET by logging in to the UG50. DIM will connect to either the VoIP port or ETHERNET port.

1.1 DIM Access Setup (Web Programming)

Note: No setup such as for Port Number is required when using the ETHERNET port.

- [1] Enter the UG50 address in the address bar on the internet browser. Log in to Web Programming once the login screen appears.
- [2] Click on the **Data Setup** icon on the **Home** screen.
- [3] Select the **1-6-01: LAN Setup for External Equipment** screen, and set the following.
01: TCP Port: Arbitrary Port Number (Default: 0)
- [4] Display the **1-6-08: DIM Over LAN** screen, and set the following.
01: Access Enabling: Set to “1: Enabled”. (Default: Disabled)
02: User Name: Arbitrary user name. (Default: admin)
03: Password: Arbitrary password. (Default: 8461426)
- [5] Click on the **Apply** icon.
- [6] After the registration has completed, return to the **Home** screen and logout from Web Programming.
- [7] Restart the UG50.
For information on how to restart the UG50, refer to [Reset the UG50](#).

The UG50 can be now accessed via TELNET.

1.2 Login to the DIM Console

[When using the VoIP port]

- [1] Access the IP Address for the UG50 (Set on the **1-2-02: VoIP Port Network Setup** screen) and Port Number (Set on the **1-6-01: LAN Setup for External Equipment** screen) via TELNET.
- [2] Enter the User Name and Password (Set on the **1-6-08: DIM over LAN** screen).

[When using the ETHERNET port]

- [1] Access the IP Address for the UG50 (IP Address for the ETHERNET port) and Port Number (5963) via TELNET.
- [2] Enter the following:
User Name: monimoni
Password: hihi

The message below appears if login to DIM console is successful.

Example:

[Welcome to UG50 remote dim service. VerX.XX] 08/01/01 00:09 0:10:02]

2. List of Alarm Reports

Note: Do not set any alarm reports not listed below because they will not be used.

Alarm No.	Name	Content of Alarm (Occurrence Time)	Countermeasure	Recovery	Alarm Status (Default)
1	Card Initialize Error	Card initialization failed. Card didn't start properly. <During card startup>	Inserting and removing a card sometimes triggers the error. If the error occurs frequently, consult a maintenance personnel.	Error is not cleared automatically. It is cleared once the card is recognized.	Minor Alarm
2	Card Mounting Error	Card was removed improperly or it is not inserted properly. <During card startup/operation>	Confirm the card is inserted properly. Consult a maintenance personnel if the error occurs frequently in the absence of an intended card removal.	Error is cleared once the card is recognized.	Minor Alarm
3	Communication Error between GCD-CP00-GW and other cards.	An error occurred in a connection with a card. Even if a card is defective it is still recognized as a connection error. <During card startup/operation>	External factor such as noise is a possible cause. Consult a maintenance personnel if the error occurs frequently.	Error is cleared once the card is recognized.	Minor Alarm
4	Card Program Download Error	Card program could not be downloaded properly. Card didn't start properly. <During card startup>	External factor such as noise can be a possible cause; however, the card program is possibly defective. If a backup of the card program is available, save it in USB and load. If a problem persists, consult a maintenance personnel.	Turn off the power to the UG50 and replace a card. Error is cleared once the card program is downloaded correctly.	Minor Alarm
5	Cooling Fan Error	Fault found with the cooling fan box in 19" chassis. <During operation>	Check the power cord of the cooling fan box is plugged in, or broken. Replace if it is broken.	Error is cleared once the cooling fan box operates properly.	Major Alarm
6	Blocking	The link between GCD-16DLCA/GCD-8DLCA/GPZ-8LCE with the connected terminal came off. <During startup/operation>	An external factor such as noise is a possible cause. Check the wiring and installation. Consult a maintenance personnel if a problem persists.	Error is cleared once it is reconnected or replaced.	-

Alarm No.	Name	Content of Alarm (Occurrence Time)	Countermeasure	Recovery	Alarm Status (Default)
7	Power Failure	The commercial power supply stopped. <During operation>	If the power supply is not cut off, check the outlet. Consult a maintenance personnel if a problem persists.	Error is cleared once the commercial power supply is back.	Major Alarm
8	Memory Backup Battery Error	Memory backup battery on GCD-CP00-GW runs out or unplugged. <During operation>	Confirm the battery is plugged in properly. If yes, the battery has run out and needs to be replaced.	Error is cleared once the battery is replaced.	Major Alarm
14	LAN Link Error <Default=OFF>	The link between GCD-CP00-GW and LAN came off. <During operation>	Check the LAN connector, USB connector and wiring. Consult a maintenance personnel if a problem persists.	Error is cleared once the connection returns to normal.	-
17	Denial of Service	In regardless of valid/ invalid, GCD-CP00-GW received 3000 or more packets per second. <During operation>	Possibility of a failure equivalent to DoS attack exists. Eliminate the recipient cause of unnecessary packets.	Stop the reception of packets. Wait for a minute. Then restart the reception.	Major Alarm
50	UG50 Start Notification	The UG50 has started. <When restarting the system>			Major Alarm
51	UG50 Data Change	The UG50 data has been changed. <During operation>			-
55	Regular Maintenance Exchange Notification	The periodic maintenance exchange date has elapsed. <During operation>	Replace the target component, and update the periodic maintenance exchange date.	Error is cleared by updating or disabling the periodic maintenance exchange date.	Minor Alarm
57	IP Collision Error	The same IP Address for GPZ-32/64/128IPLD exists on the Network.	Delete or change the settings of the device with the same IP address, or change the settings of GPZ-32/64/128IPLD.	Error is cleared once the duplication of IP address is released.	Minor Alarm
64	VoIPDB LAN Link Error	LAN link of GPZ-32/64/128IPLD is disconnected. <During operation>	Check the LAN connector and wiring. Consult a maintenance personnel for questions.	Error is cleared once the connection returns to normal.	Major Alarm
65	VoIPDB Fault Information	DSP of GPZ-32/64/128IPLD notifies an error.	Possibility of defective hardware. Consult a maintenance personnel for questions.		-

3. Checking the UG50 System Data

The value of the UG50 system data can be checked with the DIM command.

For information on the DIM console setup, refer to [Diagnostic Information Maintenance \(DIM\) Access Setup](#).

Note: Do not execute this program while the Show Config command is in use.

[Commands for use]

DIM Command	Description
ug50 config show <kind> <Index1> <Index2>	Displays the specified system data value of the UG50.

3.1 Parameter Input

Three kinds of parameters can be entered as shown below.

(1) all

DIM Command	Description
ug50 config show all	Displays all the system data names and values of the UG50.

Example

```

ug50 config show all

[1-1-01] : Initial Setup
    01 : Area= 0
    02 : Migration Mode= 0
    03 : A-law/u-law Setup= 0
    04 : Country Code= 1
-----

[1-1-02] : Music On Hold Setup
    01 : Music Internal/External= 0
    02 : Music No.= 4
    03 : Music Gain Control= 32
-----

:
:

```

(2) tree

DIM Command	Description
ug50 config show tree	Displays all the UG50 system data names and the input range of Index Number by small category. However, Index Number will not be displayed for the system data without Index Number.

Note: Index Number is a number for displaying which category to assign the UG50 system data to. Index Number includes Channel Number and Slot Number.

Example

```

ug50 config show tree

[1-1-01] : Initial Setup
-----

[1-1-02] : Music On Hold Setup
-----

[1-1-03] : Channel Setup
  Index1 : Channel (1-96)
-----
          :
          :

```

(3) “number”

DIM Command	Description
ug50 config show “number”	Displays the UG50 system data names and values by small category. Enter the desired UG50 system data number in “number” to display.

Note: Consider the following:

- System data number indicates the numbers listed on [System Data Menu List \(Feature Programming\)](#).
- Enter only numbers for command input.
 - 1-1-01→1101
 - 4-1-03→4103

Example

```
ug50 config show 1101

[1-1-01] : Initial Setup
    01 : Area= 0
    02 : Migration Mode= 0
    03 : A-law/u-law Setup= 0
    04 : Country Code= 1
2:25:38 >>
2:25:39 >>
2:25:39 >>ug50 config show 4101
```

- Note for <Index1>,<Index2>

System data names and values will be displayed by index only when entering “number” in <kind>.

Note: Check the value of Index Number with the tree command.

Example

```
ug50 config show 4101 2 3

[4-1-01] : COT Card Configuration
Slot No. : 02
Physical Port No. : 03
    01 : Logical Port No.= 3
    03 : Virtual MAC Address=02-60-03-DD-64-DF
```

4. How to Check and Clear Alarm Reports

Alarm reports stored in the UG50 can be checked and cleared from Web Programming as well as from a maintenance PC via TELNET by logging in to the UG50.

For details on alarm reports, see [2. List of Alarm Reports](#) in this chapter.

- [From Web Programming](#)
- [From the DIM Console](#)

4.1 From Web Programming

Click on the **Alarm Report** icon on the **Home** screen.

The **Alarm Report** screen is displayed.

Note: Up to 100 alarm reports can be displayed.

The screenshot shows the 'Alarm Report' screen. At the top right, there are two icons: a refresh icon (1) and a home icon (2). Below the title, there is a table with columns labeled (4) through (13). Below the table, there is a 'Clear' button (3). Below the table, there is a text label: 'This is the list of the Alarm Report.'

(4) LEVEL	(5) No.	(6) STATUS	(7) DATE	(8) TIME	(9) ITEM	(10) CARD	(11) SLOT	(12) PORT	(13) PARAMETER
MAJ	0008	ERR	09/16/96	07:04	Memory Backup Bat.	-none-	00	00	
MAJ	0050	WAR	09/16/96	07:04	System Start Up	-none-	00	00	

Alarm Report Screen

No.	Icon Name	Description
(1)	Refresh	Displays the newest Alarm information.
(2)	Home	Returns to the Home screen.
(3)	Clear	Deletes the displayed alarm information.
(4)	LEVEL	Alarm Level
(5)	No.	Alarm No.
(6)	STATUS	Alarm Kind
(7)	DATE	Date of alarm occurrence

Alarm Report Screen

No.	Icon Name	Description
(8)	TIME	Time of alarm occurrence
(9)	ITEM	Alarm Name
(10)	CARD	Card Kind
(11)	SLOT	Displays the responsible slot for the alarm
(12)	PORT	Displays the responsible port for the alarm.
(13)	PARAMETER	Parameters of each alarm

4.2 From the DIM Console

DIM Command (Checking/Clearing Alarm Reports)

For information on the DIM Console Setup, see [1. Diagnostic Information Maintenance \(DIM\) Access Setup](#).

