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NEAX[®] 2000 IVS
Retrofit System Guide
includes NEAX[®]1000 IVS

JUNE, 2000

NEC America, Inc.

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NEAX2000 IVS Retrofit System Guide

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INTRODUCTION

OUTLINE OF THIS GUIDE

This guide explains the system outline and installation procedure of the Retrofit system. The Retrofit system provides the former PBX system users with NEAX2000 IVS² equivalent features.

This guide contains the following chapters:

CHAPTER 1 GENERAL INFORMATION

This chapter explains the hardware/software requirements, system capacity, and system conditions for the retrofit system.

CHAPTER 2 INSTALLATION

This chapter explains the hardware installation procedure, the mounting location, the meaning of lamp indications, and the method of switch settings of each circuit card for the retrofit system.

CHAPTER 3 LEN LAYOUT

This chapter gives a visual layout of each PIM type before and after the installation of the retrofit.

REFERENCE MANUAL

During Installation, refer also to the manuals below:

NEAX2000 IVS, NEAX7400 ICS
Model 110/120, NEAX7400 ICS
Model 80VS/100 Installation
Procedure Manual:

Describes the installation procedure of the former system.

NEAX2000 IVS, NEAX7400 ICS
Model 110/120, NEAX7400 ICS
Model 80VS/100
Circuit Card Manual:

Describes the mounting location, the meaning of lamp indications, and the method of switch settings of each circuit card for the former system.

NEAX2000 IVS Small Platform
System Manual:

Describes the installation procedure of the Small Platform System.

NEAX1000 IVS Very Small
Platform System Manual:

Describes the installation procedure of the NEAX1000 IVS System.

NEAX2000 IVS², NEAX2000/
NEAX7400 ICS M100MX
Command Manual:

Describes Customer Administration Terminal (CAT) operation, command function and setting data required for programming the system, and Resident System Program.

NEAX2000 IVS², NEAX2000/
NEAX7400 ICS M100MX
Feature Programming Manual:

Describes procedure for each business and hotel feature programming.

NEAX2000 IVS², NEAX2000/
NEAX7400 ICS M100MX
Office Data Programming
Manual:

Contains the Customer Specifications Sheets and Office Data Programming Sheets.

CHAPTER 1

GENERAL INFORMATION

This chapter explains the hardware/software requirements, system capacity, and system conditions for the Retrofit system.

HARDWARE/SOFTWARE REQUIREMENTS

To upgrade the former system, the following hardware and software must be changed.

Table 1-1 Required Hardware/Software

ITEM	FORMER SYSTEM	RETROFIT SYSTEM
MP (including MP program)	PN-CP00 PN-CP00-B PN-CP00-C PN-CP03 PN-CP03-C PN-CP07 PN-CP07-C	PN-CP16
FP	PN-CP01	PN-CP17
AP00 NOTE 1	SPN-AP00A MPC-D (AP) or earlier	SPN-AP00B MRC (AP)
Expansion Memory for AP00	PN-ME00-C or earlier	PZ-M537
CCH	SPN-SC00 CCH-C (AP) or earlier	SPN-SC00 CCH-D (AP)
MAT Program NOTE 2	SA-969 SHS MAT PROG-IA3 SA-643 SHS MAT PROG-IA1 MATWorX32	SA-1040 IXS MAT PROG-IA1 MATWorX Suite
MAT Cable NOTE 3	MAT CA-M MAT CA-Q MAT CA-S MAT CA-P MAT CA-R	MAT CA-P MAT CA-R MAT CA-T

NOTE 1: As the Data Base Module (DBM) for WCS Multi-Site Roaming (PCS type), SPN-AP00A DBM (AP) is used for the Retrofit system.

NOTE 2: The MAT program for former system cannot be used for the Retrofit system. MATWorX for NEAX2000 IVS²/NEAX7400 ICS M100MX must be used.

NOTE 3: The MAT CA-P/R for PN-CP03/PN-CP07 can be used for the Retrofit system.

NOTE 4: The BUS, power, Application Processor, Line/Trunk cards for the former system can be used for the Retrofit system, except for the cards described above.

NOTE 5: PN-8LC/8COT cards cannot be used on 64-port PIM.

NOTE 6: PN-4DAT card cannot be used on 64-port PIM.

SYSTEM CAPACITY

Table 1-2 shows the system capacity of former system and Retrofit system.

48-port PIM: NEAX1000 IVS

64-port PIM: NEAX2000 IVS, NEAX7400 ICS Model 120, NEAX7400 ICS Model 100

72-port PIM: NEAX2000 IVS Small Platform System, NEAX7400 ICS Model 110,
NEAX7400 ICS Model 80VS

Table 1-2 System Capacity

ITEM	FORMER SYSTEM			RETROFIT SYSTEM		
	48-PORT PIM	64-PORT PIM	72-PORT PIM	48-PORT PIM	64-PORT PIM	72-PORT PIM
Number of PIMs	2	8	1	2	8	1
Number of LT Ports	88	512	72	88	384	64
					512 NOTE 1	72 NOTE 7
Number of AP Ports	128	128	128	128	128	128
						256 NOTE 8
Number of Ports	8	4	8	8	4	8
Number of AP	8	12	6	8	24	6
Traffic	1,000	4,000	1,000	2,000	8,000	2,000
Analog Single-Line Telephone	88	512	72	88	384	64
					512 NOTE 1	72 NOTE 7
D ^{term}	88	384	72	88	256	64
					512 NOTE 1	72 NOTE 7
Analog Trunks	88	256	72	88	256	64
						72 NOTE 7
Digital Trunks	128	128	128	128	128	128
					256 NOTE 8	
ISDN Stations	22	96	18	22	64	18
					128 NOTE 1, NOTE 2	

(Continued)

