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PREFACE

This manual is valid for the IM-16 in 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

NEAXMail IM-16
System Manual

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TABLE OF CONTENTS

INTRODUCTION

PURPOSE

This manual explains the hardware installation procedure and programming procedure for the NEAXMail IM-16 in NEAX2000 IPS System.

OUTLINE OF THIS MANUAL

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

CHAPTER 1 GENERAL INFORMATION
This chapter explains the NEAXMail IM-16 system outline, required equipment, and service conditions.

CHAPTER 2 HARDWARE INSTALLATION
This chapter explains the hardware installation procedure to provide NEAXMail IM-16, and remedial actions for unusual state.

CHAPTER 3 SYSTEM DATA PROGRAMMING
This chapter explains the programming procedure to provide the NEAXMail IM-16 feature to the PBX.

CHAPTER 4 CIRCUIT CARD INFORMATION
This chapter explains the mounting location, the meanings of lamp indications, and the switch settings of required circuit cards for the NEAXMail IM-16.

REFERENCE MANUAL

During installation, refer also to the manuals below:

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

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

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

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

CHAPTER 1

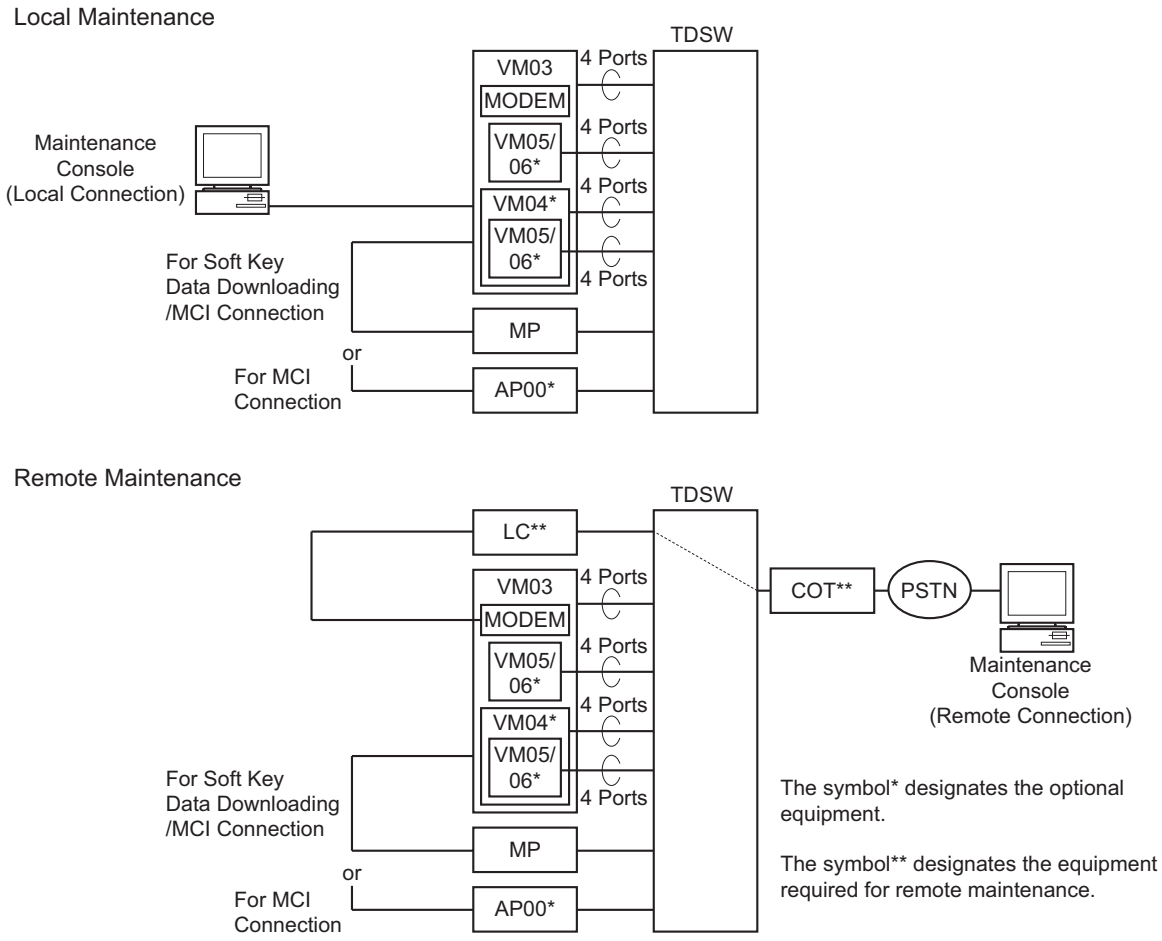
GENERAL INFORMATION

This chapter explains the NEAXMail IM-16 system outline, required equipment, and service conditions.

SYSTEM OUTLINE

The NEAXMail IM-16 is a card type voice processing system with various features and is mounted into the LT slot of the PBX.
The basic system of the NEAXMail IM-16 provides 4 ports of voice mail.
Adding an additional extension card provides 4, 8, 12 additional ports yielding a maximum of 16 voice mail ports.
The illustration below shows the system outline of the NEAXMail IM-16.

System Outline of NEAXMail IM-16



NOTE 1: *The connection between the NEAXMail IM-16 and the MP card is required only at the starting up of the NEAXMail IM-16/PBX for downloading the VMS Soft Key data. Once the data has been downloaded, this connection is not required.*

NOTE 2: *AP00 is required only for MCI connection.*

REQUIRED EQUIPMENT

For installing the NEAXMail IM-16 on a PBX

EQUIPMENT	QUANTITY	FUNCTION
PZ-VM03-M (here in after VM03)	1	This card consists of a digital signal processor for port interface (4 ports), central processor unit for controlling various data, hard disk unit to read/write the voice mail application program and voice mail information, and an internal modem (14.4 Kbps) for remote maintenance. Moreover, this card can provide 16 ports digital line circuit interface, and is mounted into the LT00 slot (for CPU card) and LT01 slot (for DSP card) of the PIM0. One card per PBX is available.
PZ-VM04 (here in after VM04)	1	This card provides additional 4 ports for transmitting/ receiving the voice information, and is used for expanding the port interface up to 12 ports. It is mounted on the VM03 card.
PZ-VM05 (here in after VM05)	2	This card provides additional 4 ports for transmitting/ receiving the voice information, and is used for expanding the port interface up to 8/16 ports. Moreover, this card is used for expanding the fax port interface up to 4 ports. It is mounted on the VM03/VM04 card.
PZ-VM06 (here in after VM06)	2	This card provides additional 4 ports for transmitting/ receiving the voice information, and is used for expanding the port interface up to 8/16 ports. It is mounted on the VM03/VM04 card.

For connecting the NEAXMail IM-16 to the MP for downloading VMS Soft Key information or for providing Message Center Interface (MCI) **NOTE**

EQUIPMENT	QUANTITY	FUNCTION
AP VM-0.7 CA-A AP RS-0.3 CA-F AP RS-0.8 CA-F	1	This cable is used to connect the NEAXMail IM-16 and the MP card via an RS-232C interface.

NOTE: *The MP stores call information for stations, and provides the RS-232C ports for a VMS. The MP keeps supervising the status of the VMS. If the VMS is not ready for information receiving (Busy Status), the MP temporarily stores the call information into its internal memory. The MP stores call information of a maximum of 15 calls.*

For connecting the NEAXMail IM-16 to AP00 for providing Message Center Interface (MCI)

EQUIPMENT	QUANTITY	FUNCTION
PN-AP00-B (here in after AP00)	1	This card continually supervises the status of the NEAXMail IM-16 MCI connection, and stores call information into its internal memory if the NEAXMail IM-16 is not ready. A maximum of 16 calls can be stored.
AP VM-0.7 CA-A AP RS-0.3 CA-F AP RS-0.8 CA-F	1	This cable is used to connect the NEAXMail IM-16 and the AP00 card via an RS-232C interface.

For connecting Maintenance Console to the NEAXMail IM-16

EQUIPMENT	QUANTITY	FUNCTION
RS RVS-15 (S) CA-A RS RVS-4 (S) CA MAT CA-P MAT CA-R MAT CA-T	1	This cable is used to connect a Maintenance Console to the NEAXMail IM-16 directly.
LC, COT card	1 ea.	For remote maintenance using the internal modem on the VM03 card, an LC-COT connection is required on the PBX.

SERVICE CONDITIONS

1. If the “Confirm” option is being used with Call Screening, the called party must go on hook after dialing “2” to have the calling party leave a message. Failure to do so causes the called party to be placed on hold.
2. If the “Confirm” option is being used with Transfer, the called party must go on hook after dialing “2” to have the calling party leave a message. Failure to do so causes the called party to be placed on hold.
3. If holding options are required for the System Operator, the System Operator can not be an Attendant Console. For holding options to work, the IM-16 must hear a busy signal and the Attendant Console can never return a busy signal.
4. If holding options are required for a Transaction Box, the transfer destination of the Transaction Box can not be an Attendant Console. For holding options to work, the IM-16 must hear a busy signal and the Attendant Console can never return a busy signal.
5. If a station has Call Forwarding set, the Call Screening feature for that station should be turned off. If not, a 30 second delay will occur before a screened caller can leave a message.

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CHAPTER 2

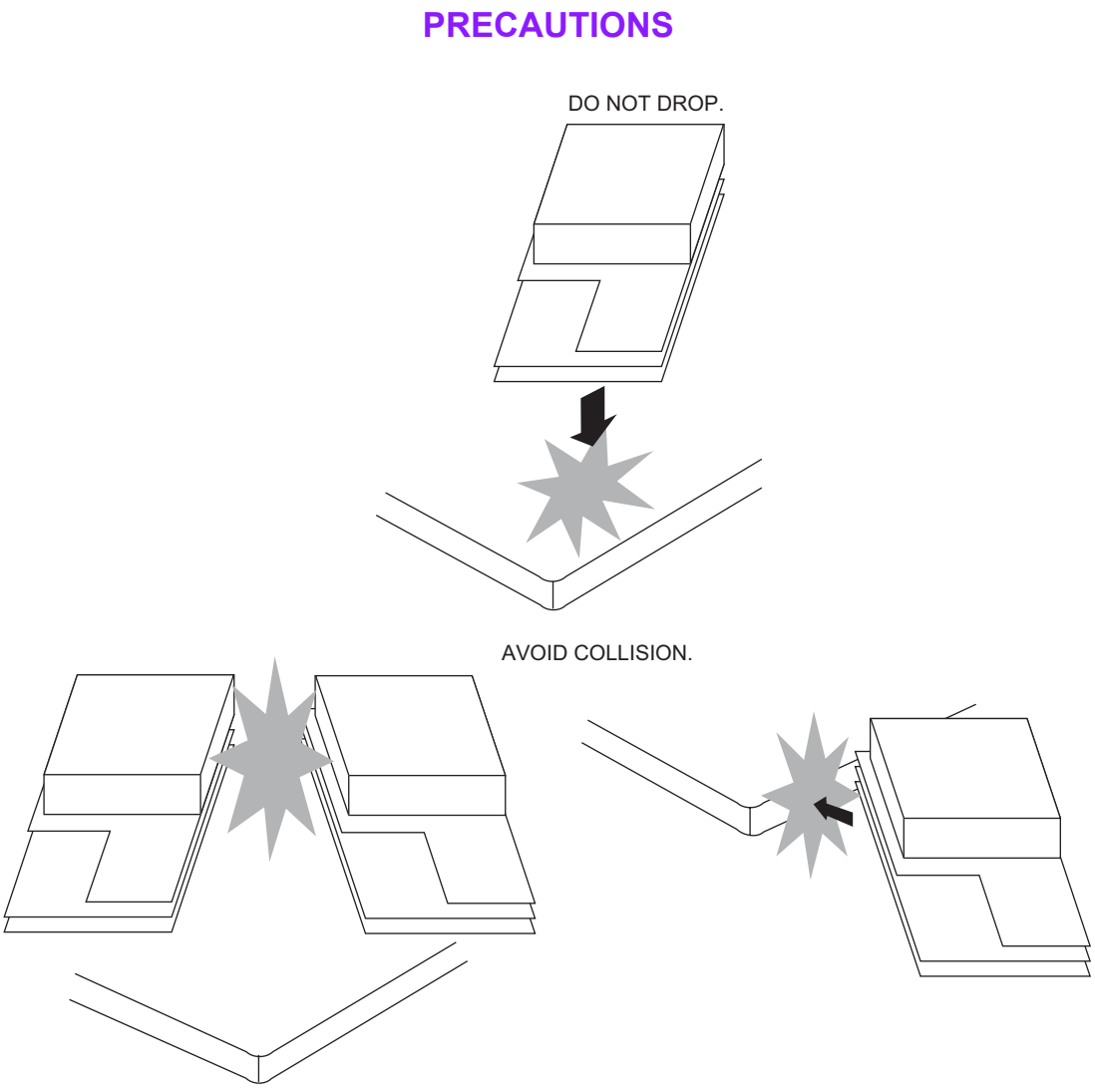
HARDWARE INSTALLATION

This chapter explains the hardware installation procedure to provide NEAX-Mail IM-16, and remedial actions for unusual state.