Enter the following command after logging in to the DIM console.

- To check alarms
alminfo
- To clear alarms
almclr

Checking and clearing alarms has completed.

5. Echo Cancellor Training

This feature is supported within the IPLD to reduce echo that occurs at the beginning of a call. It enables the system to maintain the echo value at the most optimal level more so than the Echo Cancellor feature of the IPLD.

Note: When installing the UG50, perform a connectivity test for all channels to confirm the result of Echo Cancellor Training.

5.1 Echo Cancellor Training Tone Sending

It accelerates the effect of the feature by sending a false tone (Echo Training Tone) at the beginning of a call.

[Setup]

Step1: Click the **Data Setup** icon on the **Home** screen to display the **Feature Programming** screen.

Step2: Go to **1: UG50 Common Setup- 1-5: IPLD Setup for Each Card -Echo Cancellor Training Setup** to select the desired item below.

- 0: Invalid at all times
- 1: Valid at all times
- 2: Recommended Setup

For the recommended setup, the training will be executed when the first call is made and the device type is changed.

* Configure the settings below as needed.

- Echo Cancellor Training Duration Time
Settings for Tone Duration Time. (0 to 960 msec)
- Echo Cancellor Training Waiting Time
Settings for Waiting Time before Training Tone is sent. (0 to 1000 msec)

5.2 Echo Cancellor Training Result Retention

The system retains the result of Echo Cancellor feature within the IPLD when a call is terminated, and enables the next call to start in the optimal echo condition.

[How to check]

Check a result of Echo Cancellor Training from the DIM console.

Refer to [From the DIM Console- How to Check and Clear Alarm Reports](#).

- [Check the training result](#)
- [Clear the training result](#)

- Check the training result

The DIM command enables you to check which line has performed Echo Canceller Training or the Speech test has been performed.

DIM Command	Description
ug50 ect show	Displays the Echo Canceller Training result

Example

```

ug50 ect show
Echo Canceler Information

21:21:03 >>
ch:001, COT, slot:03, rsc:00, EN:000108B0, dsp:000, ect:1
                                     dsp:001, ect:1
ch:002, COT, slot:03, rsc:01, EN:000108B1, dsp:003, ect:1
ch:003, COT, slot:03, rsc:02, EN:000108B2, dsp:002, ect:1
ch:004, COT, slot:03, rsc:03, EN:000108B3, dsp:004, ect:1
ch:005, DLC, slot:04, rsc:01, EN:00010291, dsp:005, ect:1
ch:006, LC , slot:05, rsc:00, EN:00010B40, dsp:006, ect:0
ch:007, LC , slot:05, rsc:01, EN:00010B41, -
ch:008, LC , slot:05, rsc:02, EN:00010B42, -
ch:009, LC , slot:05, rsc:03, EN:00010B43, -
ch:00a, LC , slot:05, rsc:04, EN:00010B44, -
ch:00b, LC , slot:05, rsc:05, EN:00010B45, -
ch:00c, LC , slot:05, rsc:06, EN:00010B46, -
ch:00d, LC , slot:05, rsc:07, EN:00010B47, -

21:21:05 >>

```

- ch: Channel Number of the UG50, the Device Type
- slot: Accommodated slot
- rsc: Physical Channel
- EN (Equipment Number) for Telephony Server
- dsp: DSP Channel in use (Channel Number for the IPLD)
- ect: Flag that has performed Echo Canceller Training

Note: Consider the following:

- When Multiple Session is in use, one channel outputs multiple DSP information since more than one DSP is used.
- “ect” will be displayed as “0” or “-” if Echo Canceller Training has not been performed.

- Clear the training result

The DIM command enables you to clear the training information.

DIM Command	Description
ug50 ect clear [ch]	Reset the training result to "Training not performed" state. ->Send the training tone in the next call.

If [ch] is not specified, all the training information will be cleared.

Example

```
ug50 ect clear
Echo Canceler Information ALL Cleared
21:35:59 >>
==== << 03/22, 21:36 >>====
```

If [ch] is specified, the training information of the specified channel will be cleared.

Example

```
ug50 ect clear 18
Echo Canceler Information Cleared ch:018
21:36:05 >>
```

Note: Training information can be also cleared in the following cases.

- Reset command from the Telephony Server (Delete the registered devices with the AMGIL/AISTL command)
- Reset of card
- Restart of the UG50

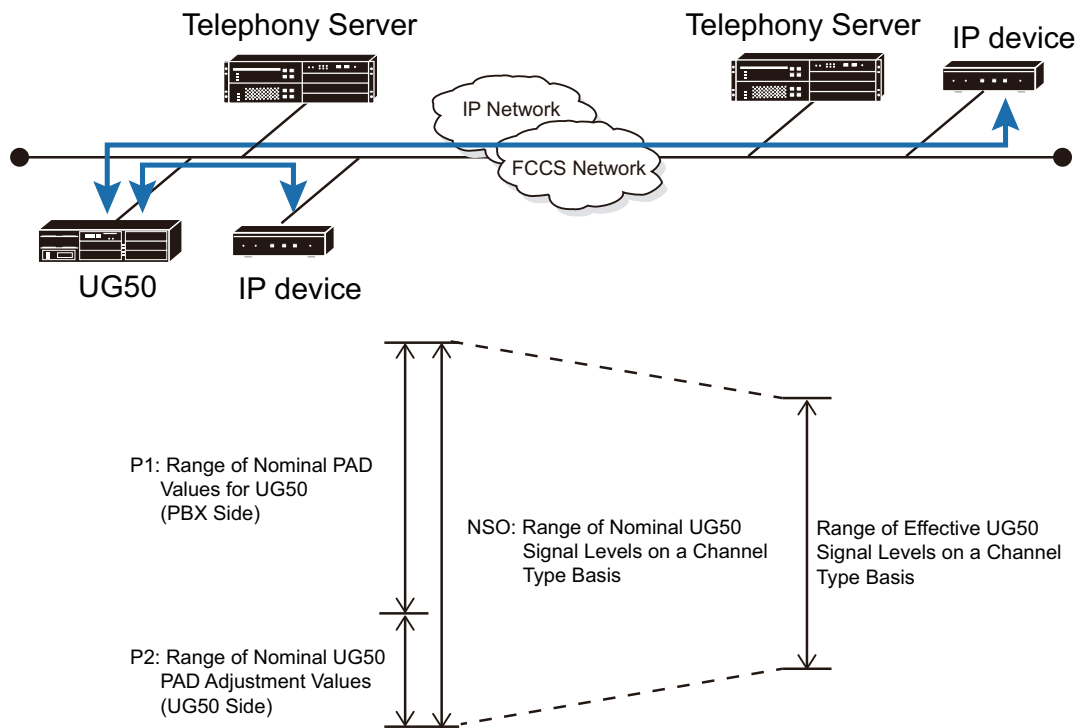
6. PAD Control IP Support - UG50

UG50 uses two different signal level control methods depending on whether the communication is between IP devices over an IP or FCCS network, or between channels (**Note1**) within the UG50 unit.

Note1: Two channels within the same UG50 unit, regardless of whether the channels are on the same card or on different cards installed in the UG50.

6.1 Signal Levels in Communication between IP Devices over IP or FCCS Network

In communication with an IP device (including another UG50), UG50 controls the levels of speech and facsimile signals based on specific PAD values within the range determined by the type of the card for processing the signals.



The range of nominal UG50 signal levels on a channel type basis is given by the following expression:

$$NSO = P1 + P2$$

where:

NSO (**Note2**) is the range of nominal UG50 signal levels on a channel type basis;

P1 is the range of nominal PAD values for UG50 (**Note3**), which is set on PBX side;

P2 is the range of nominal UG50 PAD adjustment values (**Note4**), which is set on UG50 side.

Note2: NSO stands for “nominal signal levels in communication with an IP device outside the UG50.”

Note3: PAD values for UG50 are set with the APDIL or APDCL command.

Note4: UG50 PAD adjustment values are set in the Channel Setup screen of Web Programming of UG50. For details, see [\(3\) 1-1-03: Channel Setup](#) in Chapter 3.

PAD Values and PAD Adjustment Values for UG50 (Nominal Range)

	Speech PAD (dB)	Fax PAD (dB)
PAD Value for UG50	-20 to +20	-20 to +20
UG50 PAD Adjustment Value Note5	-15.5 to +15.5	

Note5: A UG50 PAD adjustment value is applied to both Speech PAD and Fax PAD values.