Table 1-2 System Capacity

ITEM	FORMER SYSTEM			RETROFIT SYSTEM		
	48-PORT PIM	64-PORT PIM	72-PORT PIM	48-PORT PIM	64-PORT PIM	72-PORT PIM
PS	168	168	168	128	128	128
				256 NOTE 1	256 NOTE 1	256 NOTE 1
CS/ZT	24	96	16	24	128 NOTE 3	16
Station No. Digits	4	4	4	8	8	8
Trunk Access Code Digits	2	2	2	4	4	4
Virtual Stations	128	128	128	256	256	256
CCIS Routes	4	4	4	8 NOTE 4	8 NOTE 4	8 NOTE 4
Name Display Settings (Stations/ Characters)	88/8	384/8	72/8	88/16	256/16	64/16
					512/16 NOTE 1	
Station Speed Dial Numbers	3,000	3,000	3,000	4,000	4,000	4,000
				10,000 NOTE 1	10,000 NOTE 1	10,000 NOTE 1
Number of Fault Messages	16	16	16	64	64	64
Number of ID Codes NOTE 5	1,000	1,000	1,000	1,000	1,000	1,000
				3,000 NOTE 1	3,000 NOTE 1	3,000 NOTE 1
Guest Name Display Settings	88	448	72	88	256	64
					512 NOTE 1	
Message Reminder Settings	200	200	200	512	512	512
				1,024 NOTE 1	1,024 NOTE 1	1,024 NOTE 1

(Continued)

Table 1-2 System Capacity

ITEM	FORMER SYSTEM			RETROFIT SYSTEM		
	48-PORT PIM	64-PORT PIM	72-PORT PIM	48-PORT PIM	64-PORT PIM	72-PORT PIM
Call Forwarding-Outside Settings	240	240	240	240	240	240
				496 NOTE 1	496 NOTE 1	496 NOTE 1
MP Built-in SMDR Memory (Calls/Trunks)	128/32	128/32	128/32	256/64	256/64	256/64
				1,024/255 NOTE 1	1,024/255 NOTE 1	1,024/255 NOTE 1
AP00 SMDR Memory (Calls)	12,000	12,000	12,000	1,600	1,600	1,600
				27,000 NOTE 6	27,000 NOTE 6	27,000 NOTE 6
DID Digit Conversion Pattern	500	500	500	500	500	500
				1,000 NOTE 1	1,000 NOTE 1	1,000 NOTE 1
LCR/Toll Restriction Development Table	64	64	64	256	256	256
LCR Digit Addition Pattern Table	50	50	50	256	256	256

NOTE 1: PZ-M537 (EXPMEM) card is required on MP card.

NOTE 2: PN-SC03 (ICH) card is required for expanded capacity.

NOTE 3: PN-SC03-A (CSH) card is required for expanded capacity.

NOTE 4: SPN-SC00 CCH-D (AP) is required.

NOTE 5: ID Codes include Authorization Code, Forced Account Code, and Remote Access to System (DISA) Code.

NOTE 6: PZ-M537 (EXPMEM) card is required on AP00 card.

NOTE 7: Key Keeper option required to expand above 48 ports.

NOTE 8: Cards assigned to the expanded AP time slot highway must be mounted in PIM0.

SYSTEM CONDITIONS

System Configurations

- The PIMs for the NEAX2000 IVS²/NEAX7400 ICS M100MX cannot be mounted together with the PIMs for the former system.
- The Expanded highway for application processor cards can be used on PIM0 only.
- 8-circuit line/trunk cards cannot be used in 64-port PIM.

Expanded Highway

- The expanded highway is an additional 128 AP time slots made available to the system.
- The expanded highway can only be accessed from PIM0.
- EXAMPLE: System is currently configured with five T1s. Customer would like to add two additional T1s to the system. The original five T1 cards will use 120 AP time slots (24 channels × 5 cards = 120 AP time slots). The two additional T1 cards added to the system would have to be the PN-24DTA-C cards. Room must be made in PIM0 to accommodate the new PN-24DTA-C cards on the expanded highway. The system would now have the original T1 cards using 120 AP time slots on the original highway and 48 AP time slots used on the expanded highway.
- AP cards supported on the expanded highway are as follows:
- PN-24DTA-C, PN-24PRTA, PN-24CCTA, PN-SC03-A (CSH)
The above cards must be mounted in PIM0 in order to utilize the expanded highway. The expanded highway allows up to 256 AP time slots per system.

D^{term}

The following terminals are not supported by the Retrofit system.

- Data Adapter of D^{term} 65 series (Series III)

Attendant Console

Types of Attendant Console supported by the Retrofit system are as follows:

- 2-wire/4-wire small type Attendant Console (SN61X/70X/71X ATTCON)
- Desk Console (SN716 DESKCON)
- Large type Attendant Console (interfaced by PN-CS00)

Maintenance Administration Terminal (MAT)

- MATWorX Studio for the NEAX2000 IVS²/NEAX7400 ICS M100MX is required for the Retrofit system. MATWorX 32 for the former system cannot be used for the Retrofit system.
- Existing system data for the former system cannot be reloaded for the Retrofit system. New data entry is required when the system is upgraded.
- Graphical Configuration Report, a MATWorX Add-In tool, is not available for the Retrofit system.
- Quick Install Program for the NEAX2000 IVS²/NEAX7400 ICS M100MX is not available for the Retrofit system.

Customer Administration Terminal (CAT)

- The Retrofit system can be programmed from the selected desktop D^{term} stations as well as the former system.

Registers

- When CP16 is "C" loaded, the register E200 is now in system memory (not on a physical LEN).

CHAPTER 2

INSTALLATION

This chapter explains the hardware installation procedure, mounting location, the meaning of lamp indications, and the method of switch settings of each circuit card for the Retrofit system.

