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Great care has been taken to ensure that the information contained in this handbook is accurate and complete. Should any errors or omissions be discovered or should any users wish to make suggestions for improving this handbook, they are invited to send the relevant details to:

NEC PHILIPS Unified Solutions Nederland B.V.
P.O. BOX 32
1200 JD HILVERSUM
THE NETHERLANDS

PREFACE

This manual is valid for the SOPHO 2000 IPS telephone system.

In this manual the term NEAX 2000 IPS or NEAX PBX telephone system represents the SOPHO 2000 IPS system.
This book might refer to products not included in the SOPHO portfolio.
Certain items in this manual do not apply to the European market.

In case of doubt, please contact your supplier.

LIST OF TERMS

Abbr. NEC	Description NEC	Abbr. PBC	Description / Remarks PBC
	(Trunk) Route Restriction Class	TRFC	Traffic Class
	AIMWorX		SMDR & CTI based management platform
	Authorization Code		PID code
	Background music (feature)		When phone is idle, user can have background music on speaker
	Boss/Secretary dialing		Executive/Secretary
	Broker's call		Shuttle : alternate between 2 parties occupying one line
	Busy in/busy out - ACD		Group - Absent/Present switching
	Class of Service		Facility Class Mark (sometimes traffic class)
	Coin lines		
	Consecutive Speed Dialing		Common number can be speed dial, individual choice dialed manually
	Consultation hold		Enquiry
	Development table		Analysis tree : table within numbering plan
	Dial conversion		Conversion from pulse to DTMF
	Dynamic Dial Pad		Pressing numeric keys grabs a line as well.
	Executive calling		VIP status assigned to a station.
	Ground Start		Earth calling : analog trunk protocol
	Hearing Aid Compatibility		Voice volume control on terminals
	Home side trunk	User side trunk	For ISDN trunks
	Legacy		TDM based equipment (non IP)
	Location number		Division based on capabilities or priorities in the IP system
	Loop Start		Subscriber signalling e.g. an ATU-SS
	Mate side trunk	Network side trunk	For ISDN trunks
	MATWorX		Operational Maintenance interface tool
	Multi line terminal		SOPHO Set / ErgoLine : digital terminal with soft key assignment possible
	Multiple Call Forwarding		Multi hop (maximum 5 hops allowed)
	My Line		Users own station number.
	Nailed down connection (data)		Fixed connection between two data adapters.
	Night Connection - fixed	PLE	Permanent Line Extension
	Night connection - fixed		Permanent Line Extension
	Night Connection - flexible		CF on night extension
	Office Code	CLID	Cluster Identity used for Open Numbering Plans
	One touch key		Dterm keys, work (and programmed) like speed dial function
	OpenWorX		CTI Application platform
	Operator		PSTN operator / provider
	Party lines		
	Peer to peer		Peer to peer : one to one relation on functional level
	Pilot number		Group number
	Preset dialing		En-block dialing : prepare number and send it in one go (versus overlap dialing)
	Prime Line		Seized line (trunk line or extension) when going off-hook (or speaker)
	Restriction Class	TRFC	Traffic Class
	Route Advance		Alternative routing when trunk(s) busy
	Route Pattern		Tree : part of the number analysis table
	Save and Repeat	LNR	Last Number Redial
	Secondary appearance		park position / sub line

Abbr. NEC	Description NEC	Abbr. PBC	Description / Remarks PBC
	Single line terminal		Analog Phone
	Software Line Appearance		Virtual Extension
	Split Call Forwarding		Separate CF for internal and external calls.
	Stack Dial	LNNR	Last Number/Number Repetition Outgoing calling list (5 entries)
	Stack Dial		Redial List : maximum 5 numbers
	Station	Extension / DNR	
	Station Class	FCM	Facility Class Mark
	Sub Line		Lines on the stations, other then the prime line
	Tenant		Analysis group : multi company on one PBX
	Trunk Route		Route
	Voice Call		
	Whisper page		Announcement without 3rd party hearing it.
AC	Account Code (Client Billing Code)	PID	Password integrated dialing
ACF	Authorization Code Facility		OAI related.
ADF			OAI related.
ALM DSPP	(External) Alarm Display Panel		
ANI	Automatic Number Identification		Caller subscriber number coming in with MF signaling on T1 trunks
ANS	Answer		
AOC	Advice of charge		
AP	Application Card		
AP	Analog Port		
ATND	Attendant		
AttCon	Attendant console		Operator console
BATTM	Battery Module		
BGM	Back Ground Music service		
BHCA	Busy Hour Call Attempts		
BK	Black		
BSY	Busy		
BT	Busy Tone		
CAMA	Centralized Message Accounting		A standard related to 911 service
CAS	Centralized Attendant Service		
CAT	Customer Administration terminal		Dterm used as programming device for PBX
CCIS	Common Channel Interoffice Signalling		Comparable to IMP
CCSA	Common Control Switching arrangement		Customer specific leased lines/network, US only
CCT	CCIS Trunk		
CF-D	Call Forwarding - Destination		Call Forwarding – Destination : no preparation on originator necessary.
CFT	Conference trunk		
CIC	Circuit Identification Code		Trunk channel ID for virtual IP trunk channels (Line number)
CID	Call ID Display		
CIR	Caller ID Receiver		
CIS	Call Information System		
CM	Command		See Commands Manual
CNP	Closed Numbering Plan		
CO	Central Office		
COT	Central Office Trunk		
CPN	Calling Party Number		ISDN calling party number
CPN	Calling Party Number		
CPU	Central Processing Unit		
CRD	Call Redirect		
CS	Cell Station		
CSU			
DAT	Digital Announcement Trunk		

Abbr. NEC	Description NEC	Abbr. PBC	Description / Remarks PBC
DBM			Commands Manual - AP00 card
DCH	D-Channel Handler		
DD key	Do not Disturb Key		
DDD	Direct Distance Dialing		
DDI	Direct Digital interface		T1/E1 interface to public network
DDOVR	Do not Disturb Override		
DeskCon	Desk Console	SV	SuperVisor / Operator Console
DID calls	Direct Inward Dialing calls	DDI	Direct dialing in : not for FX and WATS trunk (USA only)
DISA	Direct Inward System Access		Remote access to system
DIT	DID trunk / Direct Inward Termination	PLE	Permanent Line Extension(s) : for limited direct inward dialing: 1/more trunk(s) related to 1 station
DLC	Digital Line Circuit		For Dterm, Attendant and Desk Console.
DM	Distributed Module		
DMS	Distributed Module Small		
DNIS	Dialed number Identification Service		
DOD	Direct Outward Dialing	DDO	Direct Dialing Out : setting up external calls without attendant assistance
DP	(Rotary) Dial Pulse		Pulse dialing
DPC	Data Port Controller		
DPC	Destination Point Code		Kind of Cluster ID; for terminating office
DRS	Device Registration Server		Compare with Gatekeeper function: registering endpoints
DS	Differential Services (DiffServ)		
DSS/BLF	Direct Station Select / Busy Lamp Field		
DSW	Device Server WorX		For Dterm assistant software
DT	Dial Tone		
DTE	Data Terminal Equipment		
Dterm	Digital (or IP) terminal	Dterm	Desktop Telephone (analog or digital)
DTG	Digital Tone Generator		
DTI	Digital Trunk Interface		
FAC	Forced Account Code		
FCC	Federal Communications Commission		American regulation office
FD	Floppy Disk		
FDA	Forwarded - All calls		
FDB	Forwarded - Busy		
FDN	Forwarded - No answer		
FG	Frame Ground		
FGD	Feature Group D format		Signalling format for ANI.
FLF	Free Location Facility		OIA related, Desksharing look-a-like. NOT available for IPS 2000
FP	Firmware Processor		Compare with PMC
FX	Foreign Exchange		Specific part of PSTN; US only
HDT	Hold Tone		
HWT	howler tone		Alarm tone
ICH	ISDN channel handler		
ICI	Incoming Call Identification		
ICM	Intercom		
IEC	International Electro-technical Commission		
ILC	ISDN line card		
IP	Internet Protocol	IP	Internet Protocol
IPM	Indications per minute		For flashing lamps / LEDs
IPS	Internet Protocol Server		
IPT	IP trunk		
IPX	Internet Protocol eXchange		
IVS	Integrated Voice Server		

Abbr. NEC	Description NEC	Abbr. PBC	Description / Remarks PBC
KF	Key Feauture (registration)		Key systems are operating directly on outside lines.
KTF	Key Transfer Facility		OAI related.
LAN	Local Area Network	LAN	Local Area Network
LCR	Least Cost Routing	LCCR	Least cost call routing : number analysis development manner
LDN	Listed Directory Number		
LDT	Loop Dial trunk		
LEN	Line Equipment Number	EHWA	Equipment hardware Address : PIM nbr (0 ~ 7)+ Port nbr (00 ~ 63) LEN = (000 ~ 763)
LT	Line/Trunk		
MAT	Maintenance Administration Terminal	OMM	Operation Maintenance module : PC needed in terminals mode
MB	Make Busy	SETOUT	Set to Out Of Service : Out of Service / Not installed situation for reset or maintenance
MCI	Message Center Interface		Interface for Voice Mail system
MEM	Main Memory		
MFG			
MFR	MF receiver / MFC receiver/sender		
MIB	management Information Base		
MIC	Microphone		Microphone or its key
MIS	management Information System		
MJ	Major (alarm)		
MLDT	Melody Trunk		
MN	Minor (alarm)		
MOC			OM terminal window, part of MATWorX
MP	Main Processor		Compare with CPU
MRF	Mode Reset Facility		OAI related.
MSF	Mode Set Feature		OAI related.
MSG	Message		
NEAX	NEC PBX	SOPHO	
NS	Network Station		
NTF	Number Transfer Facility		OAI related.
NTS	Night Transfer Station		Night Extension
OAI	Open Application Interface		CTI interface
ODT	OD Trunk		2/4 wire E&M
ODT	Outband Dialing Trunk		
ONP	Open Numbering Plan		
OPC	Origional Point Code		Kind of Cluster ID; for originating office
OPR	Operator		Attendant
PAD	(IP) Packet Assembler / Disassembler		Used for TDM / IP translation
PBR	Push Button Receiver		DTMF receiver
PBSND	Push Button Sender		DTMF sender
PC	Point Code		
PCK	Pickup		
PFT	Power Failure Transfer		
PIM	Port Interface Module		Shelf : comparable with CSM and PM shelves
PLO	Phase Locked Oscillator		
PMS	Property Management System	PMS	Property Management System (in hotel environments)
PN	Part Number		For example PN-8DLCC board
PNA	Phone line Network Alliance		
PPS	Pulses per second		Used in pulse dialing
PROTIMS			Proprietary protocol, used for building CCIS
PRT	ISDN primary rate interface trunk		
PS	Personal Station		
PS	Portable Station		NEC wireless system
QoS	Quality of Service		

Abbr. NEC	Description NEC	Abbr. PBC	Description / Remarks PBC
RAS	Registration Admission Status		Registration Admission Status
RBT	Ringback Tone		
RC	Room Cutoff		
REN	Ring Equivalence Number		
RLS	Release		
ROT	Reorder Tone		
RPIM	Remote PIM		
RSC	Route restriction Class		
RST	Restricted		
RTP	Real Time Protocol		
SCF	Switch Control Facility		OAI related.
SDT	Special Dial Tone		
SLT	Single Line Telephone		Analog telephone
SMDR	Station Message Detail Recording	FDCR	Full Detailed Call Recording
SMFN	Status Monitor Facility (Notification)		OAI related.
SMFR	Status Monitor Facility (Request)		
SOC	System on chip		
SP	Soft Phone		
SPID	Service Profile ID (ISDN)	BSP-ID	Basic Service Profile ID (ISDN)
SPN	Special Part Number		
SSFM	Service Set facility Monitor		OAI related.
SSFR	Service Set Facility Request		OAI related.
SST	Service Set Tone		
STA	Station		
STN	Station		
TAH	Trunk Appearance Hold		
TAS	Trunk Answer Any Station		Pickup incoming calls in night mode
TCF	Terminal Control Facility		OAI related.
TCM	(Deluxe) Travelling Class Mark		
TDM	Time division multiplexing		
TDS	Time division switching		
TDSW	Time Division Switch		
TIC	(Individual) Trunk identification Code		Line numbers of trunk lines
TMF	Terminal Multi-information transfer Facility		OAI related.
TMSF	(Terminal) Mode Set Facility		OAI related.
TNT	Tone/Music source interface		
TRF	Transfer		
TSW	Time Switched		
UAP	User Application Processor		
UCD	Uniform Call Distribution		Basic ACD. Distribution of calls based on longest idle.
UNP	Uniform Numbering Plan		(Network) numbering plan
USOC	User Service Order Code		Other word for REN
VC	Voice Compression		
VCT	Voice CODEC circuit card		
VDSL	Very high data rate Digital Subscriber Line		
VM	Voice Mail		
VOIP	Voice over IP	VOIP	Voice over IP
WAN	Wide Area Network	WAN	Wide Area Network
WATS	Wide Area Telephone Service		Specific part of PSTN, US only
WCS	Wireless Communication System		"Analog DECT"
WH	White		
WU	Wake up		
ZT	Zone Transceiver		For Wireless system

Dterm icon	Meaning
	Hold
	Transfer
	Speaker
	Answer
	Redial
	Conf(erence)
	Recall
	Feature
	MIC
	Message
	Directory
	- / +
	Help
	Exit

NEAX 2000 IPS
SIP Trunk System Manual

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TABLE OF CONTENTS

INTRODUCTION

PURPOSE

This manual explains the hardware installation and the programming procedure for providing SIP trunk system to the NEAX 2000 IPS System.

OUTLINE OF THIS MANUAL

This manual consists of four chapters. The following paragraphs summarize Chapters 1 through 4.

CHAPTER 1 GENERAL INFORMATION

This chapter explains the SIP trunk system outline, service conditions, and the service features.

CHAPTER 2 INSTALLATION

This chapter explains the required equipment and the hardware installation procedure to the SIP trunk system.

CHAPTER 3 SYSTEM DATA PROGRAMMING

This chapter explains the programming procedure for providing SIP trunk system.

CHAPTER 4 CIRCUIT CARD INFORMATION

This chapter explains the mounting location, meaning of lamp indications, and the switch settings of the SIP circuit card.

TERMS IN THIS MANUAL

PBX SYSTEM DESIGNATION

PBX system is designated as “PBX” or “system” usually.
When we must draw a clear line between the PBX systems, they are designated as follows.
2000 IPS: NEAX 2000 IPS INTERNET PROTOCOL SERVER

NOTE 1: *In regard to China market, we have not released NEAX 2000 IPS INTERNET PROTOCOL SERVER but NEAX 2000 is released.*

NOTE 2: *In regard to the China market, we have not released NEAX 2400 IPX Internet Protocol eXchange but NEAX 2400 is released.*

REFERENCE MANUAL

During installation, refer also to the manuals below:

System Manual:
Contains the system description, hardware installation procedure and the programming procedure for the NEAX 2000 IPS System.

Command Manual:
Contains Customer Administration Terminal (CAT) operation, command functions and data required for programming the system, and Resident System Program.

Feature Programming Manual:
Contains procedure for programming each business and hotel feature.

Office Data Programming Manual:
Contains the Customer Specifications Sheets and the Office Data Programming Sheets.

Maintenance Manual:
Contains the programming procedure for maintenance service features and the recommended troubleshooting procedure.

Installation Procedure Manual:
Contains the installation procedure for the PBX system.

