

## Release Notes

# NEAX<sup>®</sup> 2000 IPS

# NEAX<sup>®</sup> IPS<sup>DM</sup>

## Business / CCIS

### 3400 Series Software R9 Release

|   |          |
|---|----------|
| <b>1. Overview .....</b>  | <b>4</b> |
| <b>2. New Business and CCIS Features .....</b>                              | <b>4</b> |
| 2.1 ATTCON Semi-Automatic Camp-On .....                                     | 4        |
| 2.1.1 Typical Application .....   | 4        |
| 2.1.2 Required Software and Hardware .....                                  | 4        |
| 2.2 Modem over IP .....   | 4        |
| 2.2.1 Typical Application .....   | 4        |
| 2.2.2 Required Software and Hardware .....                                  | 4        |
| <b>3. Enhanced Business and CCIS Features .....</b>                         | <b>5</b> |
| 3.1 Line Size Expansion (Analog, Digital, IP, PS) .....                     | 5        |
| 3.1.1 Analog and Digital Stations .....                                     | 5        |
| 3.1.2 IP Stations .....   | 5        |
| 3.1.3 PS (Wireless) Stations .....  | 5        |
| 3.1.4 Comparison Table for Port Capacity Enhancement.....                   | 6        |
| 3.1.5 Station Line Size Comparison including Virtual Station Expansion..... | 7        |
| 3.1.6 Typical Application .....   | 8        |
| 3.1.7 Required Software and Hardware .....                                  | 8        |
| 3.2 SMDR Interface over IP .....  | 8        |
| 3.2.1 Typical Application .....   | 8        |
| 3.2.2 Required Software and Hardware .....                                  | 8        |
| 3.3 PMS Interface over IP .....   | 8        |
| 3.3.1 Typical Application .....   | 8        |
| 3.3.2 Required Software and Hardware .....                                  | 8        |
| 3.4 Pass Through FAX over IP (FoIP) with G.726 Codec .....                  | 9        |
| 3.4.1 Typical Application .....   | 9        |
| 3.4.2 Required Software and Hardware .....                                  | 9        |
| 3.5 MP/IP-PAD LAN Interface Speed Setting.....                              | 9        |
| 3.5.1 Typical Application .....   | 9        |
| 3.5.2 Required Software and Hardware .....                                  | 9        |
| 3.6 SP30 Cooperation with PHS Terminals.....                                | 10       |
| 3.6.1 Typical Application .....   | 10       |
| 3.6.2 Required Software and Hardware .....                                  | 10       |
| 3.7 Extended SMDR - CCIS .....  | 10       |
| 3.7.1 Typical Application .....   | 10       |
| 3.7.2 Required Software and Hardware .....                                  | 10       |
| 3.8 DeskCon Lockout Operation.....  | 11       |
| 3.8.1 Typical Application .....   | 11       |
| 3.8.2 Required Software and Hardware .....                                  | 11       |
| 3.9 MATWorX IPS R9 Enhancements.....  | 11       |
| 3.9.1 Required Software and Hardware .....                                  | 11       |
| 3.10 My Line Display During Idle State.....                                 | 12       |
| 3.10.1 Required Software and Hardware .....                                 | 12       |

|  |           |
|--|-----------|
| <b>4. Software and Hardware .....</b>    | <b>12</b> |
| 4.1 New Software & Hardware.....         | 12        |
| <b>5. Technical Documentation .....</b>  | <b>13</b> |
| 5.1 Updated Technical Documentation..... | 13        |

## 1. Overview

The NEAX 2000 IPS expands its capabilities once again with the release of 3400 Series R9 software. 3400 series R9 software is being released with feature enhancements, expanded capacity of terminals and virtual stations. The terminals included in the over all expansion are Analog, Digital, Digital IP and Wireless. The total Virtual station capacity is being expanded from 768 to 1020. Other feature enhancements include SMDR over IP, PMS over IP, Fax over IP (FoIP), Modem over IP (MoIP) and more.