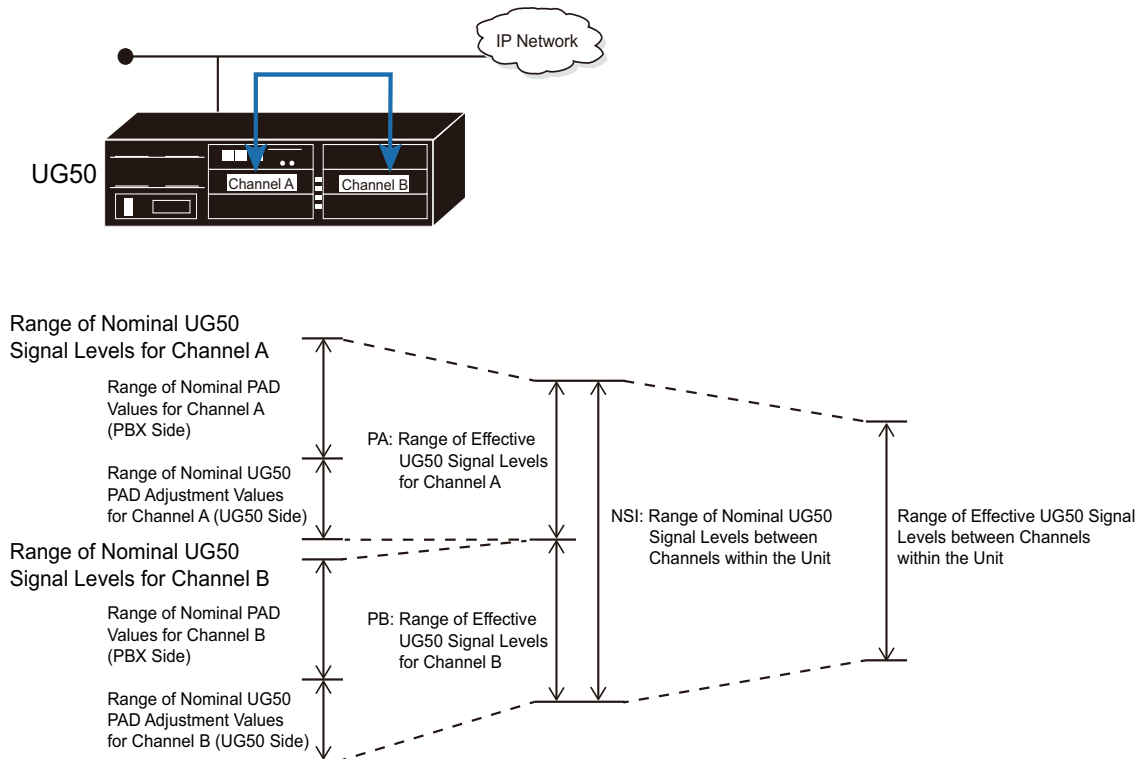
If the resulting value is outside the range of “effective UG50 signal levels on a channel type basis,” the closest valid PAD value is used.

Effective UG50 Signal Levels on a Channel Type Basis

UG50		Effective Signal Level	
		Speech PAD (dB)	Fax PAD (dB)
UG50 (DLC)	Receive	-31 to +31	-
UG50-IPG (Digital)	Send		-
UG50 (LC) [Proprietary Protocol/SIP]	Receive	-10 to +20	0 to +20
UG50-2MC	Send	0 to +15	0 to +15
UG50-8LC			
UG50 (PRT 1.5M) [Proprietary Protocol/SIP]	Receive	-16 to +20	0 to +20
UG50 (PRT 2M) [Proprietary Protocol/SIP]	Send		
UG50-24PRIA [Proprietary Protocol/SIP]	Receive	-10 to +20	0 to +20
UG50-30PRIA [Proprietary Protocol/SIP]			
UG50 (COT-TYPE1)	Send	-10 to +20	0 to +20
UG50 (COT-TYPE2) [Proprietary Protocol/SIP]			
UG50-4LC2COTA (MG part)	Send	-10 to +20	0 to +20
UG50-4LC2COTA (MC part)			
UG50-6COT [Proprietary Protocol/SIP]			

6.2 Signal Levels in Communication between Channels within UG50 Unit

In communication between two channels within the unit, UG50 controls the levels of speech and facsimile signals based on specific PAD values within the range determined by the effective signal level between the channels.



The range of nominal UG50 signal levels between channels within the unit is given by the following expression:

$$NSI = PA + PB$$

where:

NSI (**Note6**) is the range of nominal UG50 signal levels between channels within the unit;

PA is the range of effective UG50 signal levels for Channel A;

PB is the range of effective UG50 signal levels for Channel B.

Note6: NSI stands for “nominal signal levels in communication inside the UG50.”

If the resulting value is outside the range of “effective UG50 signal levels between channels within the unit,” the closest valid PAD value is used.

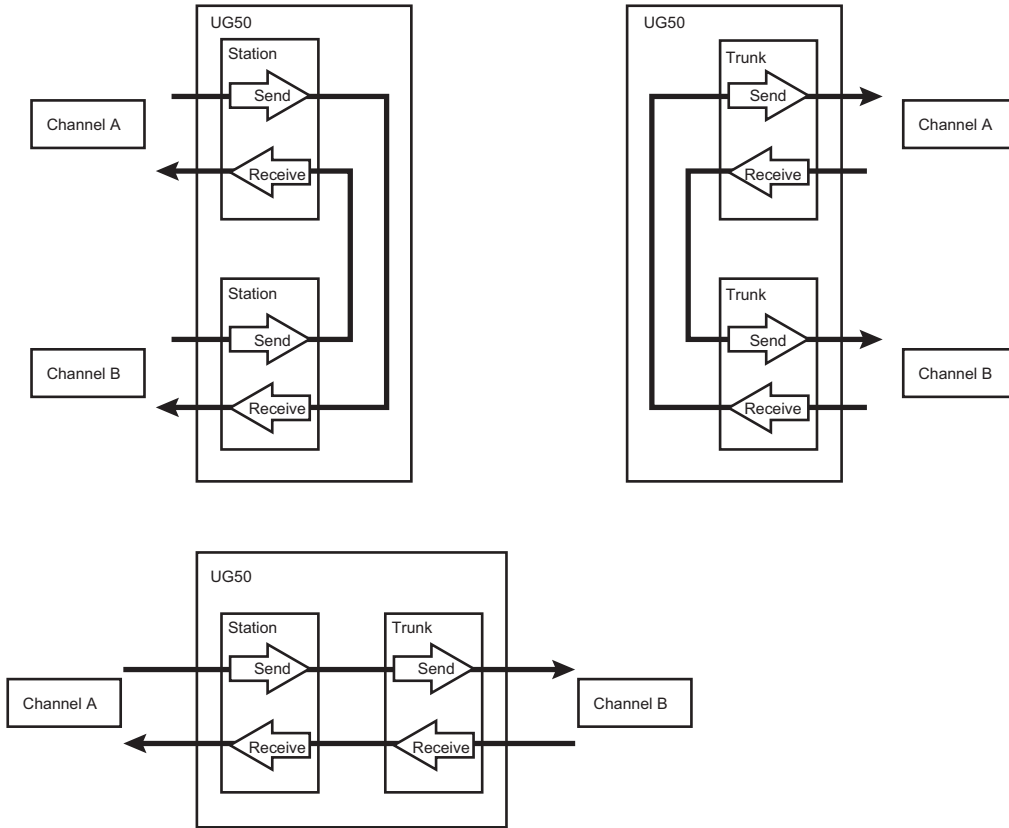
Effective UG50 Signal Levels between Channels within the Unit

UG50	Effective Signal Level	
	Speech PAD (dB)	Fax PAD (dB)
UG50 (DLC) UG50-IPG (Digital) UG50 (LC) [Proprietary Protocol/SIP] UG50-IPG (Analog) UG50-2MC UG50-8LC UG50 (PRT 1.5M) [Proprietary Protocol/SIP] UG50 (PRT 2M) [Proprietary Protocol/SIP] UG50-24PRIA [Proprietary Protocol/SIP] UG50-30PRIA [Proprietary Protocol/SIP] UG50 (COT-TYPE1) UG50 (COT-TYPE2) [Proprietary Protocol/SIP] UG50-4LC2COTA (MG part) UG50-4LC2COTA (MC part) UG50-6COT [Proprietary Protocol/SIP]	-12 to +15.5	Note7

Note7: Speech PAD values are used for fax communication between channels within a UG50 unit.

As mentioned before, the overall signal level of UG50 in communication between channels within the unit is the sum of the signal levels for individual channels. In this case, whether to use Send or Receive PAD values for calculation is determined according to type of telephone line and direction of signal transmission, as shown below:

Telephone Line		Direction of Signal Transmission	Overall Signal Level
Channel A	Channel B		
Station	Station	From A to B	UG50 Signal Level for Channel A (Send) + UG50 Signal Level for Channel B (Receive)
		From B to A	UG50 Signal Level for Channel B (Send) + UG50 Signal Level for Channel A (Receive)
Trunk	Trunk	From A to B	UG50 Signal Level for Channel A (Receive) + UG50 Signal Level for Channel B (Send)
		From B to A	UG50 Signal Level for Channel B (Receive) + UG50 Signal Level for Channel A (Send)
Station	Trunk	From A to B	UG50 Signal Level for Channel A (Send) + UG50 Signal Level for Channel B (Send)
		From B to A	UG50 Signal Level for Channel B (Receive) + UG50 Signal Level for Channel A (Receive)



7. Displaying the Operation Status of Each Slot

The operation status of each slot can be checked with the DIM command.

For information on the DIM Console Setup, see [1. Diagnostic Information Maintenance \(DIM\) Access Setup](#).

DIM Command	Description
ug50 status show <slot No. (2 to 6)>	Displays the operation status of a specified slot.

[Example]

Below is an example of displaying the status of slot 2.

```
> ug50 status show 2

Common Status
Link State           : Up
Speed                : 100Mbps
Duplex               : Full
VLAN Mode            : Disable
IP Address           : 10.41.1.100
Subnet Mask          : 255.255.255.0
Default Gateway      : 10.41.1.254

Registration Status
Kind                 : LC
SIP Mode             : Disable
Channel              : 1
Number of Channels   : 1
MAC Address          : xx:xx:xx:xx:xx:xx
Registered Drs Adr   : 10.41.1.30 (Server 1)
Registration Status   : Online
```

Term	Description
Link State	Link status of the VoIP Port Up/Down
Speed	Link status of the VoIP Port 100 Mbps/10 Mbps
Duplex	Link status of the VoIP Port Full /Half
VLAN Mode	VLAN status of the VoIP Port Enable/Disable
IP Address	IP Address of the VoIP Port
Subnet Mask	Subnet Mask of the VoIP Port

Term	Description
Default Gateway	Default gateway of the VoIP Port
Kind	Terminal /Type of Line DLC/LC/COT/PRI
SIP Mode	SIP mode Enable/Disable
Channel	Channel Number
Number of Channels	Number of Channels
MAC Address	Virtual MAC Address
Registered Drs Adr	IP Address of the registration destination
Registration Status	Registration status Online/Offline Note: Causes of error will be displayed when offline.

8. Remote Update

Firmware upload can be performed via remote access from Web Programming.