PRECAUTIONS

The VM03 card contains a hard disk unit and very delicate components. When handling the VM03 card, basic safety precautions should be followed to protect the card against mechanical shock, vibration and electric shock, including the following.

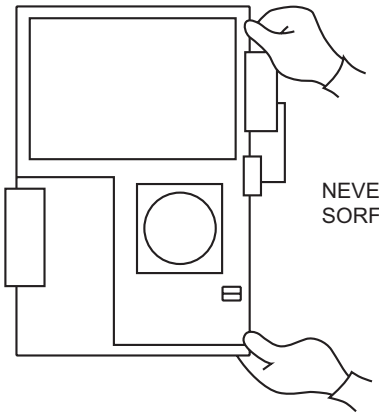
- Do not drop the VM03 card and avoid shock or vibration caused by collision with another object during installation or maintenance.



- Before turning off the power to the PBX, set the SW5 switch on the VM03 card to UP (MB on). Before powering off, you must confirm that the SWP lamp on the VM03 card lights after you turn the SW5 switch to UP (MB on). Powering off without making the VM03 card busy may damage files in the hard disk on the VM03 card.

- Before programming the PBX system data, set the SW5 switch on the VM03 card to UP (MB on), and let the SW5 switch remain UP while programming.
- When handling circuit cards, you must wear a grounded wrist strap to protect the circuit card from static electricity, and must perform all work on a grounded conductive work surface.
- Never touch the components or soldered surface on the circuit card with bare hands.
  You must hold the edge of the circuit card, when plugging/unplugging the circuit card.
  If you touch another area, you may be exposed to hazardous voltage.

VM03 Static Electricity Guard

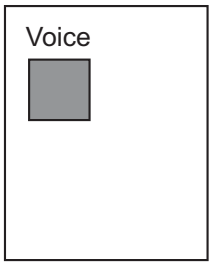
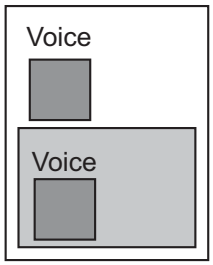
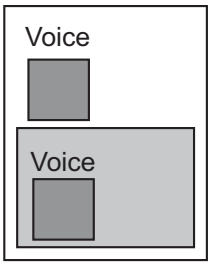
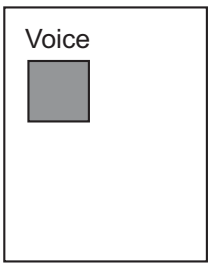
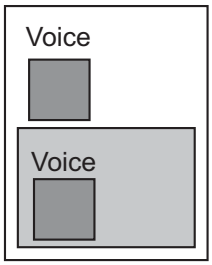
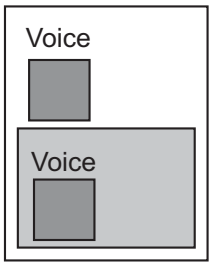


- The mark below is printed on every page in which circuit cards are handled. When performing such work, you must be careful not to cause damage by static electricity.

- Do not transport the system while the VM03 card is mounted in the system.
- To prevent damage during transportation, always place the VM03 card in an anti static bag and use the original packing box with shock absorbing pads.
  When you pack the VM03 card, follow the caution attached to the original packing box.
- Product warranty is void if you remove the HDD case, labels or screws from the VM03 card.

MOUNTING VM03 AND VM04/VM05/VM06

(1) VM03 card is capable of expanding a fax port as well as a voice mail port. Combination of these ports provides VM03 card with 8 different uses. Mount the following option cards on VM03 card according to uses and the number of ports.

		Voice Port (Total)			
		4 Port	**8 Port**	**12 Port**	**16 Port**
FAX Port (Total)	0 Port	Basic VM03 card 	+VM06 card 	+VM06 card  +VM04 card 	+VM06 card  +VM04 card +VM06 card 

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<table>
<tr><th colspan="2" rowspan="2"></th><th colspan="4">Voice Port (Total)</th></tr>
<tr><th>4 Port</th><th>8 Port</th><th>12 Port</th><th>16 Port</th></tr>
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 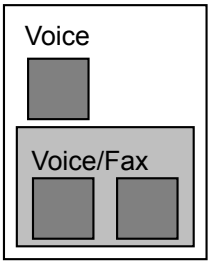
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 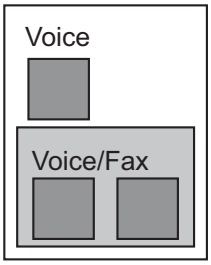

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 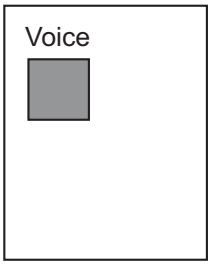
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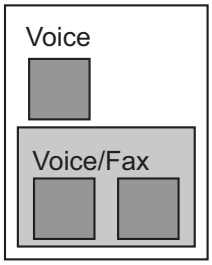
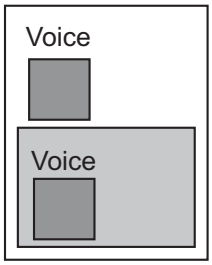
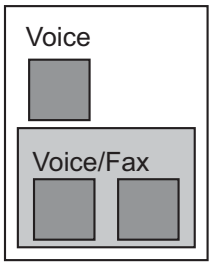
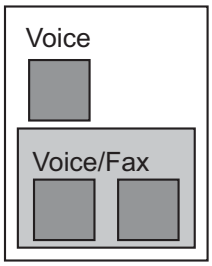
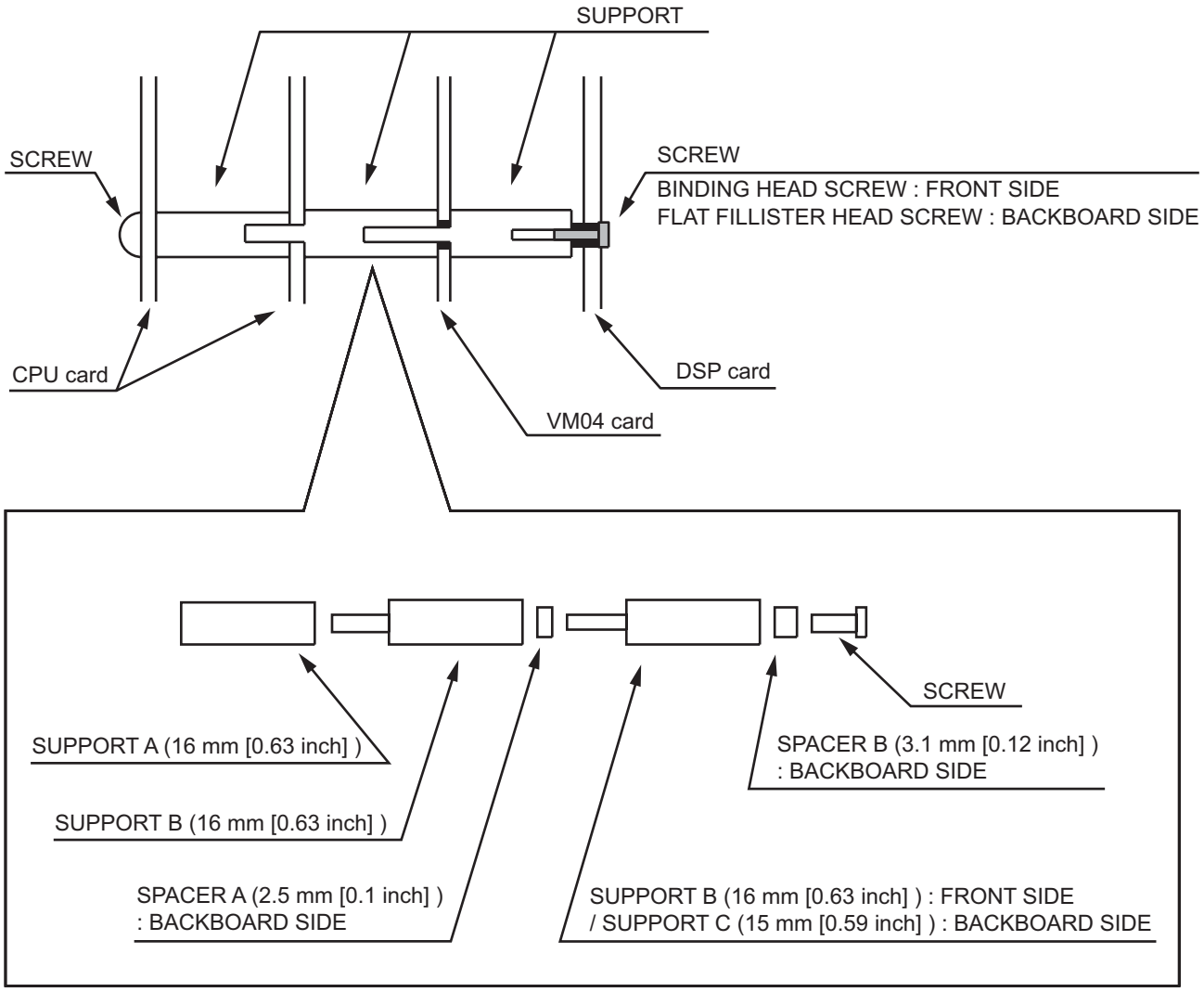
 

+VM04 card
+VM06 card
 
</td></tr>
<tr><td>4 Port</td><td>-</td><td>-</td><td>-</td><td>+VM05 card
 

+VM04 cards
+VM05 card
 
</td></tr>
</table>

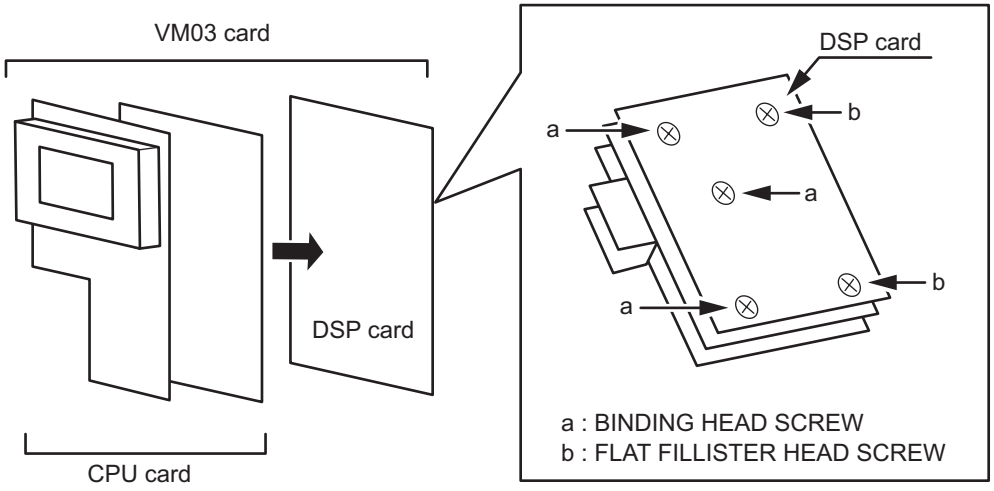
(2) When mounting VM03 card on PBX, be sure to check/set each switch, and set SW5 switch to UP (MB on) in advance.
See VM03 "Switch Settings". ☞ *Page 59*

(3) When expanding a voice/fax port of VM03 card, mount VM04/VM05/VM06 card.
When separating the VM03 card (CPU cards, DSP card) or mounting the expansion card (VM04/VM05/VM06), mount the card supports and spacers as follows. The spacer is used to adjust a space between cards to correctly plug the card in the card slot. Therefore, be careful to lose the spacers. The spacer (SPACER A/B) is mounted between the screw and support (backboard side only).