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CHAPTER 1

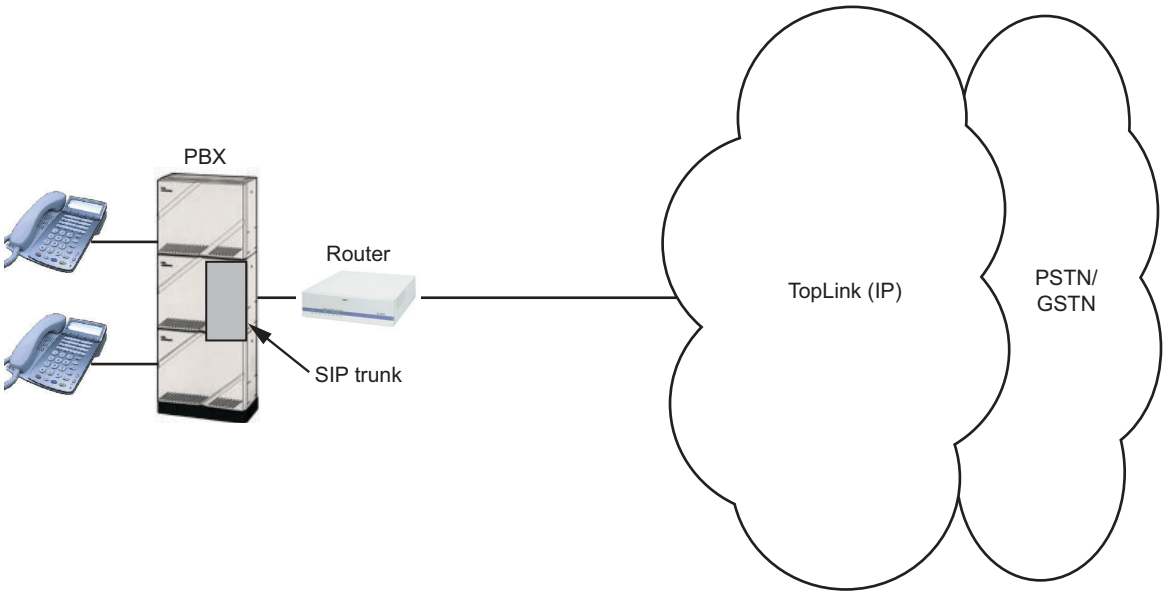
GENERAL INFORMATION

This chapter explains the SIP trunk system outline, service conditions, and the service features.

SYSTEM OUTLINE

This system provides the IP phone service by TopLink with mounting SIP trunk on PBX.

System Outline



SERVICE CONDITIONS

(1) SIP trunk system is available for Series 3600 software or later.

(2) The maximum number of the SIP card to be mounted is 8 per system including the CCH, CCT, IPT, and virtual IPT.

(3) Setting of alternate routing to C.O. line is required in this system. Refer to "Alternate Routing for a Fault Occurrence" on *Page 59*.

(4) Maximum 8 channels (trunks) are available per PN-8IPTA card. Maximum 32 channels (trunks) are available with mounting PZ-24IPLA card on PN-8IPTA card. However, the number of channels (trunks) for SIP trunk use is restricted up to 64 per system.

(5) Maximum 8 of PN-8IPTA cards can be mounted in per PIM. However, the number of channels (trunks) for SIP trunk use is restricted maximum 64 per system.

(6) PN-8IPTA occupies 1 time slot per 1 channel.

(7) The maximum number of AP port use per one card is as follows. However, The number of AP port use can be changed with setting the office data programming.
PN-8IPTA: Maximum 8 port per one card
PN-8IPTA + PZ-24IPLA: Maximum 32 port per one card

(8) PN-8IPTA can be used only at Main Site.

(9) The total number of voice channel of the following trunk is maximum 127.
- SIP
- CCIS Virtual IPT
- CCIS IPT Port (Point-to-Multi point connection)

SERVICE FEATURES

The following is the features to be provided via SIP trunk for IP phone service.

Alternate Routing
Caller ID Display
Direct Inward Dialing (DID)
E.164 "+" Addition/Deletion
Fault Registration
Fragmented IP Packet Receiving
Multiple CODEC Selection
Session Timer

Listed from next page are the service features provided by NEAX 2000 IPS. According to that some of these service features are not available depending on the terminal, set the service features based on the list. For the further information, refer to the IPS System Manual and Feature Programming Manual.
Please note that the manuals above are not covered about the following.

Terminating System (translation method of called number) **NOTE**

(a) Terminated via Tie line
PBX defines the termination destination with Dial Number Development assuming that the called number was originated from Tie line.
- Station/Attendant Console/trunk (at tandem connection) can be specified as a destination.
- When PBX defines to send to station, the last 1 to 8 digits of the number can be handled as the station number.
- When PBX defines to send to trunk, the number can be deleted/added with LCR number development. (Delete: Maximum 10 digits/Add: Maximum 32 digits)

(b) Terminated via DID
- The last 1 to 8 digits of the called number is handled as the DID number.
- The number can be converted into the following Terminating System with DID Number Development.
  - Station
  - TAS
  - Automated Attendant
  - DISA
- Maximum 1000 DID numbers can be handled.
- DID number which is not registered is treated as Tie Line termination.

Method of origination operation

PBX originates a call with LCR Number Development.

Holding/Transferring features

Holding/Transferring features are not available with SIP method.

Setting Ringing Tone

The ringing tone for SIP transmission can be set by CM08>649.

NOTE: *All the types of the called numbers are handled similarly on the PBX. When you want to discriminate between the called numbers which are recognized as representative numbers on such an upper SIP server and the called numbers which are recognized as DID numbers, assign an appropriate terminating system to each called number. E.g. Fragmented IP packet receiving for representative numbers, Direct Inward Dialing (DID) for station terminating.*

List of PBX Service Features

×: Available –: Not available Δ: Out of Target

SERVICE FEATURES	D^term	SLT	PHS	D^term IP	D^term SP30	REMARKS
Hot Line-OUTSIDE	×	×	×	×	×	
Call Hold	×	×	×	×	×	
Speed Calling-Station (Station Speed Dialing)	×	×	×	×	×	
Speed Calling-System (System Speed Dialing)	×	×	×	×	×	
Last Number Call (Last Number Redial)	×	×	–	×	×	
Toll Restriction	×	×	×	×	×	
Direct Inward Dialing (DID)	×	×	×	×	Δ	
DID Name Display	×	–	×	×	Δ	
Station Camp-On (Camp-On)	×	×	×	×	Δ	
Music on Hold	×	×	Δ	×	Δ	
Group Diversion	×	×	×	×	Δ	
DAY/NIGHT MODE Change by System Clock	×	×	×	×	×	
Queue Limit For TAS	×	×	×	×	×	
Distinctive Ringing	×	Δ	Δ	×	Δ	
Automated Attendant	×	×	×	×	×	
Remote Access to System (Direct Inward System Access)	×	×	×	×	×	
Call Forwarding Set by DISA	×	×	×	×	×	
Day/Night Mode Change by Station Dialing	×	×	×	×	×	
Night Connection-Fixed Night Connection-Flexible	×	×	×	×	×	

CHAPTER 2

INSTALLATION

This chapter explains the required equipment and the hardware installation procedure to the SIP trunk system.

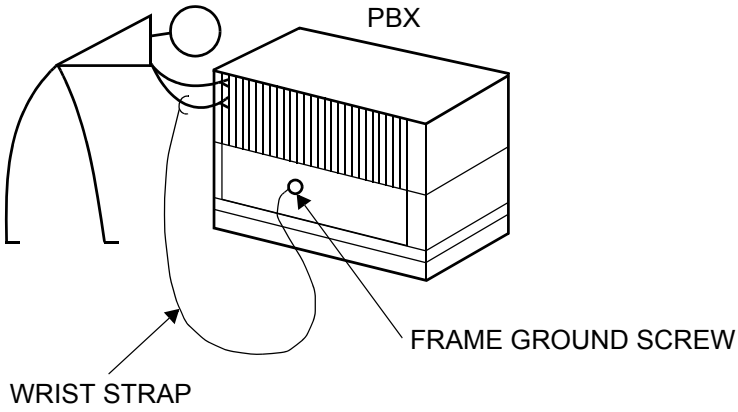
PRECAUTIONS

Static Electricity Guard

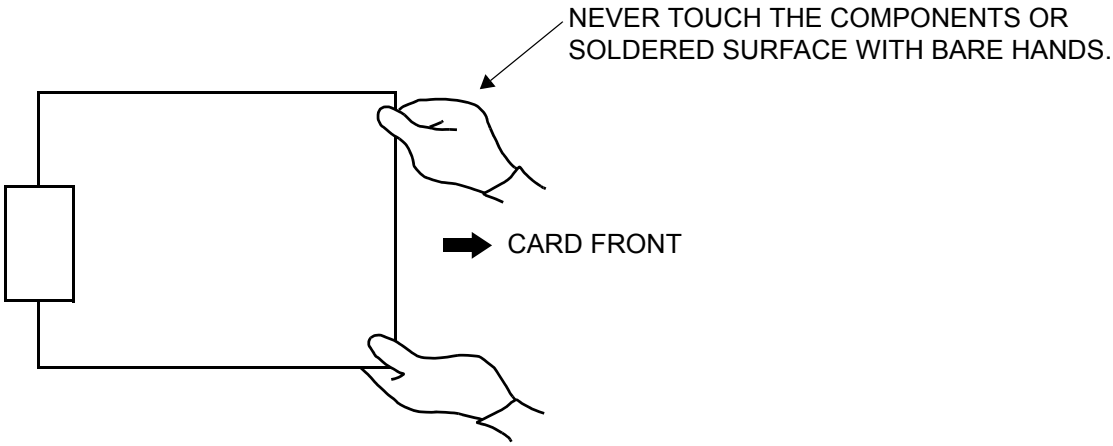
You must wear a grounded wrist strap to protect circuit cards from static electricity.

Static Electricity Guard

- WHEN PLUGGING/UNPLUGGING A CIRCUIT CARD



- WHEN HOLDING A CIRCUIT CARD



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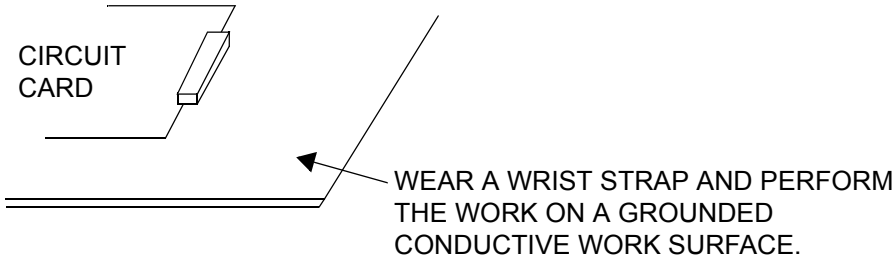
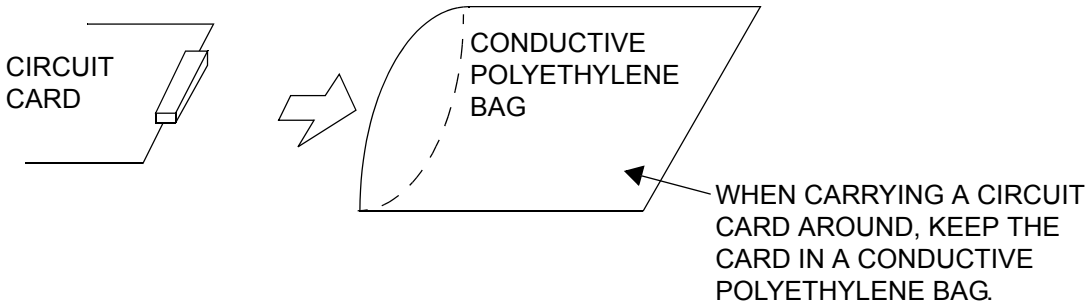
Static Electricity Guard

- WHEN MAKING A SWITCH SETTING ON A CIRCUIT CARD



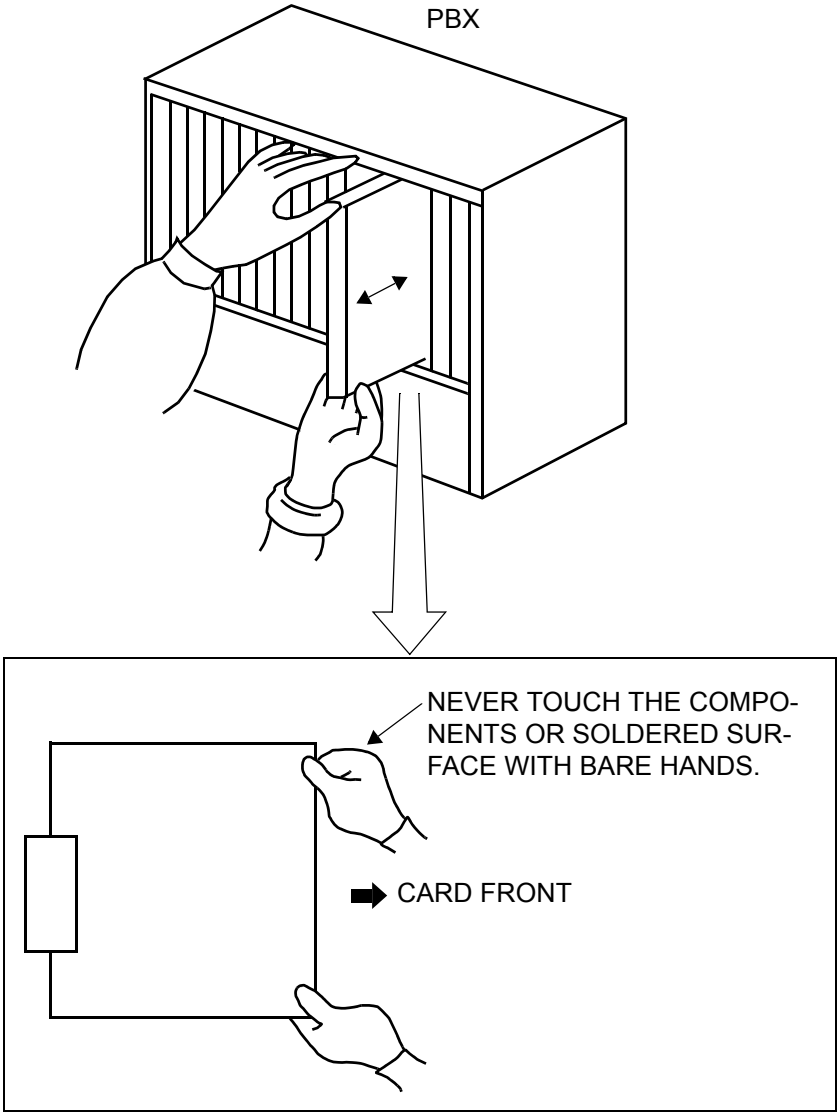
- WHEN CARRYING A CIRCUIT CARD



The mark shown below is attached to the sheet for the work in which circuit cards are handled. When engaging in such work, the installer must be careful not to cause damage by static electricity.

CAUTION

1. **You must hold the edge of a circuit card when plugging or unplugging the circuit card. If you touch another area, you may be exposed to hazardous voltages.**



2. **You must wait for 30 seconds before plugging the circuit card again when unplugging the circuit card while the operating power is being supplied.**

Turning Power ON

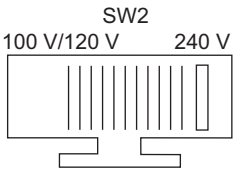
CAUTION

1. **When the operating power is being supplied to the PZ-PW121/PZ-PW126 card, do not plug/unplug this circuit card into/from its mounting slot.**
2. **When the system is configured with two or more PIMs, the BUS cable is providing gang control for the PZ-PW121/PZ-PW126 card of PIM0 and other PIMs. Therefore, if the power of PIM0 is off, no power is supplied to the whole system even when the power switches of other PIMs are left on. Note, however, that the battery charging is continuing even under these circumstances.**
3. **Do not turn off the PZ-PW121/PZ-PW126 card on PIM1 to PIM7 when the system is operating.**

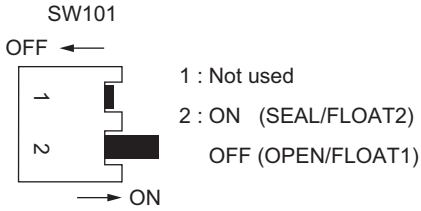
(1) Check the switch position of each PZ-PW121/PZ-PW126 card before turning power on.

- Make sure that the AC120 V/240 V selector switch is positioned to the appropriate voltage for each country (AC120 V or AC240 V).

NOTE: *PZ-PW126 card does not have this switch.*



- Make sure that the battery mode selector switch is positioned as shown below to match the kind of battery being used:



(2) Turn the SW1 switches of all the PZ-PW121/PZ-PW126 cards to ON. First, turn ON PIM1 to PIM7. Then, turn ON PIM0.

Turning Power OFF

(1) Before turning power off, inspect all line/trunk cards' busy lamps to verify that no cards are operating.

(2) Turn the SW1 switches of all the PZ-PW121/PZ-PW126 cards to OFF. First, turn OFF PIM0. Then, turn OFF PIM1 to PIM7.

REQUIRED EQUIPMENT

The table below shows the required equipment.

