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NEAX[®] 2000 IVS²
INTEGRATED VOICE SERVER

Retrofit Configuration Guide

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NEC America, Inc.

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NEAX 2000 IVS² Retrofit Configuration Guide

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CHAPTER 1 INTRODUCTION

Since the birth of the NEAX 2000 IVS family in 1994, NECAM has provided multiple software upgrades to products on the same processor. The ongoing process of growth and development produced the next generation of the NEAX 2000 IVS². The NEAX 2000 IVS² is positioned to provide a more cost effective-solution for the small- to medium-sized business, hotel property or networked environment. It introduces new hardware and software providing many enhanced features, built-in capabilities and expanded capacities. The need for several circuit cards has been done away with due to the foresight in architectural design with which this product was designed. At the same time, the past has not been forgotten. The life span of the NEAX 2000 IVS can continue with the migration of software.

Series 2200 software provided users the ability to migrate their NEAX 1000 IVS or NEAX 2000 IVS to the software platform released with the NEAX 2000 IVS². This upgrade will provide the current released NEAX 2000 IVS² Series software feature set plus new and enhanced capabilities. Users will be able to retain more of their original investment in the PBX hardware. The desktop terminals can be updated or they can choose to keep their existing D^{term} equipment. The new Retrofit platform provides the pathway for users to take advantage of future software enhancements. Future upgrades, for a previously Retrofitted system, will be performed by simply installing a new 48-Port System Software (FD).

The migration of a NEAX 1000 IVS or a NEAX 2000 IVS to the NEAX 2000 IVS² platform is made possible by the installation of the SPN-CP16 Main Processor (MP) and the SPN-CP17 Firmware Processor (FP) cards. In some cases, the SMDR card will need to be replaced (dependant upon the actual requirement). In a CCIS Network environment a simple chip kit upgrade will be required for the CCH cards.

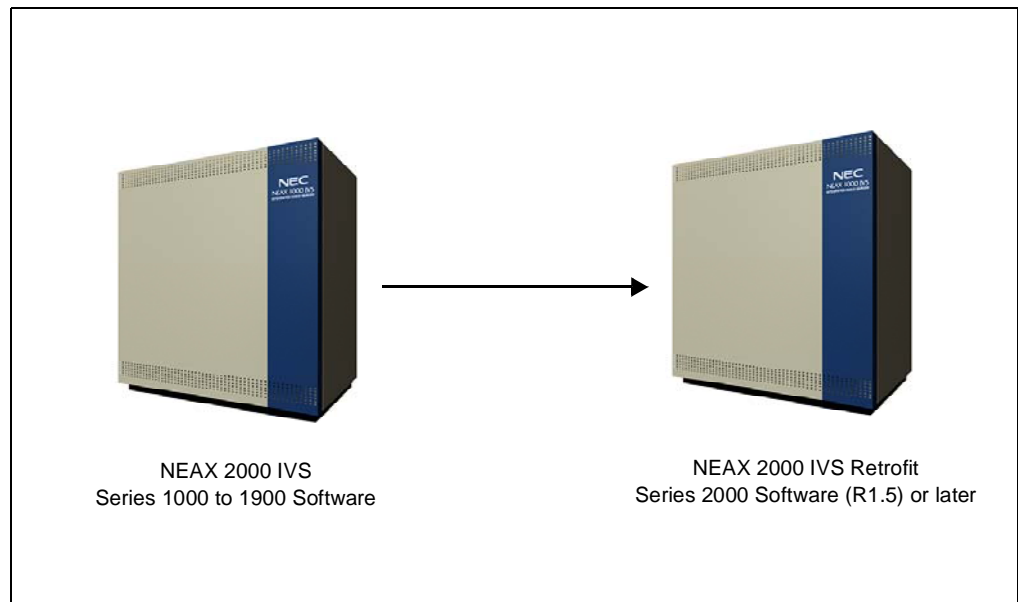


Figure 1-1 Migration Scheme

This page is for your notes.

CHAPTER 2 RETROFIT SYSTEM MIGRATION

Hardware/Software Migration

The migration to the NEAX 2000 IVS² platform is made possible by replacement of the Main Processor (MP) and Firmware Processor (FP) cards in the NEAX 1000 IVS or NEAX 2000 IVS. The SPN-CP16 (MP) and the SPN-CP17 (FP) are the hardware components that facilitate the migration to the Series 2000 software platform.

The Series 2200 software provides users the ability to migrate their NEAX 1000 IVS or NEAX 2000 IVS to the new software platform released with the NEAX 2000 IVS². The new Retrofit platform will provide the path for our customer to take advantage of future software enhancements. Future upgrades, for a previously Retrofitted system, will be performed by simply installing a new 48-Port System Software (FD).

When your configuration requires more Line/Trunk (LT) ports or advanced features, you must add some combination of the optional Software Keys. The Software Keys will be delivered via the Key Keeper disk (150441). The contents of the Key Keeper disk will vary based on the Software Keys that have been loaded on it. When an order is placed for additional features (Software Keys) the Key Keeper disk must be ordered as well. The SPN-CP16 supports all available Software Keys that are available in the NEAX 2000 IVS² with an SPN-CP14.

CP16 Retrofit Starter Kits

Retrofit CPU Kit 128-Port (151179)

Retrofit CPU Kit 512-Port (151180)

Retrofit CPU Kit 512-Port w/CCIS (151181)

Note 1: *No software license agreement required.*

Note 2: *Retrofit Starter Kits do not include Firmware Processors (CP17).*

CP17 Firmware Processor (151411)

VSP Platform (PIMABA-UA) - No FP required

SP Platform (PIMQ-UA) - No FP required

MP Platform (1 to 2 PIMN-UA) - One CP17 required

LP Platform (1 to 2 PIMN-UA) - One CP17 required

LP Platform (3 to 4 PIMN-UA) - Two CP17s required

LP Platform (5 to 6 PIMN-UA) - Three CP17s required

LP Platform (7 to 8 PIMN-UA) - Four CP17s required

MP/FP Processors

SPN-CP16 (Retrofit MP)

The SPN-CP16 has many built-in features. Some are new features and some are enhancements to existing MP card (CP00 and CP03) features. The SPN-CP16 is shipped as part of a kit that includes the software and documentation necessary for installation. By reducing the number of additional interface cards required, the built-in features designed to make better use of the back plane area are listed below.