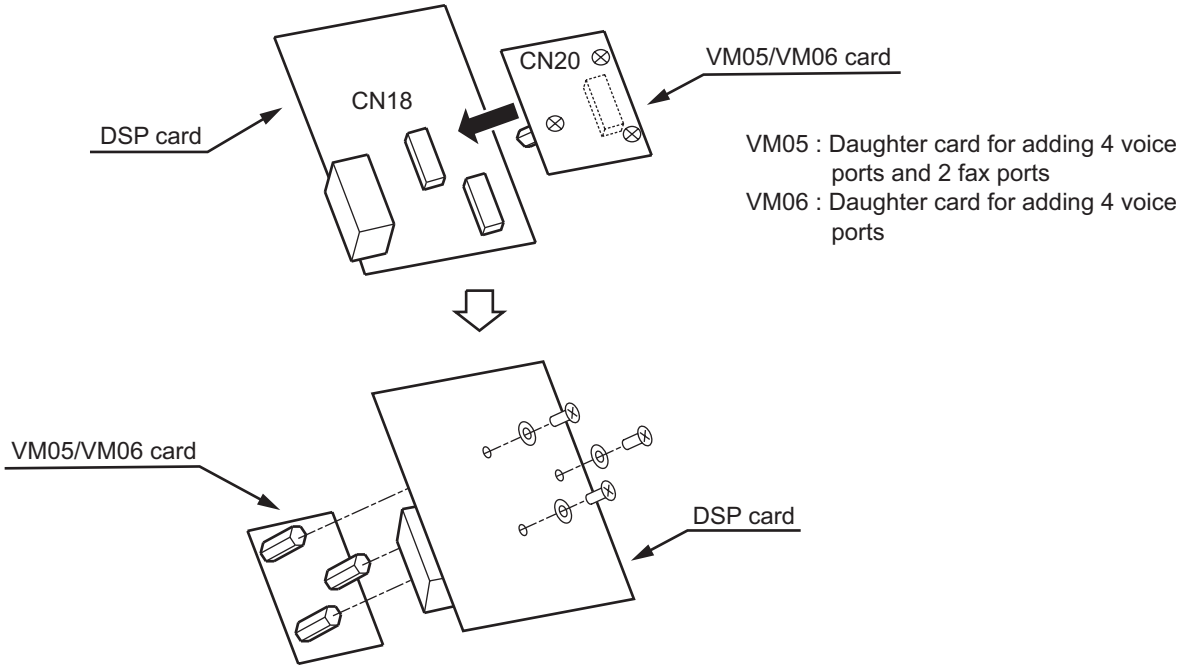
(a) Expanding up to 8 voice ports/8 voice ports + 2 fax ports

STEP1: Remove five screws (BINDING HEAD SCREW × 3, FLAT FILLISTER HEAD SCREW × 2) and 2 spacers (SPACER A) from the right side of VM03 card, and then separate the DSP card from the CPU card.

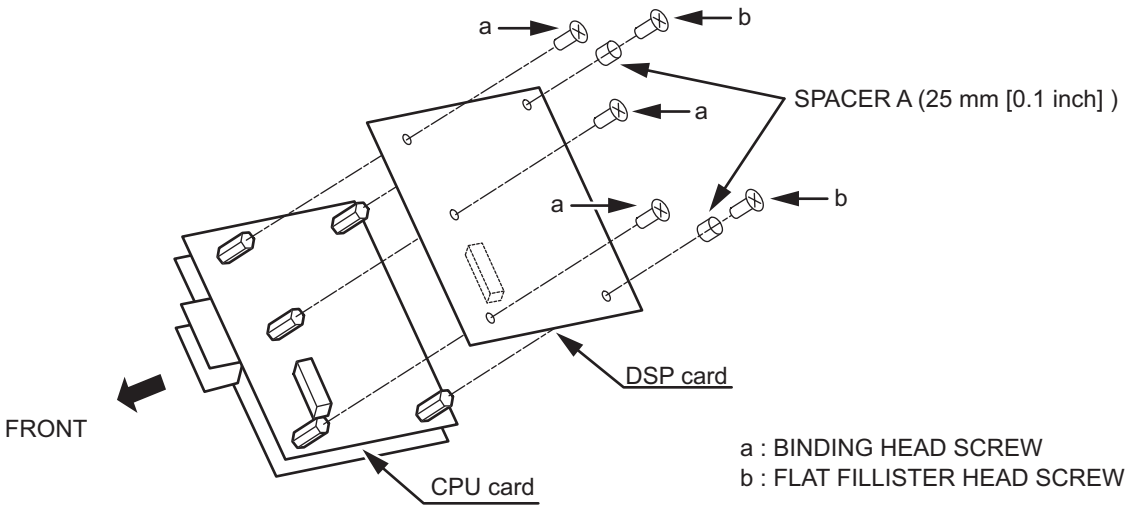


STEP2: Connect CN20 connector of the VM05/VM06 card to CN18 connector of the DSP card and secure the VM05/VM06 card to the DSP card with 3 screws.

NOTE: *Support and screw are attached to the VM05/VM06 card.*

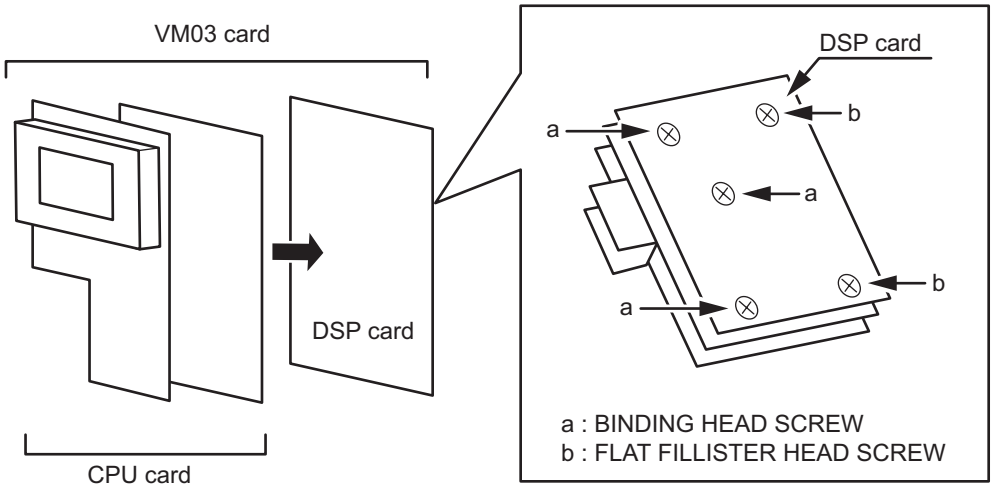


STEP3: Mount SPACER A between screw and support, and secure the DSP card to the CPU card with 5 screws and 2 spacers (SPACER A) that have been removed by STEP1.



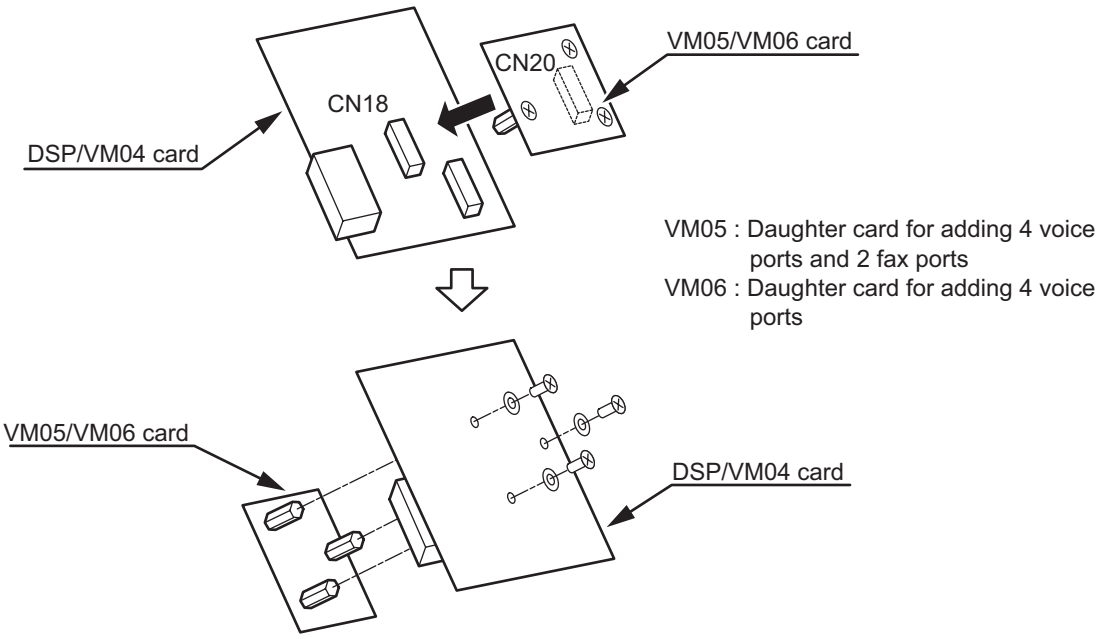
(b) Expanding up to 12 voice ports (9 to 12) /12 voice ports (9 to 12) + 2 fax ports/16 voice ports/ 16 voice ports + 2/4 fax ports

STEP1: Remove five screws (BINDING HEAD SCREW × 3, FLAT FILLISTER HEAD SCREW × 2) and 2 spacers (SPACER A) from the right side of VM03 card, and then separate DSP card from the CPU card.



STEP2: Connect CN20 connector of the VM05/VM06 card to CN18 connector of the DSP card, and secure the VM05/VM06 card to the DSP card with 3 screws.

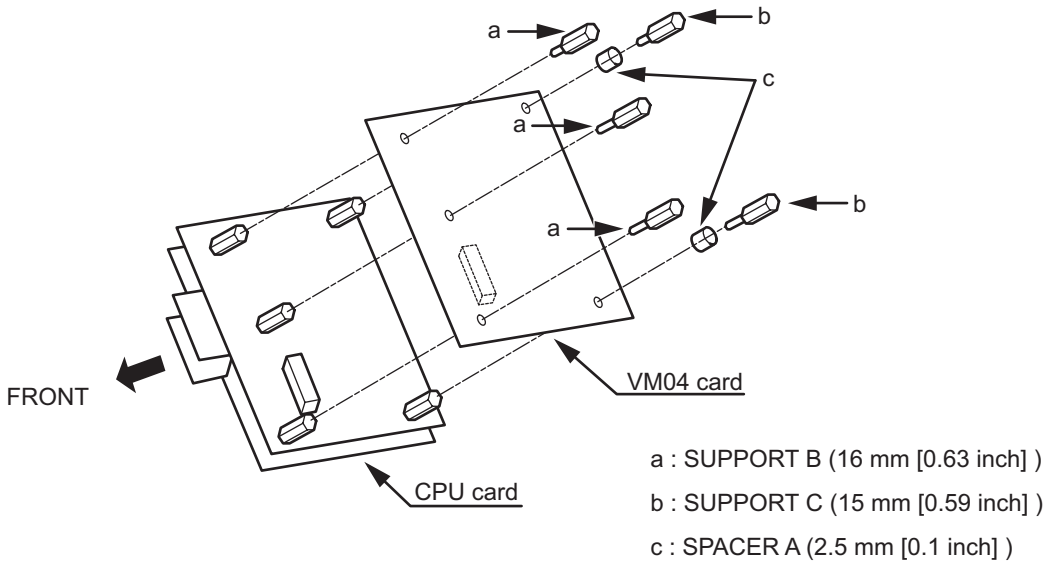
NOTE: *Support and screw are attached to the VM05/VM06 card.*



STEP3: When expanding up to 16 voice ports/16 voice ports + 2/4 fax ports, connect CN20 connector of the VM05/VM06 card to CN18 connector of the VM04 card, and secure the VM05/VM06 card to the VM04 card with 3 screws same as STEP2.

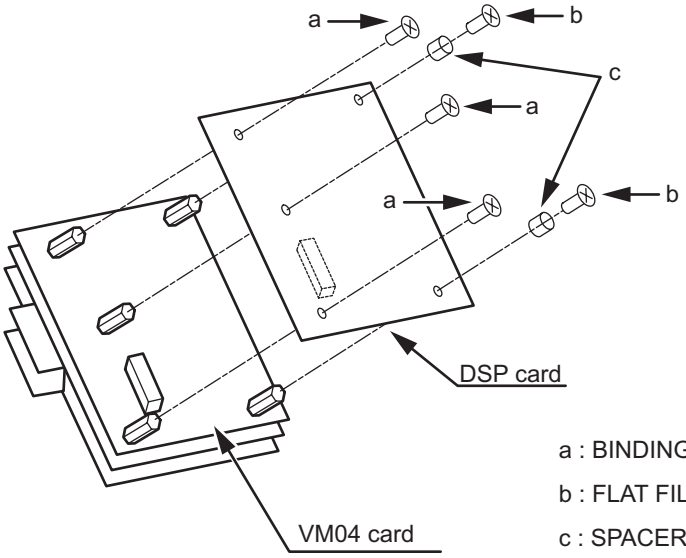
STEP4: Mount the VM04 card on the CPU card, and mount SPACER A between the VM04 and SUPPORT C, and then secure the VM04 card to the CPU card with 5 card supports (SUPPORT B, C) as follows.

NOTE: *SUPPORT B, C are attached to the VM04 card.*



STEP5: Mount SPACER B between screw and support, and secure the DSP card to the VM04 card with 5 screws that have been removed by STEP1.

NOTE: *SPACER B is attached to the VM04 card.*



a : BINDING HEAD SCREW
b : FLAT FILLISTER HEAD SCREW
c : SPACER B (3.1 mm [0.12 inch])

(4) Mount the VM03 card into the LT00 slot (for CPU card) and LT01 slot (for DSP card) of PIM0. In this case, the VM03 occupies three slots (VM, LT00, LT01).
When using the VM04 card, mount the VM03 card into the LT00 slot (for CPU card), LT01 slot (for VM04 card) and LT02 slot (for DSP card) of PIM0. In this case, the VM03 occupies four slots (VM, LT00-LT02). See "MOUNTING LOCATION OF CIRCUIT CARDS". ☞ *Page 53*

(5) Set the SW5 switch to the DOWN (MB off) position, and then set the SW1 switch to 1 and push the SW2 switch.