Required Equipment

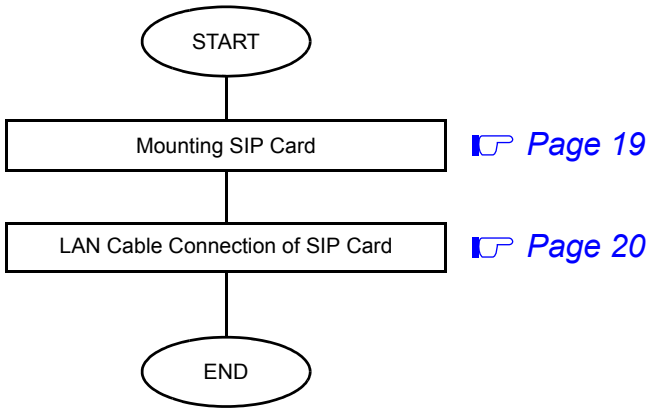
EQUIPMENT	DESCRIPTION	QUANTITY	REMARKS
PN-8IPTA (SIP)	8-channel SIP Card	1-8	Without 24DSP
		1-2	With 24DSP
PZ-24IPLA (24DSP)	24-channel DSP Card for 8-channel SIP Card	1-2	
• 10BASE-T Cable (TIA/EIA category 3 or larger)* • 100BASE-TX Cable (TIA/EIA category 5)*	10BASE-T/100BASE-TX Cable between Ether Card and Ethernet, SIP Card and Ethernet	As required	Cable length: Maximum 100 m (328 ft.) For SIP Card, 100BASE-TX is recommended.
Router*	**NOTE:** *Cisco Router is recommended.*	As required	
HUB*		As required	

*: Should be provided by customer.

INSTALLATION PROCEDURE

Install the equipment for the SIP trunk system according to the procedure shown below.
For installation of the PBX, refer to the Installation Procedure Manual.

Installation Procedure



Mounting SIP Card

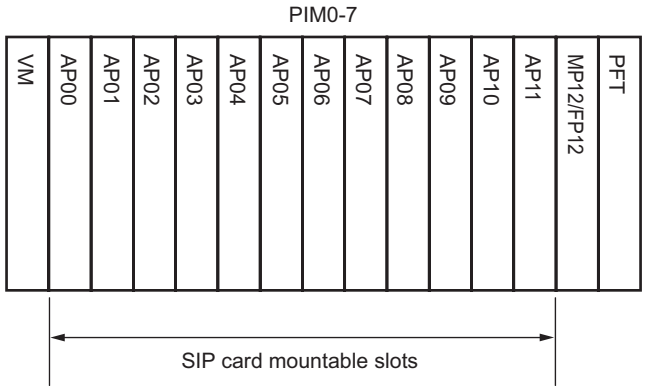
(1) Before mounting the SIP (PN-8IPTA) card, set the MB switch to UP position, and set the other switches to appropriate position.
See CHAPTER 4. ☞ *Page 98*

(2) Mount the PZ-24IPLA card on the SIP (PN-8IPTA) card, if required.
See CHAPTER 4. ☞ *Page 98*

(3) Mount the SIP card in the following AP slots of PIM0-PIM7.
Maximum of eight SIP cards per system can be mounted.
PIM0-7: AP00-11 slots
PIM0 (for Backup CPU): AP00-AP10 slots

(4) After mounting the card, set the MB switch to DOWN position to put the card in service.

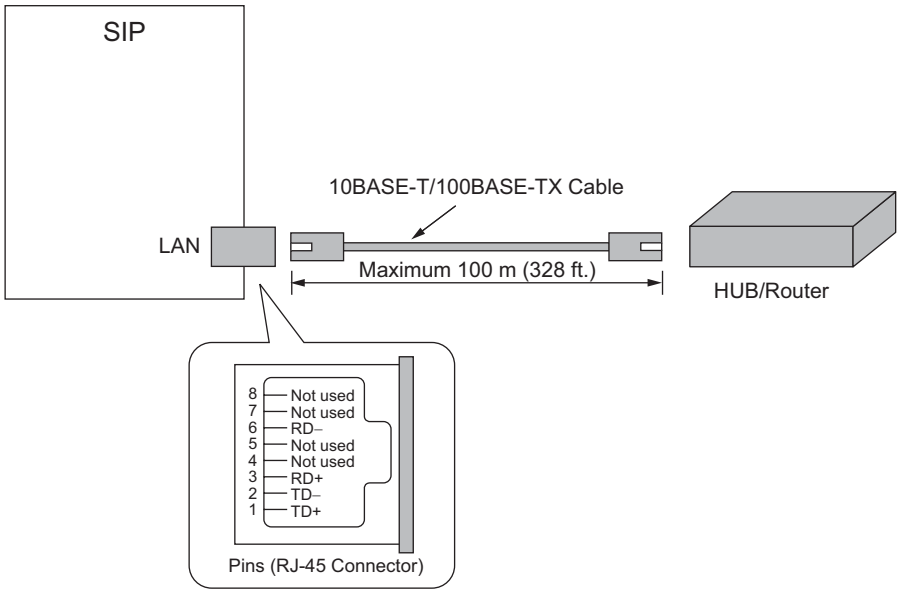
SIP Mounting Slot



LAN Cable Connection of SIP Card

Connect the LAN connector on the SIP card and the Router/HUB by using a 10BASE-T/100BASE-TX cable.

SIP-HUB/Router Cable Connection



CHAPTER 3

SYSTEM DATA PROGRAMMING

This chapter explains the programming procedure for providing SIP trunk system.

HOW TO READ THIS CHAPTER

In the programming procedure, the meaning of (1), (2) and markings are follows.

(1) : 1st data
(2) : 2nd data
◀ : Initial data
With the system data clear command (CM00, CM01), the data with this marking is automatically set for each command.

(INITIAL) : A reset of the MP card is required after data setting.
Press SW1 switch on the MP card.

(SIP INITIAL) : A reset of the SIP card is required after data setting.
Set the Make Busy switch to UP and then DOWN.

PRECAUTIONS

System Data Backup

CAUTION

- **If you operate as follows without system data backup after system data setting or service memory setting (registration of the features such as "Call Forwarding" and "Speed Calling [Speed Dialing]" from a station), the data that has been set is invalid.**
  You must execute the system data backup before the following operations.
  -Turning Off the system
  -System Initialization (reset of MP card)
  -Changing the MP card to Off-Line Mode
  -Changing the MP card to On-Line Mode after system data setting under Off-Line Mode
- **You can execute the system data backup by the following two ways.**
  -Executing the system data backup once a day at the time set by CM43 Y=5>00
  (If no data is set, the default setting is 3:00 a.m.)
  -Executing the system data backup from MAT/CAT by CMEC Y=6>0:0
- **Do not reset the MP card while "SYSD" lamp on the MP card is flashing.**

Office Data Conversion

When upgrading the software of the system from Series 3300 or before to Series 3400 or later, the office data conversion by CM00>90 is required. The office data that has been converted and the office data in Series 3400 software or later are incompatible with the software of Series 3300 or before. We recommend to execute the system data backup before the office data conversion.

NOTE: *When upgrading the software in Retrofit system to Series 3400 or later, convert the office data using "Office Data Converter" in the MATWorX CD-ROM and then execute the office data conversion by CM00>90.*

START	DESCRIPTION	DATA
CM00	Execute the office data conversion. OFF LINE	(1) 90 (2) 0: Start conversion 1: Always displayed after first data "90" is typed **NOTE 1**
END		

NOTE 1: *When first data "90" is typed, second data "1" is displayed. Also while converting the office data, "1" is displayed.*

NOTE 2: *There is no problem even if the office data conversion is executed repeatedly.*

LEN Assignment by CM14

For the setting of LEN by CM14, the range of the FP/AP number that must be assigned to the 1st data of CM14 is valid by the software version you use.
Assign the correct FP/AP number to each FP/AP, referring to the tables below.

×/Δ: Available **NOTE 1** –: Not available

FP/AP No. / FP/AP TYPE	00	01-03	04-15	16-19	20-31	32-59	60-63
FP card (PN-CP15)	–	×	–	×	–	–	–
MP built-in FP	×	–	–	–	–	–	–
Virtual FP for D^{term}IP	–	×	Δ	×	Δ	Δ	–
AP card	–	–	×	–	×	–	–
Virtual AP (Virtual IPT/ Virtual CSH for IP-CS **[For PHS]**/Virtual CSH for WLAN)	–	–	Δ	–	Δ	×	–
Virtual FP for PS Station/ Virtual FP for WLAN Station	–	Δ	–	–	–	× **NOTE 2**	×

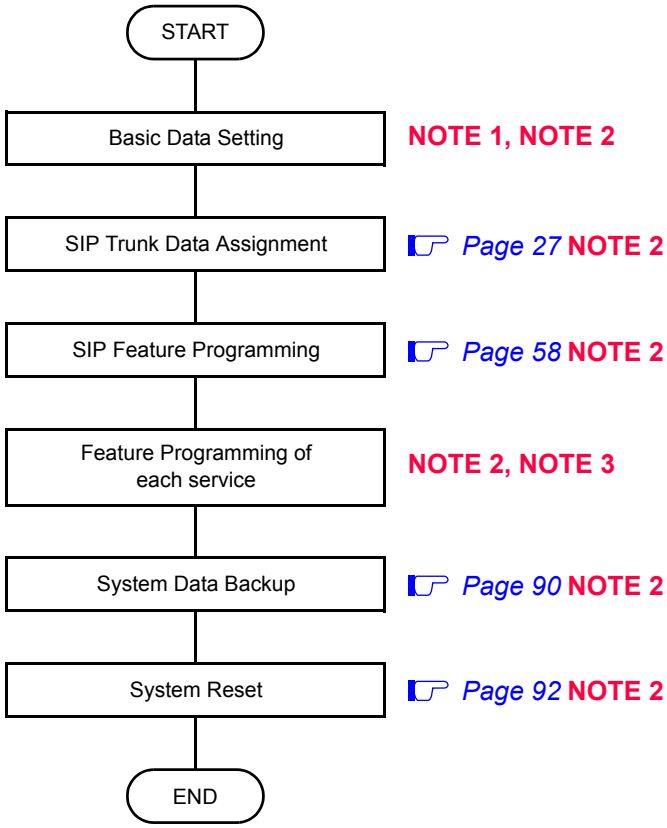
NOTE 1: *Although FP/AP number marked with "Δ" is available to use, we recommend FP/AP number marked with "×".*

NOTE 2: *We recommend the setting of the FP number (60-63), when providing 256 PS stations/WLAN stations or less and setting of the FP number (56-63), when providing 257 PS stations/WLAN stations or more.*

PROGRAMMING

Program the system data according to the following procedure.

Programming Procedure



NOTE 1: *For the following basic data setting, refer to the System Manual.*
- *System Data Memory All Clear*
- *Key FD Data Loading*
- *Setting System Clock*
- *Setting Nation Code*
- *Setting A-law/μ-law*
- *Setting DTG/Music on Hold/Tone*
- *LAN Data Assignment*
- *VLAN Data Assignment*

NOTE 2: *The data assignment can be executed under Off-Line mode or On-Line mode of the MP card. When setting the data under Off-Line mode, system reset is required after data setting.*

NOTE 3: *For feature programming of each service, refer to the Feature Programming Manual or System Manual.*

SIP Trunk Data Assignment

START	DESCRIPTION	DATA
CM05	Assign an AP number to each SIP trunk card. The AP number must match the switch settings on the SIP card. (INITIAL)	• Y=0 (1) 04-15, 20-31: AP No. (2) 46: SIP
	Specify the AP highway channel for the SIP trunk card. (INITIAL)	• Y=1 (1) 04-15, 20-31: AP No. (2) 1◀: Use Basic Highway channel (128 time slots)
	Assign the Site number + PIM number to the AP number of the SIP card assigned by CM05 Y=0. (INITIAL)	• Y=8 (1) 00-59: FP/AP No. (2) XX ZZ (Site No. + PIM No.) XX: 00: Main Site ZZ : 99: AP card
CM06	Assign a SIP number to each SIP card. (INITIAL)	• Y=07 (1) 0-7: SIP No. (2) 04-15, 20-31: AP No. of the SIP card assigned by CM05 Y=0
CM07	Assign a trunk number to each channel number on the SIP card. (INITIAL)	• Y=01 (1) XX ZZ XX: 04-15, 20-31: AP No. assigned by CM05 Y=0 ZZ : 00-31: Channel No. of SIP (2) D000-D254: Trunk No. Any trunk number already assigned by CM10/CM14 cannot be used. Do not assign Trunk No. D255 for SIP trunk.
	NOTE: *The system allocates time slots to consecutive channels from lowest to highest channel numbers assigned. To minimize the number of time slots allocated, assign trunk numbers to the consecutive channels on each card. Never skip channels in CM07.*	
A		

A

	DESCRIPTION	DATA
CM08	Allow C.O. to C.O. transfer by station or attendant.	(1) 028 (2) 0 : To allow 1◀: Not allowed
	Specify the trunk seizure sequence when CM35 Y=83 2nd data is set to 0. **NOTE:** *We recommend that the 2nd data is set to "1" (Lowest available trunk).*	(1) 078 (2) 0 : Highest available trunk 1◀: Lowest available trunk
	Specify that Ring Transfer for Call Transfer-All Calls to a SIP is available when a station holds another station.	(1) 253 (2) 0 : Available 1◀: Not available
CM0A	Define the LAN Interface of the SIP card. SIP INITIAL **NOTE:** *Maximum 32 LAN Interface number can be assigned for SIP cards with combining H.323 IPT and IP-PAD. However, maximum 8 LAN interface number can be assigned for SIP per a system.*	• Y=00 (1) 00-31: LAN Interface No. **NOTE** (2) XX0 XX : AP No. 04-15, 20-31 of SIP card assigned by CM05 Y=0 NONE◀: No data
	Assign the IP address for the LAN Interface of the SIP card. SIP INITIAL	• Y=01 (1) 00-31: LAN Interface No. (2) 000000000000-255255255255: IP Address NONE◀: No data
	Assign the Subnet Mask for the LAN Interface of the SIP card. SIP INITIAL	• Y=02 (1) 00-31: LAN Interface No. (2) 000000000000-255255255255: Subnet Mask NONE◀: No data
	Assign the Default Gateway Address for the LAN Interface of the SIP trunk card. SIP INITIAL	• Y=03 (1) 00-31: LAN Interface No. (2) 000000000000-255255255255: Default Gateway Address NONE◀: No data

B

B

CM0A

C

DESCRIPTION

Assign the RTP/UDP port number for the LAN Interface of the SIP card.

SIP INITIAL

NOTE 1: *Follow the initial data setting usually.*

NOTE 2: *Set this data when the router or firewall provides the restriction by TCP port.*

NOTE 3: *The port number to be used for transmitting/receiving the RTP packets is used at 10-port intervals from the Base port set by this command for each channel. Transmitting/receiving the RTP packet uses the port number adding "1" to the RTP port number.*
For the default settings, port number will be used as shown on the next page.