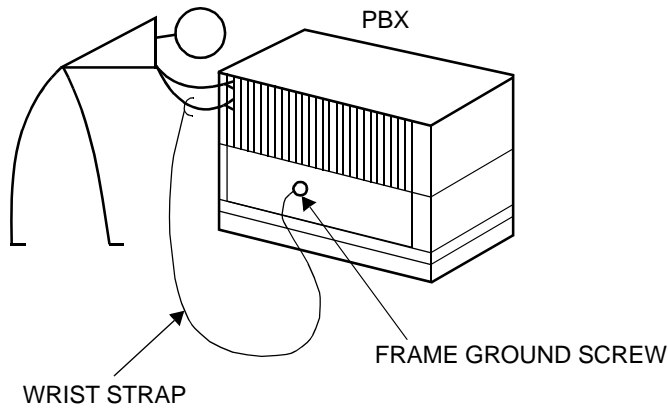
PRECAUTIONS

Static Electricity Guard

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

Figure 2-1 Static Electricity Guard (1 of 2)

- WHEN PLUGGING/UNPLUGGING A CIRCUIT CARD



- WHEN HOLDING A CIRCUIT CARD

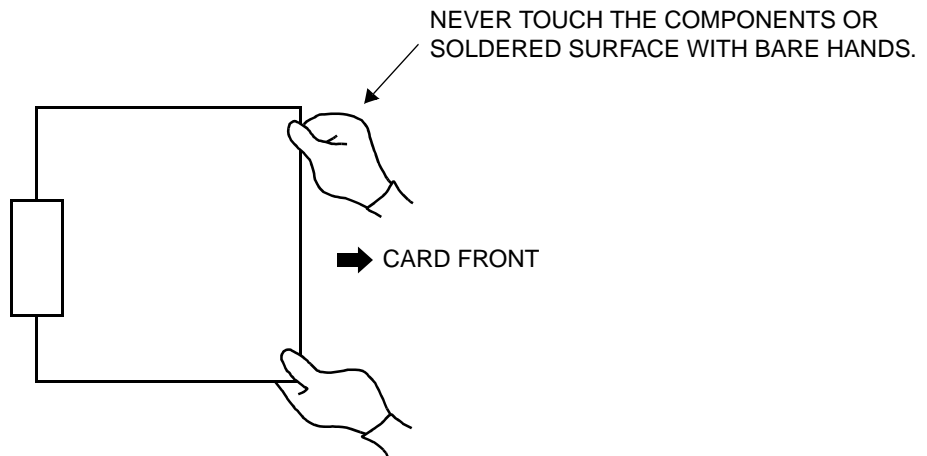
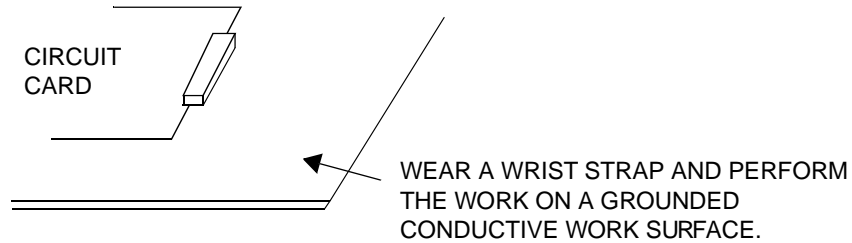
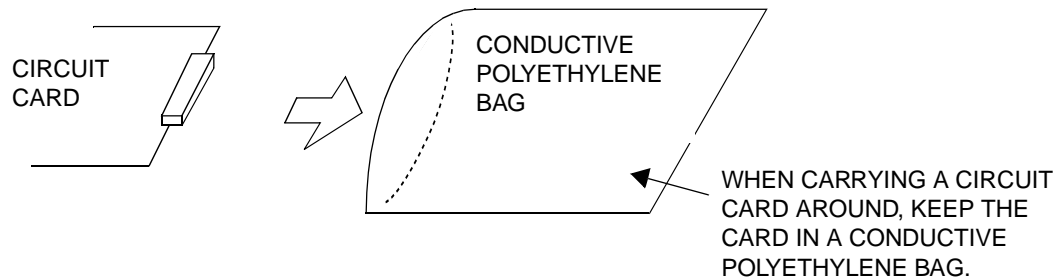


Figure 2-1 Static Electricity Guard (2 of 2)

- WHEN MAKING A SWITCH SETTING ON A CIRCUIT CARD



- WHEN CARRYING A CIRCUIT CARD

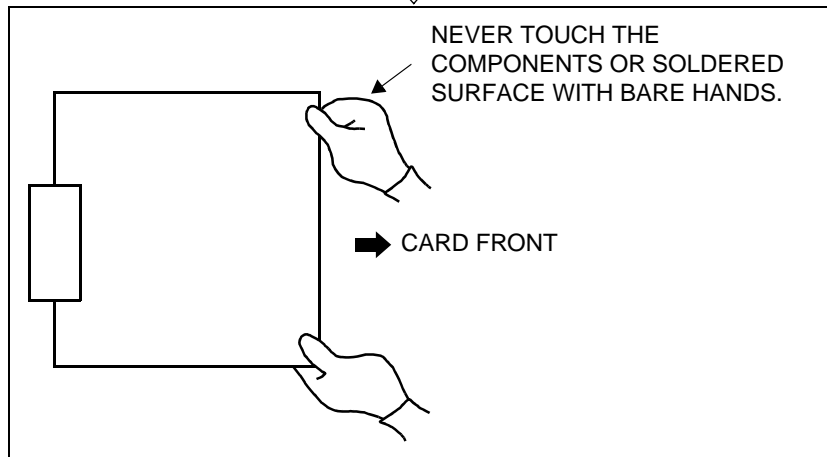
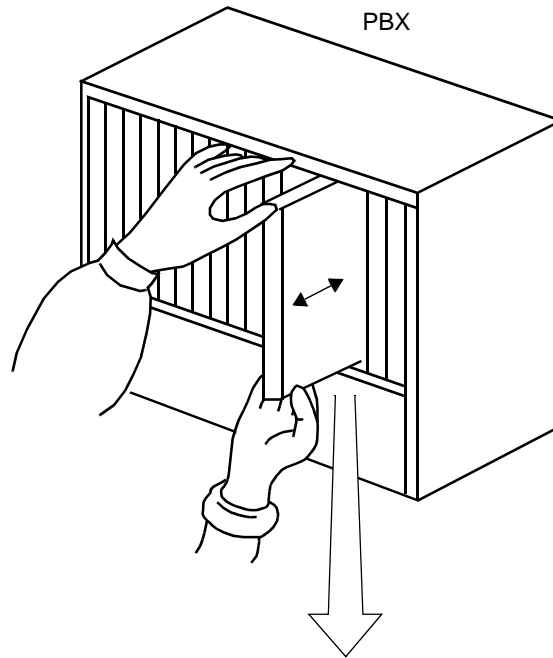