- 16 3-Party Conference Trunks
- Dial Tone Generator
- 32 Push Button Senders
- Four Push Button Receivers (do not use FP Time Slots)
- 33.6 kbps Internal Modem
- Two RS232C Ports for SMDR/MCI/MAT at 19.2 kbps
- MAT directly connected can upload/upgrade CPU at 56 kbps
- Hold Tone Selectable - Internal Melody or External Source (one jack/input)
- Two Phase Lock Oscillators for Source Clock or Receiver Clock (the SPN-CK00 is not required)
- Two Digital Announcement Trunks (do not use FP Time Slots)

SPN-CP17 (Retrofit FP)

BUS cards are required for the PN-CP17 given that it does not have BUS interface function built into it like the PN-CP15. The Retrofit system's maximum requirement for CP17 cards is four. The CP17 is required under the following conditions:

- When there are more than two PIMs.
- When Remote PIMs are connected even in a one- or two-PIM system.
- When traffic requirements warrant (see [Table 2-1](#)).

Table 2-1 Traffic Capacity

SYSTEM CONFIGURATION	BHCA WITH FIRMWARE PROCESSOR (FP) (PN-CP17)				BHCA WITHOUT FP (NO PN-CP17)
	1 FP	2 FP	3 FP	4 FP	1 OR 2 PIM
Business or Hotel/Motel without ACD/OAI	2500	5000	7000	8000	2000
Business or Hotel/Motel with ACD/OAI	2000	4000	5000	5500	1000

Application Processor (AP) Expanded Highway BUS

The expansion of the digital trunks is made possible, in part, due to the new generation Main Processor (CP16). The new Main Processor (MP) board allows access to a second Application Processor BUS (AP BUS). The new MP board allows access to the original Lower AP BUS (128 AP time slots) and the previously unavailable Upper AP BUS (128 AP time slots). The original CP00 and CP03 boards provide access to only 128 AP time slots, the Lower AP BUS.

Port Interface Module (PIM) Compatibility

The Retrofit system requirements for the Expanded AP Highway BUS, varies depending on the card placement.

- The NEAX 1000 IVS and NEAX 2000 IVS units, PIM-ABA, PIM-UA, PIM-UB and PIM-Q can access the Lower AP BUS Highway in PIMs 1 through 7.
- The NEAX 1000 IVS and NEAX 2000 IVS units, PIM-ABA, PIM-UA, PIM-UB and PIM-Q can access both the Lower and Upper AP BUS Highways only in PIM 0.

This page is for your notes.

CHAPTER 3 SYSTEM CONDITIONS

System Configurations

The PIMs for the NEAX 2000 IVS² cannot be mounted together with the PIMs for the former system.

The Expanded Highway for Application Processor cards can be used on PIM 0 only.

8-Circuit Line/Trunk (L/T) 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 PIM 0.

Example: The system is currently configured with five T1s. The 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 must be the PN-24DTA-C cards. Room must be made in PIM 0 to accommodate the new PN-24DTA-C cards on the Expanded Highway. The system will 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 PIM 0 in order to use the Expanded Highway. The Expanded Highway allows up to 256 AP time slots per system.

D^{term}

The following terminal is not supported by the Retrofit system.

- Data Adapter of D^{term} Series III

Attendant Console

The Retrofit system is supported by two types of Attendant Consoles.

- 2-Wire/4-Wire small type Attendant Console (SN610 ATTCON)
- Desk Console (SN716 DESKCON)

Maintenance Administration Terminal (MAT)

MATWorX Studio for the NEAX 2000 IVS² is required for the Retrofit system. The former system's MATWorX 32 cannot be used for the Retrofit system.

Existing system data for the NEAX 2000 IVS cannot be reloaded for the Retrofit system. MATWorX Studio Clip Board can be used to convert NEAX 2000 IVS database to NEAX 2000 IVS² database or new data entry is required when the system is upgraded.

The Graphical Configuration Report and a MATWorX Add-In tool is not available for the Retrofit system.

Quick Install Program for the NEAX 2000 IVS² is not available for the Retrofit system.

The Clip Board Conversion Tool works in conjunction with the MATWorX Studio Clip Board.

Customer Administration Terminal (CAT)

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

Built-in Circuits

When CP16 is "C" loaded, the following built-ins are available.

- The register E200 is now in system memory (not on a physical LEN).
- The Digital Announcement Trunks (DAT) EB000 and EB001 are now in system memory (not on a physical LEN).

CHAPTER 4 HARDWARE/SOFTWARE REQUIREMENTS

To upgrade the former NEAX 2000 IVS, the following hardware and software must be changed.