DATA

- Y=10-17 LAN Interface No. 00-07
- Y=30-37 LAN Interface No. 08-15
- Y=100-115 LAN Interface No. 16-31

(1) 93: RTP Base Port for Voice Packet transmitting/receiving
(2) 01024-65534: RTP Base Port No.
NONE◀ : 10000 [9998-10317 (320 ports are used)]

NOTE 1, NOTE 2, NOTE 3, NOTE 4

(1) 94: UDP Port for SIP control packet
(2) 01024-65534: UDP Port No.
NONE◀ : 05060

NOTE 1, NOTE 2, NOTE 3, NOTE 4, NOTE 5

C

CM0A

DESCRIPTION	DATA

NOTE 4: *Be sure that the port number does not overlap when assigning the RTP/UDP port number for the LAN Interface of the SIP card.*

PORT No.	CHANNEL No.			
	00	01	...	31
TRANSMITTING/RECEIVING RTP PACKET No.	10000	10010	...	10310
RECEIVING RTCP PACKET No.	10001	10011		10311

NOTE 5: *The initial value of the UDP port for SIP control and the use range based on the initial value are indicated below. Ensure that the use range of each port assigned by CM0A Y=10-17/30-37/Y=100-115>90, 92, 93 does not overlap the setting of the UDP port for SIP control.*

Port Type	Initial Value	Use Range	Remarks
UDP port for SIP control	5060	5060	Use one port

D

D

	DESCRIPTION	DATA
CM0A	Assign the Primary IP address for DNS server. SIP INITIAL	• Y=60 (1) 00-31: LAN Interface No. (2) 000000000000-255255255255: IP Address for the DNS server NONE◀: No data
	Assign the Secondary IP address for DNS server. SIP INITIAL	• Y=61 (1) 00-31: LAN Interface No. (2) 000000000000-255255255255: IP Address for the DNS server NONE◀: No data
	Assign the Tertiary IP address for DNS server. SIP INITIAL **NOTE:** *Set the IP address of DNS server only when using the domain name to describe URL.*	• Y=62 (1) 00-31: LAN Interface No. (2) 000000000000-255255255255: IP Address for the DNS server NONE◀: No data
	Assign the sending (Origination) side PAD level for the LAN Interface of the SIP card. SIP INITIAL	• Y=23 (1) 00-31: LAN Interface No. (2) 00-14 : 0 to –14 dB (14 dB Loss) NONE◀: 0 dB
	Assign the receiving (Destination) side PAD level for the LAN Interface of the SIP card. SIP INITIAL	• Y=24 (1) 00-31: LAN Interface No. (2) 00-14 : 0 to –14 dB (14 dB Loss) NONE◀: 0 dB
CM14	Assign the control trunk of SIP card to the required LEN. **NOTE 1:** *Do not assign Trunk No. D255 for SIP trunk.* **NOTE 2:** *Only assign one control trunk per SIP card (PN-8IPTA).*	(1) XX ZZZ: LEN XX : 00-59: FP No. ZZZ: 000-127: Port No. (2) D000-D254 : Control Trunk No. of SIP card NONE◀ : No data

E

E

	DESCRIPTION	DATA
CM30	Assign a trunk route number to each trunk number for voice channel of SIP trunk. **NOTE:** *Trunk number for control channel of SIP trunk assigned by CM14 is not required to set the trunk route number.*	• Y=00 (1) 000-254: Trunk No. assigned by CM07 (2) 00-63: Trunk Route No.
CM35	Provide the voice channel route with SIP trunk facilities. (INITIAL)	• Y=90 (1) 00-63: Trunk Route No. (2) 0 : SIP trunk 7◀ : Not used
	Assign the SIP number to each voice channel route. (INITIAL)	• Y=91 (1) 00-63: Trunk Route No. (2) 0-7 : SIP trunk No. NONE◀: No data
CM30	Assign a Circuit Identification Code (CIC) to each trunk number for voice channel of SIP trunk route. (INITIAL) **NOTE:** *The Circuit Identification Code (CIC) represents a circuit number to designate a trunk (of each trunk route) used as a voice channel in the No. 7 CCIS network.* *Assign this data after setting CM35 Y=90, 91.*	• Y=35 (1) 000-254: Trunk No. assigned by CM07 (2) 001-127: CIC

F

F

CM35

DESCRIPTION	DATA
Assign the trunk route data for SIP trunk route.	• Y=00 (1) 00-63: Trunk Route No. (2) 00: C.O. line 04: Tie Line
Assign the answer signal for SIP trunk route.	• Y=04 (1) 00-63: Trunk Route No. (2) 2: Answer signal arrives
Assign the trunk route data for SIP trunk route.	• Y=05 (1) 00-63: Trunk Route No. (2) 1◀: Release signal arrives
Specify the incoming connection signal as SIP.	• Y=09 (1) 00-63: Trunk Route No. (2) 03: SIP
Specify the PAD patterns to voice channel route.	• Y=19 (1) 00-63: Trunk Route No. (2) 0-3 : Programmable PAD (See CM42.) 4-7◀: Fixed PAD (See tables below.)

CONNECTION PATTERNS (A-B)	PAD DATA OF B TRUNK [dB]			
	DATA= 4 (T/R)	DATA= 5 (T/R)	DATA= 6 (T/R)	DATA= 7 (T/R)
Station-SIP	0/–8	0/–4	0/–4	0/–8
Tone-SIP	0/0	0/0	0/0	0/0
COT/DID/LDT/ODT (2W E&M)/IPT-SIP	0/0	0/0	0/0	0/0
ODT (4W E&M)-SIP	0/0	0/0	0/0	0/0
DTI/BRT/PRT/CCT/ Virtual IPT-SIP	0/–12	0/0	0/–12	0/0

T/R: Transmit/Receive
– : Loss

G

G

CM42

DESCRIPTION	DATA
When CM35 Y=19 2nd data is set to 0-3, specify the PAD value for programmable PAD pattern.	(1) 50-65: See Table 1 (2) 00-07: See Table 2

Table 1

PATTERNS / 1ST DATA	PAD DATA PATTERNS				CONNECTING PATTERNS (A-B)
	CM35 Y=19 2ND DATA=0	CM35 Y=19 2ND DATA=1	CM35 Y=19 2ND DATA=2	CM35 Y=19 2ND DATA=3	
50 ≀ 65	50	54	58	62	STA/TONE-SIP
	51	55	59	63	COT/DID/LDT/IPT-SIP
	52	56	60	64	ODT (4W E&M)-SIP
					DTI/BRT/PRT/CCT/ Virtual IPT-SIP

Table 2

PATTERNS / 2ND DATA		PAD DATA OF IPT (T/R) [dB]
00 ≀ 15	00	
	01	0/–2
	02	0/–4
	03	0/–12
	04	0/–8
	05	
	06	
	07	0/0
	08 ≀ 15	Not Used

T/R: Transmit/Receive
– : Loss

H

H

CM35

DESCRIPTION	DATA
Specify the outgoing start condition as SIP.	• Y=20 (1) 00-63: Trunk Route No. (2) 00: SIP
Specify the trunk seizure sequence for SIP trunk route.	• Y=83 (1) 00-63: Trunk Route No. (2) 0 : As per CM08>078 1◀: By allotter
Specify the Type of Service (TOS) field precedence for SIP trunk voice packet. **NOTE 1:** *The priority of PRECEDENCE 0-7 is as follows.* *PRECEDENCE 0: Lowest priority* *PRECEDENCE 7: Highest priority* *PRECEDENCE 5 is recommended.* **NOTE 2:** *By this data setting, the router recognizes the precedence of voice packets and controls Weighted Fair Queuing (WFQ).*	• Y=134 (1) 00-63: Trunk Route No. (2) 00-07: PRECEDENCE 0-7 15◀ : PRECEDENCE 0
When the router provides DiffServ QoS, specify the DS code point for SIP trunk voice packet. **NOTE:** *When this data is set, the TOS field precedence set by CM35 Y=134 is ineffective. If you want to validate the precedence set by CM35 Y=134, set "CCC" (data clear) for CM35 Y=161.*	• Y=161 (1) 00-63: Trunk Route No. (2) 00-3F: DS code point
Set the echo canceller for SIP trunk to each trunk route.	• Y=163 (1) 00-63: Trunk Route No. (2) 0 : Echo canceller OFF 1◀: Echo canceller ON

I

I

	DESCRIPTION	DATA
CM35	When an alternative route is assigned by CM8A LCR setting, provide the condition check of SIP trunk card Ethernet cable. If a cable is disconnected, the alternative route is selected for originating a call.	• Y=167 (1) 00-63: Trunk Route No. (2) 0 : To provide 1◀: Not provided
CM41	Assign the ORT timer when establishing tandem connection to CCIS. **NOTE:** *When setting the second data, assign a value greater than the value of the answer wait timer for origination assigned by CMBA Y=90. It is recommended to assign the second data to 33 (33 seconds).*	• Y=0 (1) 104: ORT timer (2) 02-99 : 2-99 seconds (1 second increments) NONE◀: 7 seconds
CMA7	Assign the trunk number of SIP trunk used as control channel to the SIP trunk number assigned by CM06 Y=07.	• Y=00 (1) 0-7: SIP trunk No. (2) 000-254: Trunk No. assigned by CM14
	Assign an Originating Point Code (OPC) to each SIP trunk number. (INITIAL) **NOTE 1:** *OPC is not informed to SIP servers.* **NOTE 2:** *The Originating Point Code is used to designate an originating office in the No. 7 CCIS network. A single OPC should be assigned to all SIP trunk numbers provided in the same system.*	• Y=01 (1) 0-7: SIP trunk No. (2) 00001-16367: Originating Point Code

J

J

	DESCRIPTION	DATA
CMA7	Assign a Destination Point Code (DPC) to each SIP trunk number. **NOTE 1:** *DPC is not informed to SIP servers.* **NOTE 2:** *The Destination Point Code is used to designate a terminating office in the No. 7 CCIS network. Usually a different DPC is assigned to each SIP trunk number in the same system.*	• Y=02 (1) 0-7: SIP trunk No. (2) 00001-16367: Destination Point Code
	Specify the trunk seizure sequence for SIP trunk route. **NOTE:** *We recommend that the second data is set to "1" (Lowest circuit number).*	• Y=64 (1) 0-7: SIP trunk No. (2) 0 : By allotter 1◀: Lowest circuit number
	Assign the LAN Interface number for control packet to each SIP trunk number.	• Y=70 (1) 0-7: SIP trunk No. (2) 00-31: LAN Interface No.
	Assign the Profile number for control packet to each SIP trunk number.	• Y=71 (1) 0-7: SIP trunk No. (2) 00-31: Profile No. for control packet
CMA8	Assign the SIP number to the Destination Point Code (DPC) for SIP assigned by CMA7 Y=02.	(1) 00001-16367: Destination Point Code assigned by CMA7 Y=02 (2) 0-7: SIP trunk No.

K

K

CMBA

DESCRIPTION	DATA
Specify the Type of Service (TOS) field precedence for SIP trunk control packet. SIP INITIAL	• Y=04 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 00-07: PRECEDENCE 0-7 15◀ : PRECEDENCE 0

NOTE 1: *The priority of PRECEDENCE 0-7 is as follows.*
PRECEDENCE 0: Lowest priority
≀ ≀
PRECEDENCE 7: Highest priority
PRECEDENCE 6 is recommended.

NOTE 2: *By this data setting, the router recognizes the precedence of control packets and controls Weighted Fair Queuing (WFQ).*

When the route provides DiffServ QoS, specify the DS code point for SIP trunk control packet. SIP INITIAL	• Y=10 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 00-3F: DS code point

NOTE: *When this data is set, the TOS field precedence set by CMBA Y=04 is ineffective. If you want to validate the precedence set by CMBA Y=04, set "CCC" (data clear) for CMBA Y=10.*

Specify the maximum value of jitter buffer for SIP trunk. SIP INITIAL	• Y=13 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 001-030 : 10 ms.-300 ms. NONE◀: 300 ms.

NOTE: *Assign the value which exceeds the minimum value for jitter buffer set by CMBA Y=14.*

L

L

CMBA

DESCRIPTION	DATA
Specify the minimum value of jitter buffer for SIP trunk. SIP INITIAL **NOTE 1:** *This data is used for the default delay for voice packet.* **NOTE 2:** *Assign the value which does not exceed the maximum value for jitter buffer set by CMBA Y=13.*	• Y=14 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 001-030 : 10 ms.-300 ms. NONE◀: 40 ms.
Specify whether to query a DNS server to get the IP address or not. **NOTE:** *When the second data is set to "0", only the IP address replied from to a DNS server is used. When the second data is set to "1", the SIP server IP address assigned by CMBA Y=30 is used.*	• Y=25 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : To provide 1◀: Not provided
Assign the IP Address for the SIP server. SIP INITIAL	• Y=30 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 000000000000-255255255255: SIP Server IP Address NONE◀: No data
Assign the Port number for the SIP Server. SIP INITIAL **NOTE:** *The common Port number is 05060.*	• Y=31 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 00000-65534: SIP Server Port No. NONE◀ : No data
Assign E.164 Address for the SIP trunk. **NOTE:** *When the 2nd data of CMBA Y=44 is set to "00" or "01", this address is informed as a caller number.*	• Y=32 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) X-XX...XX: E.164 Address (Maximum 24 digits) X : 0-9, A (*), B (#) NONE◀: No data

M

M

CMBA

DESCRIPTION	DATA
Assign E.164 Address (Change the calling number to E.164 Address).	• Y=44 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 00 : Provide E.164 Address 01 : Provide E.164 Address when the calling number is not set/Not provide E.164 Address when the calling number is sent 02 : When the calling number is sent from the trunk, the number is used as the calling number 03 : No calling number/ When the calling number is sent from the trunk, the number is used as the calling number 15◀: E.164 Address is not provided
Confirm the SIP AoR user name with character code. **NOTE:** *You can confirm the SIP AoR user name set by CMBA Y=46/47/54 with this command.*	• Y=45 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) X-XX...XX: SIP AoR user name (Maximum 32 digits: 16 characters) NONE◀ : No data
Assign the SIP AoR user name with character code (First 12 characters).	• Y=46 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: SIP AoR user name (Maximum 24 digits: 12 characters fixed) See Character Code Table. ☞ *Page 57* NONE◀: No data
Assign the SIP AoR user name with character code (Middle 12 characters).	• Y=47 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: SIP AoR user name (Maximum 24 digits: 12 characters fixed) See Character Code Table. ☞ *Page 57* NONE◀: No data

N

N

	DESCRIPTION	DATA
CMBA	Assign the SIP AoR user name with character code (Last 8 characters).	• Y=54 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: SIP AoR user name (Maximum 16 digits: 8 characters fixed) See Character Code Table. ☞ Page 57 NONE◀: No data
	Specify the SIP trunk identity header.	• Y=55 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : SIP-URL+tel-URL 1 : SIP-URL 2 : tel-URL 3 : SIP-URL+tel-URL only when the calling number is not informed 4 : SIP-URL only when the calling number is not informed 5 : tel-URL only when the calling number is not informed 7◀: No identity header
	Specify the SIP trunk registration method to the SIP server. **NOTE 1:** *SIP trunk is re-registered half the time set by CMBA Y=71 to SIP server periodically when the second data is set to "0".* **NOTE 2:** *When setting the second data to 1, SIP trunk is re-registered to SIP server for half the period of the specified time when registration time is specified from SIP server.*	• Y=70 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : To register the time set by CMBA Y=71 1 : To register no limitation for the time 3◀: Not registered

O

O

CMBA

DESCRIPTION	DATA
Assign the SIP trunk registration expiry time to the SIP server.	• Y=71 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 1-4294967294: 1second-4294967294 seconds NONE◀ : 3600 seconds (1 hour)

NOTE 1: *This data setting is effective only when CMA7 Y=70 is set to "0".*

NOTE 2: *Set the time to cancel the registration after registering SIP trunk with this command to SIP server.*

NOTE 3: *When the registration has been canceled by SIP server, re-register to SIP server for half the period of time set by this command (in case of 3600 seconds, set 1800 seconds).*

NOTE 4: *When re-registration from SIP server is not executed during the period of time set by this command after the registration has been canceled by SIP server, call reception from the network to SIP cards is restricted.*

Assign the Authentication user name when registering to/receiving from the SIP server with character code.	• Y=72 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) X-XX...XX : User name (Maximum 32 digits) NONE◀ : No data

NOTE 1: *The following characters can be registered; Alphabet upper case (A-Z), alphabet lower case (a-z), numeric (0-9), symbol (! " # $ % & ' ( ) + , ; < = > ? @ [ ] ^ _ ' { } ~)*

NOTE 2: *The following characters cannot be registered; Space, hyphen (-), period (.), slash (/), colon (:), CCC*

P

P

CMBA

DESCRIPTION	DATA
Assign the Authentication user name when registering to/sending from the SIP server with character code (First 12 characters).	• Y=73 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: User name (24 digits, 12 characters fixed) See Character Code Table. ☞ Page 57 NONE◀: No data

NOTE 1: *When the character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 2: *You can confirm the user name set by this command with CMBA Y=72.*

Assign the Authentication user name when registering to/sending from the SIP server with character code (Middle 12 characters).	• Y=100 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: User name (24 digits, 12 characters fixed) See Character Code Table. ☞ Page 57 NONE◀: No data

NOTE 1: *When the character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 2: *You can confirm the user name set by this command with CMBA Y=72.*

Assign the Authentication user name when registering to/sending from the SIP server with character code (Last 8 characters).	• Y=101 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: User name (16 digits, 8 characters fixed) See Character Code Table. ☞ Page 57 NONE◀: No data

NOTE 1: *When the character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 2: *You can confirm the user name set by this command with CMBA Y=72.*

Q

Q

CMBA

DESCRIPTION	DATA
Assign the Authentication password when registering to/sending from the SIP server with character code.	• Y=74 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: Password (Maximum 12 digits) NONE◀: No data

NOTE 1: *The following characters can be registered; Alphabet upper case (A-Z), alphabet lower case (a-z), numeric (0-9), symbol (! " # $ % & ' ( ) + , ; < = > ? @ [ ] ^ _ ' { } ~)*

NOTE 2: *The following characters cannot be registered; Space, hyphen (-), period (.), slash (/), colon (:), CCC*

Assign the Authentication password when registering to/sending from the SIP server with character code (First 12 characters).	• Y=75 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: Password (24 digits, 12 characters fixed) See Character Code Table. ☞ Page 57 NONE◀: No data