The mark shown below is attached to the sheet for the work in which circuit cards are handled. When performing such work, the installer must be careful not to cause damage by static electricity.



Caution

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.



INSTALLATION PROCEDURE

Install the Retrofit system according to the following procedure.

Caution

When the operating power is being supplied to MP card, do not plug/unplug the MP card into/from its mounting slot.

- (1) Turn the system power off.
- (2) Unplug the former MP card (PN-CP00/CP03/CP07) from the MP slot.
- (3) On the MP card (PN-CP16), set the switches to appropriate position.
See "[Lamp Indications and Switch Settings](#)," Page 16.
- (4) Mount the MP card (PN-CP16) into the MP slot.
- (5) Unplug the former FP card (PN-CP01) from the FP slot.
- (6) On the FP card (PN-CP17), set the switches to appropriate position.
See "[Lamp Indications and Switch Settings](#)," Page 16.
- (7) Mount the FP card (PN-CP17) into the FP slot.
- (8) Unplug former clock card (PN-CK00) from PIM0.
This card is no longer required. PN-CP16 has built in clock.
- (9) Unplug former Expansion memory (PN-ME00).
This card must be replaced with new PZ-M537.
- (10) Unplug former SPN-AP00A. This card must be replaced with SPN-AP00B for SMDR, MCI, PMS, Hotel printer. New card must be reprogrammed. Do not attempt to load old AP00A data to new AP00B. It must be rekeyed.
- (11) After mounting the cards, turn the system power on.
- (12) For North American installations, follow the documentation received with PN-CP16 to register software.
- (13) Set necessary system data.
- (14) Test all stations and trunks for correct operation.

LAMP INDICATIONS AND SWITCH SETTINGS

Table 2-1 shows the control cards for the Retrofit system.

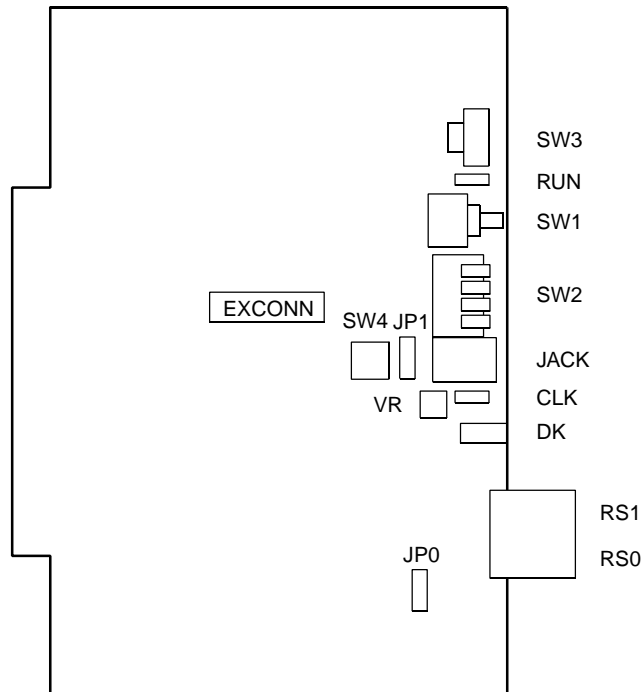
Table 2-1 List of Retrofit Control Cards

NAME (FUNCTIONAL NAME)	LAMP X: PROVIDED -: NOT PROVIDED	SWITCH X: PROVIDED -: NOT PROVIDED	EXTRACTION/ INSERTION WITH POWER ON X: ALLOWED Δ: ALLOWED AFTER MB* -: NOT ALLOWED	REFERENCE PAGE
PN-CP16 (MP)	X	X	–	Page 17
PN-CP17 (FP)	X	X	Δ	Page 22

*MB = Make Busy

PN-CP16 (MP)

Locations of Lamps, Switches, and Connectors



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

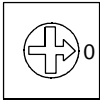
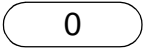
Lamp Indications

LAMP NAME	COLOR	FUNCTION
RUN	Green	Flashes at 120 IPM while this card is operating normally.
CLK	Green	Remains lit while receiving clock signals to the PLO.

Switch Settings

Caution

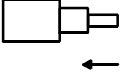
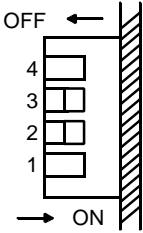
When the operating power is being supplied to this circuit card, do not plug/unplug this circuit card into/from its mounting slot.