## 2. New Business and CCIS Features

### 2.1 ATTCON Semi-Automatic Camp-On

This feature provides a convenient way for the Attendant (SN716) to preannounce caller information to the destination station. When the destination station is busy, the Attendant places the incoming caller in Semi-Automatic Camp-On. When the destination station becomes idle the Attendant is notified and can announce the call and automatically release it to the destination station. Prior to R9 the IPS only supported Automatic Camp-On to a busy station.

#### 2.1.1 Typical Application

All vertical market applications using an Attendant Console

#### 2.1.2 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3400 SERIES R9 (FD)

### 2.2 Modem over IP

Prior to R9 a modem connection over IP was treated as a voice call. With R9 software and SPN-8IPLA PAD-B the system detects the modem connection and uses pass-through mode for better through put and success rate. Connection speeds range from 9.6 kbps to 24 kbps; those speeds vary depending on the CODEC used (G.711 or G.726) and network configuration.

#### 2.2.1 Typical Application

Dialup Data Communication via VoIP Network

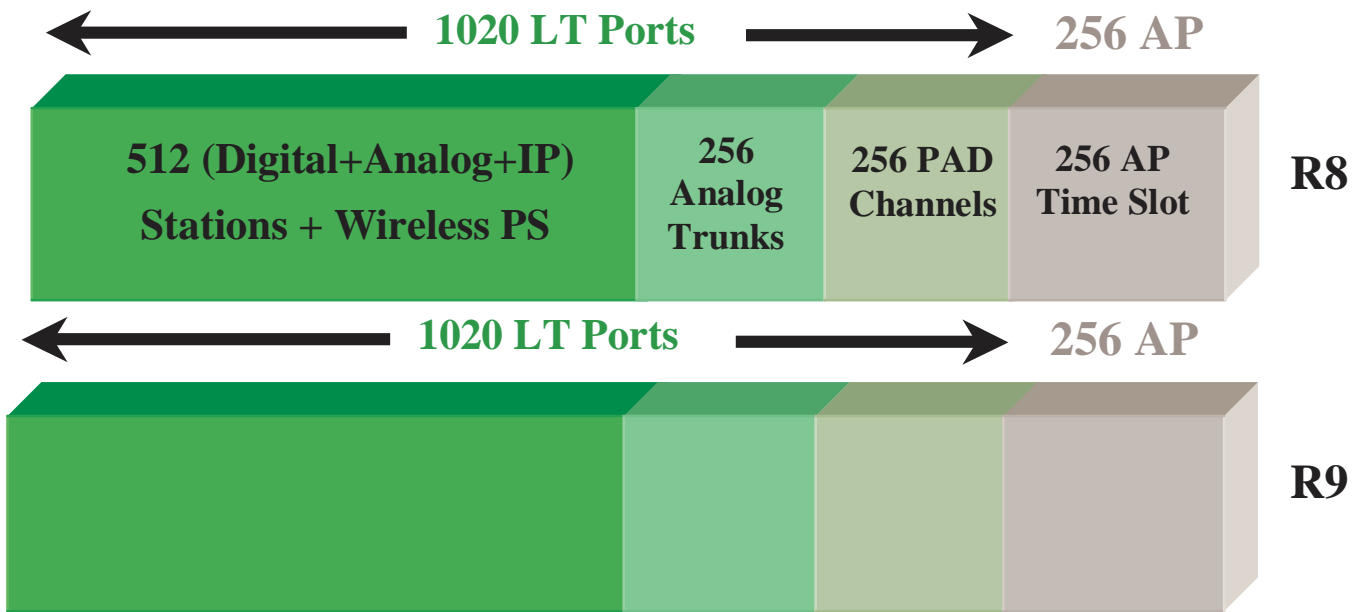
#### 2.2.2 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3400 SERIES R9 (FD)
- SPN-8IPLA IP PAD-B or -A with SC-3330 Firmware

### 3. Enhanced Business and CCIS Features

#### 3.1 Line Size Expansion (Analog, Digital, IP, PS)

The number of stations in R9 software has been increased to a total of 980. The combination of Analog, Digital, IP, and Wireless PS can be used to achieve the 980-station count. An IP Remote PIM network would be required to reach 980 TDM stations, because a stand-alone system only supports hardware up to 512 TDM stations. In R9 each type of station has its own limit to the number of that type of station that can be programmed.