NOTE 1: *When the character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 2: *You can confirm the password set by this command with CMBA Y=74.*

Assign the Authentication password when registering to/sending from the SIP server with character code (Middle 12 characters).	• Y=102 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: Password (24 digits, 12 characters fixed) See Character Code Table. ☞ Page 57 NONE◀: No data

NOTE 1: *When the character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 2: *You can confirm the password set by this command with CMBA Y=74.*

R

R

CMBA

DESCRIPTION	DATA
Assign the Authentication password when registering to/sending from the SIP server with character code (Last 12 characters).	• Y=103 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: Password (16 digits, 8 characters fixed) See Character Code Table. ☞ Page 57 NONE◀: No data

NOTE 1: *When the character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 2: *You can confirm the password set by this command with CMBA Y=74.*

Confirm the SIP trunk domain name for SIP-URI with character code.	• Y=76 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) X-XX...XX : Domain name (Maximum 32 digits) NONE◀ : No data

NOTE: *You can confirm the domain names set by CMBA Y=77-79 with this command.*

Setting of SIP trunk domain name for SIP-URI with character code (First 12 characters).	• Y=77 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: Domain name (24 digits, 12 characters fixed) See Character Code Table. ☞ Page 57 NONE◀: No data

NOTE 1: *Concatenated characters assigned by CMA7 Y=77, 78, and 79 are used as domain name.*

NOTE 2: *When setting a character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 3: *You can confirm the domain name set by this command with CMBA Y=76.*

S

S

CMBA

DESCRIPTION	DATA
Assign the SIP trunk domain name for SIP-URI with character code (Middle 12 characters).	• Y=78 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: Domain name (24 digits, 12 characters fixed) See Character Code Table. ☞ Page 57 NONE◀: No data

NOTE 1: *Concatenated characters assigned by CMA7 Y=77, 78, and 79 are used as domain name.*

NOTE 2: *When setting a character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 3: *You can confirm the domain name set by this command with CMBA Y=76.*

Assign the SIP trunk domain name for SIP-URI with character code (Last 8 characters).	• Y=79 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: Domain name (16 digits, 8 characters fixed) See Character Code Table. ☞ Page 57 NONE◀: No data

NOTE 1: *Concatenated characters assigned by CMA7 Y=77, 78, and 79 are used as domain name.*

NOTE 2: *When setting a character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 3: *You can confirm the domain name set by this command with CMBA Y=76.*

T

T

CMBA

DESCRIPTION	DATA
Specify the SIP TRK identity header.	• Y=86 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : P-Asserted-Identity 1◀: P-Preferred-Identity
Specify the response waiting timer when a call is originated (INVITE transaction time-out timer).	• Y=90 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 00 : No Time Out 01-30: 1 seconds-60 seconds (2 second increments) 31◀ : 32 seconds

NOTE 1: *Set the timer until the response is received from the communicated terminal/office for a calling. If the time-out occurs, the system regards it as the network fault occurrence, and executes the alternative routing by fault occurrence (only when the alternative routing feature is provided to the system).*

NOTE 2: *Do not set the 2nd data to 30 (60 seconds), when the system provides the alternative routing feature.*

NOTE 3: *Set the 2nd data to the value that does not exceed the value of ORT timer assigned by CM41 Y=0>104, when providing the tandem route with the alternative routing feature.*

Specify the provisional response code when the system receives the incoming call and starts to call the stations.	• Y=91 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : 183 Session Progress (with SDP) 1 : 180 Ringing (without SDP) 7◀: 180 Ringing (with SDP)

U

U

CMBA

DESCRIPTION	DATA
Specify the display name/user name for From Header.	• Y=92 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : Display name: SIP AoR User Description following CMBA Y=45 : User name: SIP AoR User Description following CMBA Y=45 2 : Display name: Caller ID following CMBA Y=44 : User name: SIP AoR User Description following CMBA Y=45 3◀: Display name: Caller ID following CMBA Y=44 : User name: Caller ID following CMBA Y=44
Confirm the Fully Qualified Domain Name (FQDN) for SIP server with character code.	• Y=93 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) X-XX...XX : Domain name (Maximum 32 digits) NONE◀ : No data

NOTE 1: *You can confirm the domain name set by CMBA Y=94-96 with this command.*

NOTE 2: *When the setting of this command is changed, SIP card should be initialized or the DNS cache table should be cleared by CMBA Y=99.*

V

V

CMBA

DESCRIPTION	DATA
Assign the Fully Qualified Domain Name (FQDN) for SIP server with character code (First 12 characters). SIP INITIAL	• Y=94 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: Domain name (24 digits, 12 characters fixed) See Character Code Table. ☞ Page 57 NONE◀: No data

NOTE 1: *Concatenated characters assigned by CMBA Y=94, 95, and 96 are used as domain name.*

NOTE 2: *When the character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 3: *You can confirm the domain name set by this command with CMBA Y=93.*

NOTE 4: *When the setting of this command is changed, SIP card should be initialized or the DNS cache table should be cleared by CMBA Y=99.*

Assign the Fully Qualified Domain Name (FQDN) for SIP server with character code (Middle 12 characters). SIP INITIAL	• Y=95 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: Domain name (24 digits, 12 characters fixed) See Character Code Table. ☞ Page 57 NONE◀: No data

NOTE 1: *Concatenated characters assigned by CMBA Y=94, 95, and 96 are used as domain name.*

NOTE 2: *When the character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 3: *You can confirm the domain name set by this command with CMBA Y=93.*

NOTE 4: *When the setting of this command is changed, SIP card should be initialized or the DNS cache table should be cleared by CMBA Y=99.*

W

W

CMBA

DESCRIPTION	DATA
Assign the Fully Qualified Domain Name (FQDN) for SIP server with character code (Last 8 characters). SIP INITIAL	• Y=96 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: Domain name (16 digits, 8 characters fixed) See Character Code Table. ☞ Page 57 NONE◀: No data

NOTE 1: *Concatenated characters assigned by CMBA Y=94, 95, and 96 are used as domain name.*

NOTE 2: *When the character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 3: *You can confirm the domain name set by this command with CMBA Y=93.*

NOTE 4: *When the setting of this command is changed, SIP card should be initialized or the DNS cache table should be cleared by CMBA Y=99.*

Specify the error response code when all incoming SIP trunks are busy. SIP INITIAL	• Y=97 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : 480 Temporarily Unavailable 1 : 486 Busy Here 7◀: 503 Service Unavailable
Assign the SIP interface number to query the DNS server.	• Y=98 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 00-31 : LAN interface No. 00-31 NONE◀: No data

NOTE 1: *Set SIP interface to query the domain name of SIP server assigned by CM0A Y=93-96.*

NOTE 2: *For the LAN interface number set by the second data, the IP address of DNS server for CM0A Y=60-62 should be set.*

NOTE 3: *When the setting of this command is changed, SIP card should be initialized or the DNS cache table should be cleared by CMBA Y=99.*

X

X

CMBA

DESCRIPTION	DATA
Clear the cache table.	• Y=99 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) CCC: DNS cache table clearance

NOTE: *The IP addresses which were cached for the second data are displayed when the IP addresses were cached on DSN cache table.*

Specify whether to request provisional responses with reliability (100rel) when sending from SIP trunk.	• Y=105 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : Available (Supported header and Require header) 1 : Available (Supported header) 3◀: Not available
Specify whether to perform registration periodically when also receiving “subscriber error” or “authentication error” during the registration.	• Y=108 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : To provide 1◀: Not provided
Specify whether to send a signal to require a deletion during an initial setting registration.	• Y=110 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : To provide 1◀: Not provided
Specify whether to provide an alternate Routing when receiving the 486 Busy Here response.	• Y=111 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : Not provided 1◀: To provide
Specify whether to send provisional responses with reliability (100rel) when receiving.	• Y=114 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : To send 1◀: Not sent

Y

Y

	DESCRIPTION	DATA
CMBA	Specify whether to add "+" for calling number/ delete "+" for called number.	• Y=117 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : To provide 1◀: Not provided
	Specify CODEC type of SIP trunk for FAX communication.	• Y=119 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 01 : G.711 μ-law 02 : G.711 A-law 03 : G.726 NONE◀: CODEC type is not changed for the FAX communication

NOTE: *When setting the second data to NONE, the changeover to the FAX communication from the voice communication is not possible.*

	Specify the payload size for FAX communication from SIP trunk.	• Y=120 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 1 : 20 ms. 2 : 30 ms. 3 : 40 ms. NONE◀: Payload size set by CMBA Y=22
CM0A	Specify whether to provide Tone Disabler of SIP trunk for FAX communication. **[Series 3700 R12.2 software required]** SIP INITIAL	• Y=78 (1) 00-31: LAN Interface No. (2) 0 : Available 1◀: Not available

NOTE 1: *To provide Tone Disabler, firmware version SC-3591 IPS IPTT PROG-B1 or later of an SIP card is required.*

NOTE 2: *Tone Disabler is a feature to improve FAX communication rate.*
When detecting V.25 tone (2100Hz) with phase inversion, Echo Canceller/NLP (Non Liner Processor) is set to OFF. When detecting V.25 tone (2100Hz) without phase inversion, Echo Canceller/NLP (Non Liner Processor) is set as same as voice setting.

Z

Z

CMBA

END

DESCRIPTION	DATA
Specify the CODEC type of SIP Trunk (First priority). **NOTE:** *This command is effective when CMBA Y=21 is set to "0" (programmable list).*	• Y=121 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 01 : G.711 μ-law 02 : G.711 A-law 04 : G.729a NONE◀: No data
Specify the CODEC type of SIP Trunk (Second priority). **NOTE:** *This command is effective when CMBA Y=21 is set to "0" (programmable list).*	• Y=122 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 01 : G.711 μ-law 02 : G.711 A-law 04 : G.729a NONE◀: No data
Specify the CODEC type of SIP Trunk (Third priority). **NOTE:** *This command is effective when CMBA Y=21 is set to "0" (programmable list).*	• Y=123 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 01 : G.711 μ-law 02 : G.711 A-law 04 : G.729a NONE◀: No data

Ringing Tone

To specify the interval of ringing tones and the ringer tone pattern to each DID number:

START

DESCRIPTION | **DATA**

CM08

Provide Ringer Tone Pattern for SIP incoming call.

(1) 649
(2) 0: To provide

CM76

Specify the interval of ringing tones on DID calls.
For this assignment, do not set CM76 Y=22 to 3 (As per CM35 Y=33 (D^{term} or SLT)).

- Y=22

(1) 000-999: Number Conversion Block No. assigned by CM76 Y=90
(2) See the table below.

CM76 Y=22	D^{term}	SLT
0	0.5 sec. / 0.5 sec.	1 sec. / 2 sec.
1	0.2 sec. / 2 sec. / 0.2 sec.	0.2 sec. / 2 sec. / 0.2 sec.
2	1 sec. / 2 sec.	1 sec. / 2 sec.
3◀	As per CM35 Y=33	As per CM35 Y=33

Specify the Ringer Tone Pattern of the D^{term} on DID calls.
For this assignment, do not set CM76 Y=23 to 7 (As per CM35 Y=34).

- Y=23

(1) 000-999: Number Conversion Block No. assigned by CM76 Y=90
(2) 0 : Ringer Tone Pattern 0
1 : Ringer Tone Pattern 1
2 : Ringer Tone Pattern 2
3 : Ringer Tone Pattern 3
4 : Ringer Tone Pattern 4
5 : Ringer Tone Pattern 5
6 : Ringer Tone Pattern 6
7◀: As per CM35 Y=34/164

END

To specify the interval of ringing tones and the ringer tone pattern to each trunk route:

START	DESCRIPTION	DATA
CM08	Provide Ringer Tone Pattern for SIP incoming call.	(1) 649 (2) 0: To provide
CM35	Specify the interval of ringing tones to an incoming call.	• Y=33 (1) 00-63: Trunk Route No. 00-63 (2) 0 : 0.4 seconds ON-0.2 seconds OFF-0.4 seconds ON-2 seconds OFF 1 : 0.4 seconds ON-0.2 seconds OFF-0.4 seconds ON-2 seconds OFF 2 : 1 second ON-2 seconds OFF 3◀: 2 seconds ON-4 seconds OFF
	Specify the Ringer Tone Pattern to each trunk route.	• Y=34 • Y=164 (1) 00-63: Trunk Route No. 00-63 (2) See the table below.

CM35 Y=34	CM35 Y=164: 0	CM35 Y=164: 1◀
0	Ringer Tone Pattern 3	Ringer Tone Pattern 0
1	Ringer Tone Pattern 6	Ringer Tone Pattern 1
2	Ringer Tone Pattern 5	Ringer Tone Pattern 2
3◀	Ringer Tone Pattern 4	Ringer Tone Pattern 7

A

A

CM76

END

DESCRIPTION	DATA
Specify the interval of ringing tones on DID calls.	• Y=22 (1) 000-999: Number Conversion Block No. assigned by CM76 Y=90 (2) 3◀: As per CM35 Y=33

CM76 Y=22	D^{term}	SLT
0	0.5 sec. 0.5 sec.	1 sec. 2 sec.
1	0.2 sec. 2 sec. 0.2 sec.	0.2 sec. 2 sec. 0.2 sec.
2	1 sec. 2 sec.	1 sec. 2 sec.
3◀	As per CM35 Y=33	As per CM35 Y=33

Specify the Ringer Tone Pattern of the D^{term} on DID calls.	• Y=23 (1) 000-999: Number Conversion Block No. assigned by CM76 Y=90 (2) 7◀: As per CM35 Y=34/164

Character Code Table

X: Upper digit Y: Lower digit

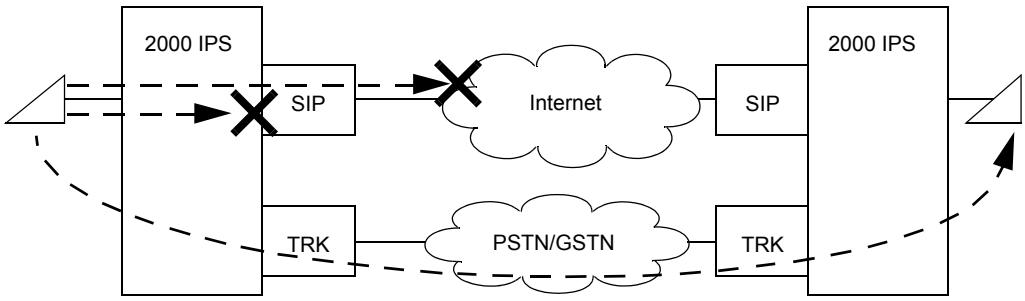
Y \ X	2	3	4	5	6	7
0		0	@	P	\	p
1	!	1	A	Q	a	q
2	”	2	B	R	b	r
3	#	3	C	S	c	s
4	$	4	D	T	d	t
5	%	5	E	U	e	u
6	&	6	F	V	f	v
7	’	7	G	W	g	w
8	(	8	H	X	h	x
9	)	9	I	Y	i	y
A	*	:	J	Z	j	z
B	+	;	K	[	k	{
C	,	<	L	¥	l	|
D	-	=	M	]	m	}
E	.	>	N	^	n	~
F	/	?	O	_	o	←

SIP FEATURE PROGRAMMING

Alternate Routing for a Fault Occurrence

General Description

This feature provides call originating by Alternative Routing to other trunks in the system when SIP trunk or SIP network fault occurs.



Service Conditions

(1) Set Alternative Routing available for the SIP trunk route by CM35 Y=186.

(2) Set Alternative Routing available by CMBA Y=111 to provide Alternative Routing when the error response code 486 (Busy Here) is received.
Set call originating available by Alternative Routing when outgoing trunks of tandem office are all busy for outgoing call via CCIS by CM08>372.

(3) The maximum number to set Alternative Routing is six in one system.

(4) The following trunks are able to be specified as the Alternative Routing destination:
COT, LDT, ODT, DTI, CCT, IPT, PRT, BRT

(5) Specify the response waiting timer when a call is originated (transaction time-out timer) by CMBA Y=90. Alternative Routing cannot be performed without time-out.

(6) Set Alternative Routing available for SIP tandem calls to entry side trunk when PBX is used as a Gateway by CM35 Y=192.

(7) Set the ORT timer value by CM41 Y=0>104 larger than the response waiting timer when a call is originated (transaction time-out timer) when PBX is used as a Gateway.