SWITCH NAME	SWITCH NUMBER	SETTING POSITION	FUNCTION	CHECK
SW3 (Rotary SW)  NOTE 1	0-F		On Line (Call processing is in progress)	
		2	Off Line (Call processing is stopped) • I/O port: As per CM40 Y=08	
		3	Off Line (Call processing is stopped) • I/O port: 9600bps (Fixed)	
		5 NOTE 2	Off Line (Call processing is stopped) • I/O port: 9600bps	
		6 NOTE 2	Off Line (Call processing is stopped) • I/O port: 19200bps	
		7 NOTE 2	Off Line (Call processing is stopped) • I/O port: 38400bps	
		8 NOTE 2	Off Line (Call processing is stopped) • I/O port: 57600bps	
		B	For clearing the office data	
		C	For setting the resident system program	
		1, 4, 9 A, D-F	Not used	

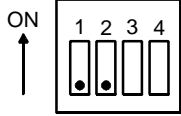
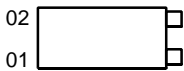
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NOTE 1: Set the groove on the switch to the desired position.

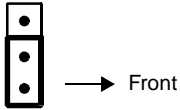

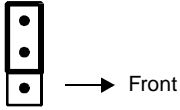

NOTE 2: Only when executing “MP Program Download” in MATWorX, set the SW3 to 5-8.



SWITCH NAME	SWITCH NUMBER	SETTING POSITION	FUNCTION	CHECK													
SW1 (Push SW) 			For initializing CPU														
SW2 (Piano Key SW) 	1	ON	A-law (Australia)														
		OFF	μ-law (North America)														
	2, 3	Selection of PLO0 input (Phase Locked Oscillator) • For clock receiver office:															
		<table border="1"> <thead> <tr> <th>SW2-2</th> <th>SW2-3</th> <th>FUNCTION</th> </tr> </thead> <tbody> <tr> <td>OFF</td> <td>OFF</td> <td>1.5MHz clock [For PN-24DTA/PN-24CCT/ PN-24PRT]</td> </tr> <tr> <td>ON</td> <td>OFF</td> <td>192kHz clock [For PN-BRTA]</td> </tr> <tr> <td>OFF</td> <td>ON</td> <td>2MHz clock [For PN-30DTC/PN-2BRTC/ PN-30CCT/PN-30PRT]</td> </tr> <tr> <td>ON</td> <td>ON</td> <td>Not used</td> </tr> </tbody> </table>		SW2-2	SW2-3	FUNCTION	OFF	OFF	1.5MHz clock [For PN-24DTA/PN-24CCT/ PN-24PRT]	ON	OFF	192kHz clock [For PN-BRTA]	OFF	ON	2MHz clock [For PN-30DTC/PN-2BRTC/ PN-30CCT/PN-30PRT]	ON	ON
SW2-2	SW2-3	FUNCTION															
OFF	OFF	1.5MHz clock [For PN-24DTA/PN-24CCT/ PN-24PRT]															
ON	OFF	192kHz clock [For PN-BRTA]															
OFF	ON	2MHz clock [For PN-30DTC/PN-2BRTC/ PN-30CCT/PN-30PRT]															
ON	ON	Not used															
4	ON	When using RS1 port for built-in MODEM															
	OFF	When using RS1 port for RS-232C															

(Continued)

SWITCH NAME	SWITCH NUMBER	SETTING POSITION	FUNCTION	CHECK														
SW4 (Dip SW) 	1	<input type="checkbox"/>	Not used															
	2	<input type="checkbox"/>	Not used															
	3, 4	Selection of PLO1 input (Phase Locked Oscillator) • For clock receiver office:																
		<table border="1"> <thead> <tr> <th>SW4-3</th> <th>SW4-4</th> <th>FUNCTION</th> </tr> </thead> <tbody> <tr> <td>OFF</td> <td>OFF</td> <td>1.5MHz clock [For PN-24DTA/PN-24CCT/ PN-24PRT]</td> </tr> <tr> <td>ON</td> <td>OFF</td> <td>192kHz clock [For PN-BRTA]</td> </tr> <tr> <td>OFF</td> <td>ON</td> <td>2MHz clock [For PN-30DTC/PN-2BRTC/ PN-30CCT/PN-30PRT]</td> </tr> <tr> <td>ON</td> <td>ON</td> <td>Not used</td> </tr> </tbody> </table>		SW4-3	SW4-4	FUNCTION	OFF	OFF	1.5MHz clock [For PN-24DTA/PN-24CCT/ PN-24PRT]	ON	OFF	192kHz clock [For PN-BRTA]	OFF	ON	2MHz clock [For PN-30DTC/PN-2BRTC/ PN-30CCT/PN-30PRT]	ON	ON	Not used
SW4-3	SW4-4	FUNCTION																
OFF	OFF	1.5MHz clock [For PN-24DTA/PN-24CCT/ PN-24PRT]																
ON	OFF	192kHz clock [For PN-BRTA]																
OFF	ON	2MHz clock [For PN-30DTC/PN-2BRTC/ PN-30CCT/PN-30PRT]																
ON	ON	Not used																
VR (Rotary SW)			Variable Resister for External Hold Tone Source (0 - 20 Kohms : Clockwise)															
DK (Connector) 	02	Ground detection																
	01	Ground sending																