Required Hardware

Table 4-1 Required Hardware

ITEM	FORMER NEAX 2000 IVS	RETROFIT SYSTEM
MP (including MP program)	PN-CP00 PN-CP00-B PN-CP00-C PN-CP03 PN-CP03-C	SPN-CP16
FP	PN-CP01	SPN-CP17
AP00 Note 1	SPN-AP00-A MPC-D (AP) or earlier revision	SPN-AP00-B MRC (AP)
Expansion Memory for AP00	PN-ME00-C or earlier revision	PZ-M537
CCH	SPN-SC00 CCH-C (AP) or earlier revision	SPN-SC00 CCH-D (AP)
MAT Program Note 2	MATWorX 32	MATWorX Studio Version 3.51 MATWorX Suite - 2000 MATWorX - Clip Board
MAT Cable Note 3	MAT CA-M MAT CA-Q MAT CA-P	MAT CA-P MAT CA-T

Note 1: *The Data Base Module (DBM) for WCS Multi-Site Roaming (PCS type), SPN-AP00-A DBM (AP) is used for the Retrofit system.*

Note 2: *The MAT program for the former system cannot be used for the Retrofit system. MATWorX for NEAX 2000 IVS² must be used.*

Note 3: *The MAT CA-P for PN-CP03 can be used for the Retrofit system.*

Note 4: *The BUS, Power, Application Processor, and 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.*

PN-CP16 (MP)

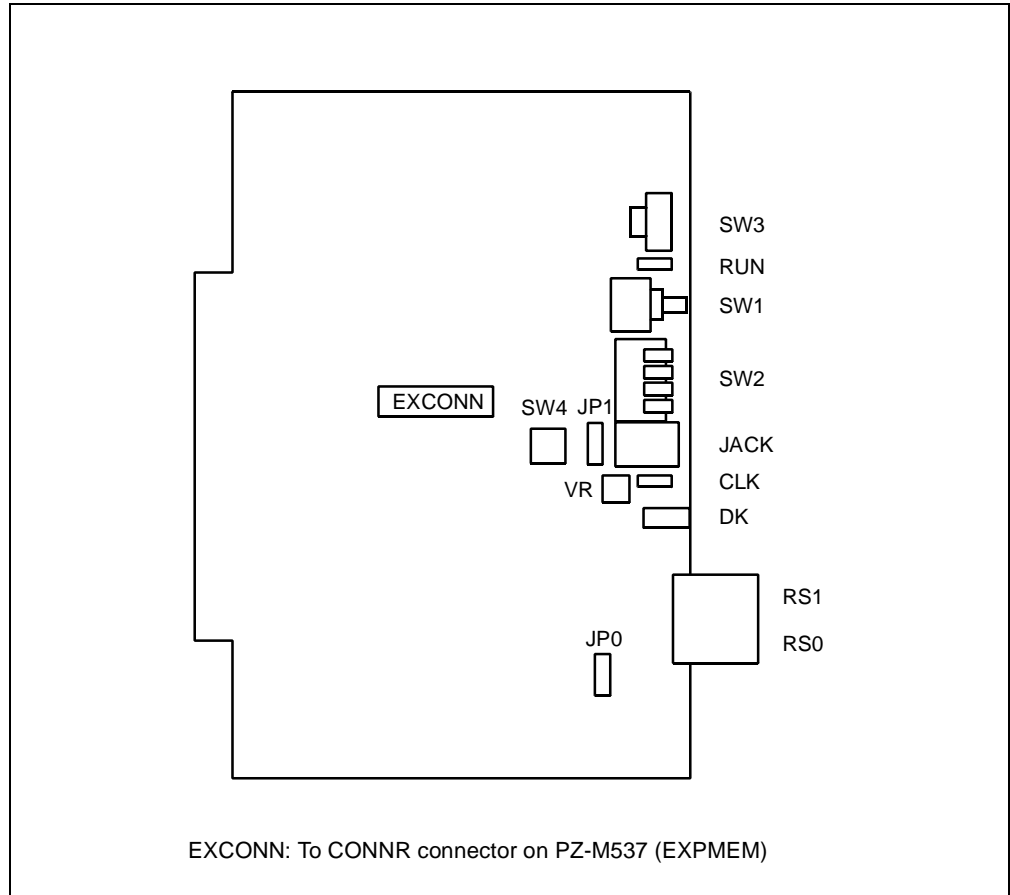


Figure 4-1 PN-CP16 (MP)

Table 4-2 Retrofit Control Card (MP)

ITEM	STOCK NUMBER	DESCRIPTION
RETROFIT MAIN PROCESSOR (MP)		
PN-CP16 (MP)	See Retrofit Kits	Main Processor Retrofit Guide: <ul style="list-style-type: none"> • Same function as CP14 excluding BS00 function used with CP17 (FP) • Memory expanded by PZ-M537

PN-CP17 (FP)