Limitations

- [1] Once the remote update has completed, the old firmware is automatically overwritten. To return to the old firmware, the old firmware is required to be uploaded again.
- [2] When the following occurs during the remote update, the update will stop. In that case, update the firmware again from the beginning of the procedure.
 - A breakdown of communications between the UG50 and Web Programming occurs.
 - The power cable is pulled out from the UG50 or the power is switched off manually.
 - The power is down due to a blackout.
- [3] After the remote update has completed, the UG50 automatically restarts. Any active calls are forced to be disconnected.
- [4] Upload will stop if any of the following occurs during the new firmware update. When uploading the firmware again, be sure to start from the beginning of the procedure.
 - Click on the **HOME** icon during the upload.
 - Close the browser
 - Click on the Return button on the browser

Procedure

Step1: Login to Web Programming.

For details on how to log in to Web Programming, refer to [Web Programming](#) in Chapter 3.

Step2: Click on the **Firmware Update** icon on the Home screen.

The **Firmware Update** screen appears.



[Firmware Update] Icon

Uploads the firmware from remote

Step3: Click on the **Browse** button on the **Firmware Update** screen, and select a new firmware file.

 The image shows the "Firmware Update" screen. At the top left is the title "Firmware Update" and a "Home" button with a house icon at the top right. The main content area is split into two columns. The left column contains:

- A "Firmware File" label above a text input field and a "Browse..." button.
- A "Schedule Update" section with two radio buttons: "Immediately" (selected) and "At the time...".
- Below the radio buttons are two input fields: "Date" with the value "16/09/96" and "(dd/mm/yy)" next to it, and "Time" with the value "06:34" and "(hh:mm)" next to it.
- A "Start Update" button at the bottom of this section.

 The right column contains:

- A "Firmware File" section with the text: "Select the firmware file to upload to the Switch. The file will be copied to the Memdb."
- A "Schedule Update" section with the text: "Schedule the date and time when the CPU will switch over to the new firmware."
- A table with two rows:

Immediately after upload	With this option, the CPU will switch over to the new firmware immediately after the upload is complete.
At the time...	The CPU will switch over to the new firmware at the specified date and time.
- A "Note" at the bottom: "Note: The time you specify should be relative to the time on the Switch, not the PC."

 At the bottom of the screen, there is a warning: "The update procedure may take a few minutes to complete. In this time do not interact with your browser window until the firmware update is completed."

Step4: Set the desired schedule for the update. Then click on the **Start Update** button.

- Immediately after upload

The CPU will switch over to the new firmware immediately after the upload is complete.

- At the time...

The CPU will switch over to the new firmware at the specified date and time.

Step5: A confirmation message appears. Click **OK** to start the firmware update. The firmware update requires a few minutes.

Step6: To complete the firmware update, the UG50 automatically restarts.

Note : It takes approximately five minutes before the UG50 restarts after the completion of firmware update.

9. Troubleshooting

Enter the Status Check command and the Trace command on DIM. For information on the DIM console setup, see [1. Diagnostic Information Maintenance \(DIM\) Access Setup](#).

9.1 Trace Command

This command is used when acquiring an operational log.

[Cautions]

- (1) After entering the trace command, execute an operation causing trouble to acquire an operational log.
- (2) Be sure to enter the trace command of Type “COMMON” at all times. In addition enter the command of the device with trouble accordingly.
- (3) Be sure to execute the command of Type “CLEAR” to stop the log output after the operation log has been acquired.
- (4) Output should be Level=1 unless otherwise instructed by a technical expert.

[Command]

Type	Command	Remark
COMMON	UG50 TRACE COMMON [level(1 to 3)]	Outputs all trace commands below the level specified by COMMON.
COT	UG50 TRACE COT [level(1)]	Outputs all trace commands below the level specified by COT.
PRI	UG50 TRACE PRI [level(1)]	Outputs all trace commands below the level specified by PRI.
LC	UG50 TRACE LC [level(1 to 2)]	Outputs all trace commands below the level specified by LC.
CLEAR	UG50 TRACE ALL 0	Releases all trace commands.

Note: Input a desired number in [level].
(e.g.) ug50 trace common 3

9.2 Status Check Command

This command is used when acquiring the UG50 system information.

[Cautions]

- (1) After executing the trace command, enter the status check command of Type “COMMON” to acquire the UG50 system information. In addition, enter the status check command of Type “COT” when using the COT card.
- (2) Specify the maximum level in the commands unless otherwise instructed by a technical expert. Do not input while the UG50 is in operation.

Type	Command	Remark
COMMON	UG50 INFO COMMON [level(1 to 3)]	Outputs all status commands below the level specified by COMMON.
COT	UG50 INFO COT [level(1)]	Outputs all status commands below the level specified by COT.

Note: Input a desired number in [level].
(e.g.) ug50 info common 3

10. Additional Information for Installation

Additional information on Installation is listed below

- [10.1 Turning off the Power](#)
- [10.2 Attaching and Removing the Front Cover](#)
- [10.3 Replacing Cooling Fan Box for the 19" Chassis](#)
- [10.4 Replacing Memory Backup Battery](#)

10.1 Turning off the Power

Follow the steps below to turn off the power before unplugging the power cord from the AC outlet when the UG50 needs to be turned off during operation.

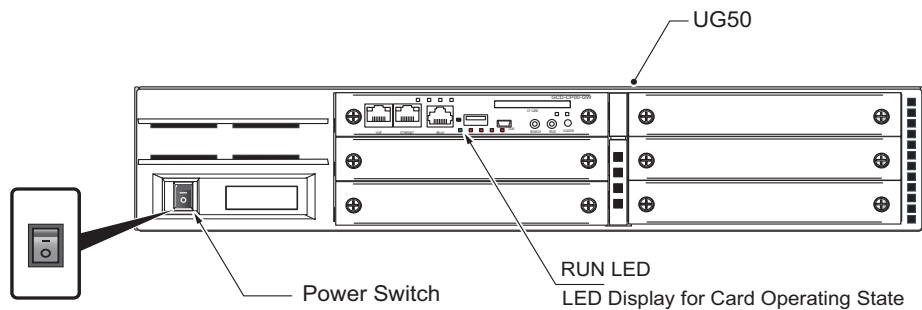
- 19" Chassis (Refer to [19" Chassis](#))
- 9.5" Chassis (Refer to [9.5" Chassis](#))



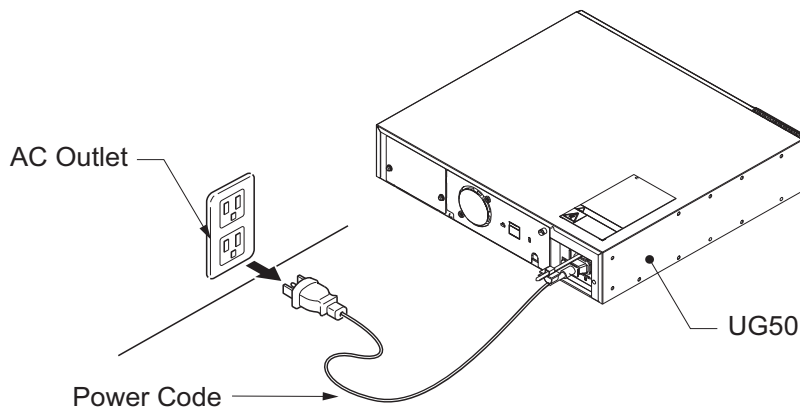
10.1.1 19" Chassis

Step1: Flip the power switch to the OFF position.

RUN LED turns off then the power is OFF.



Step2: Unplug the power cord from the AC outlet.

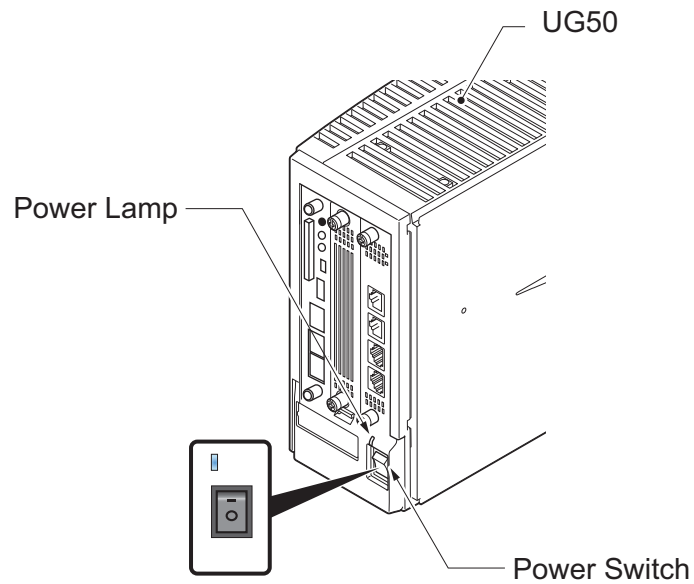


The process of turning off the power is completed.

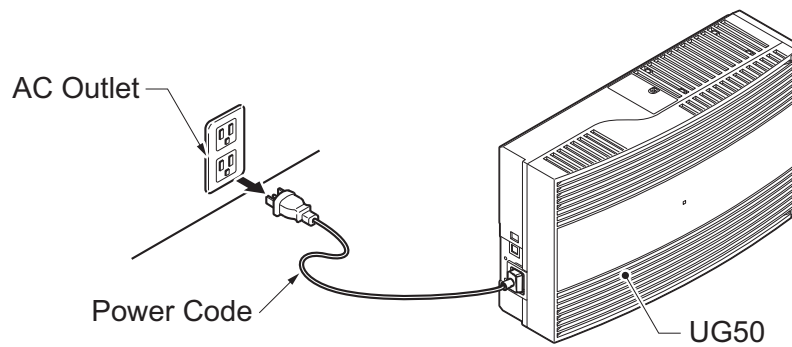
10.1.2 9.5" Chassis

Step1: Flip the power switch to the OFF position.

Run LED turns off then the power is OFF.



Step2: Unplug the power cord from the AC outlet.



The process of turning off the power is completed.

10.2 Attaching and Removing the Front Cover

The instruction for attaching/removing the front cover is described in this section.