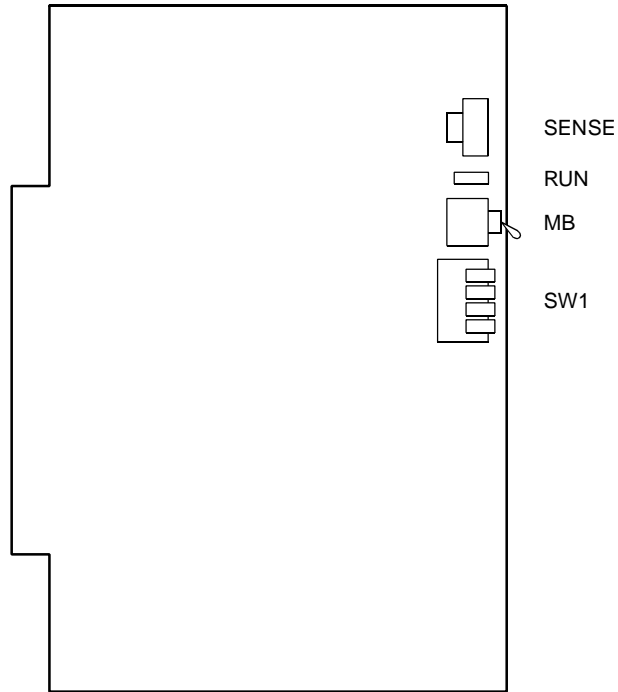
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SWITCH NAME	SWITCH NUMBER	SETTING POSITION	FUNCTION	CHECK
JP0 (Jumper pin) 	/	UP	Not used (Memory backup OFF)	
		 DOWN	For normal operation (Memory backup ON)	
JP1 (Jumper pin) 	/	 UP	For using internal tone source	
		DOWN	For using external tone source	

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.

PN-CP17 (FP)

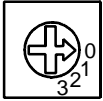
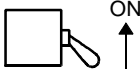
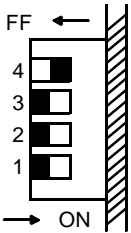
Locations of Lamps, Switches, and Connectors



Lamp Indications

LAMP NAME	COLOR	FUNCTION
RUN	Green	Flashes at 120 IPM while the circuit card is operating normally.

Switch Settings

SWITCH NAME	SWITCH NUMBER	SETTING POSITION	FUNCTION	CHECK
SENSE (Rotary SW)  NOTE 1	0-3	For setting FP No.		
		0	For mounting this card in PIM0	
		1	For mounting this card in PIM2	
		2	For mounting this card in PIM4	
	3	For mounting this card in PIM6		
4-F	Not used			
MB (Toggle SW)  NOTE 2	/	UP	For make-busy	
		<input type="radio"/> DOWN	For normal operation	
SW1 (Piano Key SW) 	1 - 3	<input type="radio"/> OFF	Not used	
	4	<input type="radio"/> ON	For normal operation	
		OFF	Not used	

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.

CHAPTER 3

LEN LAYOUT

This chapter gives a visual layout of each PIM type before and after the installation of the retrofit.

LEN Layout for CP03/CP00 PIMN-UA (64-Port PIMs)

0451	0455	0459	0463	0467	0471	0475	0479	0483	0487	0491	0495	0499	0503	0507	0511	PIM 7
0450	0454	0458	0462	0466	0470	0474	0478	0482	0486	0490	0494	0498	0502	0506	0510	
0449	0453	0457	0461	0465	0469	0473	0477	0481	0485	0489	0493	0497	0501	0505	0509	
0448	0452	0456	0460	0464	0468	0472	0476	0480	0484	0488	0492	0496	0500	0504	0508	
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15	
0387	0391	0395	0399	0403	0407	0411	0415	0419	0423	0427	0431	0435	0439	0443	0447	PIM 6
0386	0390	0394	0398	0402	0406	0410	0414	0418	0422	0426	0430	0434	0438	0442	0446	
0385	0389	0393	0397	0401	0405	0409	0413	0417	0421	0425	0429	0433	0437	0441	0445	
0384	0388	0392	0396	0400	0404	0408	0412	0416	0420	0424	0428	0432	0436	0440	0444	
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15	
0323	0327	0331	0335	0339	0343	0347	0351	0355	0359	0363	0367	0371	0375	0379	0383	PIM 5
0322	0326	0330	0334	0338	0342	0346	0350	0354	0358	0362	0366	0370	0374	0378	0382	
0321	0325	0329	0333	0337	0341	0345	0349	0353	0357	0361	0365	0369	0373	0377	0381	
0320	0324	0328	0332	0336	0340	0344	0348	0352	0356	0360	0364	0368	0372	0376	0380	
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15	
0259	0263	0267	0271	0275	0279	0283	0287	0291	0295	0299	0303	0307	0311	0315	0319	PIM 4
0258	0262	0266	0270	0274	0278	0282	0286	0290	0294	0298	0302	0306	0310	0314	0318	
0257	0261	0265	0269	0273	0277	0281	0285	0289	0293	0297	0301	0305	0309	0313	0317	
0256	0260	0264	0268	0272	0276	0280	0284	0288	0292	0296	0300	0304	0308	0312	0316	
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15	
0195	0199	0203	0207	0211	0215	0219	0223	0227	0231	0235	0239	0243	0247	0251	0255	PIM 3
0194	0198	0202	0206	0210	0214	0218	0222	0226	0230	0234	0238	0242	0246	0250	0254	
0193	0197	0201	0205	0209	0213	0217	0221	0225	0229	0233	0237	0241	0245	0249	0253	
0192	0196	0200	0204	0208	0212	0216	0220	0224	0228	0232	0236	0240	0244	0248	0252	
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15	
0131	0135	0139	0143	0147	0151	0155	0159	0163	0167	0171	0175	0179	0183	0187	0191	PIM 2
0130	0134	0138	0142	0146	0150	0154	0158	0162	0166	0170	0174	0178	0182	0186	0190	
0129	0133	0137	0141	0145	0149	0153	0157	0161	0165	0169	0173	0177	0181	0185	0189	
0128	0132	0136	0140	0144	0148	0152	0156	0160	0164	0168	0172	0176	0180	0184	0188	
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15	
0067	0071	0075	0079	0083	0087	0091	0095	0099	0103	0107	0111	0115	0119	0123	0127	PIM 1
0066	0070	0074	0078	0082	0086	0090	0094	0098	0102	0106	0110	0114	0118	0122	0126	
0065	0069	0073	0077	0081	0085	0089	0093	0097	0101	0105	0109	0113	0117	0121	0125	
0064	0068	0072	0076	0080	0084	0088	0092	0096	0100	0104	0108	0112	0116	0120	0124	
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15	
0003	0007	0011	0015	0019	0023	0027	0031	0035	0039	0043	0047	0051	0055	0059	0063	PIM 0
0002	0006	0010	0014	0018	0022	0026	0030	0034	0038	0042	0046	0050	0054	0058	0062	
0001	0005	0009	0013	0017	0021	0025	0029	0033	0037	0041	0045	0049	0053	0057	0061	
0000	0004	0008	0012	0016	0020	0024	0028	0032	0036	0040	0044	0048	0052	0056	0060	
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15	

