

Release Notes

NEAX[®] 2000 IPS

NEAX[®] IPS^{DM}

Business / CCIS

3300 Series Software R8 Release

1. Overview	4
2. Enhanced Business and CCIS Features	4
2.1 Remote PIM over IP	4
2.1.1 Remote PIM Over IP CPU Application Table.....	5
2.1.2 Remote PIM Over IP Capacity Enhancement Table.....	6
2.1.3 Required Software and Hardware.....	7
2.2 911 Notification to Dterm.....	7
2.2.1 Typical Application	8
2.2.2 Required Software and Hardware.....	8
2.3 Do Not Disturb.....	8
2.3.1 Typical Application	8
2.3.2 Required Software and Hardware.....	8
2.4 Q-SIG	9
2.5 System Speed Dialing.....	9
2.5.1 Typical Application	9
2.5.2 Required Software and Hardware.....	9
2.6 Group Call By Pilot Number	10
2.6.1 Typical Application	10
2.6.2 Required Software and Hardware.....	10
2.7 Flexible Line Key Assignment (One Touch-Key).....	10
2.7.1 Typical Application	10
2.7.2 Required Software and Hardware.....	10
2.8 Caller ID Display	10
2.8.1 Typical Application	11
2.8.2 Required Software and Hardware.....	11
2.9 Support for Dterm Series I 16LD Terminal.....	11
2.9.1 Required Software and Hardware.....	12
2.10 Support for SP30 Soft-Phone.....	13
2.10.1 Required Software and Hardware.....	13
2.11 MATWorX IPS.....	13
3. Software and Hardware	14
3.1 New Software & Hardware.....	14
3.2 Discontinued Software & Hardware	15
4. Technical Documentation	16
4.1 Updated Technical Documentation	16
5. SPN-8IPLA IP PAD-A Details	18
5.1 IP PAD /VCT Compatibility Table.....	18
5.2 Channel Allocation Table	19
5.3 SPN-8IPLA and SPZ-24IPLA Specifications:.....	20

5.4	SPN-8IPLA and SPZ-24IPLA Number of simultaneous calls (Estimated)	21
5.5	NEAX 2000 IPS IP PAD Mounting Conditions	22
5.6	NEAX IPS DM and NEAX IPS DMR Mounting Conditions....	24

1. Overview

3300 Series R8 Software is being released with many new enhancements, to name a few; Remote PIM over IP enhancements, Q-SIG enhancements, 911 Notification to Dterm, Do Not Disturb Group and much more. In addition to the software enhancements, NEC is also announcing the release of 8 IP PAD/8VCT combination card.

2. Enhanced Business and CCIS Features

2.1 Remote PIM over IP

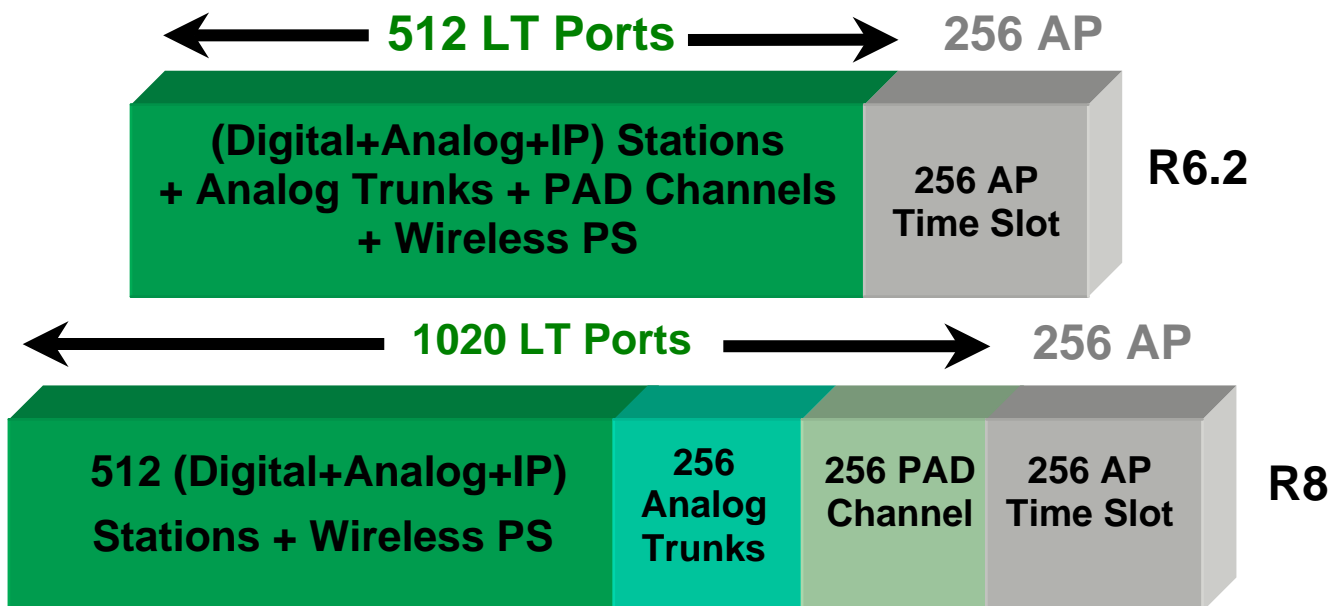
Three, Remote PIM over IP functions have been enhanced in R8 software;

1. Remote PIM Application Enhancement

Previously only the NEAX IPS^{DMR} with CP31A was available to be used at the Remote Location. The R8 enhancement allows additional single CPU's in combination with appropriate platform PIM can now be used as a Remote PIM. This includes using Retrofit NEAX 2000 IVS as a Host site and CPU can be used in Remote Site. In the case that the users operate a stand-alone system in each branch office, we can propose Remote PIM over IP as a single system operation to enhance the services among branch offices. ([See table 2.1.1 Remote PIM over IP Application Table](#))

2. Remote PIM Capacity Enhancement

Previously a maximum of 32 FP/AP could be allocated in the Remote PIM network. The R8 enhancement allows for a maximum of 64 FP/AP in the Remote PIM network. The maximum number of Remote Sites is expanded from current 7 to 15. Also, the maximum number of ports in the Remote PIM network is expanded from 512 to 1020. ([See Table 2.1.2 Remote PIM over IP Capacity Enhancement Table](#))



3. On-line MAC

Previously when LC/DLC/COT cards were added (Moves Adds & Changes- MAC) in Remote Site through on-line programming. System data copy from Host to Remote Site had to be activated for the new trunks and stations to operate properly. The R8 enhancement provides real time addition of LC/DLC/COT cards and correct operation even if the system data copy is not activated to the Remote Site.