- 19" Chassis (Refer to [10.2.1 19" Chassis](#))
- 9.5" Chassis (Refer to [10.2.2 9.5" Chassis](#))

10.2.1 19" Chassis

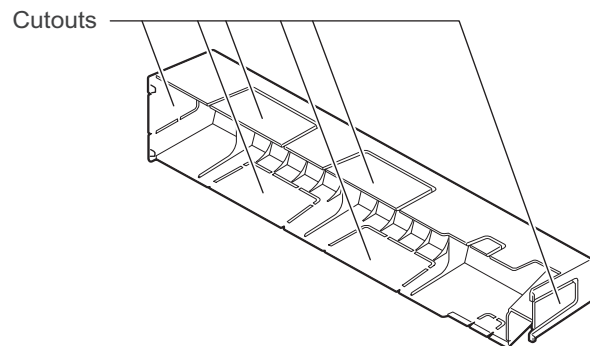
The instruction for attaching/removing the front cover (CHS2UG FRONT COVER) for the 19" Chassis is listed in this section.

Note: Ensure there is some space (approx. 70 mm) from the front face of the 19" Chassis when attaching the front cover. Also space on the right/left side needs to be secured when attaching/removing the cover.

- How to attach the front cover (Refer to [10.2.1.1 How to Attach the Front Cover](#))
- How to remove the front cover (Refer to [10.2.1.2 How to Remove the Front Cover](#))

10.2.1.1 How to Attach the Front Cover

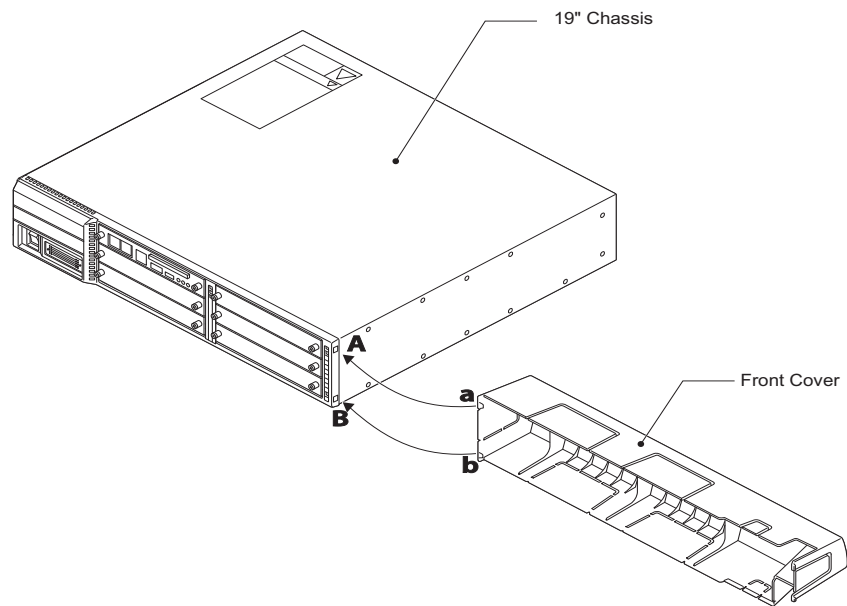
Step1: Remove the cutouts with nippers according to the cable positions.



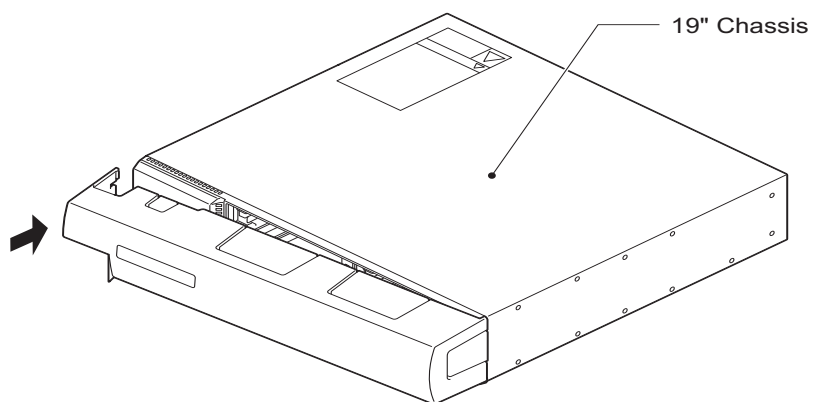
Note : Remove the cutouts from the base not to leave the uneven surface on the front cover.



Step2: Insert the tab a, b, on the left side of the rear face of the front cover, into the tab slot A, B on the right side of the 19" Chassis.



Step3: Slide in the left side of the front cover until it clicks.

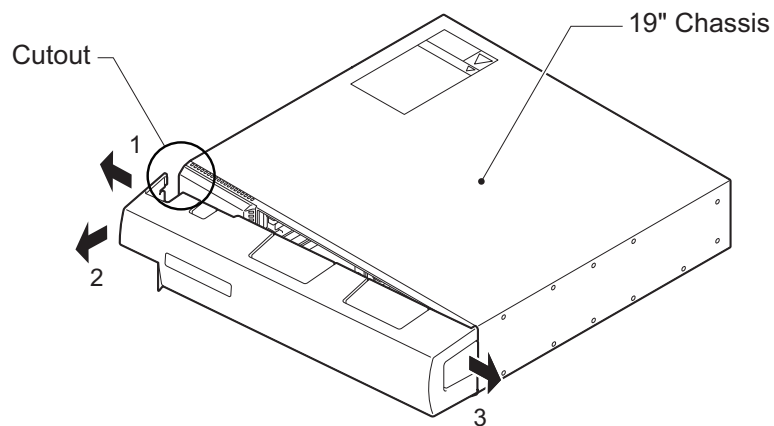


The process of attaching the front cover for the 19" Chassis is completed.

10.2.1.2 How to Remove the Front Cover

- Step1:** Place your finger on the cutout on the front cover and pull out to the left.
- Step2:** Pull the front cover towards you and remove it from the left side of 19" Chassis.
- Step3:** Move the front cover to the right. Remove the cutouts on the front cover from the cut-out slots on the right side of 19" Chassis.

Note : Power switch is located near the bottom left of the front cover. Be careful to not touch the power switch when removing the front cover.



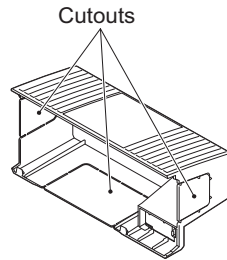
10.2.2 9.5" Chassis

The instruction for attaching/removing the front cover (IP3NE-FRONT COVER(S) SET) for the 9.5" Chassis is listed in this section.

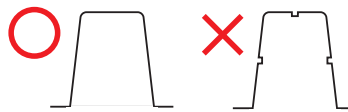
- How to attach the front cover (Refer to [10.2.2.1 How to Attach the Front Cover](#))
- How to remove the front cover (Refer to [10.2.2.2 How to Remove the Front Cover](#))

10.2.2.1 How to Attach the Front Cover

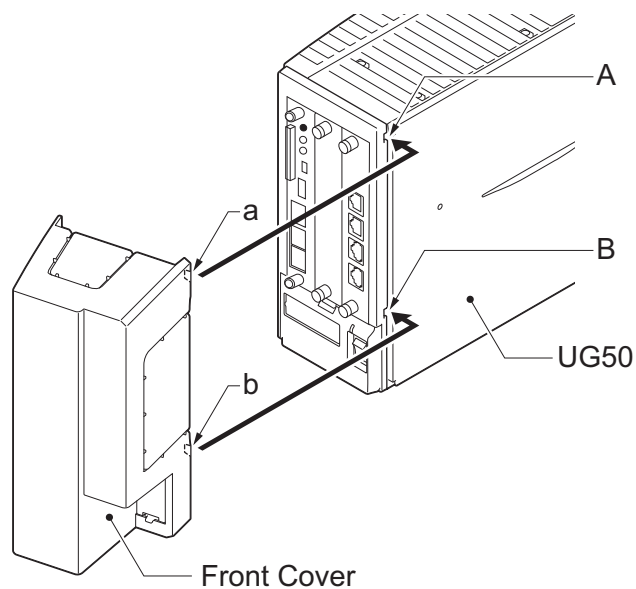
Step1: Remove the cutouts (bottom left/right x1) with nippers, corresponding to the cable positions.



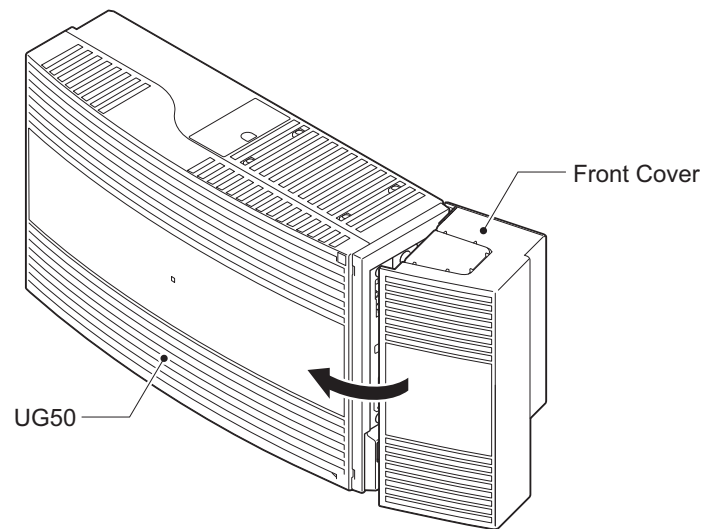
Note : Remove the cutouts from the base not to leave the uneven surface on the front cover.



Step2: Align the holes A and B in UG50 with the tabs a and b of the Front Cover.



Step3: Press the Front Cover, as shown in the figure below, until it snaps in.



The process of attaching the front cover is completed.