##### 3.1.1 Analog and Digital Stations

Previously analog and digital stations had a maximum of 512 in both standalone and in IP Remote PIM network. The maximum number of Analog and Digital stations has now been increased from 512 to a total of 980 in an IP Remote PIM network. The maximum in a stand-alone system remains 512.

##### 3.1.2 IP Stations

Previously IP stations had a maximum of 448 in both standalone and in IP Remote PIM network. IP stations have now been increased from 448 to a total of 956 for both stand-alone and Remote PIM network.

##### 3.1.3 PS (Wireless) Stations

Previously Wireless PS stations had a maximum of 256. PS stations including both Home PS and Visitor PS have now been increased from 256 to 512.

### 3.1.4 Comparison Table for Port Capacity Enhancement

| Capacities                           | Software |          |                  |                  | Comments       |                                 |  |  |
|--------------------------------------|----------|----------|------------------|------------------|----------------|---------------------------------|--|--|
|                                      | R8       |          | R9               |                  |                |                                 |  |  |
| Number of LT Ports                   | 1020     |          | 1020             |                  |                |                                 |  |  |
| Number of DTMF Receivers             | 32       | 1020     | 32               | 980 <sup>1</sup> |                |                                 |  |  |
| Number of Attendant Consoles         | 8        |          | 8                |                  |                |                                 |  |  |
| Number of Digital/Analog Stations    | 512      |          | 980 <sup>1</sup> |                  |                | Remote PIM Network              |  |  |
| Number of ISDN Stations              | 128      |          | 128              |                  |                | ISDN Stations Main Site only    |  |  |
| Number of IP Stations                | 448      |          | 956              |                  |                | Stand-Alone and Remote PIM      |  |  |
| Number of Wireless PS                | 256      |          | 512              |                  |                | Wireless PS Main Site only      |  |  |
| Number of IP PAD Channels            | 256      |          | 256              |                  |                |                                 |  |  |
| Number of Analog Trunks              | 256      |          | 256              |                  |                |                                 |  |  |
| Number of P2P CCIS Trunks            |          |          |                  |                  |                | MAX 127 channels Main Site Only |  |  |
| Number of AP Trunks                  |          |          |                  |                  | 256            | 256                             |  |  |
| Number of AP Channels                | 256      | 256      |                  |                  |                |                                 |  |  |
| Number of AP/FP Cards                | 64       |          | 64               |                  |                |                                 |  |  |
| Number of Physical FP Cards          | 4        | 64 AP/FP | 4                | 64 AP/FP         | Main Site only |                                 |  |  |
| Number of Built-In FP on CPU         | 30       |          | 30               |                  |                |                                 |  |  |
| Number of Virtual FP for IP Stations | 30       |          | 30               |                  |                |                                 |  |  |
| Number of Remote PIM's               | 15       |          | 15               |                  |                |                                 |  |  |

Increased Capacities =

**NOTE 1:** 980 is the maximum number of terminals operated in an IP Remote network. In a stand-alone system the maximum number of TDM terminals is 512.

### 3.1.5 Station Line Size Comparison including Virtual Station Expansion

| Capacities                | Software         |     |                  |     |                   |     |                   |     |
|---------------------------|------------------|-----|------------------|-----|-------------------|-----|-------------------|-----|
|                           | R8 Stand Alone   |     | R8 w/Remote PIM  |     | R9 Stand Alone    |     | R9 w/Remote PIM   |     |
| Total Number of Terminals | 512              |     | 1020             |     | 1020              |     | 1020              |     |
| Number of Digital         | 512              | 512 | 512              | 512 | 512               | 086 | 980               | 086 |
| Number of Digital IP      | 448              |     | 448              |     | 956               |     | 956               |     |
| Number of Virtual         | 768 <sup>1</sup> |     | 768 <sup>1</sup> |     | 1020 <sup>2</sup> |     | 1020 <sup>2</sup> |     |