2.1.1 Remote PIM Over IP CPU Application Table

REMOTE SITE w/R8							
MAIN SITE w/R8	CPU TYPE	CP24A/B			CP31A	CP26A	
	PIM TYPE	IPS ICS VS PIMMD	DM IPS DM PIMMF	Upgraded IVS2 ICS VS PIMF	DMR IPS DM PIMMF	Retrofit IVS ICS VS PIMN-UB	
	CP24A/B	IPS ICS VS PIMMD	Yes	Yes	Yes	Yes	Note 2
		DM IPS DM PIMMF	Yes	Yes	Yes	Yes	Note 2
		Upgraded IVS2 ICS VS PIMF	Yes	Yes	Yes	Yes	Note 2
	CP27A Backup CPU	IPS ICS VS PIMMF	Yes	Yes	Yes	Yes	Note 2
		Upgraded IVS2 ICS VS PIMMB	Yes	Yes	Yes	Yes	Note 2
	CP26A	Retrofit IVS ICS VS PIMN-UB	Yes	Yes	Yes	Yes	Yes
	CP28A Backup CPU	Retrofit IVS ICS VS PIMH-UA	Yes	Yes	Yes	Yes	Yes

- 1) Note: The HW/CH is automatically set according to the CPU type in each site. CP24A/CP27A/CP31A: IPS specifications 8 port. CP26A/CP28A: Retrofit (migration) specifications 4 port.
- 2) Note: Functionally the IVS PIM can be used as a Remote PIM with IPS as main site. MasterQuote will only provide IPS PIM or DMR.

2.1.2 Remote PIM Over IP Capacity Enhancement Table

Capacities	Software		Comments
	R6.2	R8	
Number of LT Ports	512	1020	
Number of DTMF Receivers	32	32	
Number of Attendant Consoles	8	8	
Number of Digital/Analog Stations	512	512	
Number of ISDN Stations	128	128	ISDN Stations Main Site only
Number of IP Stations	448	448	
Number of Wireless PS	256	256	Wireless PS Main Site only
Number of IP PAD Channels	256	256	
Number of Analog Trunks			
Number of P2P CCIS Trunks	256	256	MAX 127 channels Main Site Only
Number of AP Trunks			
Number of AP Channels	256	256	
Number of AP/FP Cards	32	64	
Number of Physical FP Cards	4	4	Main Site only
Number of Built-In FP on CPU	15	30	
Number of Virtual FP for IP Stations	15	30	
Number of Remote PIM's	10	20	

Increased Capacities =

2.1.3 Required Software and Hardware

▪ Host Site

- IP STARTER 8 SEAT SYSTEM PKG-A (IPS) or IPS DM 8 SEAT IP SYS PKG or NEAX 2000 IVS2 UPGRADE TO IPS or RETROFIT NEAX 2000 IVS TO IPS
 - SPN-32IPLAA IP PAD-C (included w/IP IPS/DM SYSTEM PKG and UPGRADE /RETROFIT SYSTEM PKG)
 - 64 PORT SYS SOFTWARE 3300 SERIES R8 (FD) (included w/IP IPS/DM SYSTEM PKG and UPGRADE/RETROFIT SYSTEM PKG)
- SPN-16VCTAA IP PAD-A for compression or T.30 FAX (Optional)
- LT PORT KEYS (qty must equal Host site plus all Remote sites)
- 8 SEAT IP LICENSE (qty must equal Host site plus all Remote sites)
- R-PIM 1 SITE LICENSE (1 required for each Remote site)

Note: Registration of Host CPU and software required

▪ Remote Site

- NEAX IPS DMR SYSTEM PACKAGE
 - SPN-32IPLAA IP PAD-C (included w/SYSTEM PKG)
- 16VCT for compression or T.30 FAX (Optional)
- NEAX IPS DMR SYSTEM PACKAGE – A
 - SPN-8IPLA IP PAD (included w/SYSTEM PKG – A)
 - Compression included (Pass-Through FAX)
- IP REMOTE PIM-B (IPS)
- SPN-32IPLAA IP PAD-C (Optional)
- 16VCT for compression or T.30 FAX (Optional)
- SPN-8IPLA IP PAD w/compression Pass-Through Fax (Optional)
- PZ-24IPLA w/compression Pass-Through Fax (Optional)

Note: Registration “not” required

2.2 911 Notification to Dterm

Previously 911 Notification was only available for SN610 Attendant and SN716 Desk Console. The R8 enhancement allows 911 Notification to a Digital Dterm or IP Dterm when a station dials 911. On the Notification Dterm ringing and red flashing “EMG” key alerts that a station had dialed 911. The Notification Dterm goes off hook and presses the EMG key, the originating station number and destination trunk number is displayed on the LCD. By additionally pressing the “Override” key the Notification Dterm conferences into the 911 call and can assist in coordinating and directing emergency services.

- 911 Notification to Dterm can be activated over CCIS same as 911 Notification to Attendant.
- When two or more Notification Dterm’s display the same caller information at the same time, the Notification Dterm that pressed the “Override” key first will conference into the 911 call. The other Dterm’s will receive ROT.

- The Notification Dterm can display information on up to eight simultaneous 911 calls. Going off-hook and pressing “EMG” key will display the first 911 call, pressing the “EMG” key again, next 911 caller information will be displayed, etc.

2.2.1 Typical Application

Emergency Phone or Guard Desk can be alerted that 911 call(s) have been initiated. The Emergency Phone or guard can enter the 911 call to assist and direct emergency services.