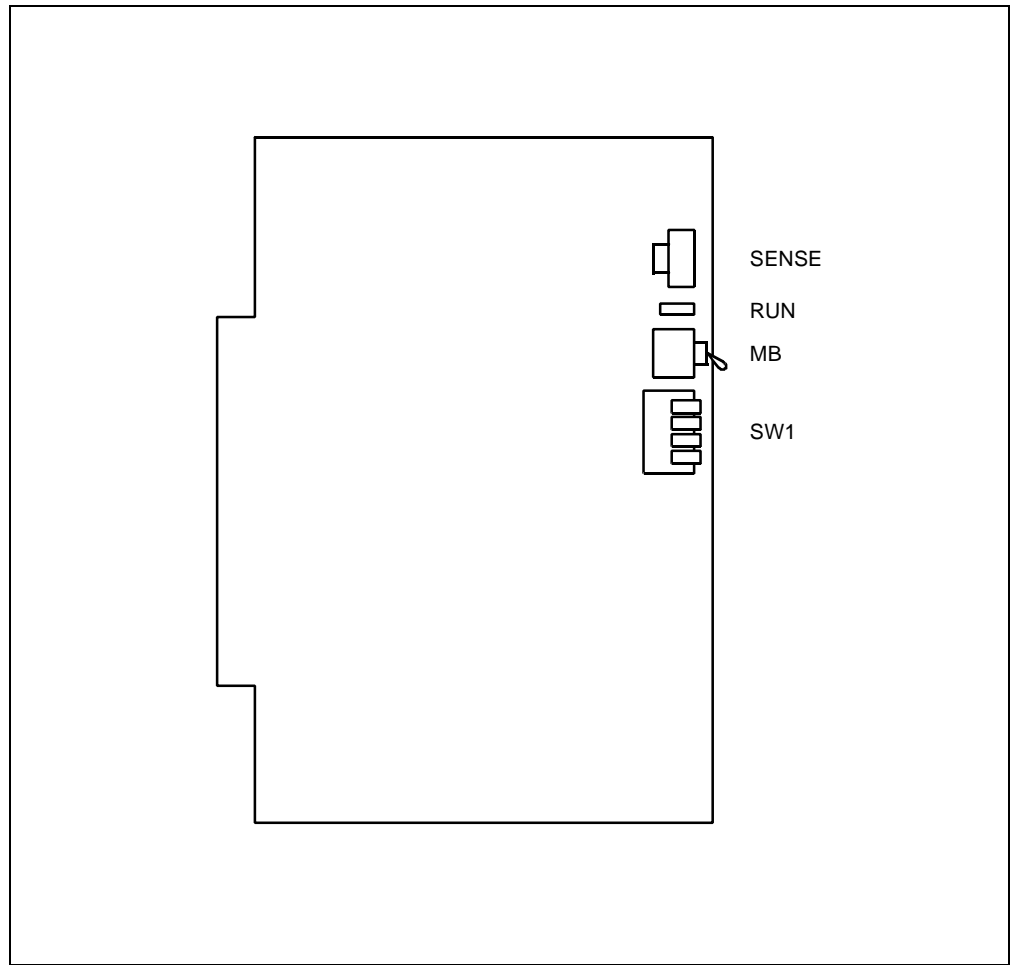


Figure 4-2 PN-CP17 (FP)

Table 4-3 Retrofit Control Card (FP)

ITEM	STOCK NUMBER	DESCRIPTION
RETROFIT FIRMWARE PROCESSOR (FP)		
PN-CP17 (FP)	151411	Firmware Processor Retrofit: <ul style="list-style-type: none"> • Used for upgrading the NEAX 2000 IVS medium and large platform to Series 2000 software or later • Used with CP16 (MP) only • Maximum four per system • One FP for each two PIMs

**PZ-M537
(EXPMEM)**

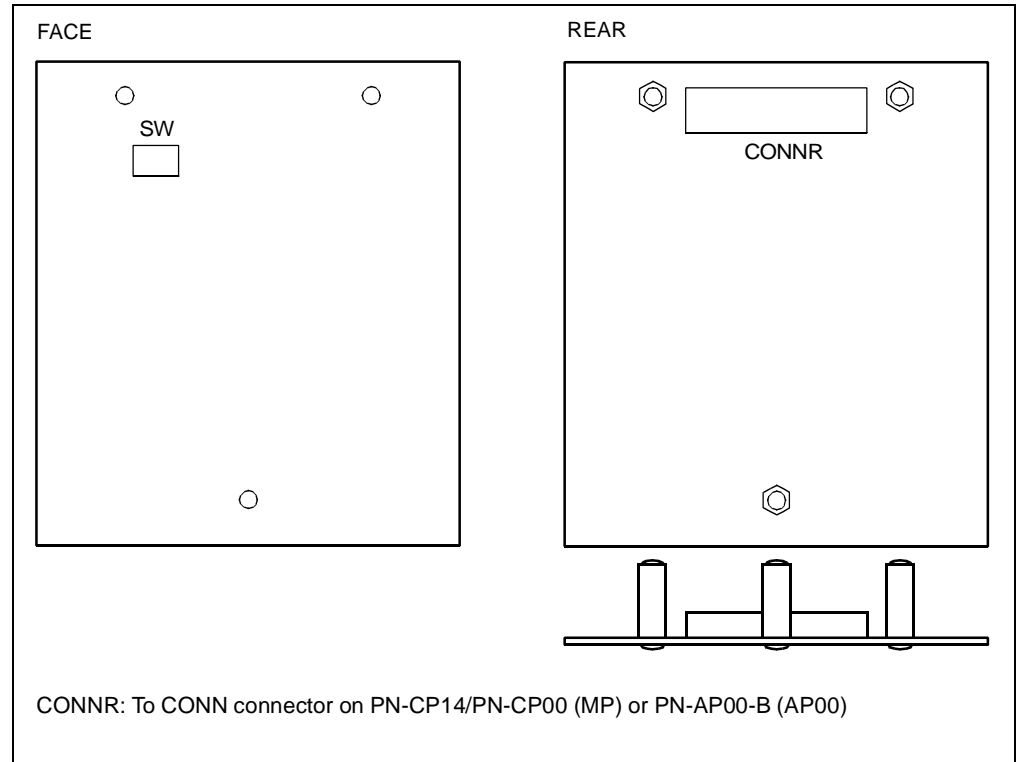


Figure 4-3 PZ-M537 (EXPMEM)

Table 4-4 PZ-M537 (EXPMEM)

ITEM	STOCK NUMBER	DESCRIPTION
PZ-M537	151486	Expansion Memory for CP16 and AP00-B: <ul style="list-style-type: none"> • (FROM x 4 MB, RAM x 2 MB) • Virtual + DLC from 512 to 768 • Wireless PS from 128 to 256 • ISDN-BRI Station from 46 to 128 • Data Station from 64 to 128 • Call Forward Outside from 240 to 496 • ID Codes from 1000 to 3000 (CP14) • Message Reminder from 512 to 1024 • Name Display from 256 to 512 • Station Speed Dial from 4000 to 10,000 • Built-in SMDR Buffer from 256 to 1280 • AP00-B SMDR Buffer from 1600 to 27,000

PN-AP00-B (AP00)