0xxx	- Level 3
0xxx	- Level 2
0xxx	- Level 1
0xxx	- Level 0
LTxx	- Card location number of line/trunk within the PIMs

LEN Layout for CP16 PIMN-UA (64 Port PIMS)

703	707	711	715	719	723	727	731	735	739	743	747	751	755	759	763
702	706	710	714	718	722	726	730	734	738	742	746	750	754	758	762
701	705	709	713	717	721	725	729	733	737	741	745	749	753	757	761
700	704	708	712	716	720	724	728	732	736	740	744	748	752	756	760
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15

PIM 7

603	607	611	615	619	623	627	631	635	639	643	647	651	655	659	663
602	606	610	614	618	622	626	630	634	638	642	646	650	654	658	662
601	605	609	613	617	621	625	629	633	637	641	645	649	653	657	661
600	604	608	612	616	620	624	628	632	636	640	644	648	652	656	660
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15

PIM 6

503	507	511	515	519	523	527	531	535	539	543	547	551	555	559	563
502	506	510	514	518	522	526	530	534	538	542	546	550	554	558	562
501	505	509	513	517	521	525	529	533	537	541	545	549	553	557	561
500	504	508	512	516	520	524	528	532	536	540	544	548	552	556	560
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15

PIM5

403	407	411	415	419	423	427	431	435	439	443	447	451	455	459	463
402	406	410	414	418	422	426	430	434	438	442	446	450	454	458	462
401	405	409	413	417	421	425	429	433	437	441	445	449	453	457	461
400	404	408	412	416	420	424	428	432	436	440	444	448	452	456	460
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15

PIM 4

303	307	311	315	319	323	327	331	335	339	343	347	351	355	359	363
302	306	310	314	318	322	326	330	334	338	342	346	350	354	358	362
301	305	309	313	317	321	325	329	333	337	341	345	349	353	357	361
300	304	308	312	316	320	324	328	332	336	340	344	348	352	356	360
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15

PIM 3

203	207	211	215	219	223	227	231	235	239	243	247	251	255	259	263
202	206	210	214	218	222	226	230	234	238	242	246	250	254	258	262
201	205	209	213	217	221	225	229	233	237	241	245	249	253	257	261
200	204	208	212	216	220	224	228	232	236	240	244	248	252	256	260
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15

PIM 2

103	107	111	115	119	123	127	131	135	139	143	147	151	155	159	163
102	106	110	114	118	122	126	130	134	138	142	146	150	154	158	162
101	105	109	113	117	121	125	129	133	137	141	145	149	153	157	161
100	104	108	112	116	120	124	128	132	136	140	144	148	152	156	160
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15

PIM 1

003	007	011	015	019	023	027	031	035	039	043	047	051	055	059	063
002	006	010	014	018	022	026	030	034	038	042	046	050	054	058	062
001	005	009	013	017	021	025	029	033	037	041	045	049	053	057	061
000	004	008	012	016	020	024	028	032	036	040	044	048	052	056	060
LT0	LT1	LT2	LT3	LT4	LT5	LT6	LT7	LT8	LT9	LT10	LT11	LT12	LT13	LT14	LT15

PIM 0

xxx	- Level 3
xxx	- Level 2
xxx	- Level 1
xxx	- Level 0
LTxx	- Card location number of line/trunk within the PIMS

LEN Layout for CP03 PIMQ-UA (72 Port PIM)

	LTC 0			LTC 1			LTC 2				
PIMQ-UA Slot #	00	01	02	03	04	05	06	07	08	09	10
Upper LEN #'s	0007	0015	0023	0031	0039	0047	0055	0063	0071	0079	0087
	0006	0014	0022	0030	0038	0046	0054	0062	0070	0078	0086
	0005	0013	0021	0029	0037	0045	0053	0061	0069	0077	0085
	0004	0012	0020	0028	0036	0044	0052	0060	0068	0076	0084
PIMN-UB Slot #	1	3	5	7	9	11	13	15	1	3	5
Lower LEN #'s	0003	0011	0019	0027	0035	0043	0051	0059	0067	0075	0083
	0002	0010	0018	0026	0034	0042	0050	0058	0066	0074	0082
	0001	0009	0017	0025	0033	0041	0049	0057	0065	0073	0081
	0000	0008	0016	0024	0032	0040	0048	0056	0064	0072	0080
PIMN-UB Slot #	0	2	4	6	8	10	12	14	0	2	4

NOT USED

Equivalent Slot Number within PIMN-UB (MP or LP)

LEN Layout for CP16 PIMQ-UA (72 Port PIM)

	LTC 0			LTC 1			LTC 2				
PIMQ-UA Slot #	00	01	02	03	04	05	06	07	08	09	10
Upper LEN #'s	0007	0015	0023	0031	0039	0047	0055	0063		0079	0087
	0006	0014	0022	0030	0038	0046	0054	0062		0078	0086
	0005	0013	0021	0029	0037	0045	0053	0061		0077	0085
	0004	0012	0020	0028	0036	0044	0052	0060		0076	0084
PIMN-UB Slot #	1	3	5	7	9	11	13	15	1	3	5
Lower LEN #'s	0003	0011	0019	0027	0035	0043	0051	0059			0083
	0002	0010	0018	0026	0034	0042	0050	0058			0082
	0001	0009	0017	0025	0033	0041	0049	0057			0081
	0000	0008	0016	0024	0032	0040	0048	0056			0080
PIMN-UB Slot #	0	2	4	6	8	10	12	14	0	2	4