2.2.2 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3300 SERIES R8 (FD)

2.3 Do Not Disturb

Previously Do Not Disturb was only available to be set by the individual Dterm users. The R8 enhancement allows the system to schedule set/cancel Do Not Disturb feature for a group of stations at pre-programmed times. The system has up to four timetables; each timetable has time to set/cancel Do Not Disturb for seven-day period (Sunday–Saturday) and 24 hours a day in 5-minute increments. Different timetables can be assigned for specific dates of the year.

- DND status can be indicated by the led associated with “DND” function key programmed on a Dterm or DSS/BLF Console.
- Pressing the associated DND function key or the DSS/BLF key to set/cancel the DND feature will have no effect if the station is set to DND Group.
- The DND status set by DND Group can be temporarily changed on a individual station basis by dialing the DND feature set/cancel code or by the Attendant Console.

2.3.1 Typical Application

K-12 School District – Individual schools can have incoming calls to class room telephones automatically go to Voice Mail during class hours and receive incoming call when classes are not in session.

2.3.2 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3300 SERIES R8 (FD)
- SPN-AP00B MRC-E(AP)

2.4 Q-SIG

Previously the only Q-SIG supplementary service (SS) supported was Calling Line Identification Presentation (SS-CLIP/SS-CLOP/SS-CLIR). Hardware requirement was two separate boards, SC01- QSIG and 24PRT. R8 enhancement provides the following additional supplementary services (SS) for Calling Name Identification Presentation;

- Connected Name Identification Presentation (S S - C O N P)
- Calling/Connected Name Identification Restriction (S S - C N I R)
- Connected Name Identification Restriction (S S - C O N R)

Implementation of ID-SS (ETS 300 173) and Name ID-SS (ETS 300 238) is based on basic specifications of ETS 300 172 by ETSI at the Q reference point between PBX's. R8 also introduces new hardware that supports the previous and additional supplementary services on a single 24PRT-QSIG package.

2.4.1 Typical Application

Networking the NEAX 2000 IPS to a other manufacture PBX (non-NEC/NEAX).

2.4.2 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3300 SERIES R8 (FD)
- SPN-24PRT-QSIG
- CCIS KEY (one per each SPN-24PRT-QSIG)

2.5 System Speed Dialing

Previously a maximum of 300 System Speed Dialing buffers for 3-digit abbreviated codes (000-299) were available. R8 enhancement allows for 10,000 System Speed Dialing buffers using 4-digit abbreviated codes (0000-9999). System Speed Dialing with 3-digit abbreviated code is also available as before. Since System Speed Dialing with 4-digit abbreviated code uses Station Speed Dialing memory, the available number of Station Speed Dialing memory blocks is reduced concurrently for Dterm One-Touch Key/Station Speed Dialing.

2.5.1 Typical Application

Any application that requires more than 300 System Speed Dialing buffers, one example would be a network where the total number of stations exceeds 300.

2.5.2 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3300 SERIES R8 (FD)

2.6 Group Call By Pilot Number

Previously only DID, DIT and direct station calls could be terminated to the Group Call Pilot Number. R8 enhancement allows for transferred calls (blind transfer) to terminate to the Group Call Pilot Number, as well as DID, DIT and direct station calls.

2.6.1 Typical Application

Incoming calls to Automated Attendant, Attendant Console and Dterm can be transferred to the Group Call Pilot Number.

2.6.2 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3300 SERIES R8 (FD)

2.7 Flexible Line Key Assignment (One Touch-Key)

Previously Account Code Access and Account Code could be programmed into a single One Touch-Key, the telephone number had to be programmed into a second One Touch-Key providing a two key operation. R8 enhancement allows for Account Code Access + Account Code + Trunk Access Code/LCR Access Code + Telephone Number (not to exceed a total of 26 digits) to be programmed into a single One Touch-Key.

2.7.1 Typical Application

Applications that require the telephone user to enter a Authorization Number before they are allowed to make an outgoing call, one example would be Law Office where Client Codes are used.

2.7.2 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3300 SERIES R8 (FD)
- 64 PORT SYS SOFTWARE - 3200 SERIES R6.1 (FD) (F1 2.17 or higher)

2.8 Caller ID Display

Previously, incoming trunk Caller ID (CID) Name or Number was displayed for 6 seconds after the call is answered. Incoming station calls, the number displayed for the duration of the call, but the name was only displayed for 6 seconds after the call was answered. R8 enhancement allows the incoming trunk CID Name or Number to be displayed for the duration of the call and incoming station calls display both name and number for the duration of the call (CM08>537 programming option, default is 6 seconds).

Previously, out going trunk calls displayed the dialed number for 6 seconds after the call is answered. Outgoing station calls, the number displayed for the duration of the call, but the name was only displayed for 6 seconds after the call is answered. R8 enhancement allows the out going trunk call dialed number to be displayed for the duration of the call and out going station call to display both name and number for the duration of the call. (CM08>538 programming option, default is 6 seconds).

2.8.1 Typical Application

All applications where Caller ID is displayed on the Dterm Display; one example is a mixed CCIS network with NEAX 2400 IPX and NEAX 2000 IPS, Caller ID display operation will be more consistent.

2.8.2 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3300 SERIES R8 (FD)

2.9 Support for Dterm Series I 16LD Terminal

The 16-Button LCD phone provides sixteen LCD key appearances without paper designations. The sixteen LCD keys have the same options and operation as all Dterm Series I Terminals.

When a station is assigned to an LCD key, 8 characters of the station name can be displayed. If the name is over 8 characters then the first 7 characters followed by * will be displayed. If no name is set in CM77 then the extension number will be displayed. Either Station Number or Station Name is selectable to be displayed via Service Restriction Class.








Trunk Appearance display is selectable by three options in CM35 as follows; 1. Trunk Route Name (4 characters). 2. Trunk Route Name (4 characters) + Trunk Number (4 digits). 3. Trunk Route Number (2 digits) + Trunk Number (4 digits).

Station Speed Dial assigned to an LCD key, 8 characters of the name can be displayed. If the name is over 8 characters then 7 characters followed by * will be displayed. If no name is set, 8 digits of the calling party number will be displayed. If the number is over 8 digits then a * followed by the last 7 digits of the calling party number will be displayed.