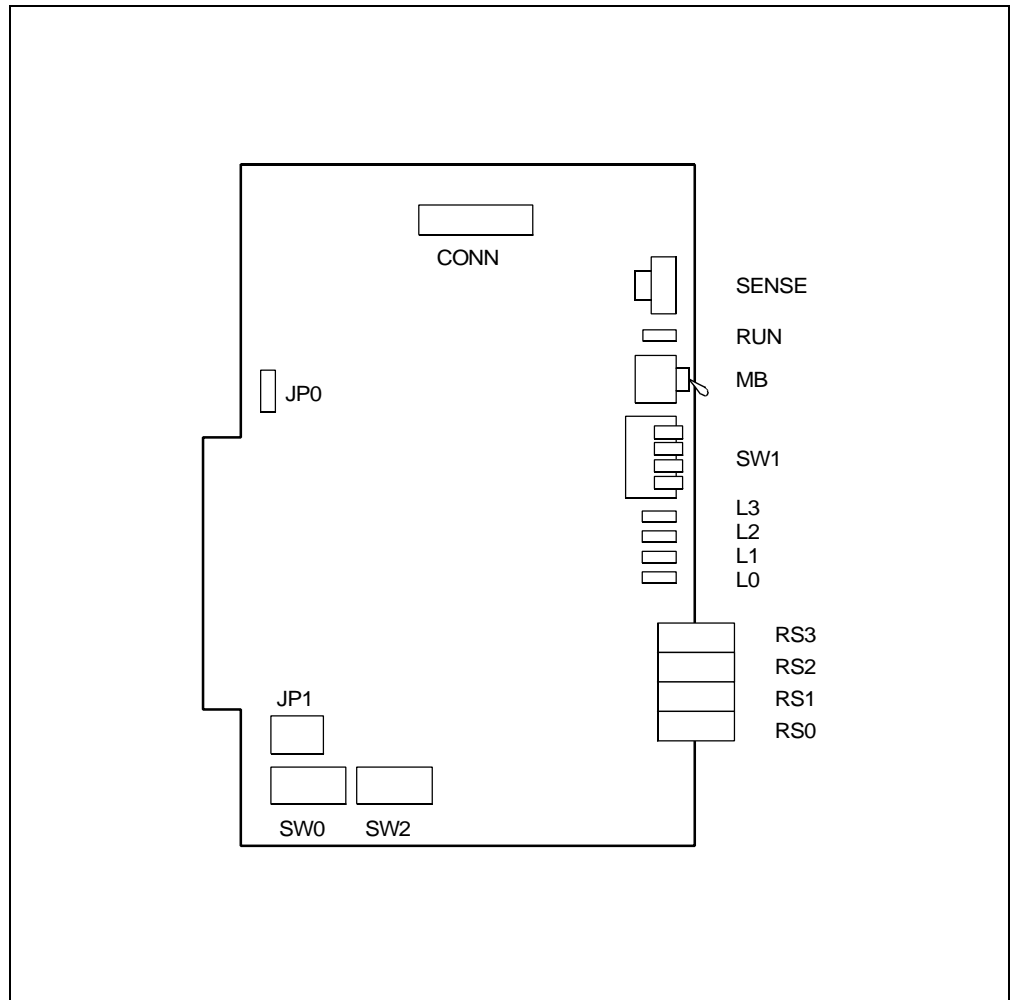


Figure 4-4 PN-AP00-B (AP00)

Table 4-5 SMDR/MCI/PMS/H/M Printer Interface Card

ITEM	ABBR	STOCK NUMBER	APP TIME SLOTS	DESCRIPTION
SPN-AP00-B MRC-A PN-AP00-B	AP00	151280	1	SMDR/MCI/PMS/H/M Card: <ul style="list-style-type: none"> • Used for Call Accounting (SMDR), Property Management System (PMS), Hotel/Motel printer and Message Center Interface (MCI) • Uses two AP time slots for CCIS centralized SMDR/MCI • AP Number 4-15 and 20-31 • Lower AP Highway • RS232C: 1-Port synchronous and 3-Port asynchronous
PZ-M537	EXPMEM	151486	0	Expansion Memory for AP00-B. Expands Buffer from 1600 to 27000.

PN-SC00-D (CCH)