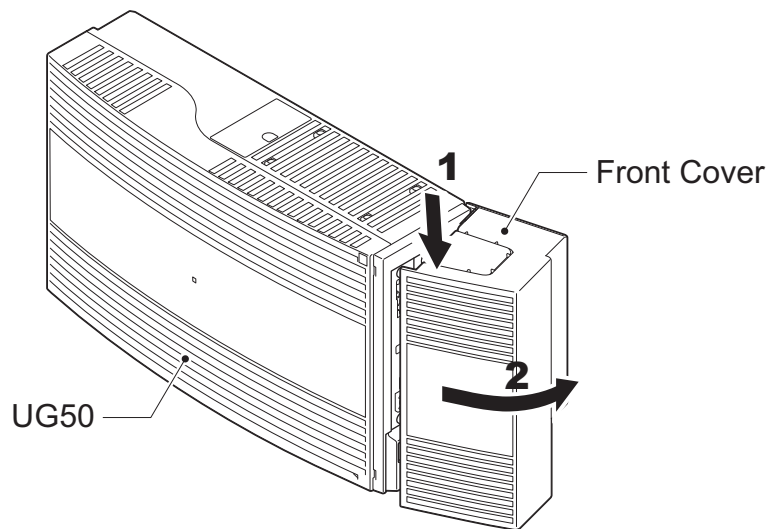
10.2.2.2 How to Remove the Front Cover

Step1: Press and hold down the upper edge (as indicated by the arrow 1) of the Front Cover.

Step2: While holding the edge of the cover, pull the cover outwards and remove it from UG50.

When removing Front Covers in a multiple chassis configuration, start from the top and work to the bottom.

Note : Power switch is located near the bottom right of the front cover. Be careful not to touch the power switch when removing the front cover.



The process of removing the front cover is completed.

10.3 Replacing Cooling Fan Box for the 19" Chassis

Replace the provided cooling fan (CHS2U FAN BOX SET) box every four years.

Note: To reduce the possibility of electrical shock or damage to equipment, NEC recommends powering off the chassis and disconnecting the AC cable from the power source before removing the chassis cover.

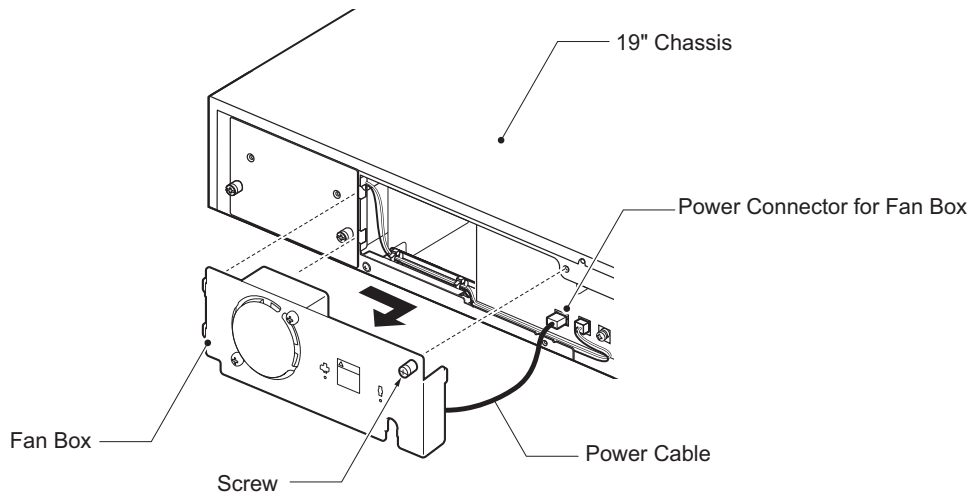


Step1: Ensure the chassis is powered down.

Note : To reduce the possibility of damage to equipment, the installer must wear a grounded wrist strap to protect the equipment from static electricity.

Step2: Loosen the screws on the back of the 19" Chassis.

Step3: Pull out the fan box halfway, and remove the power cable for the fan box.

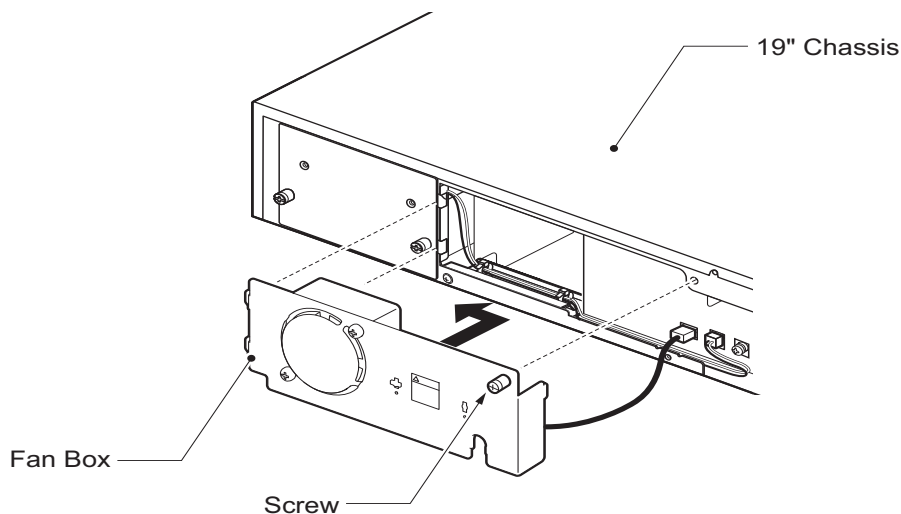


Step4: Replace the fan box

Step5: Connect the power cable to the power connector on the fan box.

Step6: Insert the fan box into the designated location at the back of the 19" Chassis, and tighten the screws.

Be sure to keep the power cable out of the way when installing the fan box.



The process of replacing the cool fan box for the 19" Chassis is completed.

10.4 Replacing Memory Backup Battery

A Memory Backup Battery is mounted on the Central Processing Card (GCD-CP00-GW).

The life of the battery depends on the operating condition, but is approximately five years. It is a good idea to note the date of next battery replacement somewhere that you will remember to look at it.

Note: If the battery runs out, a system alarm (Alarm No.8 Memory Backup Battery Error) is generated. Replace the battery before the alarm is activated.


When removing the battery, you should consider the following:

- (a) The types of information listed below are deleted or reset to the default. You should back up the data on your USB flash drive in advance. For details, see [“7.2 Saving Data to USB”](#) in Chapter 3.
 - Alarm reports
 - Data related to Digital terminals (the ringer volume, the voice volume and the screen density)
- (b) Loading data from a USB flash drive will overwrite the system data existing on the UG50 with the last data stored in the USB flash drive. To ensure consistency in the operation of UG50, check if any change is made to the system data after the last backup. If so, perform the steps in [“7.2 Saving Data to USB”](#) to update the data stored in the USB flash drive before turning off the power of UG50, and then remove the battery.
- (c) Clock setting is lost but it is automatically synchronized with the system clock when the UG50 registration with the Telephony Server is completed.

10.4.1 Cautions when Replacing the Batteries



CAUTION

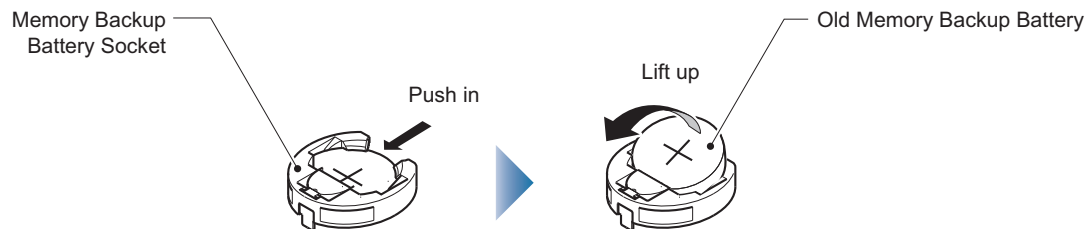
- Observe the following cautions when replacing the batteries. Otherwise, it may cause a heat generation, an ignition, or an explosion of a battery. 
- Do not put the battery in a fire or heat up the battery.
- Do not apply the battery in the wrong polarity.
- Do not connect each end of the polarity with a metal such as a wire. Do not carry or store the battery with a metallic necklace.
- Do not drive a nail into the battery, hit with a hammer, step on, or solder the battery.

Note: When replacing the batteries, first turn off the power of UG50, and then remove the Central Processing Card (GCD-CP00-GW) from the UG50 Chassis.

10.4.2 Battery Replacing Procedure

Step1: Remove the battery from the Memory Backup Battery Socket.
Push the battery toward the socket and lift it to remove, as illustrated below.

Note : Be sure to use your fingers to replace the batteries. Do not use a metallic instrument such as a screwdriver or a mechanical pencil, which may cause a short-circuit of the battery and result in a system breakdown.



Step2: Insert a new battery in the socket.
See [“5.1.5 Battery Installation”](#) in Chapter 2 for procedure on how to install the battery.

11. Maintenance

11.1 Starting up the UG50

Check the following items if the UG50 will not start or a functional operation test cannot be performed properly.

Check Point	Check Item	Check Column
Grounding	Is the grounding terminal connected to ground?	
Power Source	Is the power cord for the UG50 connected to an AC outlet?	
	Is the voltage of AC power correct?	
	Is the power to the UG50 supplied?	
	Is RUN LED on the GCD-CP00-GW flashing green?	
Terminal/ Equipment Connection	Is the card accommodated firmly?	
	Is the wiring for a modular rosette correct?	
	Are recommended cables used?	
	Is the cable connection on the terminal/device correct?	
	Is the LED on the card indicating the normal operation status?	

11.2 The UG50 is Down

[Checking Power Supply]

Check the power status following the procedure.

Step1: Confirm the power cord for the UG50 is plugged into the AC outlet.

If unplugged, insert the power cord into the outlet.

Step2: Confirm the voltage of AC power is normal.

Be sure to connect the power cord to the AC power within the requirement range of the AC power.

Note : If the power cord is connected to the AC power beyond the requirement range, the power unit will be damaged.



Danger

Be careful of electrification when handling a tester.

Step3: Confirm the power lamp on the UG50 is steady-ON.

Check the power lamp status, referring to [5.1 Central Processing Card \(GCD-CP00-GW\)](#) in Chapter 2.

Note : If nothing is wrong with the AC power and the power cord, the power unit built in the UG50 is possibly faulty.

[Checking the Card]

Check the card status following the procedure.

Step1: Confirm RUN LED is flashing green on the GCD-CP00-GW.