(6) Check the lamp indications of the card. See "Lamp Indications". ☞ *Page 58*
If the lamp indicates an unusual state, See VM03 "LAMP INDICATIONS AND REMEDIAL ACTIONS". ☞ *Page 27*

CONNECTING MP AND VM03 FOR DOWNLOADING VMS SOFT KEY DATA

This connection is required for downloading VMS Soft Key data from the VMS to the MP card.
Connect the VM03 card and the MP card according to the following steps.

NOTE: *The connection between the VM03 card and the MP card is required only at the starting up of the NEAXMail IM-16/PBX for downloading the VMS Soft Key data. Once the data has been downloaded, this connection is not required.*

(1) Set the SW5 switch on the VM03 card to the UP (MB on) position.

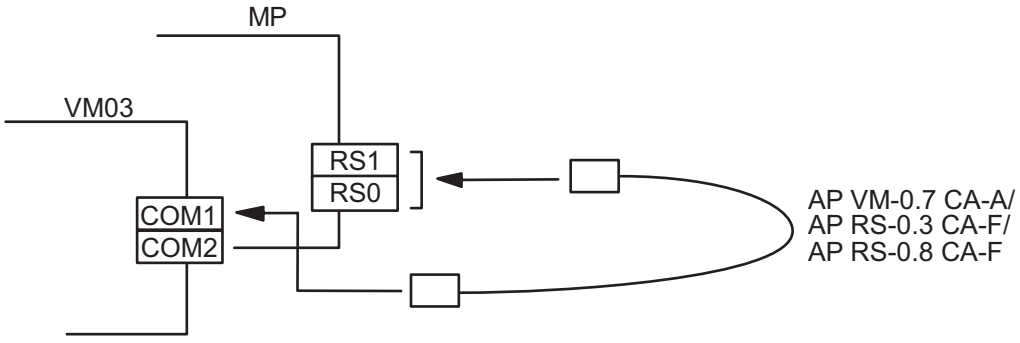
CAUTION

Do not unplug the VM03 card until the SWP lamp lights. The SWP lamp lights when about 30 seconds have passed since the SW5 switch was set to the UP (MB on) position.

(2) Connect the VM03 card and the MP card using the following cable. Use one of RS0 or RS1 connectors on the MP card, and the COM1 (CN7) connector on the VM03 card for this connection.

NOTE: *When you use a RS1 connector on the MP card for this connection, set the SW2-4 on the MP card to OFF.*

MP-VM03 Connection



(3) Set the SW5 switch to the DOWN (MB off) position, then set the SW1 switch to 1 and push the SW2 switch on the VM03 card.

CONNECTING MP AND VM03 FOR MCI

This connection is required for downloading MCI with MP card.
Connect the VM03 card and the MP card according to the following steps.

(1) Set the SW5 switch on the VM03 card to the UP (MB on) position.

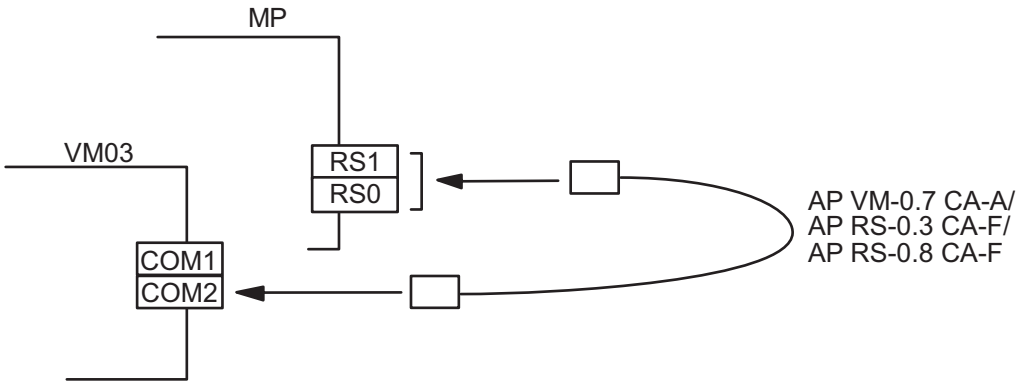
CAUTION

Do not unplug the VM03 card until the SWP lamp lights. The SWP lamp lights when about 30 seconds have passed since the SW5 switch was set to the UP (MB on) position.

(2) Connect the VM03 card and the MP card using the following cable. Use one of RS0 or RS1 connectors on the MP card, and the COM2 (CN8) connector on the VM03 card for this connection.

NOTE: *When you use a RS1 connector on the MP card for this connection, set the SW2-4 on the MP card to OFF.*

MP-VM03 Connection



(3) Set the SW4 and SW6 switch as follows, and the SW5 switch to the DOWN (MB off) position, then set the SW1 switch to 1 and push the SW2 switch on the VM03 card.

- SW4-1 : OFF
- SW6-1 : OFF
- SW6-2 : OFF

CONNECTING AP00 AND VM03 FOR MCI

The AP00 card is required when the system provides Message Center Interface (MCI). Mount the AP00 card according to the following steps.

(1) On the AP00 card, set the MB switch to the UP position and set the other switches to the appropriate positions. See AP00 "Locations of Lamps, Switches, and Connectors" and "Switch Settings".
☞ *Page 63, Page 64*

(2) Mount the card into an AP slot on the PIM.

(3) Set the MB switch on the AP00 card to the DOWN position.

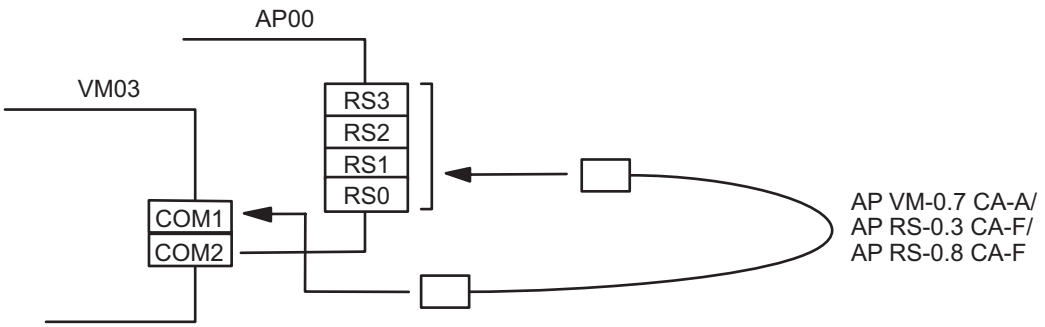
(4) Set the SW5 switch on the VM03 card to the UP (MB on) position.

CAUTION

Do not unplug the VM03 card until the SWP lamp lights. The SWP lamp lights when about 30 seconds have passed since the SW5 switch was set to the UP (MB on) position.

(5) Connect the AP00 card and the VM03 card using the following cable. Use one of RS0 to RS3 connectors on the AP00 card, and the COM1 (CN7) connector on the VM03 card for this connection.

MCI Connection



(6) Set the SW5 switch to the DOWN (MB off) position, then set the SW1 switch to 1 and push the SW2 switch on the VM03 card.

MAINTENANCE CONSOLE CONNECTION

ATTENTION
Contents
Static Sensitive
Handling
Precautions Required

Direct Connection

(1) Set the SW5 switch on the VM03 card to the UP (MB on) position.

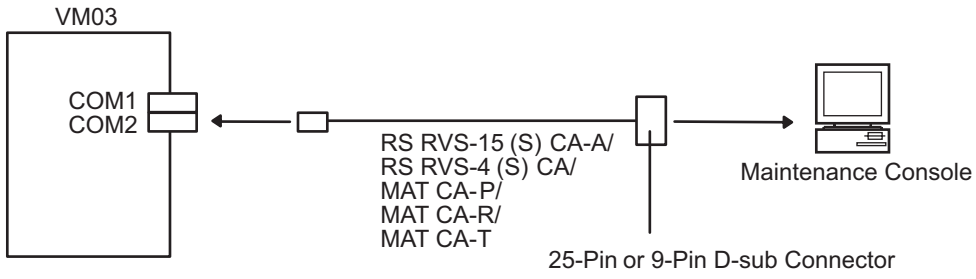
CAUTION

Do not unplug the VM03 card until the SWP lamp lights. The SWP lamp lights when about 30 seconds have passed since the SW5 switch was set to the UP (MB on) position.

(2) Connect the Maintenance Console to COM2 (CN8) on the VM03 card by the following cable.

(3) Set the SW4 and SW6 switch as follows, and the SW5 switch to the DOWN (MB off) position, then set the SW1 switch to 1 and push the SW2 switch on the VM03 card.
- SW4-1 : OFF
- SW6-1 : OFF
- SW6-2 : OFF

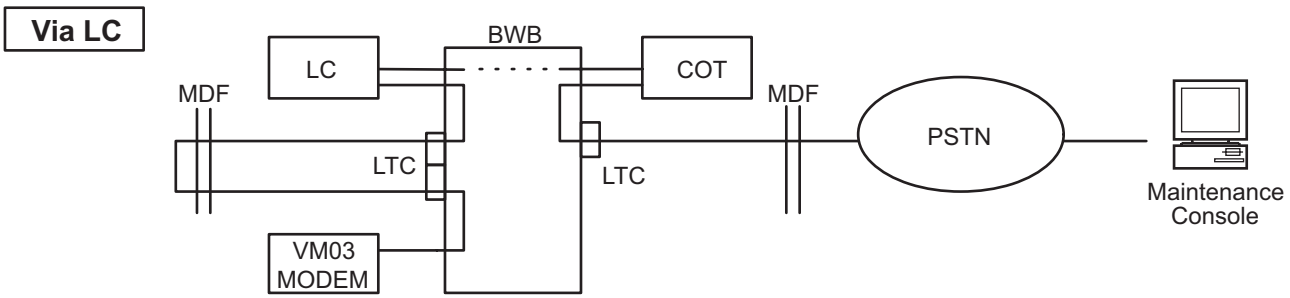
Maintenance Console Direct Connection



Remote Connection

For remote maintenance, the internal modem on the VM03 card is used.
The modem lines of the VM03 card are connected to the least row pins of the slot to which the VM03 card is mounted, and is connected with the LC card via the BWB-LTC-MDF.
The illustration below shows the summary of the connection.

Maintenance Console Remote Connection



(1) Mount the LC and COT card into the LT slot on the PIM.

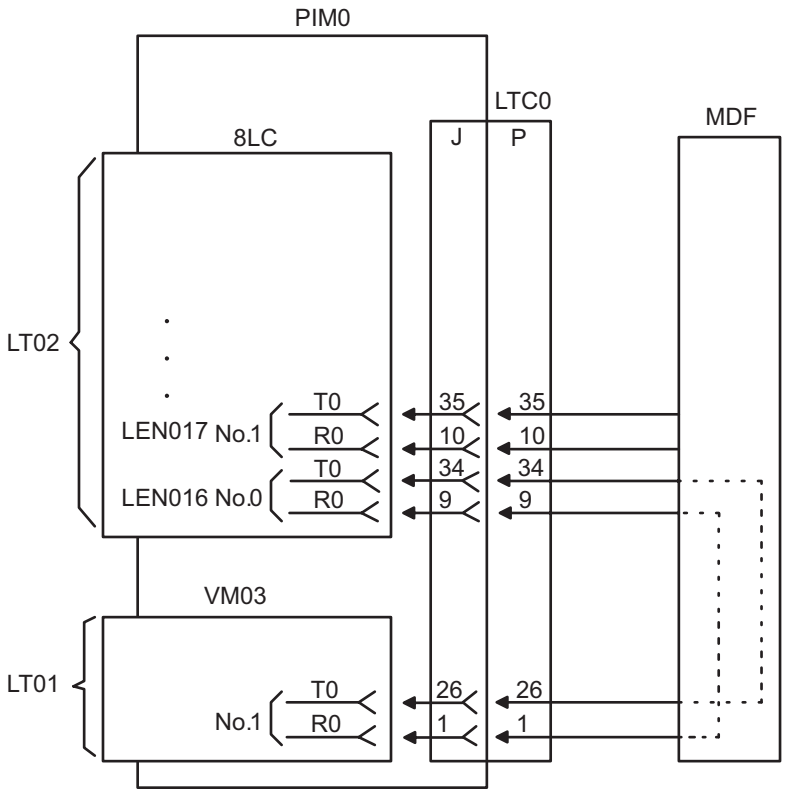
(2) Connect the VM03 card modem lines and the LC card on the MDF.
The illustration on next page shows the example of the MDF cross connection.

(3) Set the SW4 and SW6 switch as follows, and the SW5 switch to the DOWN (MB off) position, then set the SW1 switch to 1 and push the SW2 switch on the VM03 card.
- SW4-1 : ON
- SW6-1 : OFF
- SW6-2 : ON

Example of MDF Cross Connection

ATTENTION
Contents
Static Sensitive
Handling
Precautions Required

VM03: LT00/LT01
LC: LT02 (LEN=016)



LAMP INDICATIONS AND REMEDIAL ACTIONS

You can confirm the normal operation of the NEAXMail IM-16, by checking the lamp indications provided on the VM03 card.