**NOTE 1:** To Calculate the Number of Virtual stations use this formula:  
 $768 - \text{Number of Digital/ IP} = \text{Virtual}$

**NOTE 2:** To Calculate the Number of Virtual stations use this formula:  
 $1020 - \text{Number of Digital/ IP} = \text{Virtual}$

The chart above is an example of the expanded port capacity of the IPS in R9 and is intended to help explain the addition to the Virtual extension. The total number of Virtual extensions available is calculated using the equation above. Other LT ports (CO Trunks, DAT, Registers, etc.) which are used to calculate the total number of ports used in the system does not affect the total number of virtual extension. Refer to the example below.

**Example:** NEAX 2000 IPS with two IP Remote PIMs.

Main Site: 128 Digital, 96 IP terminals, 48 analog stations, 64 Wireless PSs, 64 trunks, 32 IP PADs, 24 ZTs, and 8 DAT circuits.

Remote Site 1: 16 Digital, 16 IP terminals, 8 analog stations, 8 trunks, and 32 IP PADs

Remote Site 2: 16 Digital, 16 IP terminals, 8 analog stations, 8 trunks, and 32 IP PADs

| Capacities      |                        |               |                |                           |
|-----------------|------------------------|---------------|----------------|---------------------------|
| Port Type       | Port Memory            | Shared Memory | Virtual Memory |                           |
|                 | 1020                   |               | 1020           |                           |
| Digital         | - 160                  | ← →           | - 160          |                           |
| IP Terminals    | - 128                  | ← →           | -128           |                           |
| Analog Stations | - 64                   |               |                |                           |
| Wireless PS     | - 64                   |               |                |                           |
| Trunks          | - 64                   |               |                |                           |
| IP PADs         | -96                    |               |                |                           |
| ZTs             | -24                    |               |                |                           |
| DATs            | -8                     |               |                |                           |
| <b>Total</b>    | <b>412</b>             |               |                | <b>732</b>                |
|                 | <b>Ports Available</b> |               |                | <b>Virtuals Available</b> |

### **3.1.6 Typical Application**

All vertical market application requiring expanded station and virtual capacities

### **3.1.7 Required Software and Hardware**

- 64 PORT SYS SOFTWARE - 3400 SERIES R9 (FD)
- SPN-AP00B DBM-C(AP) (Wireless Roaming-CCIS Data Base Memory for 512 PS's)
- SPN-SC03B 8CSH-C(AP) (Wireless Controller for 512 PS's)

## **3.2 SMDR Interface over IP**

Traditionally SMDR output has been via an AP00 or the CPU with the output being an RS232C serial interface. SMDR in R9 now has the ability to transmit over TCP/IP via the built-in AP00 function on the CPU. Only one connection is allowed using port 60010. Once the SMDR over IP function is enabled the associated RS port on the CPU is disabled and cannot be used for any other function.

### **3.2.1 Typical Application**

Any application requiring SMDR interface over TCP/IP

### **3.2.2 Required Software and Hardware**

- 64 PORT SYS SOFTWARE - 3400 SERIES R9 (FD)
- PZ-M606-A

## **3.3 PMS Interface over IP**

Prior to R9 the only way to connect to a Property Management System was via an AP00 using an RS232C serial interface. PMS in R9 now has the ability to transmit over TCP/IP via the built-in AP00 function on the CPU. Only one connection is allowed using port 60050. When using PMS over IP an AP00 cannot be used in the system. The IP interface is compatible with model 90/120 message specifications.