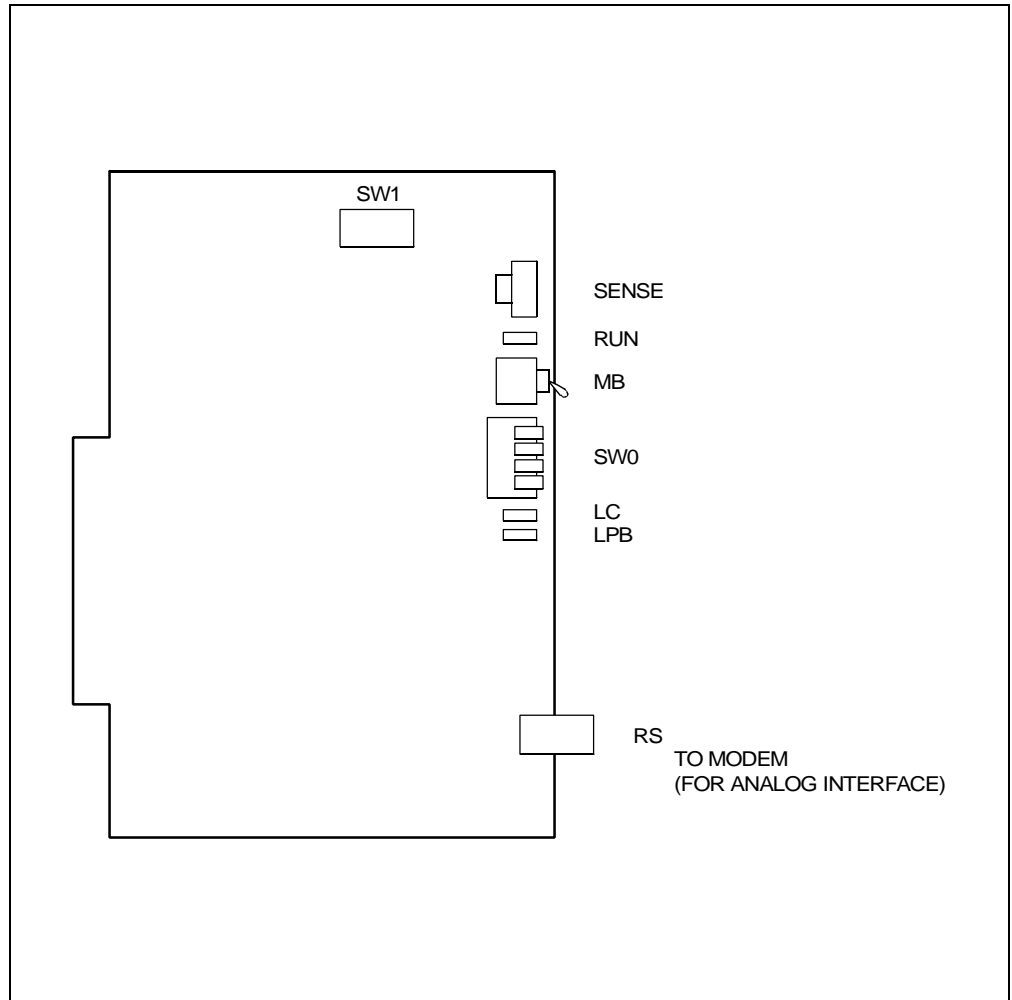


Figure 4-5 PN-SC00-D (CCH)

Table 4-6 Signal Channel Handler Card

ITEM	ABBR	STOCK NUMBER	APP TIME SLOTS	DESCRIPTION
SPN-SC00 CCH-D PN-SC00 (CCH)	CCH	151282	1 (Without Centralized Billing)	Common Channel Handler for CCIS: <ul style="list-style-type: none"> • Used for external CCH or drop/insert CCH • AP Number 4-15 and 20-31 • Lower AP Highway • Maximum eight cards per system • One to nine AP time slots dependant on centralized billing • Dependant on position in network: <ul style="list-style-type: none"> • Center Office, two AP time slots per CCH link • Tandem Office, two AP time slots/CCH link + (# of CCH links - one) • End Office, one link, two AP time slots
SC00 (CCH) Chip Kit SC-2753 IXS CCH PROG-A1	CCH Chip Kit	150398	0	Chip Kit: <ul style="list-style-type: none"> • Used for upgrading existing CCH for use in NEAX 2000 IVS² and Retrofit system • Used for upgrading SC00-C to SC00-D

MAT CA-T/MAT CA-P

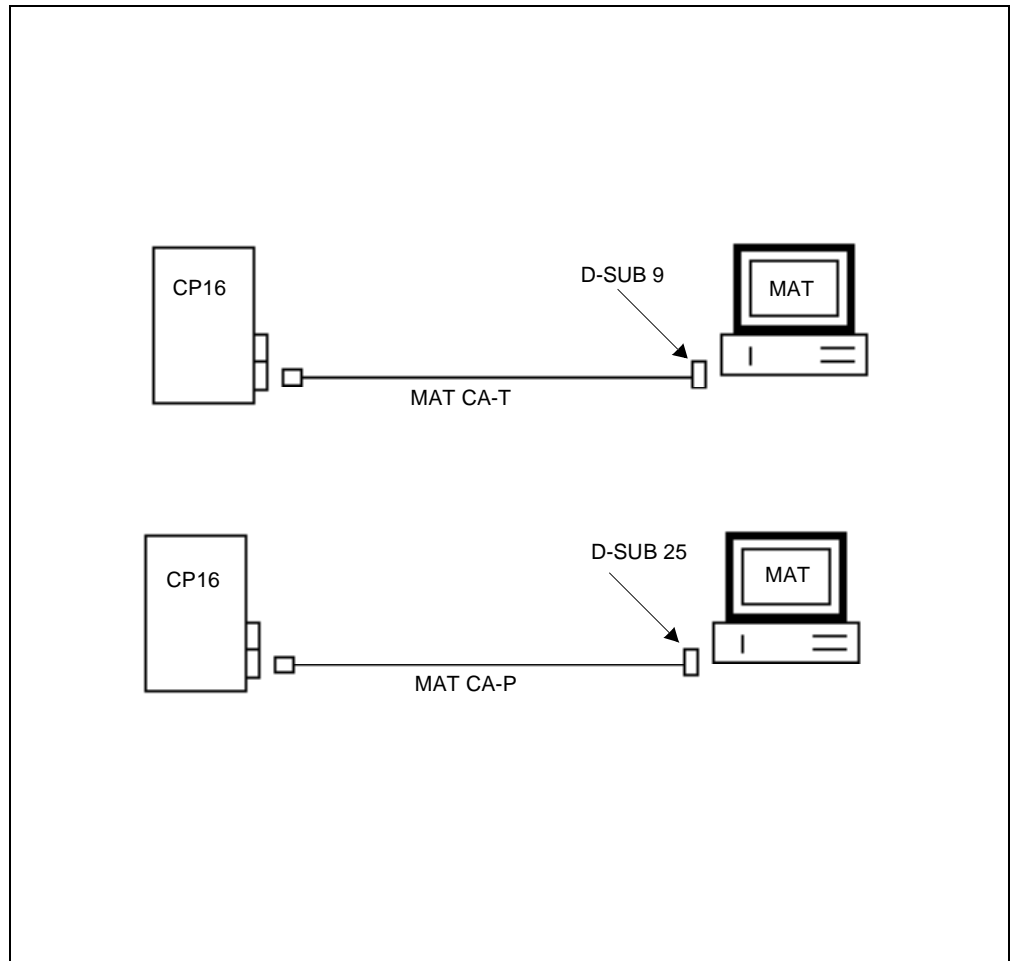


Figure 4-6 Maintenance Administration Terminal (MAT)

Table 4-7 MAT Cables

ITEM	STOCK NUMBER	DESCRIPTION
MAT CA-T	151029	Local MAT Cable for CP16 <ul style="list-style-type: none"> • 6.6 ft. (2 m) long (female RS232) (PC Side: 9 Pin D-SUB)
MAT CA-P	151016	Local MAT Cable for CP16 <ul style="list-style-type: none"> • 6.6 ft. (2 m) long (female RS232) (PC Side: 25 Pin D-SUB)

Required Software

The NEAX 2000 IVS Retrofit software design is as advanced as its hardware. It ensures that the system can support evolving applications and be reliable in the future. The software is designed with modularity in mind. This allows customers a greater degree of cost control for new installations and for upgrades to features, capacities and the software series itself.