LAMP NAME	NORMAL INDICATION	FAULT INDICATION	REMEDIAL ACTIONS
HDD	Flashes while loading BIOS bootstrap programs when this card is starting up and when accessing the HDD.	If the internal HDD has problems, this lamp does not light.	1. Set the SW5 switch to UP then DOWN, set the SW1 switch to 1 and push SW2 switch, and watch the operation of the card. If the lamp does not light; 2. Exchange the VM03 card for a new one.
BIOS	Lights when BIOS program starts, and goes out when OS program starts.	If errors occur, it keeps lighting.	1. Set the SW5 switch to UP then DOWN, set the SW1 switch to 1 and push SW2 switch, and watch the operation of the card. If the lamp keeps lighting; 2. Exchange the VM03 card for a new one.
DSP	Lights or flashes according to the VMS application program.		Follow the document of the VMS application program.

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CHAPTER 3

SYSTEM DATA PROGRAMMING

This chapter explains the programming procedure to provide the NEAXMail IM-16 feature to the PBX.

HOW TO READ THIS CHAPTER

Chapter 3 explains the data programming using following items.

PROGRAMMING

This section explains the programming procedure for NEAXMail IM-16.
The meaning of (1), (2) and marking are as 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.

(AP00 INITIAL) : A reset of the AP00 card is required after data setting.
Set the Make Busy switch to UP and then DOWN.

(AP OFF LINE) : Command with this marking can be used only under Off-Line mode of the AP00 card.

CAUTION

Before programming the PBX system data, set the SW5 switch on the VM03 card to UP (MB on), and let the SW5 switch remain ON while programming.

PRECAUTIONS

System Data Backup

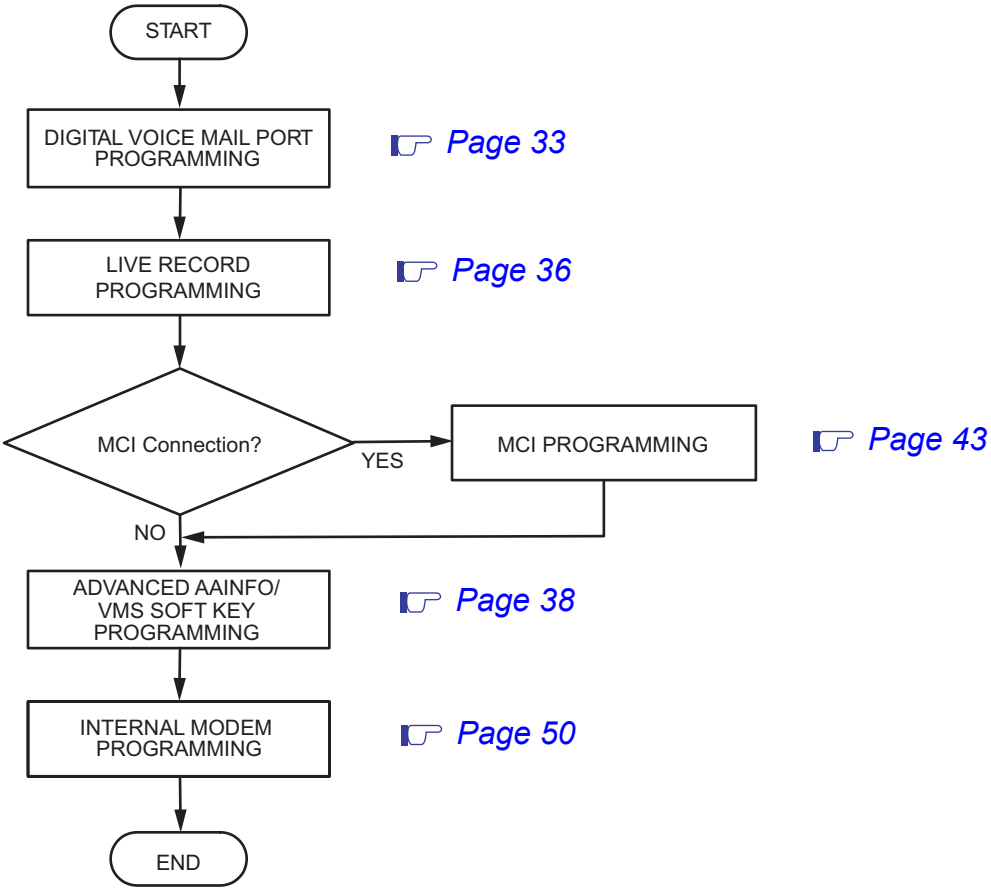
CAUTION

- **If you operate the following 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 has been set is invalid.**
  You must execute the system data backup before the following operations.
  -Turning Off the system
  -System Initial (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.**

PROGRAMMING SUMMARY

Program the system data according to the procedures shown below.

Programming Procedure for NEAXMail IM-16



DIGITAL VOICE MAIL PORT PROGRAMMING

START	DESCRIPTION	DATA
CM10	Assign the digital voice mail station number to the LEN. **NOTE 1:** *We recommend that the digital voice mail station number is assigned by CM14, when using Series 3200 R6.2 software or later.* **NOTE 2:** *When the following features are used, do not assign 5 or more digits station number.* • *SMDR/PMS/CIS* • *Front Desk Terminal (D^{term})*	(1) XZZ X: 0-7 (PIM No.) ZZ: 00-63 (Port No.) (2) FX-FXXXXXXXX: VMS Station No.
CM14	Assign the digital voice mail station number to the LEN. **NOTE:** *When the following features are used, do not assign 5 or more digits station number.* • *SMDR/PMS/CIS* • *Front Desk Terminal (D^{term})*	(1) XX ZZZ: LEN XX: 00-31 (FP No.) ZZZ: 000-127 (Port No.) (2) FX-FXXXXXXXXX: VMS Station No.
CM90	For digital voice mail stations set by CM10/ CM14 above, set three function keys and delete unused keys.	• Y=00 (1) Station No. + [,] + Key No. (2) Station No. on Key No. 16 F1004 (TRF) on Key No. 96 F1016 (SPKR) on Key No. 94 CCC on Key No. 01-15, 17-24, and 90-93, 95, 97
	Set ringer activation for Day Mode to key number 16 of station number that you set above.	• Y=01 (1) Station No. + [,] + Key No. 16 (2) 1◀: Enable
CM93	Set Prime Line.	(1) X-XXXXXXXX: Station No. (2) X-XXXXXXXX: Station No. **NOTE:** *(1) and (2) must be the same station number.*
A		

A

	DESCRIPTION	DATA
CM17	Build UCD group for voice mail stations.	• Y=0 (1) X-XXXXXXXX: Station No. A (2) X-XXXXXXXX: Station No. B
	NOTE 1: *If you have more digital voice mail stations, repeat the above programming by referring to the Office Data Programming Manual.*	
	NOTE 2: *The pilot station (station A) of the UCD group must be a "phantom single line station". A phantom single line station is an analog station assigned in CM10/CM14 to a LEN with no card in that card slot. For example, assign in CM10, (1) LEN 005, (2) XXXXXXXX (analog station)*	
	Set UCD pilot station.	• Y=1 (1) X-XXXXXXXX: Phantom Single Line Station No. assigned in CM10/CM14 (2) 1: Pilot station
	Assign all digital voice mail ports to the phantom single line station to a UCD group number.	• Y=2 (1) X-XXXXXXXX: Station No. (All voice mail ports including the pilot station) (2) 00-15: UCD Group No.
CM08	Provide the periodic record tone on live record.	(1) 109 (2) 0 : To send 1◀: Not sent

B

	DESCRIPTION	DATA
B		
CM13	Provide the digital voice mail port.	• Y=24 (1) X-XXXXXXXX: Station No. (Each digital voice mail port only) (2) 0: To provide
CM51	Set voice mail pilot station connected to the NEAXMail IM-16 per user's tenant number.	• Y=15 (1) 00-63: Tenant No. (2) X-XXXXXXXX: VMS Station No. (Phantom Single Line Station No. assigned in CM10/CM14)
END		

To provide unsupervised transfer to the Attendant Console:

	DESCRIPTION	DATA
START		
CM08	Call transfer from a station before a called attendant answers.	(1) 063 (2) 0 : Available 1◀: Not available
END		

To provide supervised transfer to the Attendant Console:

	DESCRIPTION	DATA
START		
CM08	Allow unsupervised transfer.	(1) 125 (2) 0 : To provide (Return to held call) 1◀: Not provided (Attendant hears ROT)
END		

LIVE RECORD PROGRAMMING

START	DESCRIPTION	DATA
CM13	Provide Message Waiting service.	• Y=03 (1) X-XXXXXXXX: User D^{term} Station No. (2) 0: To provide
CM90	Set station number for the D^{term} key.	• Y=00 (1) My Line No. + [,] + Key No. (2) X-XXXXXXXX: Station No.
	Assign the live record feature to a D^{term} user's key. **NOTE:** *Live Record features are available on the Soft Keys by pressing the line key that has RECORD (F1091) assigned. Refer to CM90 in the Command Manual for additional information.*	• Y=00 (1) My Line No. + [,] + Key No. (2) F1091: Record
CM93	Set Prime Line.	(1) X-XXXXXXXX: Station No. (2) X-XXXXXXXX: Station No. **NOTE:** *(1) and (2) must be the same station number.*
A		

To activate automatic live recording, do the following programming:

	DESCRIPTION	DATA
A		
CM08	Specify whether live recording activates automatically on station to station incoming call.	(1) 141 (2) 0 : Start automatically 1◀: Not available
CM13	Specify whether automatic live recording is provided by station base.	• Y=23 (1) X-XXXXXXXX: Station No. (2) 0 : To provide 1◀: Not provided
CM35	Specify whether automatic live recording is provided on a trunk route basis.	• Y=22 (1) 00-63: Trunk Route No. (2) 0 : Start automatically 1◀: Not available
CM76	Specify whether automatic live recording is provided for DID call. This command takes priority over CM35 Y=22.	• Y=13 (1) 000-999: Number Conversion Block No. assigned by CM76 Y=00 (2) 0 : Not available 1◀: Start automatically
END		

ADVANCED AAINFO/VMS SOFT KEY PROGRAMMING

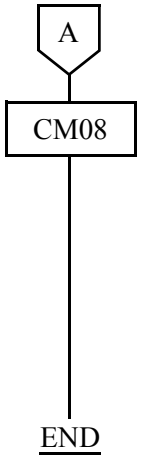
Advanced AAINFO Assignment

START

CM08

DESCRIPTION	DATA
Specify whether a Ringing signal/Live Record Start signal which includes caller information (such as station number and kind of calling party) is sent to VMS.	(1) 702 (2) 0 : To send 1◀: Not sent
Specify whether a Ringing signal/Live Record Start signal which includes calling/forwarding party information (such as station number and kind of calling party) of opposite office is sent to VMS, when a call is terminated to VMS via CCIS.	(1) 703 (2) 0 : To send 1◀: Not sent
Allow or restrict to send the following signals to the VMS. • Busy Signal When the VMS forwards a call to a station/trunk and the station/trunk is busy • Answer Signal When the VMS forwards a call to a station/trunk and the station/trunk answers • Release Signal When a station/trunk hangs up while accessing the VMS	(1) 704 (2) 0 : To send 1◀: Not sent
Specify whether MW lamp on a station of opposite office is controlled from the VMS via CCIS. **NOTE:** *For the Message Waiting lamp control via CCIS analog interface, be sure to set the dummy CCH number 0 by CMA7 Y=00.*	(1) 706 (2) 0 : Available 1◀: Not available

A



DESCRIPTION	DATA
Specify whether the PBX will send the subline station number when accessing the VMS from a subline assigned on a D^{term}.	(1) 713 (2) 0 : Subline station No. 1◀: My Line station No.
Allow Soft Keys for Call Screening feature.	(1) 715 (2) 0 : Available 1◀: Not available

VMS Soft Key Assignment

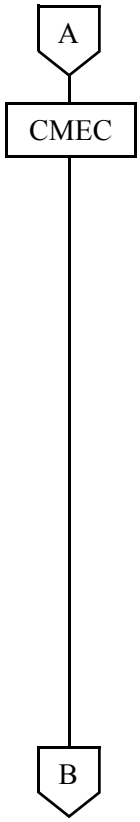
To provide the VMS Soft Key feature to the PBX, do the following programming.

START

	DESCRIPTION	DATA
CM08	Specify which RS-232C port is used for downloading the VMS Soft Key data. **NOTE:** *When Port 1 is used for Built-in MODEM, the Port 1 cannot be used for downloading the VMS Soft Key data.*	(1) 900 (2) 0 : Port 1 1◀: Port 0
CM40	Assign the function of RS-232C port according to the following VMS specification. • Function : None • Data length : 8 bit • Parity check : Ineffective • Stop bit : 1-Stop bit • Data speed : 9600 bps	• Y=00 Function (1) 0: Port 0 1: Port 1 (2) NONE◀: No Data • Y=01 Data length (1) 0: Port 0 1: Port 1 (2) 1◀: 8 bit • Y=02 Parity check (1) 0: Port 0 1: Port 1 (2) 1◀: Ineffective • Y=04 Stop bit (1) 0: Port 0 1: Port 1 (2) 0: 1-Stop bit • Y=08 Data speed (1) 0: Port 0 1: Port 1 (2) NONE◀: 9600 bps • Y=13 DRS Signal (1) 0: Port 0 1: Port 1 (2) 0: High

A

If the VMS Soft Key feature operates improperly, or when the VMS software is renewed, download the VMS Soft Key data by CMEC Y=4.