### **3.3.1 Typical Application**

Hotel/Motel

### **3.3.2 Required Software and Hardware**

- 64 PORT SYS SOFTWARE - 3400 SERIES R9 (FD)
- PZ-M606-A



### **3.4 Pass Through FAX over IP (FoIP) with G.726 Codec**

Previously FoIP was only supported with G.711 non-compressed, the 32 IPLA and 16VCT was required for Fax transmission. FoIP is now available in G.711 non-compressed or G.726 compression mode. When using G.711 Pass Through FAX with a 32 IPLA the 16VCT is no longer required. When using G.726 Pass Through FAX with a 32 IPLA, the 16 VCT is required. Pass Through FAX is available between 8 IPLA and 32 IPLA card combinations.

#### **3.4.1 Typical Application**

All vertical markets with VoIP Network

#### **3.4.2 Required Software and Hardware**

- 64 PORT SYS SOFTWARE - 3400 SERIES R9 (FD)
- SPN-8IPLA IP PAD-B or -A with SC-3330 Firmware
- SPN-32IPLAA IP PAD-E or -C/-D with SC-3353 Firmware
- SPN-16VCTAA IP PAD-B or -A with SP-3815 Firmware

### **3.5 MP/IP-PAD LAN Interface Speed Setting**

Previously the LAN speed of the CPU/M606 and IP PAD cards were fixed to auto negotiate 10/100 Half Duplex. R9 software adds fixed 100 Mbps Full Duplex to the CPU/M606, which is adjusted via office data programming. Control for 100 Mbps Full Duplex or auto negotiate 10/100 Half Duplex on the 32 IPLA and 8 IPLA IP PAD is done via switch settings on each card.

#### **3.5.1 Typical Application**

All vertical markets with VoIP Network

#### **3.5.2 Required Software and Hardware**

- 64 PORT SYS SOFTWARE - 3400 SERIES R9 (FD)
- SPN-8IPLA IP PAD-B/-A
- SPN-32IPLAA IP PAD-E/-D/-C

## **3.6 SP30 Cooperation with PHS Terminals**

PS can now be used like a wireless handset of SoftPhone SP30 (Version 2). Since SoftPhone is set as a main station and PS is set as a sub station of SoftPhone, both SoftPhone and PS can originate, answer, hold and transfer the call to one station number.

### **3.6.1 Typical Application**

Wireless programmed with one line operation.

User can use a PS as an SP30 handset and also change which is active as a handset. (This function key (F0B51) is supported with the IPS).

- User can place a call by both PS and SP30.
- User can receive a call by PS only under a PHS/PCS collaboration state.
- During a conversation, both PS and SP30 can set "Call hold", "transfer" and "Conference".
- Under a PS out of area, announcement set on IPS will be heard (If call forwarding of a PS out of area is not set, announcement or ROT tone is heard within 8 seconds).

### **3.6.2 Required Software and Hardware**

- 64 PORT SYS SOFTWARE - 3400 SERIES R9 (FD)
- SP30 VERSION C or HIGHER

## **3.7 Extended SMDR - CCIS**

Previously with PSTN local/tandem calls, only the CCIS Office Number was sent to Main/Center location with Centralized SMDR-CCIS. Extended SMDR allows both Office Number and PSTN Calling Number to be sent to Main/Center location with Centralized SMDR-CCIS. This is available for IPS to IPS and IPS to IPX, when an IPX is in the network it must be the main/center location for Centralized SMDR.

### **3.7.1 Typical Application**

All vertical markets with Digital or IP networking and Centralized SMDR-CCIS

### **3.7.2 Required Software and Hardware**

- 64 PORT SYS SOFTWARE - 3400 SERIES R9 (FD)
- SPN-AP00B MRC-E(AP) or -C with SC-3168 Firmware

### 3.8 DeskCon Lockout Operation

Previously this feature was available on IVS/IVS2 with SN610 ATTCON but not on SN716 DESKCON. This feature provides a soft-key that allows the SN716 DESKCON to be set into a lockout mode. This disables the console from originating or receiving calls and setting or resetting service features. To return the Console to its manual operating condition a password is required.