Programming

START	DESCRIPTION	DATA
CM35	When an alternative route is assigned by CM8A LCR setting, provide the condition check of SIP trunk Ethernet cable. If a cable is disconnected, the alternative route is selected for originating a call.	• Y=167 (1) 00-63: Trunk Route No. 00-63 (2) 0: To provide
	Provide the trunk route of SIP with Alternate Routing for a fault occurrence.	• Y=186 (1) 00-63: Trunk Route No. 00-63 (2) 0: To provide
	Provide the tandem calls with Alternate Routing for a fault occurrence.	• Y=192 (1) 00-63: Trunk Route No. 00-63 (2) 0 : To provide 1◀: Not provided
CM08	Provide Alternative Routing when outgoing trunks of tandem office are all busy/Alternate Routing for multiple SIP cards.	(1) 372 (2) 0: Available
CM41	Specify the ORT timer when establishing tandem connection to CCIS. **[Series 3200 R6.2 software required]**	• Y=0 (1) 104 (2) 03-99: 3-99 seconds (4 second increments) If no data is set, the default setting is 7 seconds.
CM8A	Detour to the final route order when SIP fault (time-out of T1 timer) occurrence.	• Y=5000-5255 (1) 175: Final route order when SIP fault (time-out of T1 timer) occurrence (2) 0 : To detour 1◀: Not detoured
END		

Caller ID Display

General Description

This feature provides Caller ID Display to the called station.
The number of the dial number to possess and display is the number of the dial number which is contracted when Direct Inward Dialing (DID) is contracted.
Only the pilot number can be displayed when pilot number connection is contracted.
This feature provides displaying a caller number informed from the network on the LCD of D^{term}.

Service Conditions

(1) Optional number or pilot number is sent to the called station.

(2) SIP message with the following header is sent for Caller ID Display.
E.G. Caller number + 0123456
From : "+0123456" <sip:+0123456@195.2.174.100:5060>;tag=XXXXXXXXXXXXX-X
Contact: <sip:+0123456@221.186.89.197:5060>

(3) Only 0-9, ✳, # can be displayed. The calling number is not informed when alphabet is informed. However, 0-9, ✳, # is displayed with converting by the function of PBX.

(4) Set CM08>379 to "0".

Programming

START	DESCRIPTION	DATA
CM08	Provided the system with Name Display service.	(1) 255 (2) 1◀: To provide
	Provide the system with Caller ID Display service.	(1) 379 (2) 0: To provide
CM12	Assign the ISDN/SIP Subscriber number 1. **NOTE:** *This command is used for ISDN transmission. Set CM12 Y=46, 47 for SIP transmission to use both ISDN and SIP transmission on a system.*	• Y=12 (1) X-XXXXXXXX: Station No. (2) X-XXXX: ISDN/SIP Subscriber No. (Indial No.) NONE◀ : No data
	Assign the ISDN/SIP Local Office Code Table number 1. **NOTE:** *This command is used for ISDN transmission. Set CM12 Y=46, 47 for SIP transmission to use both ISDN and SIP transmission on a system.*	• Y=13 (1) X-XXXXXXXX: Station No. (2) 00-14: ISDN/SIP Local Office Code Table number 00-14 15◀ : No data
	Assign the SIP Subscriber number 2.	• Y=46 (1) X-XXXXXXXX: Station No. (2) X-XXXX: SIP Subscriber No. (Indial No.) NONE◀ : No data
	Assign the SIP Local Office Code Table number 2.	• Y=47 (1) X-XXXXXXXX: Station No. (2) 00-14: SIP Local Office Code Table number 00-14 15◀ : No data
A		

A

	DESCRIPTION	DATA
CM50	Assign the ISDN/SIP Local Office Code Table 2.	• Y=05 (1) 00-14: ISDN/SIP Local Office Code Table number 00-14 (2) X-XXXXXXXXXXX: ISDN/SIP Local Office Code NONE◀: No data
CMA7	Provide each SIP number with Caller ID Display feature.	• Y=26 (1) 0-7: SIP Trunk No. 0-7 (2) 0: To provide
	Provide the SIP number with Calling Party Information transferring service.	• Y=28 (1) 0-7: SIP Trunk No. 0-7 (2) 0: To provide
CM8A	Add the Calling Party Number for SIP calls.	• Y=5000-5255 LCR Pattern No. 000-255 (1) 165: Caller ID of outgoing call (2) 0 : To provide 1◀: Not provided
	Specify Calling party number sent from SIP Trunk.	• Y=5000-5255 LCR Pattern No. 000-255 (1) 176 (2) 00 : Calling party number is not sent 01 : To send ISDN/SIP subscriber number assigned by CM12 Y=12/13 (when no data is set to CM12 Y=12/13, the calling party number is not sent) 02 : To send SIP subscriber number assigned by CM12 Y=46/47 (when no data is set to CM12 Y=46/47, the calling party number is not sent) 08 : To send representative number 14 : To send the station number without Originating Office number 15◀: To send station number

B

B

	DESCRIPTION	DATA
CMBA	Assign E.164 Address (Change the calling number to E.164 Address).	• Y=44 (1) 00-31: Profile number 00-31 (2) 00 : Provide E.164 Address 01 : Provide E.164 Address when the calling number is not set/Not provide E.164 Address when the calling number is sent 02 : When the calling number is sent from the trunk, the number is used as the calling number 03 : No calling number/ When the calling number is sent from the trunk, the number is used as the calling number 15◀: E.164 Address is not provided

NOTE: *A caller number is informed with the combination of the setting of CM8A Y=5XXX>176 and CMBA Y=44 as follows:*

Caller Number Information

CM08 Y=5XXX>176	CMBA Y=44			REMARKS
	00	01	15	
00	E.164 Address	E.164 Address	Not informed	
01	E.164 Address	DID Number	DID Number	Subscriber number set to CM12 Y=12, 13
	E.164 Address	E.164 Address	Station Number	No Subscriber number set to CM12 Y=12, 13
02	E.164 Address	DID Number	DID Number	Subscriber number set to CM12 Y=46, 47
	E.164 Address	E.164 Address	Station Number	No Subscriber number set to CM12 Y=46, 47
08	E.164 Address	E.164 Address	E.164 Address	
14	Station Number	Station Number	Station Number	
15	Station Number	Station Number	Station Number	

C

C

CMBA

CM35

END

DESCRIPTION	DATA

For Tandem Connection

INCOMING CALLING NUMBER	CMBA Y=44				
	00	01	02	03	15
Informed	E.164 Address by CMBA Y=32	E.164 Address by CMBA Y=32	E.164 Address by CMBA Y=32	E.164 Address by CMBA Y=32	Not informed
Not informed	E.164 Address by CMBA Y=32	DID Number/ Station Number	E.164 Address by CMBA Y=32	E.164 Address by CMBA Y=32	DID Number/ Station Number

Set Calling Name information transfer to ISDN on tandem call from CCIS.

- Y=145

(1) 00-63: Trunk Route No. 00-63

(2) 0 : To provide
1◀: Not provided

Direct Inward Dialing (DID)

General Description

This feature provide incoming calls with Direct Inward Dialing (DID) number.
However, DID Digit Conversion is required when the DID numbers differ from the station numbers set on PBX.

Service Conditions

(1) The number of digits to be developed on DID number can be specified 1-8 digits by CM35 Y=171.

(2) The maximum number to be developed is 1000 set by CM76 Y=90.

(3) 0-9, ✳, # can be used for DID Digit Conversion.

(4) Set the DID number before conversion to Intra-office termination by CM20/CM8A.

Programming

START	DESCRIPTION	DATA
CM35	Provide DID Digit Conversion to the trunk route number assigned by CM30 Y=00.	• Y=18 (1) 00-63: Trunk Route No. (2) 0 : To provide 1◀: Not provided
	Specify the Development Table for DID Digit Conversion.	• Y=170 (1) 00-63: Trunk Route No. (2) 0 : Development Table 1 3◀: Development Table 0
	Specify the number of digits to be converted on DID for Development Table 1.	• Y=171 (1) 00-63: Trunk Route No. (2) 01-08: 1-8 digits 15◀ : 4 digits
CM76	Assign the Number Conversion Block number for Development Table 1.	• Y=90 (1) X-XXXXXXXX: DID No. (2) 000-999 : Number Conversion Block No. NONE◀: No data
A		

	DESCRIPTION	DATA
A		
CM76	Assign the data for interpreting the digits received.	• Y=01 Day Mode • Y=02 Night Mode • Y=03 Mode A • Y=04 Mode B (1) 000-999 : Number Conversion Block No. assigned by CM76 Y=90 (2) X-XXXXXXXX:Station No. to be terminated DXX: Change Terminating System to: D09: Automated Attendant D10: Attendant Console + TAS D14: Attendant Console D16: Remote Access to System (DISA)
CM20	Assign the number of digits for DID number and Numbering Plan Group.	• Y=0-3 Numbering Plan Group 0-3 (1) X-XXXX: Access Code (2) 804: 4 digits Station
CM8A	Assign a Route Pattern number to each area code for the Area Code Development Pattern number assigned by CM8A Y=A000.	• Y=4000-4007 Area Code Development Pattern No. 0-7 (1) X-XXXXXXXX: Area Code (1-8 digits) (2) 8000: Intra-office termination
END		

E.164 “+” Addition/Deletion

General Description

This feature provides call originating with “+” number addition and call terminating with “+” number deletion.

Service Conditions

(1) All the SIP message header numbers are added “+” by setting CMBA Y=117 to “0”.

<Before setting the system data>
INVITE sip: 987654@195.2.174.100:5060 sip/2.0
From : “123456” <sip:123456@195.2.174.100:5060>;tag=34e442234a970-63
To : <sip:987654@195.2.174.100:5060>
Contact : <sip:123456@221.186.89.197:5060>

<After setting the system data>
INVITE sip: +987654@195.2.174.100:5060 sip/2.0
From : “+123456” <sip:123456@195.2.174.100:5060>;tag=34e442234a970-63
To : <sip:+987654@195.2.174.100:5060>
Contact : <sip:+123456@221.186.89.197:5060>

(2) The number on From header display name following “+” is informed as the calling number when a call is originated.

(3) The number is not informed when the number on From header display name following “+” is not 0-9, ✳, #.

Programming

START

DESCRIPTION	DATA
CMBA	Whether to provide the “+” number addition/deletion feature.	• Y=117 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0 : To provide 1◀: Not provided

END

Fault Registration

General Description

This feature provides fault occurrence date, time, and fault content registration on MP card when SIP trunk fails.
And also, inform fault occurrence to the external alarm.

Service Conditions

(1) The contents to register are as follows:

- PBX internal fault: SIP trunk initial occurrence/System initial occurrence
- Line failure : Link failure/Registration failure/DNS inquiry failure
- Call failure : Out of session timer

Programming

START	DESCRIPTION	DATA
CM08	Enable the fault information storage feature.	(1) 450 (2) 0 : Not stored 1◀: To store
	Specify the processing at the time of fault stage memory overflow.	(1) 451 (2) 0 : No fault information is registered in case of fault memory overflow 1◀: Fault information is overwritten in case of fault memory overflow
CMEA	Provide fault information store into memory, and control of external alarm when SIP fault occurs/SIP returns to normal condition.	• Y=2 (1) 43 53 (2) 0 : Fault Memory store/No output of External Alarm 1 : Fault Memory store/External Alarm is MN alarm 2 : Fault Memory store/External Alarm is MJ alarm 3 : Fault Memory store/External Alarm Kind is determined by standard data NONE◀: No Fault Memory store/ No External Alarm output
END		

Fragmented IP Packet Receiving

General Description

This feature provides receiving a fragmented IP packet.

Service Conditions

(1) The data size of fragmented IP packet is maximum 2000 bytes.

(2) The data size 2000 bytes is a total of bytes only in the IP packet data field.

Multiple CODEC Selection

General Description

This feature provides CODEC selection customized the voice bandwidth of connected network.

Service Conditions

(1) CODEC type G.711 and G.729a are available.

(2) The Voice encoding selection precedence for one SIP trunk card is one set by CMBA Y=21.

(3) Recvonly, sendonly, inactive on SDP parameter Attribute (a) are not supported.

(4) The system returns “488 Not Acceptable Here” when the system receives a CODEC which cannot be allowed.

Programming

START

DESCRIPTION

DATA

CMBA

Specify the voice encoding selection precedence for SIP.

SIP INITIAL

- Y=21

(1) 00-31: Profile No. assigned by CMA7
Y=71

(2) 1-7◀: See table below.

DATA	MODE	HIGH←SELECTION PRECEDENCE→LOW		
		1	2	3
0	Programmable List	Set by CMBA Y=121	Set by CMBA Y=122	Set by CMBA Y=123
1	Standard Mode 1	G.711 μ-law (20 ms. fixed)		
2	Standard Mode 2	G.711 μ-law	G.711 A-law	
3	Tone Quality Mode 2	G.711 μ-law	G.711 A-law	G.729a
4	Band Mode 2	G.729a	G.711 μ-law	G.711 A-law
5	Tone Quality Mode 1	G.711 μ-law	G.729a	
6	Band Mode 1	G.729a	G.711 μ-law	
7◀	Standard Mode 1	G.711 μ-law (20 ms. fixed)		

NOTE 1: *When the voice encoding selection setting differs from that for the opposite SIP trunk, the voice encoding selection may differ in the user's usual SIP trunk setting according to the negotiation when the SIP session is made.*

NOTE 2: *The payload size 20 ms. is fixed when standard mode 1 is set. The payload size set by CMBA Y=22 is not available.*

NOTE 3: *The system works with standard mode 1 when the Programmable list is set and available data is not set by CMBA Y=121, 122, 123.*

A

A

	DESCRIPTION	DATA
CMBA	Specify the payload size for SIP trunk.	• Y=22 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 1 : 20 ms. 2 : 30 ms. 3◀: 40 ms.

NOTE 1: *Set the payload size according to the maximum voice channels per SIP card as follows.*

When PN-8IPTA card is used

PAYLOAD SIZE	MAXIMUM VOICE CHANNELS PER SIP
	G.711
20 ms.	8
30 ms.	8
40 ms.	8

When PN-8IPTA and PZ-24IPLA cards are used

PAYLOAD SIZE	MAXIMUM VOICE CHANNELS PER SIP
	G.711
20 ms.	32
30 ms.	32
40 ms.	32

NOTE 2: *When second data is set to "1" or "7" by CMBA Y=21, 20 ms. is set regardless of this data setting for SIP trunk.*

NOTE 3: *When the payload size setting differs from that for the opposite IP/SIP trunk, the shorter size than the other is adopted.*

END

Session Timer

General Description

This feature confirms whether the call status between the originating terminal and the communicated terminal is normal or not by sending/receiving a signal at a constant interval.

Service Conditions

(1) The session timer method is decided by the receiving SIP message from the communicated terminal set by CMBA Y=56.

(2) Session timer does not start when the following definitions are not contained in SIP message (200OK or INVITE).
- Require : timer
- Supported: timer

Programming

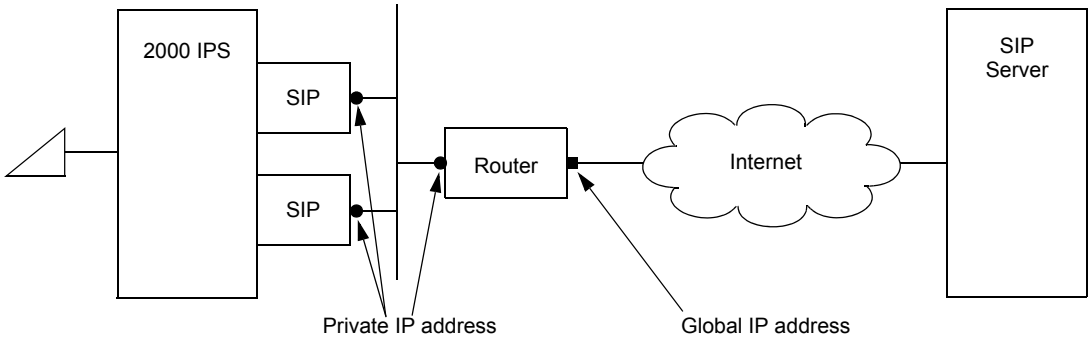
START	DESCRIPTION	DATA
CMBA	Specify the session timer method. **NOTE:** *When the second data is set to 3, the session timer method is decided by the receiving message from the communicated terminal.*	• Y=56 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 3◀: Automatic Distinction
	Specify whether to provide the session timer or not.	• Y=83 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 1◀: To provide
	Specify the session timer value.	• Y=88 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 1-4294967294: Session timer value (seconds) NONE◀ : 1800 seconds
END		

NAT Support in SIP Trunk

[Series 3700 R12.2 software required]

General Description

This feature provides the connection to the Internet with the NAT/NAPT functions of a router. By this feature, necessary global IP addresses can be combined into one IP address.