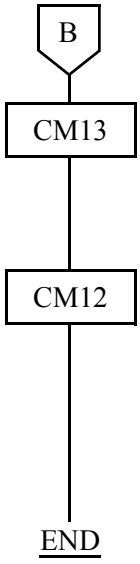
DESCRIPTION	DATA
Download the VMS Soft Key data from the VMS. After assigning the data, set the MB switch on the VM03 card to the UP position and then DOWN.	• Y=4 (1) X-XXXXXXXX: VMS Station No. (2) FF: Download the VMS Soft Key data

NOTE: *When the 1st data of CMEC Y=4 is assigned, the download status is displayed on the MAT/CAT as follows.*

00 : Download is finished
01 : Now requesting download
02 : Now downloading
03 : Now waiting download
FF : Soft Key data is not downloaded

Confirm the downloading status by CMEC Y=4.

To provide the VMS Soft Key feature to the VMS and D^{term}, do the following programming.



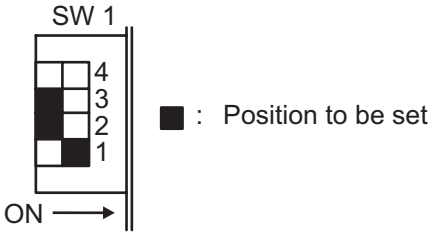
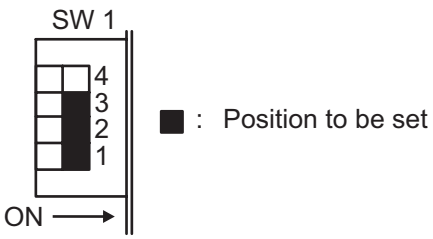
DESCRIPTION	DATA
Provide the VMS Soft Key feature to each VMS.	• Y=37 (1) X-XXXXXXXX: VMS Station No. (2) 0 : To provide 1◀: Not provided
Provide the Soft Key feature to the required D^{term}s.	• Y=22 (1) X-XXXXXXXX: My Line No. (2) 0◀: Available (D^{term} Series *i*/70/75/Series E/Elite) 1: Not available (D^{term} 60/65/Series III)

MCI PROGRAMMING

AP Initialization

NOTE: *For MCI with MP, this programming is not required.*

This section explains the data assignment to make the AP active.
You can skip the data assignment explained on this section, if one of the following AP related feature has been activated; Station Message Detail Recording (SMDR), Message Center Interface (MCI), Property Management System (PMS), or Hotel printer. You can distinguish whether the AP is active or not by the RUN lamp indication. The RUN lamp flashes on green color when the AP is in active.
When you install the AP00 at first time, you should assign the data shown below.

START	DESCRIPTION	DATA
CM05	Assign an AP number to the AP00 card. The AP number must match the SENSE switch setting on the AP00 card. INITIAL On the AP00 card, set SW1 switch as shown below. 	• Y=0 (1) 04-15, 20-31: AP No. (2) 04: AP00 card SW1-4 should be set as follows; ON : The AP No. is 04-15 OFF: The AP No. is 20-31
CMD101	Load the initial data into the AP00 card. AP OFF LINE On the AP00 card, set the SW1 switch as shown below. 	(1) 0000 (2) CCC SW1-4 should be set as follows; ON : The AP No. is 04-15 OFF: The AP No. is 20-31
END		

MCI Programming

After AP Initialization, do the following programming.
Call Forwarding to the VMS stations, and UCD Group/Station Hunting Group set to the VMS stations are required.
For these feature programming, refer to each feature in this manual.

START	DESCRIPTION	DATA
CM08	Specify the type of VMS which is accommodated to the system. **NOTE:** *For VMS with MCI, set the 2nd data "0".*	(1) 443 (2) 0 : Depends on CM12 Y=25 1◀: VMS with DTMF
CM12	Specify the type of the VMS Station. **NOTE:** *CM12 Y=25 is effective only when CM08>443 is set to "0".*	• Y=25 (1) X-XXXXXXXX: Station No. (VMS station) (2) 0 : VMS with DTMF 3◀: VMS with MCI
CM08	Specify MSG display on the D^{term}.	(1) 025 (2) 0 : MSG (only) 1◀: MSG X (X: Number of message)
	Specify Message Waiting control from VMS with MCI to all stations. **NOTE:** *MW lamp control is only available to the stations in the opposite PBX connected with CCIS via MCI.* *Station dialing MW access codes are not allowed over CCIS.*	(1) 444 (2) 0 : Available 1◀: Not available
	Specify whether Message Waiting from the VMS is provided for the called station when a forwarded call is terminated to the VMS via CCIS.	(1) 376 (2) 0 : To provide 1◀: Not provided
A		

A

	DESCRIPTION	DATA
CM13	Provide Message Waiting for a station with MW lamp.	• Y=03 (1) X-XXXXXXXX: Station No. (2) 0: To provide
	Provide VMS service for a station port interface with the VMS (VMS station).	• Y=10 (1) X-XXXXXXXX: Station No. (VMS station) (2) 0: To provide
	Provide Momentary Open for a station port interface with the VMS (VMS station), as required.	• Y=22 (1) X-XXXXXXXX: Station No. (VMS station) (2) 0: To provide
CM90	Assign the data to provide the MW lamp on a D^{term}, if required.	• Y=00 (1) My Line No. + [,] + Key No. (2) F1005
CM04	Assign the connection port for MCI.	• Y=01 (1) 01: Connection port for MCI (2) 0 : RS0 on MP 1 : RS1 on MP 7◀: AP00

B

For MCI with MP ☞ Page 46

D

For MCI with AP00 ☞ Page 48

• For MCI with MP

B

DESCRIPTION	DATA
CM08 Assign the number of digits for station number in MCI message format sent to the VMS from the MP RS-232C port.	(1) 708 (2) 0 : 6 digits 1◀: 8 digits
CM40 Assign the function of RS-232C ports. **NOTE:** *When a port is used for MCI exclusively, assign the 2nd data=10.* *When a port is used for both MCI and Built-in SMDR, assign the 2nd data=11.*	• Y=00 (1) 0: Port 0 1: Port 1 (2) 10: MCI **NOTE** 11: MCI and Built-in SMDR **NOTE**
Assign the attribute data, depending on the VMS.	• Y=01-06, 08 (1) See the following table. (2) See the following table.

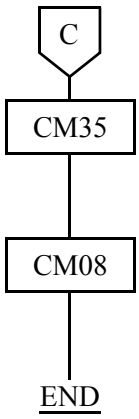
◀: Initial Data

Y		1st DATA		2nd DATA	
No.	MEANING	DATA	PORT LOCATION No.	DATA	MEANING
01	Data length	0 1	Port 0 Port 1	0 1◀	7 bit 8 bit
02	Parity check	0 1	Port 0 Port 1	0 1◀	Effective Ineffective
03	Kind of parity	0 1	Port 0 Port 1	0 1◀	Even parity Odd parity
04	Stop bit	0 1	Port 0 Port 1	0 1◀	1-Stop bit 2-Stop bit
05	DTR signal sent to terminal	0 1	Port 0 Port 1	0 1◀	Low High
06	RTS signal sent to terminal	0 1	Port 0 Port 1	0 1◀	Low High
08	Data speed	0 1	Port 0 Port 1	1 2 3 4 5 NONE◀	1200 bps 2400 bps 4800 bps 9600 bps 19200 bps 9600 bps

NOTE: *The data should be assigned depending on the attribute of the VMS.*

C

To add Automatic Number Identification (ANI) information to the MCI message format when the ANI information is sent from the network, do the following programming.



DESCRIPTION	DATA
Provide sending of ANI information from network to the VMS with MCI.	• Y=138 (1) 00-63: Trunk Route No. (2) 0: To send
For MCI with MP, specify the MCI message format sent to the VMS from the MP RS-232C port as Expanded (with ANI) format.	(1) 709 (2) 0: Expanded (with ANI)

- For MCI with AP00

D

	DESCRIPTION	DATA
CMD000	Specify whether the text (Message Waiting control text sending is available) is sent to the VMS when the AP00 card is reset.	(1) 136 (2) 0◀: To send 1 : Not sent
	Specify the number of digits for station number in the message format to communicate with the VMS.	(1) 137 (2) 0◀: 6 digits 1 : 8 digits
CMD001	Assign the attribute data, depending on the port (Port 0-3) connected to the VMS.	(1) See the following table. (2) See the following table.

AP00 INITIAL

FIRST DATA (1)				MEANING	SECOND DATA (2)	MEANING
PORT 0	PORT 1	PORT 2	PORT 3			
20	24	28	32	Data speed	2/3/4/5 **NOTE 1**	1200/2400/4800/9600 bps **NOTE 2**
21	25	29	33	Stop bit length	0◀/1/2	1/1.5/2 bits **NOTE 2**
22	26	30	34	Data length	0◀/1	7/8 bits **NOTE 2**
23	27	31	35	Parity	0◀/1/2	None Parity/Even Parity/Odd Parity **NOTE 2**
80	100	120	140	Equipment Type	24	MCI
81	101	121	141	Priority for data processing	0◀	1st Priority
85	105	125	145	Station Address (SA)	48	0
86	106	126	146	Unit Address (UA)	33	!
89	109	129	149	Timer for detecting the end of block	5	512 ms.
98	118	138	158	Guard timer between texts	0◀ 1 2 3 4	0-128 ms. 128-256 ms. 256-384 ms. 384-512 ms. 512-640 ms. **NOTE 3**

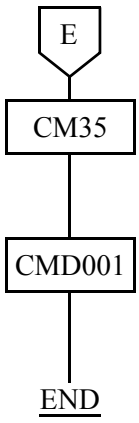
NOTE 1: *For the Port 1 and Port 3, data speed 9600 bps cannot be set.*

NOTE 2: *This data should be assigned depending on the attribute of the VMS.*

NOTE 3: *To send the text to the VMS successively, assign the guard timer.*

E

To add Automatic Number Identification (ANI) information to the MCI message format when the ANI information is sent from the network, do the following programming.



DESCRIPTION	DATA
Provide sending of ANI information from network to the VMS with MCI.	• Y=138 (1) 00-63: Trunk Route No. (2) 0: To send
For MCI with AP00, specify the message format sent to the VMS with MCI as Expanded (with ANI) format.	(1) 36 (2) 1: Expanded (with ANI)

INTERNAL MODEM PROGRAMMING

To use the internal modem on the VM03 card for remote maintenance, do the following programming for the LC card which accommodates the modem line of the VM03 card.

START	DESCRIPTION	DATA
CM10	Assign a station number for the internal modem to the circuit of the LC card which accommodates the modem line. **NOTE 1:** *We recommend that a station number for the internal modem is assigned by CM14, when using Series 3200 R6.2 software or later.* **NOTE 2:** *When the following features are used, do not assign 5 or more digits station number.* • *SMDR/PMS/CIS* • *Front Desk Terminal (D^{term})*	(1) XZZ X: 0-7 (PIM No.) ZZ: 00-63 (Port No.) (2) X-XXXXXXXX: Station No.
CM14	Assign a station number for the internal modem to the circuit of the LC card which accommodates modem line. **NOTE:** *When the following features are used, do not assign 5 or more digits station number.* • *SMDR/PMS/CIS* • *Front Desk Terminal (D^{term})*	(1) XX ZZZ: LEN XX: 00-31 (FP No.) ZZZ: 000-127 (Port No.) (2) FX-FXXXXXXXXX: Station No.
CM13	Specify the LC station as a MODEM station.	• Y=07 (1) X-XXXXXXXX: Station No. assigned by CM10/CM14 above (2) 0: Data station (MODEM)
CM12	Specify the dialing signal type of the internal modem on the VM03 card.	• Y=00 (1) X-XXXXXXXX: Station No. assigned by CM10/CM14 above (2) 1: DP
END		

CHAPTER 4

CIRCUIT CARD INFORMATION

This chapter explains the mounting location, the meanings of lamp indications, and the switch settings of required circuit cards.

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.