Function keys assigned to an LCD key, the display contents will match the acronym in CM90. Some examples are as follows; (Call Forwarding-All Calls = FDA), (Call Forwarding-Don't Answer/Busy = FDB/N), (Do Not Disturb = DND), (Call Park-System = CPSY) etc.



The LED indications have been replicated by the following LCD indications:

User's Status	Icon	Flashing Pattern
• Idle	No Icon	-
• Call Hold (Individual Hold/Individual Hold on Call Park Group)		Blink Note
• Call Hold (Other Party Hold/Other Party Hold on Call Park Group)		
• Recall (Individual Hold/Exclusive Call Hold/Call Transfer/ Individual Hold on Call Park Group)		Blink Note
• Recall (Other Party Hold/Other Party Hold on Call Park Group) • Incoming Call		
• Exclusive Call Hold		Blink Note
• During Conversation (Individual Use) • Call Transfer • Conference		Steady Lit
• During Conversation (Other Party Use) • Active Feature (Under a setting of feature key like a "Call Forwarding")		

Note: The icon will blink per one second cycle.

Example of Designation and Icon:



2.9.1 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3300 SERIES R8 (FD)
- PN-4DLCM, PN-4DLCQ, PN-8DLCL, PN-8DLCP, PN-2DLCN

2.10 Support for SP30 Soft-Phone

The Dterm SP30 is an additional Soft-phone offering to NEC's full line of IP terminals. This product is not a replacement or upgrade to the existing Dterm SP20. The Dterm SP30 is a multimedia Soft-phone that supports application collaboration with NetMeeting, 2 Way Video Conferencing, Application Sharing, and White Boarding etc.

2.10.1 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3300 SERIES R8 (FD)
- SP30- 4 Seat License
- 8 Seat IP License

Refer to Dear Associate Letter 2700-03-005 for more details.

2.11 MATWorX IPS

The MATWorX IPS version 7.0.0 offers many enhancements to make the configuration of Remote PIMs over the IP network simpler. Enhancements related to the Remote PIM over IP capability were one of the main focuses of this MATWorX IPS release. The primary focus of these enhancements were in the following areas:

- Display PBX Main Site and Remote Site information
- When connecting to Remote Sites provide a warning message
- When connecting to a Remote Site that operates in normal mode the MATWorX functions have been limited to avoid mistakes that could be made by the technician
- Display accommodation states of extensions and trunks with site information
- Office data conversion for Remote PIM over IP system
- FP/AP number expansion (expand from 00-31 to 00-63)

Please refer to Release Note RN21-03-002 for more details.

3. Software and Hardware

3.1 New Software & Hardware

Part Number	Description	Comments
New Software		
150586	64 PORT SYS SOFTWARE-3300 SERIES R8 (FD)	R8 System Software
150497	SP30- 4 Seat License	License for SP30, also required is 8 IP Seat License.
150629	LT- 64 Port	New 64 LT port key created to accommodate LT expansion beyond 512 ports for existing systems upgraded to R8. All new systems shipped with R8 will be configured with this key to scale from 64 LT ports to 1020 LT ports.
New System Packages		
150098	NEAX IPS DMR SYSTEM PACKAGE-A ICS VS PIMMF(UA) SPN-CP31A (CPU) PZ-M606-A SPN-8IPLA IP PAD-A AC CORD-E-U RACK MOUNT KIT (U) 24 PORT PATCH PANEL	New DMR package with 8 IP PAD.
150096	IP REMOTE PIM-B (IPS) ICS VS PIMMD (UA) ICS VS BASE-C (UA) 1PN-CP24B (CPU) PZ-M606-A	New IPS package for Remote PIM.
New Hardware		
151255	SPN-24PRTA-QSIG (AP)	Provides Name Display, CCH Key is required.
151256	SPN-4ODTA	4 circuit analog 2W/4W Tie Line card. Z-PW122 (-48V Power Supply) is required in case of E&M Type-I signaling.

151258	SPN-AP00B MRC-E (AP)	Required for "DND Set/Reset at appointed time" feature
151259	SPN-AP00B DBM-B (AP)	Required for Wireless Roaming and OAI applications using Free Location Facility (FLF).
151253	SPN-8IPLA IP PAD-A	8 Channel IP PAD. Supports G.711, G.723.1, G.729a CODEC (T.30/T.38 FAX is not supported).
151254	PZ-24IPLA	24 Channel IP PAD and VCT daughter board. Mounts on SPN-8IPLA to provide up to 32 G.711, G.729a and 16 G.723.1 PAD Channels. (T.30/T.38 FAX is not supported).
151251	PN-4CSIA-A	4 Circuit CS Interface for U-Interface ZT. 2 Slot Card, 16 LT Ports, PZ-PW22 is required.
151385	SPN-SCO3B 8CSH-B (AP)	Supports both U and S-Interface. Supports Dukane Nurse Call system. Max two PN-4CSIA-A (U-Interface) and max four PN-2CSIA (S-Interface).
151438	SPN-4BRTA-D (AP)	4 Circuit ISDN BRI

3.2 Discontinued Software & Hardware

Part Number	Description	Comments
Discontinued Software		
150495	64 Port Sys Software - 3200 Series R6.1 (FD)	
150585	64 Port Sys Software - 3200 Series R6.2 (FD)	

Discontinued Hardware		
151230	SPN-AP00B DBM (AP)	Replaced by 151259, SPN-AP00B DBM-B (AP)
151293	SPN-4BRTA-C (AP)	Replaced by 151438, SPN-4BRTA-D (AP)
Discontinued Upgrade Kits		
150653	IVS TO IPS TDM UPGRADE KIT (512)	
150654	IVS TO IPS 16 SEAT IP UPGRADE KIT (512)	
150683	IVS-IPS BACK-UP CPU TDM UPGRADE	
150684	IVS-IPS BACK-UP CPU 16 SEAT IP UPGRADE	

4. Technical Documentation

4.1 Updated Technical Documentation

The following documents will be included in the NEAX2000 IPS Documentation CD:

Description	Issue
NEAX 2000 IPS SYSTEM MANUAL	4.0
NEAX 2000 IPS INSTALLATION MANUAL	3.0
NEAX 2000 IPS COMMAND MANUAL	3.0
NEAX 2000 IPS ISDN System Manual	3.0
NEAX 2000 IPS Q-SIG System Manual (PRT)	2.0
NEAX 2000 IPS CCIS SYS MANUAL	2.0
NEAX 2000 IPS Office Data Programming Manual	3.0
NEAX 2000 IPS Maintenance Manual	2.0
NEAX 2000 IPS WCS System Manual	1.0
NEAX 2000 IPS OAI SYS MANUAL	3.0
NEAX 2000 IPS MatWorX User Guide	5.0
NEAX 2000 IPS MatWorX Installation Guide	4.0

NEAX 2000 IPS DM INSTALLATION	3.0
NEAX 2000 IPS FEATURE PROGRAM	3.0
NEAX 2000 IPS BUS/HOTEL/DATA F&S	5.0
NEAX 2000 IPS CCIS FEATURE & SPEC	5.0
NEAX 2000 IPS ISDN-QSIG F&S	5.0
NEAX 2000 IPS WCS F&S	5.0
NEAX 2000 IPS UPGRADE GUIDE	2.0
NEAX 2000 IPS SMDR/MCI/PMS Spec	1.0
NEAX IPS In-Skin Router Installation Guide	3.0
Dterm Assistant IPS (version 3) User Guide	1.0

5. SPN-8IPLA IP PAD-A Details

5.1 IP PAD /VCT Compatibility Table

	151226 SPN-16VCTA IP PAD	151236 SPN-16VCTAA IP PAD-A	FAX over IP (FoIP)	Modem over IP (MoIP)	Minimum System Software
151227 SPN-32IPLA IP PAD	Required G.711/G.729/G.723	Required G.711/G.729/G.723	G.711 (64K)	N/A	R4.2
151237 SPN-32IPLA IP PAD-A G.711	Optional G.711/G.729/G.723	Optional G.711/G.729/G.723	G.711 (64K)	N/A	
151247 SPN-32IPLAA IP PAD-B G.711	Optional G.711/G.729/G.723	Optional G.711/G.729/G.723	G.711 (64K)	N/A	R6.1
151257 SPN-32IPLAA IP PAD-C G.711	Optional VoIP G711/G.729/G.723 FoIP G.711 (64K)	Optional VoIP G711/G.729/G.723 FoIP T.30 or G.711 (64K)	T.30 or G.711 (64K)	N/A	R6.2
151253 SPN-8IPLA IP PAD-A G711/G.729/G.723	Not required Has built-in VCT	Not required Has built-in VCT	Pass- Through or G.711 (64K)	Pass- Through	R8
151254 PZ-24IPLA G711/G.729/G.723	Not required Has built-in VCT	Not required Has built-in VCT	Pass- Through or G.711 (64K)	Pass Through	R8

5.2 Channel Allocation Table

3300 Series R8 Software								
IP-PAD Channel Allocation (System Data) and FAX Support								
Voice Over IP (VoIP)	SPN-32IPLAA IP PAD-C				SPN-8IPLA IP PAD-A			
	8IPLA		PZ-24IPLA Daughter Board		8IPLA		PZ-24IPLA Daughter Board	
G.711	8	16	24	32	8	16	24	32
G.729a	16 (1) 16VCTAA Or (1) 16VCTA		32 (2) 16VCTAA Or (2) 16VCTA		8	16	24	32
G723.1	16 (1) 16VCTAA Or (1) 16VCTA		32 (1) 16VCTAA Or (1) 16VCTA		8	16		
SPN-8IPLA w/PZ-24IPLA supports only 16 PAD channels when G723.1 is used. 8IPLA and 24IPLA networks to 32IPLA via Voice.								
FAX Over IP (FoIP)	Modem Over IP (MoIP)	SPN-32IPLAA IP PAD-C		SPN-8IPLA IP PAD-A				
		8IPLA		PZ-24IPLA Daughter Board		8IPLA		PZ-24IPLA Daughter Board
T.30	N/A	16	32	N/A	N/A	N/A	N/A	
	N/A	16 (1) 16VCTAA	32 (2) 16VCTAA	N/A	N/A	N/A	N/A	
*Pass-Through G.711/ G.726	Pass-Through G.711/ G.726	**16 (1) 16VCTAA	**32 (2) 16VCTAA	8	16	24	32	
* FAX Pass-Through is tone detect technology that sets up specific conditions end to end for FAX and Modem on 8IPLA/24IPLA networked to 8IPLA/24IPLA. ** 32IPLA must have IPAD PROG-D1 Issue 1.0 or higher firmware to support Pass-Through FAX with 8IPLA/24IPLA.								

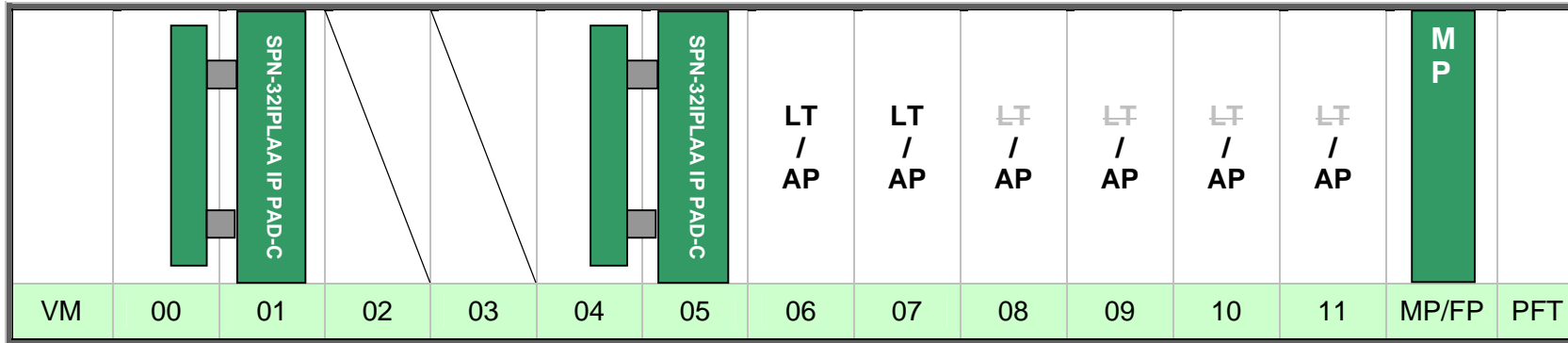
5.3 SPN-8IPLA and SPZ-24IPLA Specifications:

Function	Description	Remarks
Network Interface	Ethernet - IEEE 802.3 (10BASE-T) - IEEE 802.3u (100BASE-TX) - Auto Negotiation	100Mbps recommended
CPU	MIPS32 4KC (RISC CPU, built-in DSP)	
Number of channels	8ch	
Number of expanded channels	Can be expanded by adding a Sub card on the Main card. +24ch (+16ch when using G723.1)	
Voice Codec	G711 (64Kbps), G729a (8Kbps), G723.1 (5.3Kbps)	G723.1 (5.3Kbps only)
Voice Payload	10-40ms (10ms increment), 30ms fixed with G723.1	
Jitter Buffer	10-300ms	
DTMF Relay	Available	
FAX Relay	Available with (G.711), regarded as voice call	Pass-Through & G.711
Modem Relay	Not supported	Under Study
Peer-Peer control protocol	NEC proprietary protocol (UDP/TCP)	H245 equivalent
VLAN	Tag VLAN (IEEE802.1p)	
QoS	IP Precedence, Diffserv	
PAD	-14dB --- +14dB	
EC	G.168 (Max.64ms), with NLP (Non Linear Processor) function	

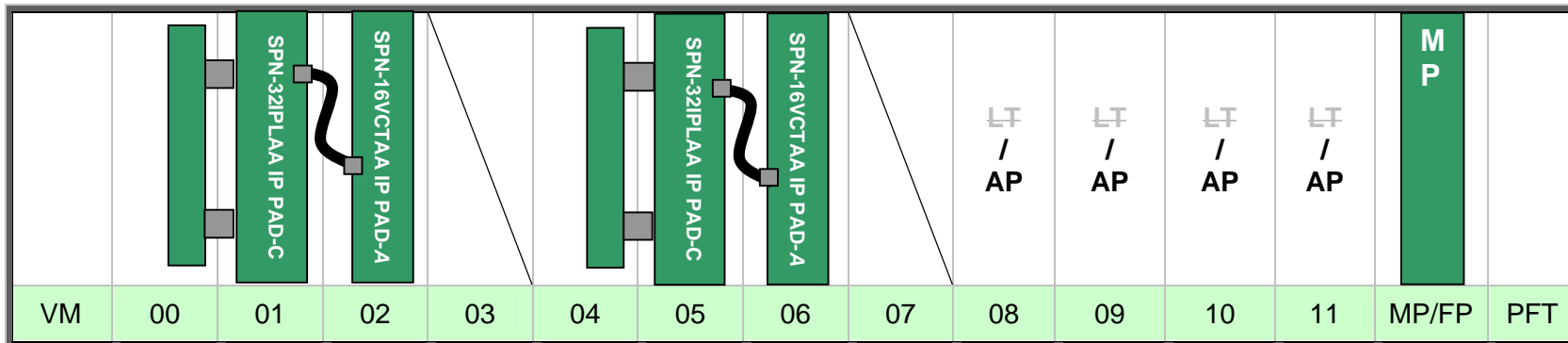
5.4 SPN-8IPLA and SPZ-24IPLA Number of simultaneous calls (Estimated)

Codec	Payload	Main Board	Main + Sub board	Remarks
G711	10ms	8	10	
	20ms	8	20	
	30ms	8	30	
	40ms	8	32	
G729a	10ms	8	10	
	20ms	8	20	
	30ms	8	30	
	40ms	8	32	
G723.1	30ms	8	16	
	60ms	8	16	

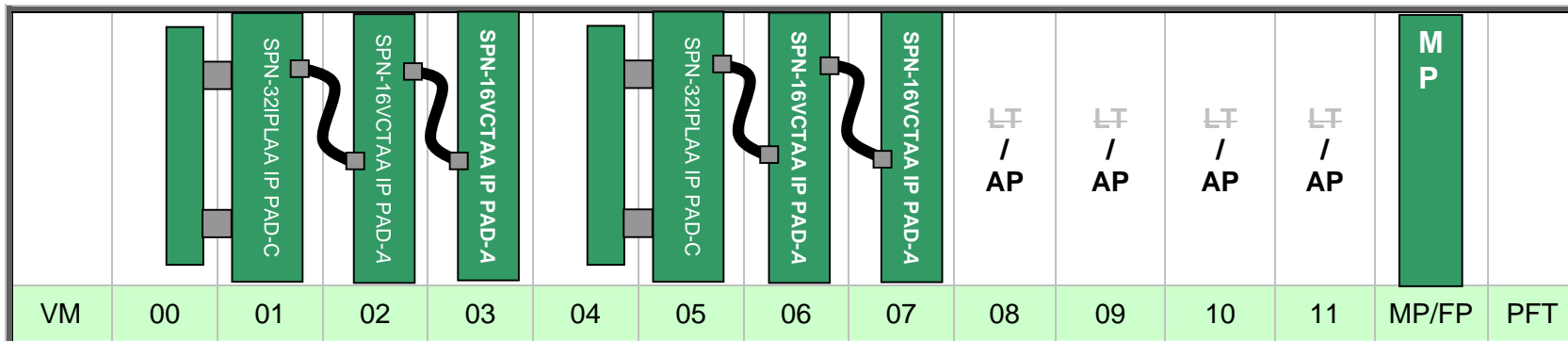
5.5 NEAX 2000 IPS IP PAD Mounting Conditions For R8