Check the status of RUN LED, referring to [5.1 Central Processing Card \(GCD-CP00-GW\)](#) in Chapter 2.

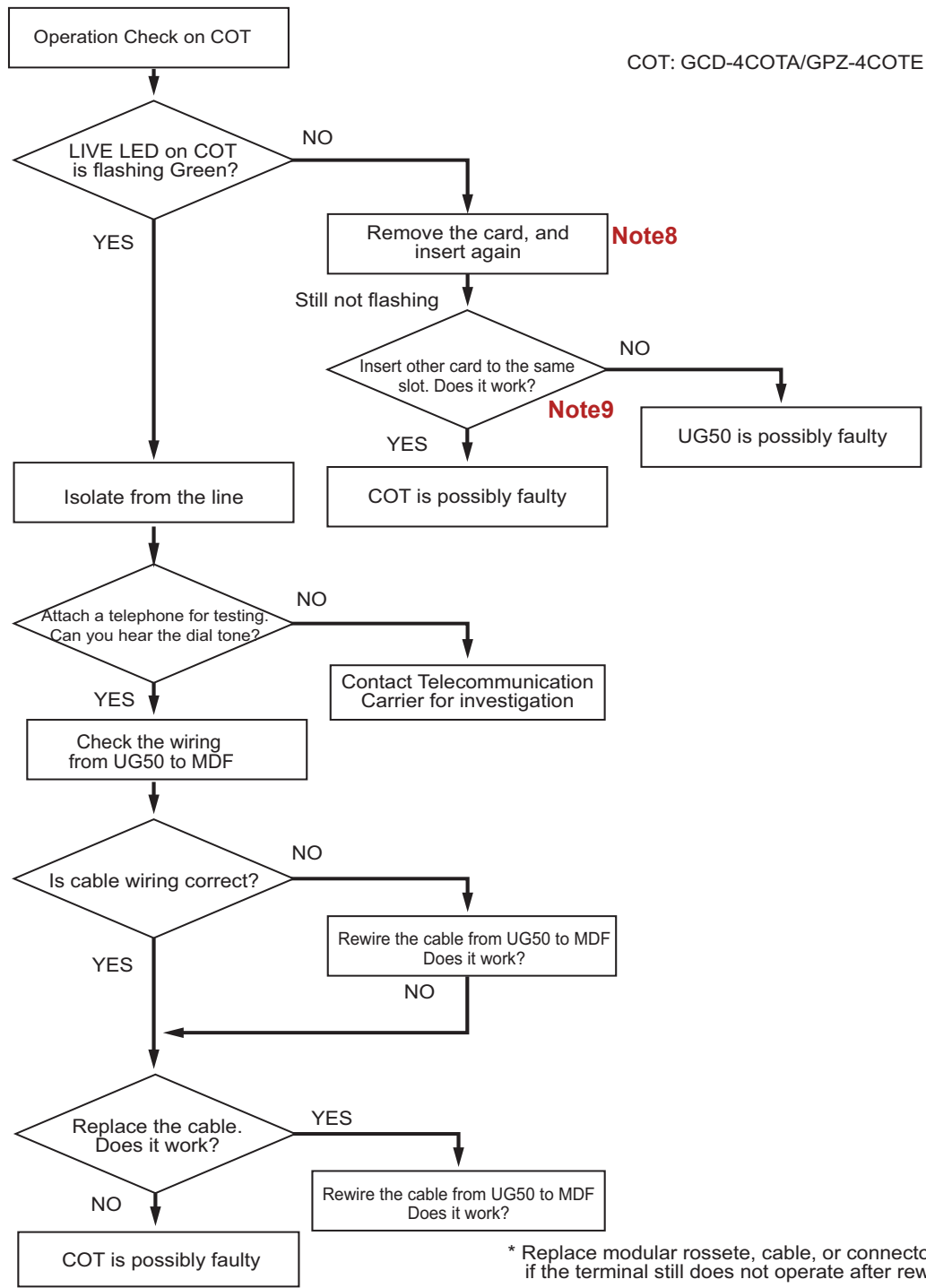
Step2: Confirm LIVE LED is flashing green on each card.

The information of LIVE LED and BUSY LED is the same for all cards. Check the status of LIVE LED on each card, referring to [5.4.3 LED Indications](#) of [5.4 8-Port Analog Line Interface Card \(GCD-8LCA\)](#) in Chapter 2.

11.3 Fault Isolation

Note: If there is any card with LIVE LED that will not start flashing green at the initial startup, turn off the power to the UG50 and remove the faulty card. A faulty card flashes its BUSY LED red.

11.3.1 When a COT card cannot be used

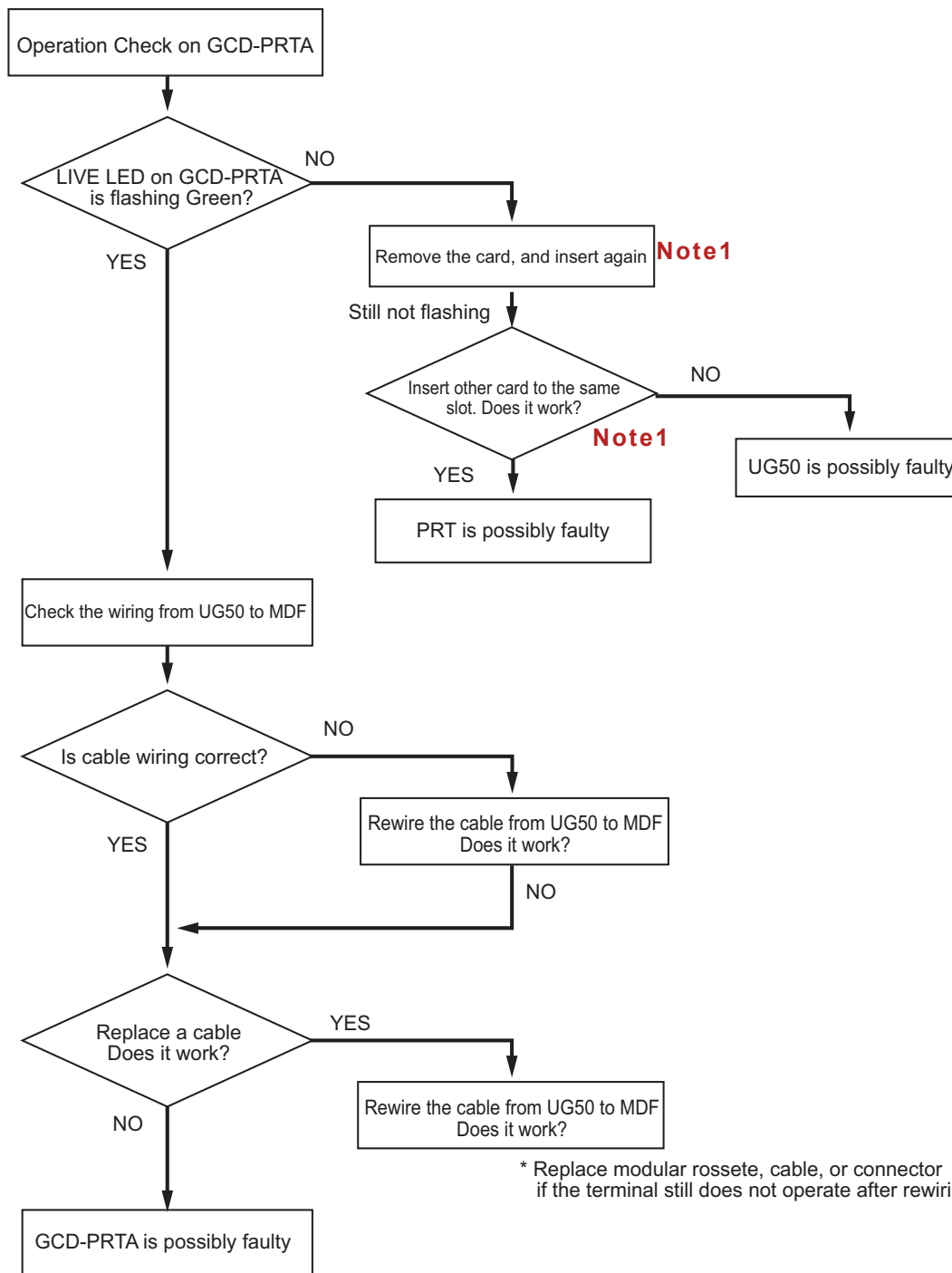


Note8: Be sure to power OFF UG50 before removing the card.

Note9: Use the same card type for testing. The office data is required to be changed when using different card types such as the PRT card and the LC card.

* Replace modular rossete, cable, or connector if the terminal still does not operate after rewiring.