Service Conditions

(1) To provide this feature, firmware version SC-3591 IPS IPTT PROG-B1 or later of a SIP card is required.

(2) This feature is only available for Point-to-Point connection (not available for Point-to-Multipoint connection).

(3) DHCP cannot be used because the private IP address of the router side must be fixed.

(4) VLAN and this feature cannot be used at the same time.

(5) A router must be capable of NAT/NAPT processing and band processing to be used in accordance with the number of accommodated channels of a SIP card.

(6) When using the router that supports NAT only (NAPT is not supported), only one SIP card can be mounted.

(7) When mounting multiple SIP cards, use a NAPT-compatible router. The SIP server must correspond to multiple port functions, and confirm that the hardware such as router and SIP server corresponds to transmitting/receiving of the SIP signals at port number other than 5060.

(8) When mounting multiple SIP cards and assigning them under different routers, set the port to use in each SIP card to not overlap so that call processing and RTP port numbers between the SIP cards do not overlap (CM0A Y=10-17/30-37/100-115>93, 94).

(9) For communication under the same NAT, own office and other office combined can communicate with maximum of 8 SIP cards.

Programming

START	DESCRIPTION	DATA
CM0A	Assign the Global IP address of NAT for LAN Interface number of the SIP card. SIP INITIAL	• Y=65 (1) 00-31: LAN Interface No. (2) 000000000000-255255255255: Global IP address NONE◀: No data

NOTE: *Set the private IP address for LAN Interface number of SIP card with CM0A Y=01, 02, 03.*

CMBA	Assign the IP address pattern number of SIP card controlled by NAT.	• Y=129 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 000-255 : IP Address Pattern No. NONE◀: No data

NOTE 1: *Set this command only when accommodating multiple SIP cards under the same NAT.*

NOTE 2: *When using the Alternate Routing feature, set a number that is different from the IP address pattern number assigned by CMBA Y=5000-5255>167.*

CM5B	Assign the Destination IP address.	• Y=01 (1) XXX ZZ XXX: 000-255: IP Address Pattern No. assigned by CMBA Y=129 **NOTE 1** ZZ : 00-07: IP Address No. 0-7 **NOTE 2** (2) 000000000000-255255255255: Destination IP Address of opposite SIP Trunk NONE◀: No data

NOTE 1: *Set this command only when accommodating multiple SIP cards under the same NAT.*

NOTE 2: *For SIP trunk over the NAT, use the IP address pattern number assigned by CMBA Y=129.*

NOTE 3: *For SIP trunk over the NAT, assign the destination IP address of the SIP card under the same NAT.*

A

A

CM5B

DESCRIPTION	DATA
Assign the destination RTP base port number for voice packet transmitting/receiving.	• Y=02 (1) XXX ZZ XXX: 000-255: IP Address Pattern No. assigned by CMBA Y=129 ZZ : 00-07: IP Address No.0-7 (2) 01024-65000: Destination RTP Base Port No. for Voice Packet transmitting/receiving **NOTE 1, NOTE 3** NONE◀: No data

NOTE 1: *Set this command only when accommodating multiple SIP cards under the same NAT.*

NOTE 2: *For SIP trunk over the NAT, assign the destination RTP first port No. for voice packet transmitting/receiving for SIP under the same NAT.*

NOTE 3: *For the destination RTP base port No. for voice packet transmitting/receiving of the SIP card that is accommodated under the same NAT, set the 2nd data opening 320 numbers or more as follows.*

Setting example

IP ADDRESS NUMBER	RTP BASE PORT NUMBER
00	10000
01	10320
02	10640
03	20000
04	20320
05	30000
06	40000
07	65000

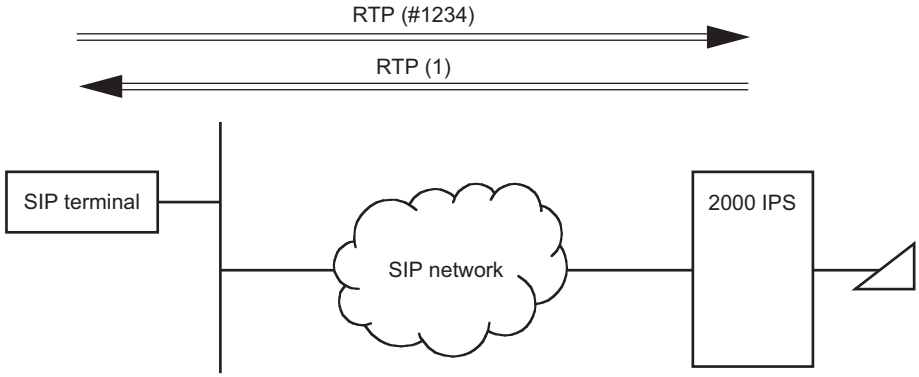
END

Out-band DTMF

[Series 3700 R12.2 software required]

General Description

This feature provides the out-band DTMF relay supports RFC 2833 in SIP network.
When receiving a DTMF signal from the SIP network, the 2000 IPS retrieve the DTMF information from RTP, and send to the terminal under the 2000 IPS. When sending the DTMF signal from the terminal under the 2000 IPS to the network, the 2000 IPS analyze the DTMF signal, and send out on RTP.



Service Conditions

(1) To provide Out-band DTMF feature, firmware version SC-3591 IPS IPTT PROG-B1 or later of a SIP card is required.

(2) The following DTMF relay method can be used in the SIP network (set by CMBA Y=52).
- Out-band DTMF (RFC2833)
- In-band DTMF (Voice pass through)

(3) The same DTMF relay method should be set within the SIP network. If the DTMF relay method of own office (CMBA Y=52) is different from the DTMF relay method of opposite office, the DTMF relay method set is as shown in table below.

SETTING OF OPPOSITE OFFICE / SETTING OF OWN OFFICE	RFC2833 METHOD		IN-BAND METHOD	
	RECEIVING AT OWN OFFICE	RECEIVING AT OPPOSITE OFFICE	RECEIVING AT OWN OFFICE	RECEIVING AT OPPOSITE OFFICE
RFC2833 method	RFC2833	RFC2833	In-band	In-band
In-band method	In-band	In-band	In-band	In-band

(4) Although DTMF is sent only by the specified DTMF relay method (CMBA Y=52), it could be received and regenerated by method other than the specified one. The table below shows DTMF relay methods that can be regenerated depending on the DTMF relay method settings.

×: Available –: Not available

RECEIVING DTMF / SETTING OF DTMF RELAY METHOD	OUT-BAND DTMF (RFC2833)	IN-BAND DTMF
RFC2833 method	×	×
In-band method	–	×

(5) For out-band DTMF (RFC2833), DTMF that can be sent/received are "0-9", "*", and "#". "A", "B", "C" and "D" are not supported.

KINDS OF DTMF	NOTATION IN RTP MESSAGE
0–9	0, 1, 2, 3, 4, 5, 6, 7, 8, 9
*	10
#	11

(6) For out-band DTMF (RFC2833), the generation times of DTMF to be sent to SIP network is specified in the office data (CM41 Y=0>106, Initial Data: 160 ms).

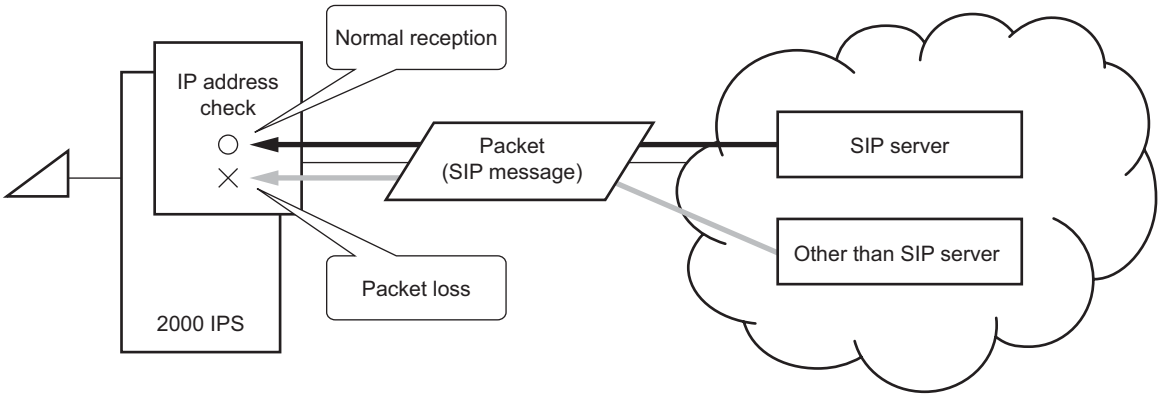
(7) If payload type is unknown for out-band DTMF (RFC2833) received from the opposite office, it operates with "In-band".

Programming

START	DESCRIPTION	DATA
CMBA	Assign the DTMF relay method.	• Y=52 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 03 : Out-band DTMF (RFC2833) NONE◀: In-band DTMF (Voice pass through)
	Assign the payload type of out-band DTMF (RFC2833).	• Y=128 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 001-127 : Payload type 001-127 NONE◀:101
	NOTE: *Follow the initial data setting usually.*	
CM41	Assign the DTMF sending timer of Out-band DTMF (RFC2833).	• Y=0 (1) 106: DTMF Sending Timer of Out-band DTMF (RFC2833) (2) 04 : 64 ms 05 : 80 ms 06 : 96 ms 07 : 112 ms 08 : 128 ms 09 : 144 ms 10 : 160 ms 11 : 176 ms 12 : 192 ms 13 : 208 ms 14 : 224 ms 15 : 240 ms NONE◀: 160 ms
	NOTE: *Follow the initial data setting usually.*	
END		

Source IP Address Check on SIP Trunk

[Series 3800 software required]



General Description

This feature provides the Source IP Address Check for received packets (SIP message). By this feature, packets (SIP message) from other than IP address of the SIP server registered in office data are assumed as invalid and can be abandoned.

Service Conditions

(1) To provide this feature, firmware version SC-3591 IPS IPTT PROG-B1 (version: B1_2.00) or later of a SIP card is required.

(2) This feature is available for Point-to-Point connection (not available for Point-to-Multpoint connection).

(3) The Source IP Address Check is provided with the port set as the SIP control port by office data (CM0A Y=10-17, 30-37, 100-115>94).

(4) The IP address to be checked is the source IP address part of the IP header of received packets and the IP address set as a SIP server by the following office data.
- IP address of the SIP server (set by CMBA Y=30)
- Destination IP address (set by CM5B Y=01)
- IP address saved in DNS cache table after host name of the SIP server (CMBA Y=93) is replied from to a DNS server

(5) The number of SIP servers which check the IP address as a source differs depending on the office data that registered the SIP server as follows.

OFFICE DATA REGISTERING SIP SERVER	MAXIMUM NUMBER OF SIP SERVERS THAT PROVIDE IP ADDRESS CHECK (UNIT/CARD)
CMBA Y=30	1
CM5B Y=01	8
CMBA Y=93	1

(6) When the IP address of the SIP server is changed if the Source IP Address Check on SIP trunk is enabled (CM0A Y=79: 0), SIP card must be initialized. When an IP address replied from to a DNS server for the domain is changed, the source IP address to be checked is also changed.

(7) When the domain name is changed, to check the IP address replied from to a DNS server, system initialization of following both SIP trunks is required.
- SIP trunk of which the settings are changed
- SIP trunk which has a LAN interface to query the DNS server (set by CMBA Y=98)

Programming

START

DESCRIPTION	DATA
CM0A Provide the Source IP Address Check for LAN Interface number of the SIP card. SIP INITIAL	• Y=79 (1) 00-31: LAN Interface No. (2) 0: To provide
NOTE: *This command is ineffective when CMA7 Y=46 is set to 0 (Point-to-Multipoint connection).*	
Assign the UDP port number that provides the Source IP Address Check for LAN Interface number of the SIP card. SIP INITIAL	• Y=10-17 LAN Interface No. 00-07 • Y=30-37 LAN Interface No. 08-15 • Y=100-115 LAN Interface No. 16-31 (1) 94: UDP Port for SIP control packet (2) 01024-65534: UDP Port No. NONE◀ : 05060
NOTE: *We recommend to set the second data to NONE (05060).*	

END

- To provide a Source IP address check with the IP address (set by CMBA Y=30) of the SIP server.

START

DESCRIPTION	DATA
CMBA Assign the IP Address of the SIP server to provide Source IP Address Check.	• Y=30 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 000000000000-255255255255: SIP Server IP Address NONE◀: No data
NOTE: *When the second data of CM0A Y=79 is set to "0", SIP initialization is required after data setting by this command.*	

END

- To provide the Source IP Address Check with the Destination IP address (set by CM5B Y=01) of the SIP server

START

	DESCRIPTION	DATA
CMBA	Assign the IP address pattern number for Source IP Address Check. SIP INITIAL	• Y=137 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 000-255 : IP Address Pattern No. 000-255 NONE◀: No data
	NOTE: *When providing Alternate Routing (CMBA Y=130: 0), assigning the IP address pattern (set by CM8A Y=5000-5255>167) for the Source IP Address Check is required.*	
	Provide Alternate Routing. SIP INITIAL	• Y=130 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) 0: To provide
CM8A	Assign the Destination IP Address for LCR Pattern No. SIP INITIAL	• Y=5000-5255 LCR Pattern No. 000-255 (1) 167: Destination IP Address (2) 000-255: IP Address Pattern No. 000-255
CM5B	Assign the Destination IP address.	• Y=01 (1) XXX ZZ XXX: 000-255: IP Address Pattern No. assigned by CMBA Y=129 ZZ : 00-07: IP Address No. 0-7 (2) 000000000000-255255255255: Destination IP Address of opposite SIP Trunk NONE◀: No data

END

- To provide a Source IP address check with host name (CMBA Y=93) of the SIP server

START

CMBA

DESCRIPTION

Assign the host name for SIP server with character code (First 12 characters).

SIP INITIAL

DATA

- Y=94

(1) 00-31: Profile No. assigned by CMA7 Y=71

(2) XXX...X : Host name (24 digits, 12 characters fixed)
See Character Code Table
☞ *Page 57*

NONE◀ : No data

NOTE 1: *Concatenated characters assigned by CMBA Y=94, 95, and 96 are used as host name.*

NOTE 2: *When the character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 3: *You can confirm the host name set by this command with CMBA Y=93.*

Assign the host name for SIP server with character code (Middle 12 characters).

SIP INITIAL

- Y=95

(1) 00-31: Profile No. assigned by CMA7 Y=71

(2) XXX...X : Host name (24 digits, 12 characters fixed)
See Character Code Table
☞ *Page 57*

NONE◀ : No data

NOTE 1: *Concatenated characters assigned by CMBA Y=94, 95, and 96 are used as host name.*

NOTE 2: *When the character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 3: *You can confirm the host name set by this command with CMBA Y=93.*

A

A

CMBA

END

DESCRIPTION	DATA
Assign the host name for SIP server with character code (Last 8 characters). SIP INITIAL	• Y=96 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X : Host name (16 digits, 8 characters fixed) See Character Code Table ☞ Page 57 NONE◀: No data

NOTE 1: *Concatenated characters assigned by CMBA Y=94, 95, and 96 are used as host name.*

NOTE 2: *When the character code to be set is less than the number of digits necessary, add the character code FF.*

NOTE 3: *You can confirm the host name set by this command with CMBA Y=93.*

Confirm the host name of the SIP server.	• Y=93 (1) 00-31: Profile No. assigned by CMA7 Y=71 (2) XXX...X: Host name (1-32 characters) NONE◀: No data

NOTE: *By this command, you can confirm the host name set by CMBA Y=94, 95, and 96.*

RTCP Function of SIP Trunk

[Series 3800 software required]

General Description

This feature provides RTCP transmission/reception in SIP trunk.

Service Conditions

(1) The RTCP function accommodated in SIP trunk complies with RFC1889.

(2) To provide this feature, firmware version SC-3591 IPS IPTT PROG-B1 or later (version: B1_2.00) of a SIP card is required.

(3) Transmission patterns of the RTCP are as follows.

◀: Initial Data

		CM0A Y=93	
		0	**1◀**
CM0A Y=92	000	RTCP Function Disable	RTCP Function Disable
	001-004	Random Cycle (5-30 seconds)	5 seconds Fixed Cycle
	005-120	Random Cycle (5-30 seconds)	5-120 seconds Fixed Cycle
	NONE◀	RTCP Function Disable	RTCP Function Disable

(4) The transmission cycle/transmission pattern of RTCP can be set per card of the SIP trunk.