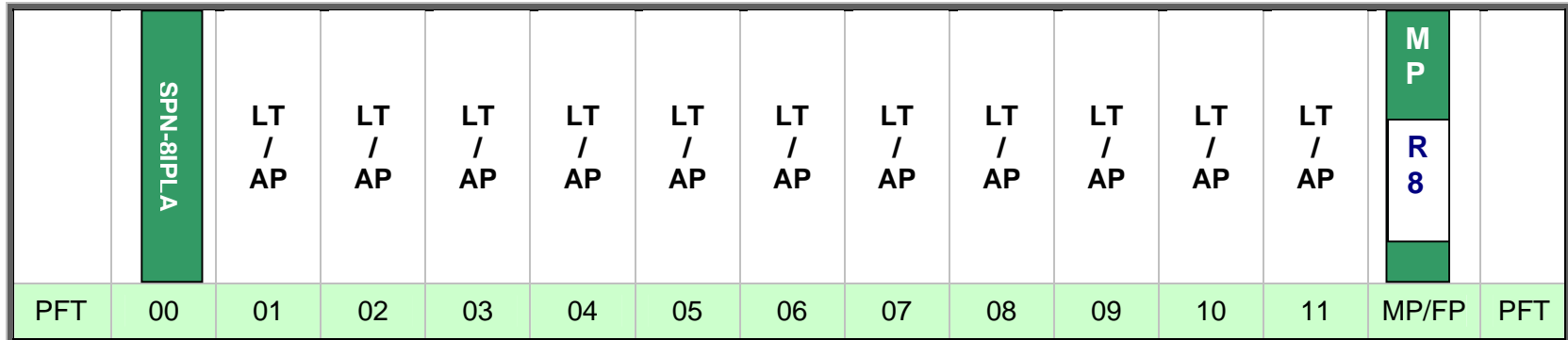
Two 32IPLA Cards one utilizing 32 channels and one utilizing 16 channels G.711 Codec; uses 48 LT Ports.



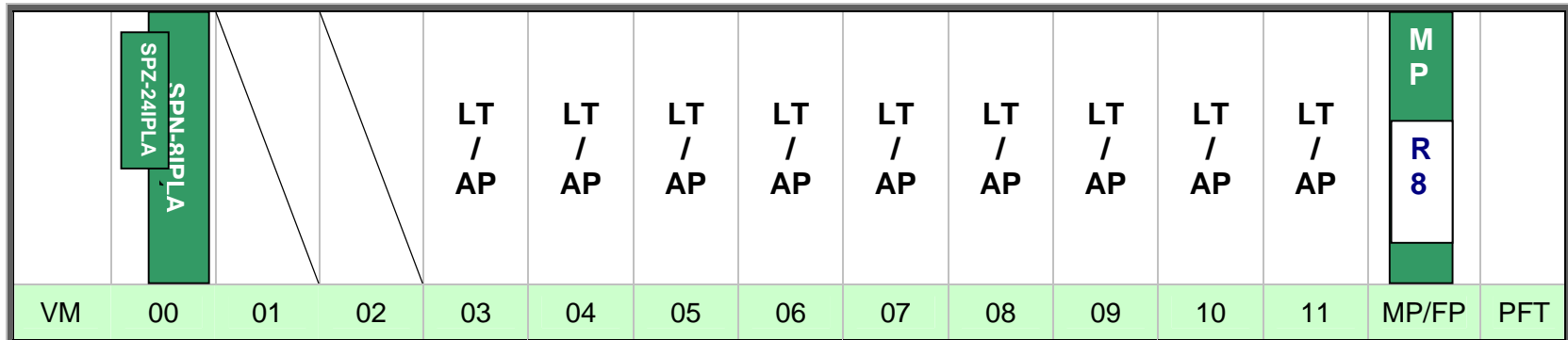
Two 32IPLA Cards each utilizing 16 channels G.711 Codec and 16 channels G.729a Codec; uses 64 LT Ports.



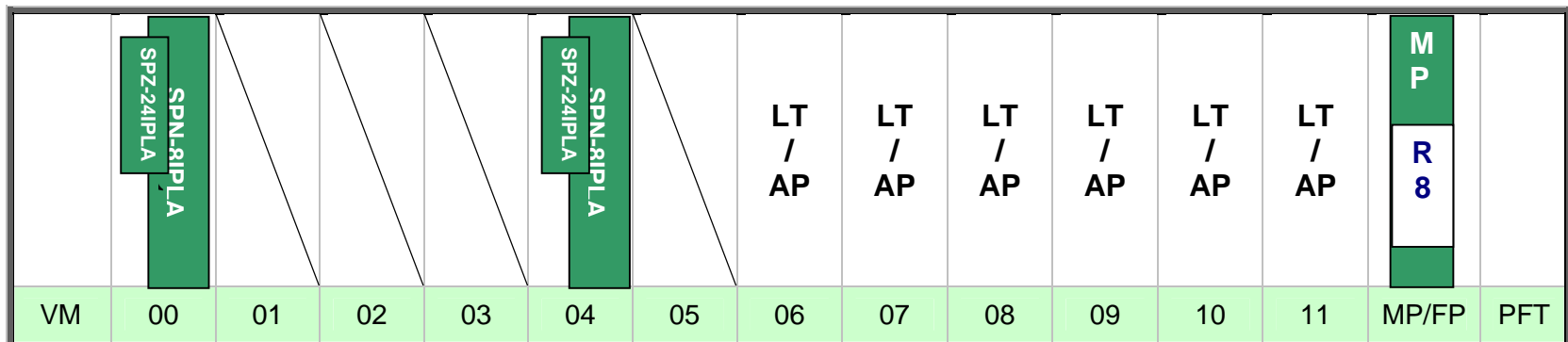
Two 32IPLA Cards each utilizing 32 channels G.729a Codec; uses 64 LT Ports.



One 8IPLA Card utilizing 8 channels G.711/G729a codec; uses 8 LT Ports.