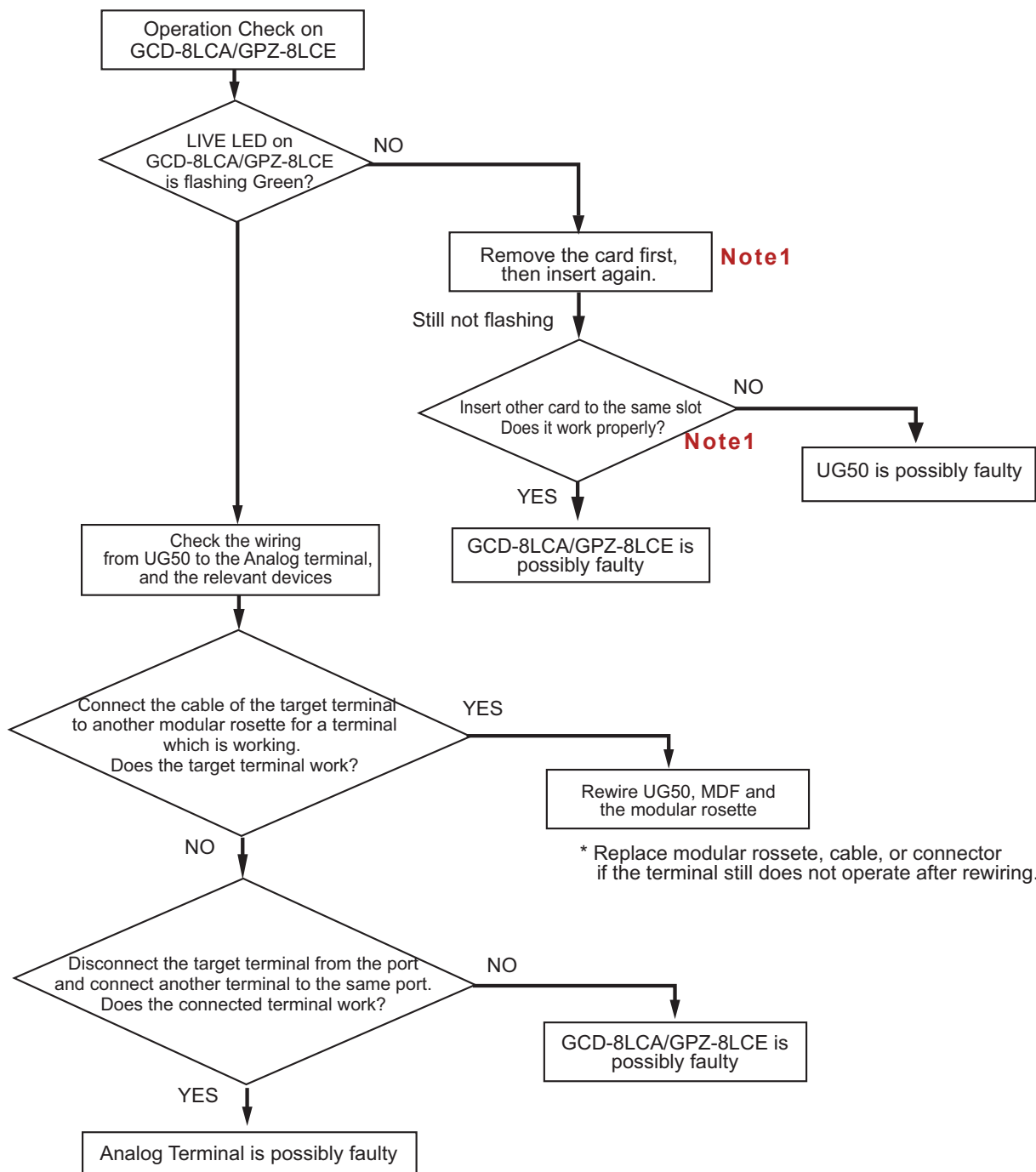
11.3.2 When a PRT card cannot be used



Note10: Be sure to power OFF UG50 before removing the card.

Note11: Use the same card type for testing. The station data is required to be changed when using different card types such as the COT card and the LC card.

11.3.3 When a Single Line Telephone (Analog Terminal) cannot be used

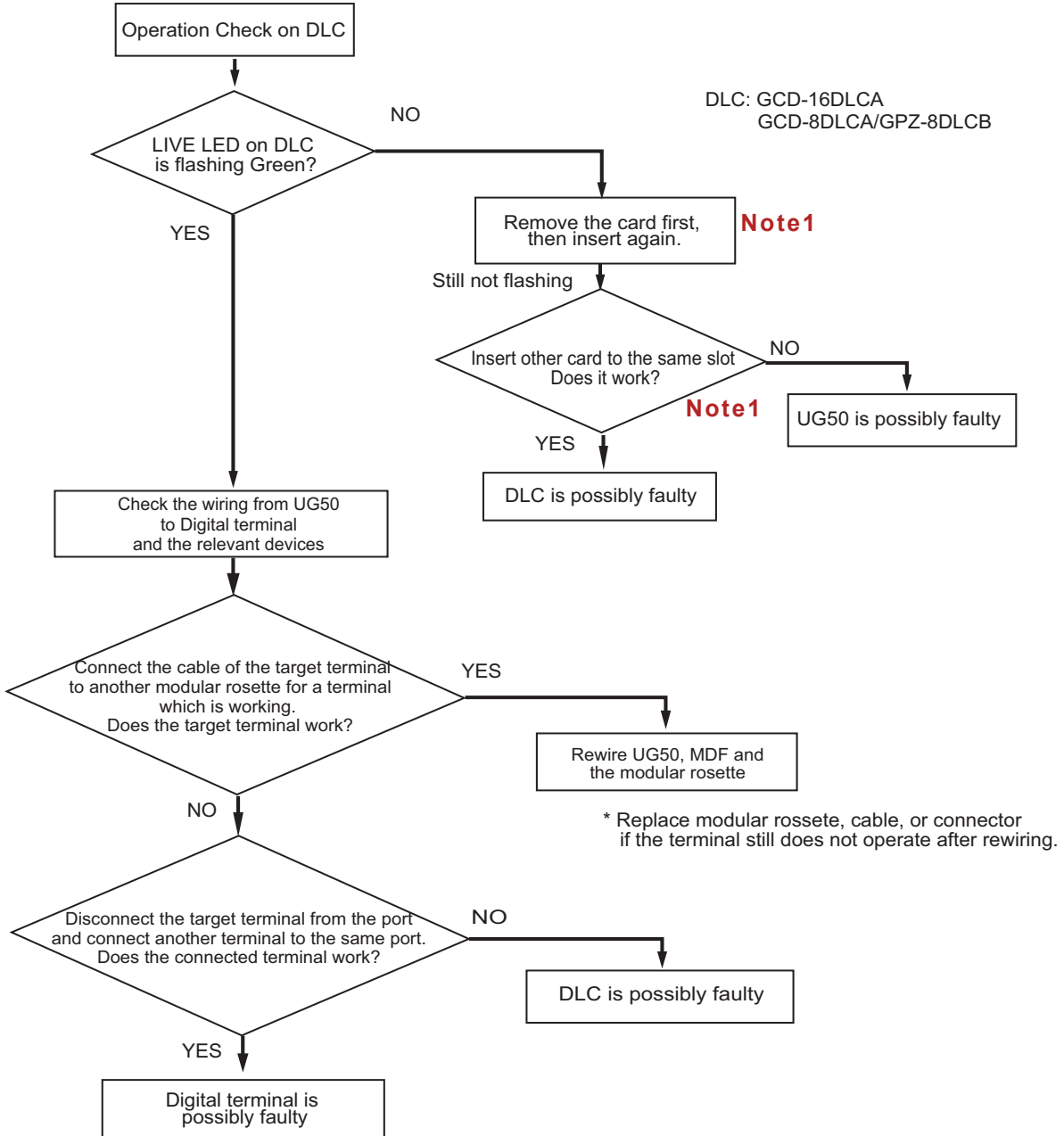


Note: When the speech path is not available, check the setting of 1: UG50 Common Setup - 1.2 Network Setup and 1-5 IPLD Setup on the UG50.

Note12: Be sure to power OFF UG50 before removing the card.

Note13: Use the same card type for testing. The station data is required to be changed when using different card types such as the COT card and the DLC card.

11.3.4 When a Digital terminal cannot be used



Note: When the speech path is not available, check the setting of 1: UG50 Common Setup - 1.2 Network Setup and 1-5 IPLD Setup on the UG50.

Note14: Be sure to power OFF UG50 before removing the card.

Note15: Use the same card type for testing. The station data is required to be changed when using different card types such as the COT card and the LC card.

11.4 Initialization of the UG50

Follow the procedure below to initialize the UG50 if the problem is still not solved.

Note: When the UG50 is initialized, all settings of the UG50 system data are back to default. After the initialization, all the system data must be set again.

Step1: Turn off the UG50.

Power lamp of the UG50 turns off.

Step2: Check that a USB memory or other USB device is not connected to CN5 (USB port) on the GCD-CP00-GW.

Step3: Turn on the power switch while holding down SW1 (LOAD switch) on the GCD-CP00-GW.

Note : Continue holding down SW1 for three seconds after the Power lamp is ON.

Step4: Release SW1 (Load switch) after three seconds.

Step5: The LED on the GCD-CP00-GW indicates that the UG50 is initialized.

For details on the LED indications, see [5.1 Central Processing Card \(GCD-CP00-GW\)](#) in Chapter 2.

The process of initializing the UG50 is completed.

11.5 Precautions when Adding and Changing Cards

Note the following precautions when adding/changing cards and devices.

[Adding/Changing Cards]

Note: Hot-swap is not supported for all cards to be used on the UG50.

Note: Refer to (2) under <common> in [Conditions on Data Setting](#) for precautions when replacing a card.

Modification	Required Procedure and the UG50 Operation
Adding a card into a vacant slot of the UG50	[Precautions when inserting a card] Insert a card to a vacant slot of the UG50. After inserting, tighten the screws on both sides of the card.
	[Assigning to the UG50] A card is automatically assigned to the UG50 when it is powered on.

Modification	Required Procedure and the UG50 Operation
Replacing a card with another of a different function in the same slot (for example, 8LC → 4COT)	[Precautions when inserting a card] Insert a card to a vacant slot of the UG50. After inserting, tighten the screws on both sides of the card.
or Expanding the number of ports for cards of the same function (for example, 8LC → 16LC)	[Assigning to the UG50] Delete the existing card information assigned to the target slot through the Card Configuration screen of Web Programming. Logout from Web Programming and turn off the power to the UG50. Insert a new card and it is automatically assigned to the UG50 when the power to the UG50 is ON. On the Card Configuration screen of Web Programming, verify that the information about the new card, such as card type and the number of ports, is correct.

[Adding/Changing the Terminals and Devices]

Modification	Required Procedure and the UG50 Operation
Adding a terminal to a vacant port of the card	[Assigning to the UG50] Terminals/Devices are automatically assigned to the UG50 when it is powered on.
Adding/Changing a terminal to a port that was assigned to another terminal	[Assigning to the UG50] Terminals and devices are automatically assigned to the UG50 once they are connected. When replacing a Digital terminal, be sure to wait for more than five seconds after unplugging the old terminal before plugging the new one in.
Adding a device to a vacant channel of the terminal	
Adding/Changing a device to a vacant channel that was assigned to a different device	

[Adding GCD-PRTA]

Modification	Required Procedure and the UG50 Operation
Adding GCD-PRTA	External 1.5M-DSU is required.

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