The unique configuration provides improved efficiency for updates to the generic program by floppy disk, and simplifies upgrades for system features and capabilities throughout its life. Software activation is automated and user-friendly on the NEAX 2000 IVS Retrofit, via MATWorX Studio. This activation is controlled through a simple application. This saves time and prevents the possibility of input errors.

The NEAX 2000 IVS Retrofit uses the Time Division Switch to allocate its Line/Trunk (LT) and Application Processor (AP) ports.

Number of Ports for Line/Trunk cards (512)

- 64 Ports per PIM
- 256 Ports per system (MP without expansion memory)
- 512 Ports per system (MP with expansion memory)

Number of Ports for Application Processor (AP) cards (256)

- 128 Ports per system - Basic AP ports (basic hardware)
- 128 Ports per system - AP ports (expanded hardware)

Table 4-8 Required Software

ITEM	STOCK NUMBER	DESCRIPTION
GENERIC PROGRAM		
48-Port System Series 2200 Software (FD)	150391	Series 2200 Software (FD) Basic Business/Hotel/Motel features: <ul style="list-style-type: none"> • 48 LT Ports, five T1s/E1s, remote PIMs, five ISDN/PRI DCHs, 48 ISDN/BRI Trunks • NEC Customer Software License Agreement (required)
KEY KEEPER (PARENT PART NUMBER OF OPTION SOFTWARE)		
Key Keeper	150441	Floppy disk that holds selected optional key files
CAPACITY/OPTION (KEY) SELECTIONS (TO BE INCLUDED IN KEY KEEPER - FLOPPY DISK)		
LT Ports (48 - 128)	150600	Expands LT Ports from 48 to 128 Ports
LT Ports (48 - 256)	150601	Expands LT Ports from 48 to 256 Ports
LT Ports (48 - 512)	150602	Expands LT Ports from 48 to 512 Ports
ADD-ON TO EXISTING NEAX 2000 IVS²		
LT Ports (128 - 256)	150603	Expands LT Ports from 128 to 256 Ports
LT Ports (128 - 512)	150604	Expands LT Ports from 128 to 512 Ports
LT Ports (256 - 512)	150605	Expands LT Ports from 256 to 512 Ports
CCIS Link (1)	150609	Expands CCIS links from 0 to 1 links
CCIS Links (4)	150610	Expands CCIS links from 0 to 4 links
CCIS Links (8)	150611	Expands CCIS links from 0 to 8 links
CCIS Links (1 to 4)	150612	Expands CCIS links from 1 to 4 links
CCIS Links (1 to 8)	150613	Expands CCIS links from 1 to 8 links
CCIS Links (4 to 8)	150614	Expands CCIS links from 4 to 8 links
Wireless	150616	Adds wireless capability and supports 128 ZTs and 256 PSs (PZ-M537 required on MP for PS > 128)
Wireless Demo	150617	Provides capacity supports for two ZTs and four PSs
T1/E1 6 to 10 Cards	150606	Expands T1/E1 capacity between 144 to 240 channels (used with 150123)
ISDN DCH 5 to 8 Cards	150608	Expands ISDN/PRI capacity between five and eight DCH cards (used with 150122)

Table 4-8 Required Software (Continued)

ITEM	STOCK NUMBER	DESCRIPTION
SOFTWARE KEYS (SERIES 2100 SOFTWARE OR LATER)		
IPT x 1 Card	150618	Expands IP links from 0 to 1 links
IPT x 4 Cards	150620	Expands IP links from 0 to 4 links
IPT x 8 Cards	150628	Expands IP links from 0 to 8 links
IPT x 1 to 4 Cards	150622	Expands IP links from 1 to 4 links
IPT x 1 to 8 Cards	150625	Expands IP links from 1 to 8 links
IPT x 4 to 8 Cards	150627	Expands IP links from 4 to 8 links

PZ-M537 (Expanded Memory Card)

The PZ-M537 (Expanded Memory) card is used to expand the system capacity. When the memory module is mounted to the MP card, many options and features are enhanced. When the memory module is mounted to the AP00-B card, the SMDR call record capacity is expanded.

Note: *Two PZ-M537 per system, one mounted on the CP14 and one mounted on the AP00-B.*

The following table shows the system capacity with and without the PZ-M537 (Memory Expansion card for MP/AP00 card).