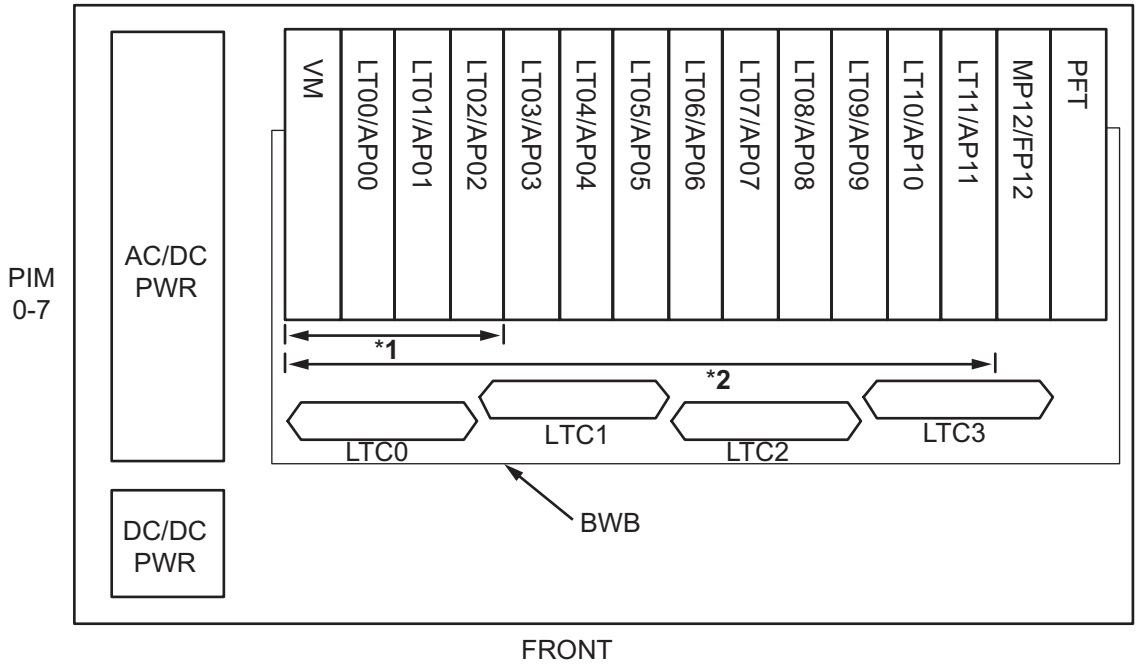
Each switch setting table has a “CHECK” column. Make necessary entries in the CHECK column during and/or after the system installation and maintenance, and use each table as a reference for subsequent system maintenance and operations.

MOUNTING LOCATION OF CIRCUIT CARDS

This section explains the conditions for mounting circuit cards for the NEAXMail IM-16.

- Regular PIM

Circuit Card Mounting Slots



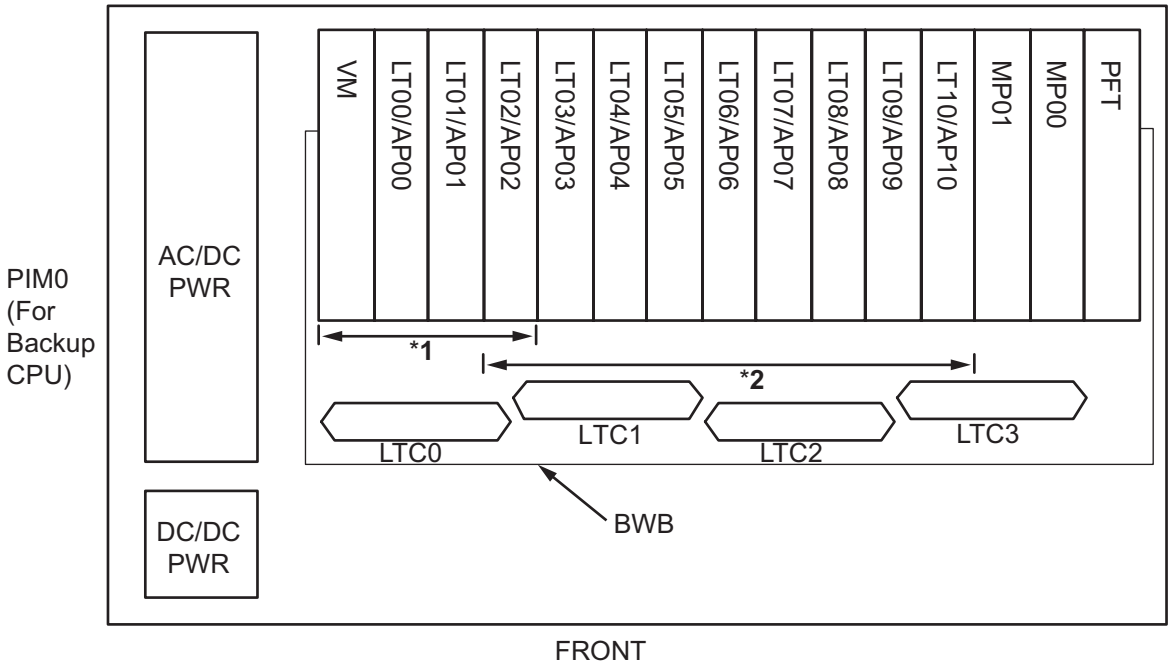
LT00-LT11	: Line/Trunk card mounting slots	VM	: PZ-VM00/VM00-M/VM03-M mounting slot
AP00-AP11	: Application Processor card mounting slots	PFT	: PZ-8PFTB mounting slot
		AC/DC PWR	: PZ-PW121/PW126 mounting slot
MP12	: PN-CP24-A/CP24-B/CP26-A mounting slot	DC/DC PWR	: PZ-PW122 mounting slot
FP12	: PN-CP15 mounting slot		

***1** PZ-VM03-M (VM03) card is to be mounted in the LT00 slot (for CPU card) and LT01 slot (for DSP card) of PIM0. In this case, the VM03 card occupies three slots (VM, LT00, LT01).
When using the VM04 card, PZ-VM03-M (VM03) card is to be mounted in the LT00 slot (for CPU card), LT01 slot (for VM04 card) and LT02 slot (for DSP card) of PIM0. In this case, the VM03 card occupies four slots (VM, LT00-LT02).

***2** PN-AP00-B (AP00) card is to be mounted in the AP00-AP11 slot.

- PIM for Backup CPU System

Circuit Card Mounting Slots



LT00-LT10 : Line/Trunk card mounting slots
AP00-AP10 : Application Processor card mounting slots
MP00/MP07 : PN-CP27-A mounting slot
VM : PZ-VM00/VM00-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** PZ-VM03-M (VM03) card is to be mounted in the LT00 slot (for CPU card) and LT01 slot (for DSP card). In this case, the VM03 card occupies three slots (VM, LT00, LT01).
When using the VM04 card, PZ-VM03-M (VM03) card is to be mounted in the LT00 slot (for CPU card), LT01 slot (for VM04 card) and LT02 slot (for DSP card). In this case, the VM03 card occupies four slots (VM, LT00-LT02).

***2** PN-AP00-B (AP00) card is to be mounted in the AP02-AP10 slot.

LIST OF REQUIRED CIRCUIT CARDS

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

List of Required Circuit Cards

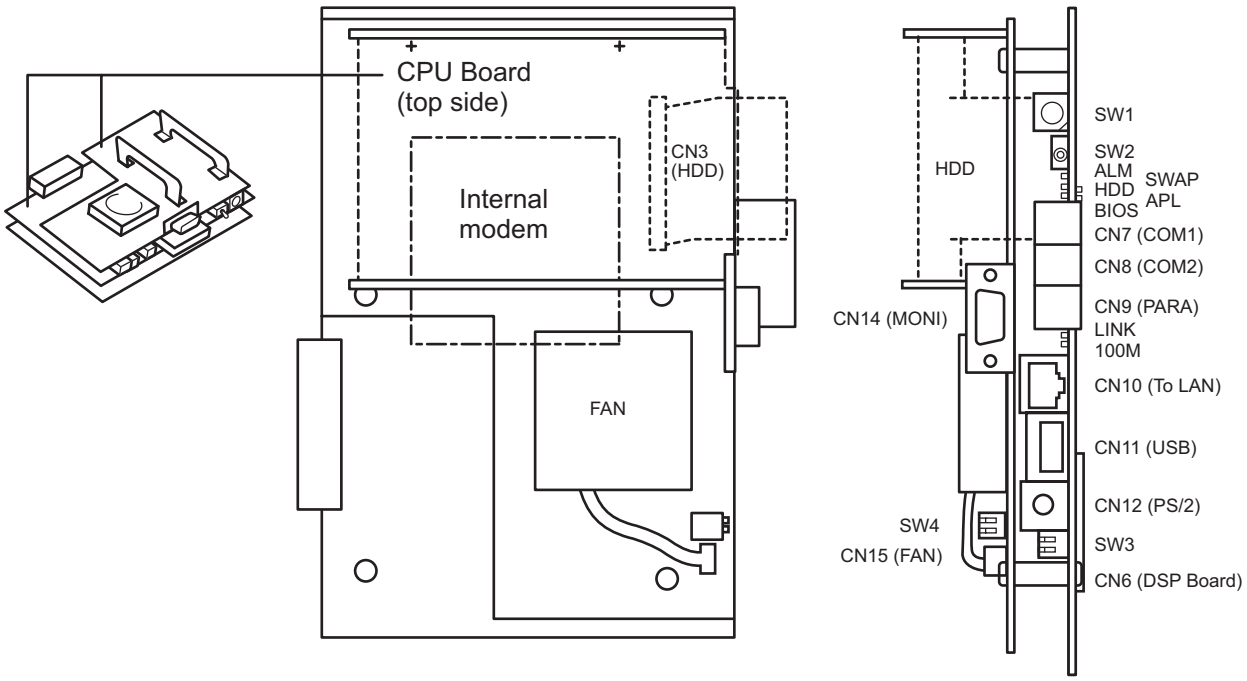
NAME (FUNCTIONAL NAME)	LAMP ×: PROVIDED –: NOT PROVIDED	SWITCH ×: PROVIDED –: NOT PROVIDED	EXTRACTION/ INSERTION WITH POWER ON ×: ALLOWED Δ: ALLOWED AFTER MB* –: NOT ALLOWED	REFERENCE PAGE
PZ-VM03-M (VM03)	×	×	×	*Page 56*
PZ-VM04 (VM04)	×	×	–	*Page 61*
PZ-VM05 (VM05)	–	–	–	*Page 62*
PZ-VM06 (VM06)	–	–	–	*Page 62*
PN-AP00-B (AP00)	×	×	Δ	*Page 63*

*MB=Make Busy

PZ-VM03-M (VM03)

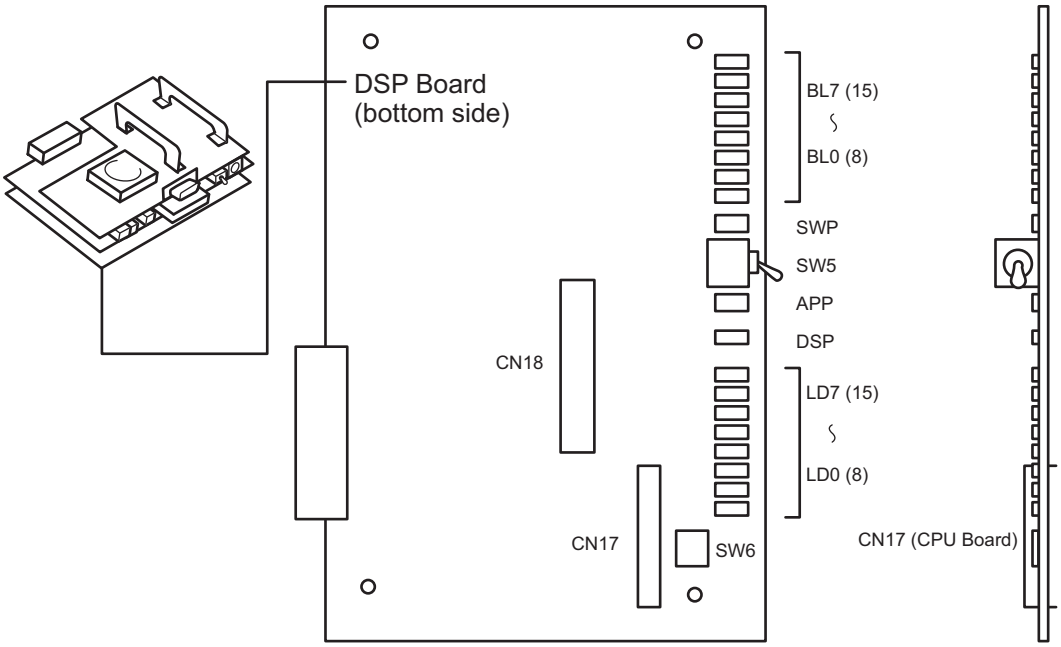
Locations of Lamps, Switches, and Connectors

- CPU Board (Top Side)



NOTE: *HDD is a local content product.*

- DSP Board (Bottom Side)



CN18 : To CN20 connector on PZ-VM05/PZ-VM06 card

Lamp Indications

- CPU Board

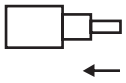
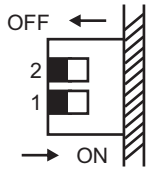
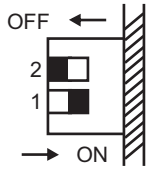
LAMP NAME	COLOR	FUNCTION
ALM	Red	Flashes when this card is operating normally.
HDD	Green	Flashes when loading BIOS bootstrap programs (When this card is starting up), and when accessing the internal HDD.
BIOS	Green	Lights when BIOS program starts and goes out when OS program starts.
SWAP	Red	Lights when OS is shut down.
APL	Green/Red	According to voice mail application software.
LINK	Green	Lights when LAN link pulse is detected. Flashes when LAN data is transferred and received.
100M	Green	Indicates LAN is connected in 100 Mbps.