#### 3.8.1 Typical Application

All vertical market applications using the SN716 DESKCON

#### 3.8.2 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3400 SERIES R9 (FD)
- SN716 DESKCON

### 3.9 MATWorX IPS R9 Enhancements

- **IP PAD Setting Add-In (New);** new add-in to maintain IP-PAD information and adjust the quality of communication among IP devices.
- **Graphical Configuration Report Add-In (Enhancement);** Adds 8IPLA and 24IPLA to the existing graphical configuration report (GCR)
- **Data Setting Add-In (Enhancement):** Adds data setting add-in for wireless (virtual PIM assignments) and 8IPLA/24IPLA.
- **Ease of Operation (Improvement):**
  1. It is now possible to change the font size and window size of the MOC add-in and the Mach Script Editor.
  2. The following have been added to MATWorX Scheduler. MATWorX Scheduler activates applications at specified times:
    - AP Program Download
    - LEN List-Up
    - Fault Information Display
    - Mach Script Editor
    - Office Data Save, Load and Verify

#### 3.9.1 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3400 SERIES R9 (FD)
- MATWorX IPS Version 8

## 3.10 My Line Display During Idle State

Previously to see the My Line number of a digital terminal the phone had to be off hook via handset/headset or speaker. This enhancement provides the ability for digital terminals to display the My Line station number on LCD during idle state. This provides a convenient and quick way to visually identify the station number assigned to the digital terminal.

### 3.10.1 Required Software and Hardware

- 64 PORT SYS SOFTWARE - 3400 SERIES R9 (FD)

## 4. Software and Hardware

### 4.1 New Software & Hardware

| Part Number         | Description                                 | Comments                             |
|---------------------|---|--------------------------------------|
| <b>New Software</b> |   |                                      |
| 150479              | 64 PORT SYS SOFTWARE<br>3400 SERIES R9 (FD) | R9 System Software                   |
| 150557              | WIRELESS 8 PS LICENSE                       | Requires 150441 Key FD               |
| <b>New Hardware</b> |   |                                      |
| 153153              | SPN-8IPLA IP PAD-B                          | Replaces 151253 SPN-8IPLA IP PAD-A   |
| 153158              | SPN-32IPLAA IP PAD-E                        | Replaces 153157 SPN-32IPLAA IP PAD-D |
| 153185              | SPN-SC03B 8CSH-C(AP)                        | Replaces 151385 SPN-SC03B 8CSH-B     |
| 153159              | SPN-AP00B DBM-C(AP)                         | Replaces 151259 SPN-AP00B DBM-B(AP)  |

## 5. Technical Documentation

### 5.1 Updated Technical Documentation

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

| Description  | Issue |
|--|-------|
| NEAX 2000 IPS SYSTEM MANUAL                            | 5.0   |
| NEAX 2000 IPS INSTALLATION MANUAL                      | 4.0   |
| NEAX 2000 IPS COMMAND MANUAL                           | 4.0   |
| NEAX 2000 IPS ISDN System Manual                       | 4.0   |
| NEAX 2000 IPS Q-SIG System Manual (PRT)                | 3.0   |
| NEAX 2000 IPS CCIS SYS MANUAL                          | 3.0   |
| NEAX 2000 IPS Office Data Programming Manual           | 4.0   |
| NEAX 2000 IPS Maintenance Manual                       | 3.0   |
| NEAX 2000 IPS WCS System Manual                        | 2.0   |
| NEAX 2000 IPS OAI SYS MANUAL                           | 4.0   |
| NEAX 2000 IPS MatWorX User Guide                       | 6.0   |
| NEAX 2000 IPS MatWorX Installation Guide               | 5.0   |
| NEAX 2000 IPS DM INSTALLATION                          | 3.0   |
| NEAX 2000 IPS FEATURE PROGRAM                          | 4.0   |
| NEAX 2000 IPS BUS/HOTEL/DATA F&S                       | 6.0   |
| NEAX 2000 IPS CCIS FEATURE & SPEC                      | 6.0   |
| NEAX 2000 IPS ISDN-QSIG F&S                            | 6.0   |
| NEAX 2000 IPS WCS F&S                                  | 6.0   |
| 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   |
| D <sup>term</sup> Assistant IPS (version 3) User Guide | 2.0   |