NOT USED

Equivalent Slot Number within PIMN-UB (MP or LP)

LEN Layout for CP03 PIMABA-UA (2-PIM NEAX1000 IVS)

	NOTE 1				NOTE 2				NOTE 3		
PIM 1	0127	0071	0079	0087	0095		0130		0111		
	0126	0070	0078	0086	0094		0102		0110		
	0125	0069	0077	0085	0093		0101		0109		BS01
	0124	0068	0076	0084	0092		0100		0108		
Not Used	0123	0067	0075	0083	0091	0095	0099	0103	0107		←
	0122	0066	0074	0082	0090	0094	0098	0102	0106		
	0121	0065	0073	0081	0089	0093	0097	0101	0105		
	0120	0064	0072	0080	0088	0092	0096	0100	0104		
	(LT00)	(LT01)	(LT02)	(LT03)	(LT04)	(LT05)	(LT06)	(LT07)	(LT08)		
	0063	0007	0015	0023	0031		0039		0047		
	0062	0006	0014	0022	0030		0038		0046		
	0061	0005	0013	0021	0029		0037		0045		BS00
	0060	0004	0012	0020	0028		0036		0044		
	0059	0003	0011	0019	0027	0031	0035	0039	0043		←
PIM 0	0058	0002	0010	0018	0026	0030	0034	0038	0042		
	0057	0001	0009	0017	0025	0029	0033	0037	0041		
	0056	0000	0008	0016	0024	0028	0032	0036	0040		
	(LT00)	(LT01)	(LT02)	(LT03)	(LT04)	(LT05)	(LT06)	(LT07)	(LT08)		
	NOTE 1				NOTE 2				NOTE 3		

NOTE 1: Do not mount line/trunk circuit card with cabling in this slot; this slot has no connection to the MDF via the backplane (LTC cables).

NOTE 2: When an 8-port line/trunk card, which requires cabling to MDF, is mounted in Slot 04, Slot 05 must be left vacant or mounted with circuit cards¹ that do not interfere with the 8-port card mounted in LT04.

NOTE 3: When an 8-port line/trunk card, which requires cabling to MDF is mounted in Slot 06, Slot 07 must be left vacant or mounted with circuit cards¹ that do not interfere with the 8-port card mounted in LT06.

NOTE 4: When using internal DTMF Receiver (4RST) on MP card, assign Card No. E200 to LEN No. 0124.

NOTE 5: If single-line cards are mounted in LT or LT/AP slots, an external ring generator must be connected to PWR0B. The system power supply does not provide these voltages. It is recommended that the APR adapter be used in dual-port mode to provide for single-line devices.

1. When an 8-port card is mounted in Slot 04/06, Slot 05/07 can only be mounted with the following cards:

SPN-AP00	SPN-AP01	SPN-ME00	SPN-SC01
SPN-SC02	SPN-4RSTB	SPN-4RSTB-911	SPN-4RSTC
SPN-CK00	SPN-CC00	PN-M03	SPN-SC03 (CSH)/(ICH)

LEN Layout for CP16 PIMABA-UA (2-PIM NEAX1000 IVS)

	NOTE 1				NOTE 2				NOTE 3	
PIM 1	163	107	115	123	131		139		147	
	162	106	114	122	130		138		146	
Not Used	161	105	113	121	129		137		145	
	160	104	112	120	128		136		144	BS01
	159	103	111	119	127	131	135	139	143	
	158	102	110	118	126	130	134	138	142	
	157	101	109	117	125	129	133	137	141	
	156	100	108	116	124	128	132	136	140	
	(LT00)	(LT01)	(LT02)	(LT03)	(LT04)	(LT05)	(LT06)	(LT07)	(LT08)	
	063	007	015	023	031		039		047	
	062	006	014	022	030		038		046	
	061	005	013	021	029		037		045	
	060	004	012	020	028		036		044	BS00
	059	003	011	019	027	031	035	039	043	
PIM 0	058	002	010	018	026	030	034	038	042	
	057	001	009	017	025	029	033	037	041	
	056	000	008	016	024	028	032	036	040	
	(LT00)	(LT01)	(LT02)	(LT03)	(LT04)	(LT05)	(LT06)	(LT07)	(LT08)	
	NOTE 1				NOTE 2				NOTE 3	

- NOTE 1:** Do not mount line/trunk circuit card with cabling in this slot; this slot has no connection to the MDF via the backplane (LTC cables).
- NOTE 2:** When an 8-port line/trunk card, which requires cabling to MDF, is mounted in Slot 04, Slot 05 must be left vacant or mounted with circuit cards¹ that do not interfere with the 8-port card mounted in LT04.
- NOTE 3:** When an 8-port line/trunk card, which requires cabling to MDF is mounted in Slot 06, Slot 07 must be left vacant or mounted with circuit cards¹ that do not interfere with the 8-port card mounted in LT06.
- NOTE 4:** When using internal DTMF Receiver (4RST) on MP card, assign Card No. E200 to LEN No. 0124.
- NOTE 5:** If single-line cards are mounted in LT or LT/AP slots, an external ring generator must be connected to PWR0B. The system power supply does not provide these voltages. It is recommended that the APR adapter be used in dual-port mode to provide for single-line devices.

1. When an 8-port card is mounted in Slot 04/06, Slot 05/07 can only be mounted with the following cards:

SPN-AP00	SPN-AP01	SPN-ME00	SPN-SC01
SPN-SC02	SPN-4RSTB	SPN-4RSTB-911	SPN-4RSTC
SPN-CK00	SPN-CC00	PN-M03	SPN-SC03 (CSH)/(ICH)