- DSP Board

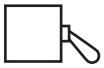
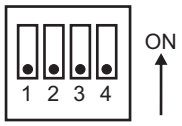
LAMP NAME	COLOR	FUNCTION
BL0-BL7	Red	Lights when the corresponding circuit is in use. Blink when corresponding circuit is in make busy state or the system data for the circuit is not assigned.
SWAP	Green/Red	Lights when OS is shut down. VMS system including PC section can be unplugged while this LED lights.
APP	Green/Red	Lights or flashes according to the VMS application program.
DSP	Red	Lights when OS is downloaded.
LD0-LD7	Red	Lights when the corresponding DSP port is used.

Switch Settings

- CPU Board

SWITCH NAME	SWITCH NUMBER	SETTING POSITION	FUNCTION	CHECK
SW1 (Rotary SW) 	0-F	0	Reset of the VM03 card	
		1	Power ON of the VM03 card	
		F	For normal operation	
		2-E	Not used	
SW2 (Push SW) 			Push when starting up the VM03 card, after the SW1 switch is set to 1 and the SW5 switch is set to DOWN (MB off) position.	
SW3 (Piano Key SW) 	1	OFF	Not used	
	2	OFF	Not used	
SW4 (Piano Key SW) 	1	ON	COM2 is used for internal modem (remote maintenance)	
		OFF	COM2 is used for RS-232C port (local direct connection to maintenance console/MCI with MP)	
	2	OFF	Not used	

- DSP Board

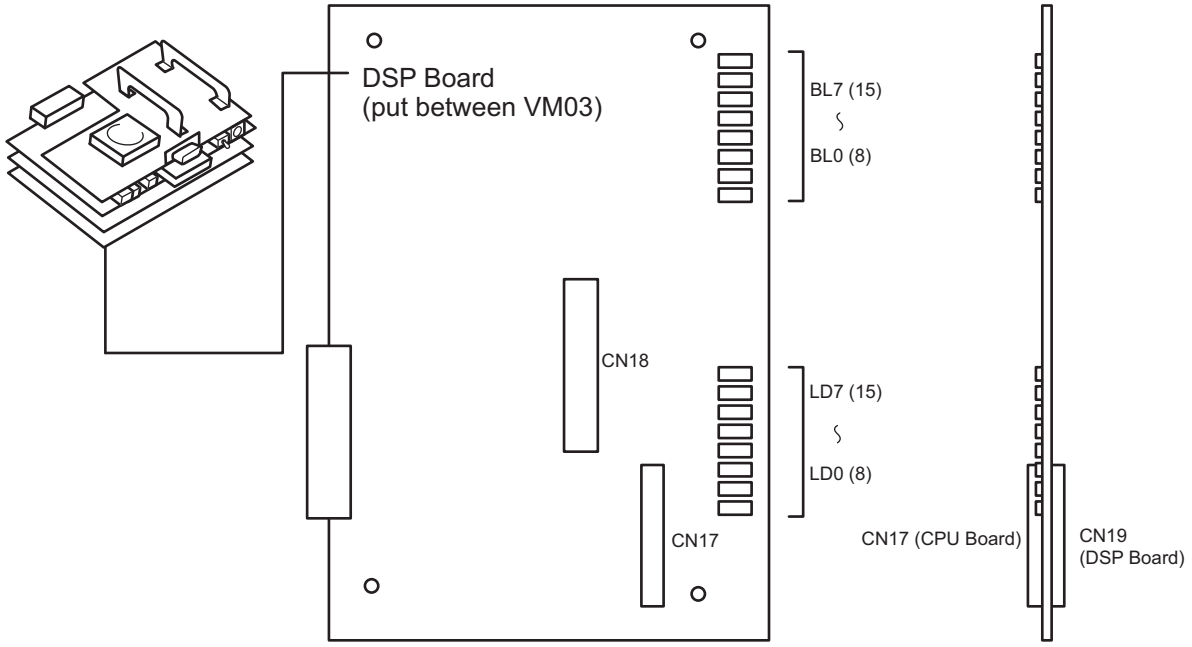
SWITCH NAME	SWITCH NUMBER	SETTING POSITION	FUNCTION	CHECK
SW5 (Toggle SW)  NOTE		UP	For shut-down (MB on)	
		DOWN	For normal operation (MB off)	
SW6 (Dip SW) 	1	OFF	SW 6-1 OFF, SW 6-2 OFF: Voice Mail started in direct mode (When SW4-1 is set to OFF.)	
	2	OFF	SW 6-1 OFF, SW 6-2 ON: Voice Mail started in modem mode (When SW4-1 is set to ON.)	
	3	OFF	Not used	
	4	OFF	Not used	

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

PZ-VM04 (VM04)

Locations of Lamps, Switches, and Connectors



CN18 : To CN18 connector on PZ-VM05/PZ-VM06 card

Lamp Indications

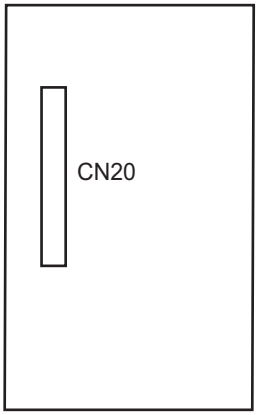
LAMP NAME	COLOR	FUNCTION
BL0-BL7	Red	Lights when the corresponding circuit is in use. Blink when corresponding circuit is in make busy state or the system data for the circuit is not assigned.
LD0-LD7	Red	Lights when the corresponding DSP port is used.

Switch Settings

This card has no switches.

PZ-VM05 (VM05)/PZ-VM06 (VM06)

Locations of Lamps, Switches, and Connectors



CN20: To CN18 connector on DSP Board

Lamp Indications

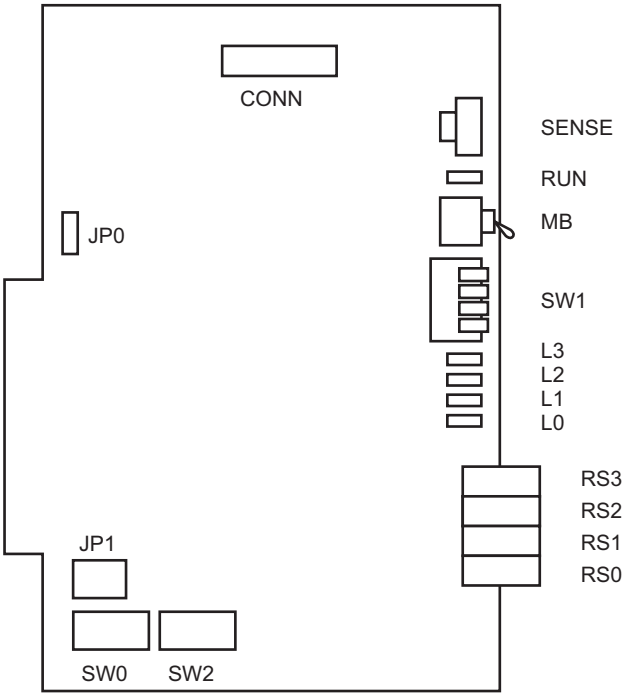
This card has no lamps.

Switch Settings

This card has no switches.

PN-AP00-B (AP00)

Locations of Lamps, Switches, and Connectors

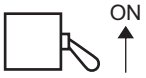


CONN: To CONNR connector on PZ-M537 (EXPMEM)

Lamp Indications

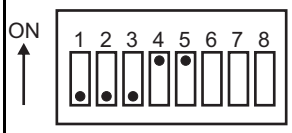
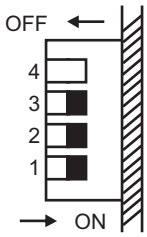
LAMP NAME		COLOR	FUNCTION	
RUN		Green	Flashes at 120 IPM while this card is operating normally.	
L0-L3		Green	Second data setting value for CMD001 > 250	
			0	1 (port 0)-3 (port 2)
	L3		Indication of transmitting status of port 0	Indication of CTS signal status on port 0-2
	L2		Indication of transmitting status of port 1	Indication of DCD signal status on port 0-2
	L1		Indication of transmitting status of port 2	Indication of TXD signal status on port 0-2
	L0		Indication of transmitting status of port 3	Indication of RXD signal status on port 0-2

Switch Settings

SWITCH NAME	SWITCH NUMBER	SETTING POSITION	FUNCTION	CHECK
SENSE (Rotary SW)  NOTE 1	0-3	Not used		
	4-F	Set the switch to match the AP Number (04-31) to be set by CM05.		
MB (Toggle SW)  NOTE 2		UP	For make-busy	
		(DOWN)	For normal operation	

AP No.	SW1-4: ON	04	05	06	07	08	09	10	11	12	13	14	15
	SW1-4: OFF	20	21	22	23	24	25	26	27	28	29	30	31
SW No.		4	5	6	7	8	9	A	B	C	D	E	F

Continued on next page

SWITCH NAME	SWITCH NUMBER	SETTING POSITION	FUNCTION	CHECK
SW0 (Dip SW) 	1-3	ON	Not used	
		OFF	For normal operation	
	4, 5	ON	For normal operation	
		OFF	Not used	
	6 **NOTE 3**	ON	Sets No. 0 Port forcibly in a state which DSR signal is always provided.	
		OFF	Receives DSR signal from the DCE on No. 0 Port.	
	7 **NOTE 3**	ON	Sets No. 1 Port forcibly in a state which DSR signal is always provided.	
		OFF	Receives DSR signal from the DCE on No. 1 Port.	
	8 **NOTE 3**	ON	Sets No. 2 Port forcibly in a state which DSR signal is always provided.	
		OFF	Receives DSR signal from the DCE on No. 2 Port.	
SW1 (Piano Key SW) 	1	ON	For normal operation	
		OFF	Not used	
	2	ON	For normal operation	
		OFF	For AP data clearing by CMD100/ CMD101	
	3	ON	For normal operation	
		OFF	For AP data clearing by CMD100/ CMD101	
	4	ON	AP No. 4-15	
		OFF	AP No. 20-31	

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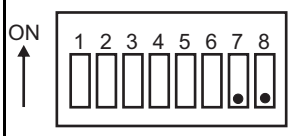
SWITCH NAME	SWITCH NUMBER	SETTING POSITION	FUNCTION	CHECK
SW2 (Dip SW) 	1 **NOTE 3**	ON	Sets No. 3 Port forcibly in a state which DSR signal is always provided.	
		OFF	Receives DSR signal from the DCE on No. 3 Port.	
	2	ON	Enables the receive clock from the DCE (Modem) when No. 1 Port is synchronous. (Clock is received at the RXC terminal)	
		OFF	• Uses internal clock as the receive clock when No. 1 Port is synchronous. • When No. 1 Port is asynchronous.	
	3	ON	Enables transmit clock from the DCE (Modem) when No. 1 Port is synchronous. (Clock is received at the TXC (2) terminal.)	
		OFF	• Uses internal clock as the send clock when No. 1 Port is synchronous. • When No. 1 Port is asynchronous.	
	4	ON	Transmit the send clock from the DTE (this card) when No. 1 Port is synchronous. (Clock is transmitted from the TXC (1) terminal)	
		OFF	• Not transmit the send clock from the DTE (this card) when No. 1 Port is synchronous. • When No. 1 Port is asynchronous.	
	5	ON	When No. 1 Port is asynchronous.	
		OFF	When No. 1 Port is synchronous.	

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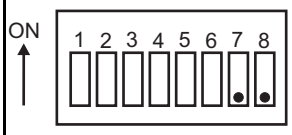
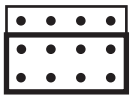
SWITCH NAME	SWITCH NUMBER	SETTING POSITION	FUNCTION	CHECK
SW2 (Dip SW) 	6 **NOTE 4**	ON	• Uses internal clock as the receive clock when No. 1 Port is synchronous. • When No. 1 Port is asynchronous.	
		OFF	Enables receive clock from the DCE (Modem) when No. 1 Port is synchronous. (Clock is received at the RXC terminal)	
	7	(OFF)	Not used	
	8	(OFF)	Not used	
JP0 (Jumper SW) 		(UP)	For normal operation (Memory backup ON)	
		DOWN	Not used (Memory backup OFF)	
JP1 (Jumper SW) 		UP	Not used	
		(DOWN)	For normal operation	

The figure in the SWITCH NAME column and the position in ( ) 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 the DCE connected to the port does not provide a function to send the DSR signals, set the switch to ON. In this case, the AP00 card can not recognize the actual state of the DCE, so the call records or system messages will not be stored in the memory buffer on the AP00 card even if the cable is disconnected from the DCE.*
When the switch is set to OFF, the call records or system messages will be stored when the cable is disconnected, and will be sent when the cable is re-connected.

Continued on next page

NOTE 4: *The use of the external clock (from the distant end) or the internal clock is determined by the following table:*

CLOCK	SW2	
	2	6
External	ON	OFF
Internal	OFF	ON