(5) After the start of RTCP transmission, only the first RTCP transmission is transmitted after 500 ms.

(6) When the RTP transmission is suspended (such as holding), the RTCP transmission is also stopped.

Programming

START

CM0A

DESCRIPTION

Assign the RTCP transmission cycle for the SIP trunk.

SIP INITIAL

DATA

- Y=92

(1) 00-31: LAN Interface No.

(2) 000 : RTCP Function Disable
001-004 : 5 seconds
005-120 : 5-120 seconds
CCC : Clear
NONE◀ : RTCP Function Disable

NOTE: *Unless otherwise specified by administrator, we recommend to set the second data to 001-004 (5 seconds).*

Assign the RTCP transmission pattern for the SIP trunk.

SIP INITIAL

- Y=93

(1) 00-31: LAN Interface No.

(2) 0 : Random Cycle
1◀ : Fixed Cycle

NOTE 1: *Regardless of the setting value of this command, when the second data of CM0A Y=92 is set to NONE, RTCP transmission is not provided.*

NOTE 2: *When Random Cycle is set by CM0A Y=93, RTCP is transmitted with random time (in 500ms between 5-30 seconds) instead of the value set by CM0A Y=92 (001-120).*

NOTE 3: *When Fixed Cycle is set by CM0A Y=93, RTCP is transmitted according to the settings of CM0A Y=92.*

END

SYSTEM DATA BACKUP

CAUTION

- **If you operate as follows without system data backup after system data setting or service memory setting (registration of the features such as "Call Forwarding" and "Speed Calling [Speed Dialing]" from a station), the data that has been set is invalid.**
  You must execute the system data backup before the following operations.
  -Turning Off the system
  -System Initialization (reset of MP card)
  -Changing the MP card to Off-Line Mode
  -Changing the MP card to On-Line Mode after system data setting under Off-Line Mode
- **You can execute the system data backup by the following two ways.**
  -Executing the system data backup once a day at the time set by CM43 Y=5>00
  (If no data is set, the default setting is 3:00 a.m.)
  -Executing the system data backup from MAT/CAT by CMEC Y=6>0:0
- **Do not reset the MP card while "SYSD" lamp on the MP card is flashing.**

(1) Regular system data backup

START	DESCRIPTION	DATA
CM43	Assign the time for saving the system data once a day.	• Y=5 (1) 00: Regular Backup Time (2) HH MM HH : 00-23 (Hour) MM : 00-59 (Minute) NONE◀: 0300 (3:00 a.m.)
END		

(2) Manual system data backup

START	DESCRIPTION	DATA
CMEC	Save the system data for backup to flash memory on the MP card. Backup takes about 90 seconds on On-line mode, or about 1 minute on Off-line mode. While saving the system data to flash memory, "SYSD" lamp on the MP card flashes.	• Y=6 (1) 0: System Data Backup (2) 0: Start save 1: Now saving 3: Stand by **NOTE:** *"1" is displayed while the system data is being saved.*
END		

SYSTEM RESET

When you set the system data under Off-Line mode, system reset is required after data setting.

(1) Set the SW3 to “0” (On Line) position and press the SW1 on the MP card.

(2) The lamps light in the following order.
- “RUN” lamp lights momentarily.
- “L0” lamp flashes while copying the MP program from the Flash Memory to the SDRAM.
- “L0” lamp goes off.
- “SYSD” lamp lights while copying the system data from the Flash Memory to the SDRAM.
- “SYSD” lamp goes off.
- “RUN” lamp flashes.

(3) The operating mode has been changed to On-Line mode.
The backup data has been restored to the system.

CHAPTER 4

CIRCUIT CARD INFORMATION

This chapter explains the mounting location, the meaning of lamp indications, and the switch settings of the SIP circuit card.

HOW TO READ THIS CHAPTER

This chapter explains the following items about each circuit card used in this system. Explanations are given in alphabetical order of the circuit card names within each circuit card category (Control, Application Processor, and Line/Trunk).

(1) Locations of Lamps, Switches, and Connectors
The locations of lamps, switches, and connectors of each circuit card are shown by a face layout.

(2) Lamp Indications
The name, color, and functions of each indicator lamp equipped on each circuit card are described in a table.

(3) Switch Settings
The name, settings, and functions of each switch equipped on each circuit card are described in a table.

Each switch setting table has a “CHECK” column. Make necessary entries in the CHECK column during and/or after the system installation and maintenance, and use each table as a reference for subsequent system maintenance and operations.

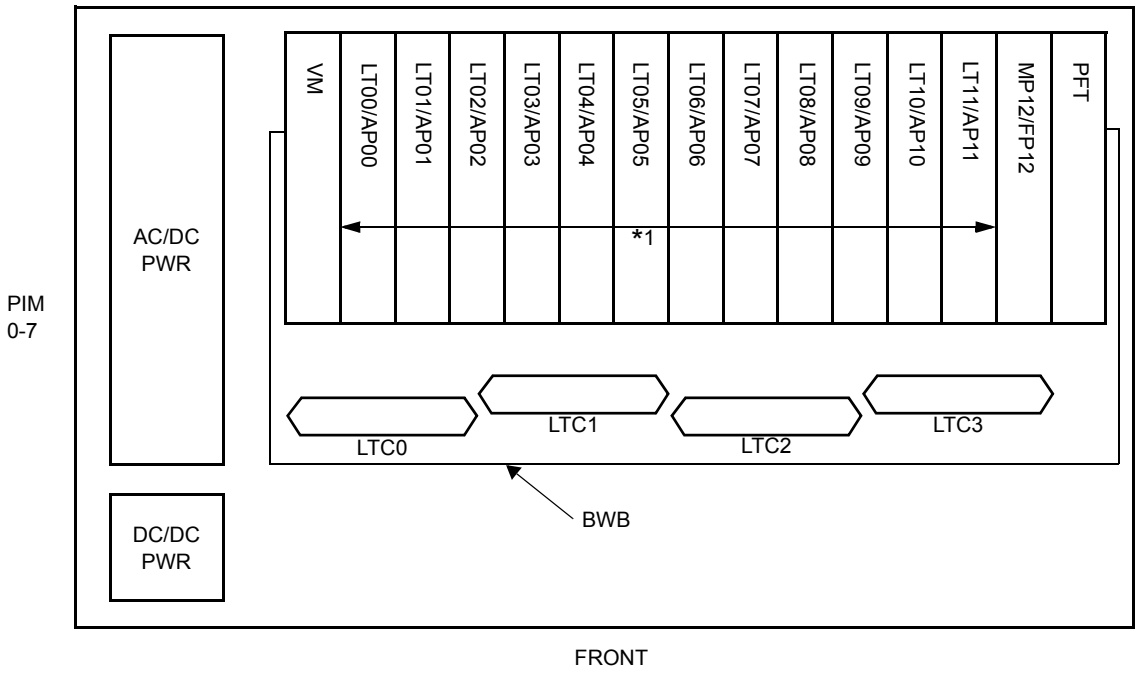
MOUNTING LOCATION OF CIRCUIT CARDS

This section explains the conditions for mounting circuit cards used in the SIP trunk system.

Regular PIM

The figure below shows circuit card mounting slots allocated in the regular PIM.

Circuit Card Mounting Slots (Regular PIM)



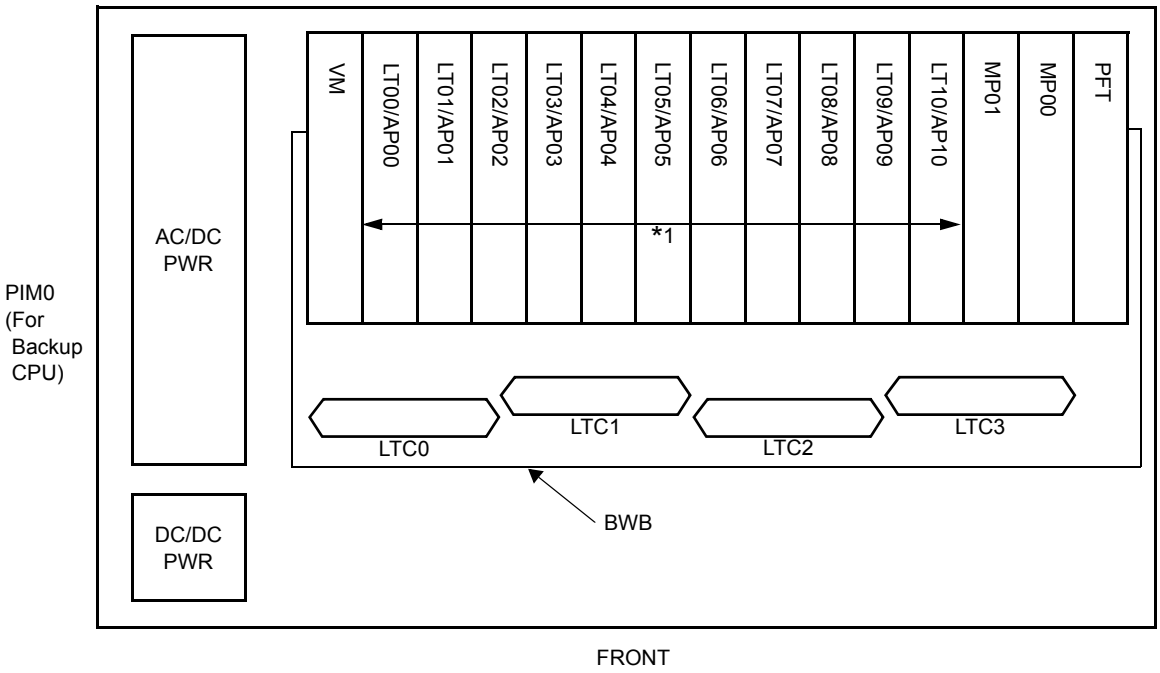
LT00-LT11 : Line/Trunk card mounting slots
AP00-AP11: Application Processor card mounting slots
MP12 : PN-CP24-A/PN-CP24-B/PN-CP24-C mounting slot
FP12 : PN-CP15 mounting slot
VM : PZ-VM00/VM00-M/VM10-M/VM03-M mounting slot
PFT : PZ-8PFTB mounting slot
AC/DC PWR: PZ-PW121/PW126 mounting slot
DC/DC PWR: PZ-PW122 mounting slot

***1** PN-8IPTA (SIP) card is mounted in the AP00-AP11 slots of PIM0-7.

PIM for Backup CPU System

The figure below shows circuit card mounting slots allocated in the PIM0 for Backup CPU system.

Circuit Card Mounting Slots (Backup CPU)



LT00-LT10 : Line/Trunk card mounting slots
AP00-AP10 : Application Processor card mounting slots
MP00/MP01: PN-CP27-A mounting slot
VM : PZ-VM00/VM00-M/VM10-M/VM03-M mounting slot
PFT : PZ-8PFTB mounting slot
AC/DC PWR: PZ-PW121/PW126 mounting slot
DC/DC PWR: PZ-PW122 mounting slot

***1** PN-8IPTA (SIP) card is mounted in the AP00-AP10 slots of PIM0.

LIST OF REQUIRED CIRCUIT CARD

The table below shows the required circuit card to be explained in this section.

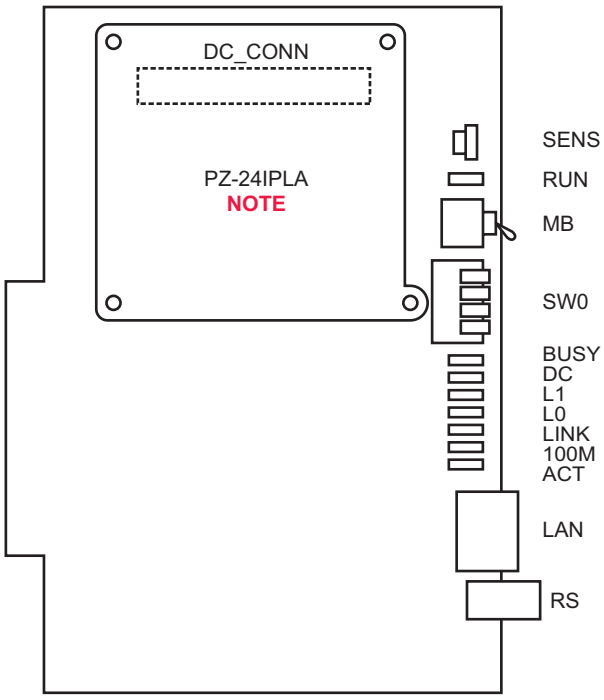
List of Required Circuit Card

NAME (FUNCTIONAL NAME)	LAMP ×: PROVIDED –: NOT PROVIDED	SWITCH ×: PROVIDED –: NOT PROVIDED	EXTRACTION/ INSERTION WITH POWER ON ×: ALLOWED Δ: ALLOWED AFTER MB* –: NOT ALLOWED	REFERENCE PAGE
PN-8IPTA (SIP)	×	×	Δ	*Page 98*

*MB=Make Busy

PN-8IPTA (SIP)

Locations of Lamps, Switches, and Connectors



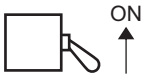
NOTE: *Order the PZ-24IPLA card separately.*

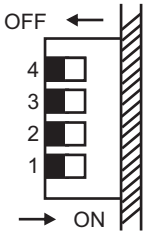
Lamp Indications

LAMP NAME	COLOR	FUNCTION
RUN	Green	Flash (240 IPM): Initializing this card. Flash (120 IPM): Normal operation. OFF : Idle/Make Busy.
BUSY	Red	ON : All channels are busy. Flash (120 IPM): One or more channels are busy (except for a case where all channels are busy). OFF : All channels are idle.
DC	Green	ON : PZ-24IPLA card already mounted is operating. OFF: PZ-24IPLA card is not mounted.
L0	Red	ON : Disconnection of a link with the IP network has been detected.
L1	–	Not used
LINK	Green	ON : Connected to the IP network. OFF: Not connected to the IP network.
100M	Green	ON : Ethernet is operating at 100 Mbps. OFF: Ethernet is operating at 10 Mbps.
ACT	Green	ON : Data is sending/receiving to the IP network. OFF: Data is not sending/receiving to the IP network.

Switch Settings

<table>
<tr><th>SWITCH NAME</th><th>SWITCH NUMBER</th><th>SETTING POSITION</th><th>FUNCTION</th><th>CHECK</th></tr>
<tr><td rowspan="2">SENSE
(Rotary SW)
 

NOTE 1</td><td>0-3</td><td colspan="2">Not used</td><td></td></tr>
<tr><td>4-F</td><td colspan="2">Set the switch to match the AP Number (04-31) to be set by CM05.
<table><tr><td rowspan="2">AP No.</td><td>SW1-4: ON</td><td>04</td><td>05</td><td>06</td><td>07</td><td>08</td><td>09</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr><tr><td>SW1-4: OFF</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td></tr><tr><td colspan="2">SW No.</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td></tr></table></td><td></td></tr>
<tr><td>MB (Toggle SW)
 

NOTE 1</td><td></td><td>UP</td><td>For make-busy</td><td></td></tr>
<tr><td></td><td>(DOWN)</td><td>For normal operation</td><td></td></tr>
<tr><td rowspan="5">SW0
(Piano Key SW)
 
</td><td>1</td><td>(OFF)</td><td>Not used</td><td></td></tr>
<tr><td>2</td><td>(ON)</td><td>Not used (Always set to ON)</td><td></td></tr>
<tr><td rowspan="2">3
NOTE 3</td><td>ON</td><td>Auto Negotiation OFF
(10 Mbps [Half-Duplex] fixed)</td><td></td></tr>
<tr><td>(OFF)</td><td>Auto Negotiation ON
(Ethernet 10 Mbps/100 Mbps automatic change)</td><td></td></tr>
<tr><td rowspan="2">4</td><td>ON</td><td>AP No. 04-15</td><td></td></tr>
<tr><td>(OFF)</td><td>AP No. 20-31</td><td></td></tr>
</table>

The figure in the SWITCH NAME column and the position of ( ) in the SETTING POSITION column indicate the standard setting of the switch. When the switch is not set as shown by the figure and ( ), the setting of the switch varies with the system concerned.

NOTE 1: *Set the groove on the switch to the desired position.*
NOTE 2: *When the power is on, flip the MB switch to ON (UP position) before plugging/unplugging the circuit card.*

NOTE 3: *When using firmware version SC-3591 IPS IPTT PROG-B1 or later, you may set the SW0-3 switch (Auto Negotiation ON/OFF settings). When using firmware version SC-3249 IPS IPTT PROG-A1, you may not set the SW0-3 switch (always set to Auto Negotiation ON).*

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