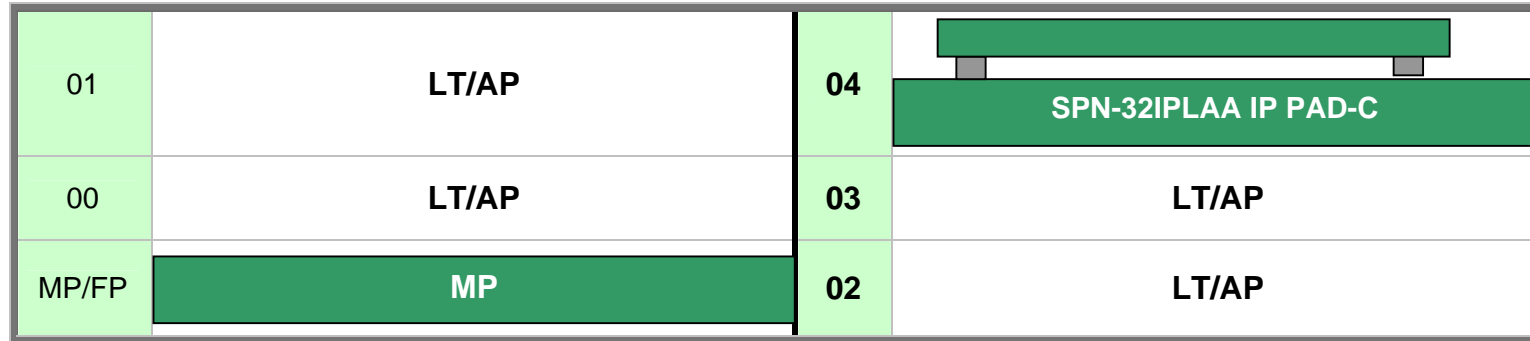


One 8IPLA Card with 24IPLA utilizing 24 channels G.711/G729a codec; uses 24 LT Ports.

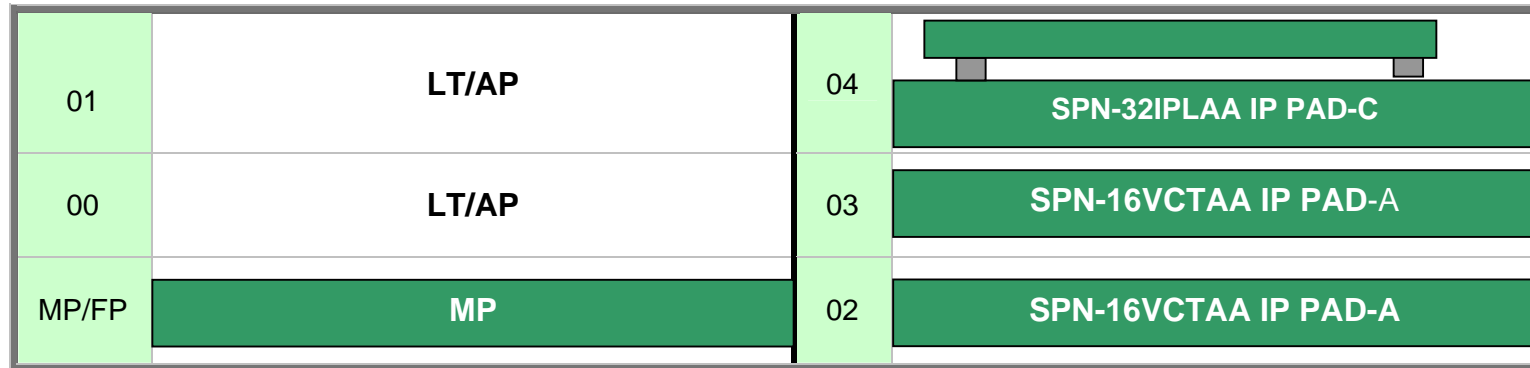


One 8IPLA Card with 24IPLA utilizing 32 channels G.711/G729a codec. One 8IPLA Card with 24IPLA utilizing 16 channels G.711/G729a codec; uses 48 LT Ports.

5.6 NEAX IPS DM and NEAX IPS DMR Mounting Conditions For R8



One 32 IP PAD Card utilizing 32 channels G.711 Codec, uses 32 LT Ports. In this example 64 ports are allocated, 32 for pads and 32 for LT/AP ports because of IP PAD mounting location.



One 32 IP PAD Card utilizing 32 channels G.729a Codec, uses 32 LT Ports 16VCT blocks 16 LT Ports. . In this example 64 ports are allocated, 32 for pads (16VCT occupy 2 card slots) and 16 allocated and available for LT/AP ports.

01	LT/AP	04	LT/AP	
00	SPN-8IPLA IP PAD-A		03	LT/AP
MP/FP	<div style="display: inline-block; width: 10px; height: 10px; background-color: #008000; border: 1px solid black;"></div> <div style="display: inline-block; width: 40px; height: 15px; background-color: white; border: 1px solid black; text-align: center; margin: 0 5px;">R8</div> <div style="display: inline-block; width: 100px; height: 10px; background-color: #008000; border: 1px solid black;"></div>	02	LT/AP	

One 8IPLA Card utilizing 8 channels G.711/G.729a/723.1 Codec uses 8 LT Ports. In this example 8 ports are allocated for pads. No ports are allocated for LT/AP ports however 32 ports are available for LT/AP port allocation.

01	LT/AP	04	<div style="display: inline-block; width: 100px; height: 10px; background-color: #008000; border: 1px solid black;"></div> <div style="display: inline-block; width: 100px; height: 15px; background-color: white; border: 1px solid black; text-align: center; margin: 0 5px;">PZ-24IPLA</div>
00	LT/AP	03	LT/AP
MP/FP	<div style="display: inline-block; width: 10px; height: 10px; background-color: #008000; border: 1px solid black;"></div> <div style="display: inline-block; width: 40px; height: 15px; background-color: white; border: 1px solid black; text-align: center; margin: 0 5px;">R8</div> <div style="display: inline-block; width: 100px; height: 10px; background-color: #008000; border: 1px solid black;"></div>	02	LT/AP

One 8IPLA Card with 24IPLA utilizing 32 channels G.711/G.729a Codec uses 32 LT Ports. In this example 64 ports are allocated, 32 for pads and 32 for LT/AP ports because of IP PAD mounting location.