Table 4-9 System Capacity with and without PZ-M537

SYSTEM CAPACITY	W/O EXPMEN	WITH EXPMEM
WHEN MOUNTED ON CP14 (MP) CARD		
Station + Trunk	384	768
DID Dial Conversion	500	1000
Analog Station	256	512
Digital Station	256	512
PS II	128	256
Virtuals	256	512
Analog Station + Digital + PS II	256	512
Virtuals + Digital	512	768
ISDN Terminal	64	128
Data Station	64	128
Call Forwarding - Outside Set	240	496
Authorization Code/Forced Account Code/DISA Code	1000	10000
Message Reminder Set	512	1024
Name Display/Guest Name Display	256	512
Station Speed Dial Set	4000	10000
MP Built-in SMDR Call Record	256	1280
PS II Simultaneous Connection	128	216
IP Trunk Channels	48	128
WHEN MOUNTED ON AP00-B CARD		
SMDR Call Record	1600	27000

Retrofit Starter Kits

151179	RETROFIT CPU KIT 128-PORT	
1	150635	SPN-CP16
1	152015	Retrofit Guide
1	0221304	MATWorX Studio Version 3.51 (CD)
1	0221301	MATWorX - NEAX 2000 Clip Board
1	0221376	MATWorX - NEAX 2000 Suite
1	150391	48-Port System Software - Series 2200 Software (FD)
1	150441	Expansion Key (FD)
1	150600	LT Ports 48 to 128

151180	RETROFIT CPU KIT 512-PORT	
1	150635	SPN-CP16
1	152015	Retrofit Guide
1	0221304	MATWorX Studio Version 3.51 (CD)
1	0221301	MATWorX - NEAX 2000 Clip Board
1	0221376	MATWorX - NEAX 2000 Suite
1	150391	48-Port System Software - Series 2200 Software (FD)
1	150441	Expansion Key (FD)
1	150602	LT Ports 48 to 512

151181	RETROFIT CPU KIT 512-PORT WITH CCIS	
1	150635	SPN-CP16
1	152015	Retrofit Guide
1	0221304	MATWorX Studio Version 3.51 (CD)
1	0221301	MATWorX - NEAX 2000 Clip Board
1	0221376	MATWorX - NEAX 2000 Suite
1	150391	48-Port System Software - Series 2200 Software (FD)
1	150441	Expansion Key (FD)
1	150602	LT Ports 48 to 512
1	150610	CCIS 4 Cards

CHAPTER 5 LEN LAYOUT

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

Table 5-1 LEN Layout for CP03/CP00 PIMN-UA

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	03110	0315	0319	PIM 4
0258	0262	0266	0270	0274	0278	0282	0286	0290	0294	0298	0302	0306	3100	0314	0318	
0257	0261	0265	0269	0273	0277	0281	0285	0289	0293	0297	0301	0305	3090	0313	0317	
0256	0260	0264	0268	0272	0276	0280	0284	0288	0292	0296	0300	0304	308	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	00110	0015	0019	0023	0027	0031	0035	0039	0043	0047	0051	0055	0059	0063	PIM 0
0002	0006	0100	0014	0018	0022	0026	0030	0034	0038	0042	0046	0050	0054	0058	0062	
0001	0005	0090	0013	0017	0021	0025	0029	0033	0037	0041	0045	0049	0053	0057	0061	
0000	0004	008	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 PIM)

Table 5-2 LEN Layout for CP16 PIMN-UA

703	707	711	715	719	723	727	731	735	739	743	747	751	755	759	763	PIM 7
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	
603	607	611	615	619	623	627	631	635	639	643	647	651	655	659	663	PIM 6
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	
503	507	511	515	519	523	527	531	535	539	543	547	551	555	559	563	PIM 5
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	
403	407	411	415	419	423	427	431	435	439	443	447	451	455	459	463	PIM 4
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	
303	307	311	315	319	323	327	331	335	339	343	347	351	355	359	363	PIM 3
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	
203	207	211	215	219	223	227	231	235	239	243	247	251	255	259	263	PIM 2
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	
103	107	111	115	119	123	127	131	135	139	143	147	151	155	159	163	PIM 1
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	
003	007	011	015	019	023	027	031	035	039	043	047	051	055	059	063	PIM 0
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	

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)

Table 5-3 LEN Layout for CP03 PIMQ-UA

	LTC 0			LTC 1			LTC 2				
PIMQ-UA SLOT NUMBER	00	01	02	03	04	05	06	07	08	09	10
UPPER LEN NUMBERS	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 NUMBER	1	3	5	7	9	11	13	15	1	3	5
LOWER LEN NUMBERS	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 NUMBER	0	2	4	6	8	10	12	14	0	2	4

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

Note: Shaded areas are not used.

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

Table 5-4 LEN Layout for CP16 PIMQ-UA

	LTC 0			LTC 1			LTC 2				
PIMQ-UA SLOT NUMBER	00	01	02	03	04	05	06	07	08	09	10
UPPER LEN NUMBERS	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 NUMBER	1	3	5	7	9	11	13	15	1	3	5
LOWER LEN NUMBERS	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 NUMBER	0	2	4	6	8	10	12	14	0	2	4

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

Note: Shaded areas are not used.

LEN Layout for CP03 PIMABA-UA (2-PIM NEAX 1000 IVS)

Table 5-5 LEN Layout for CP03 PIMABA-UA

		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		
	Not Used ↳		0124	0068	0076	0084	0092		0100		0108	
			0123	0067	0075	0083	0091	0095	0099	0103	0107	BS01
			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		
PIM 0		0061	0005	0013	0021	0029		0037		0045		
		0060	0004	0012	0020	0028		0036		0044		
		0059	0003	0011	0019	0027	0031	0035	0039	0043	BS00	
		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 (L/T) circuit card with cabling in this slot. This slot has no connection to the MDF via the back plane (LTC cables).
- Note 2:** When an 8-Port L/T card, which requires cabling to MDF, is mounted in Slot 04, Slot 05 must be left vacant or mounted with circuit cards that do not interfere with the 8-Port card mounted in LT04.
- Note 3:** When an 8-Port L/T card, which requires cabling to MDF, is mounted in Slot 06, Slot 07 must be left vacant or mounted with circuit cards 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 number E200 to LEN Number 0124.
- Note 5:** If single-line cards are mounted in LT or LT/AP Slots, an external ring generator must be connected to PWROB. The system power supply does not provide these voltages. It is recommended that the APR adapter is used in dual port mode to provide for single-line devices.

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 NEAX 1000 IVS)

Table 5-6 LEN Layout for CP16 PIMABA-UA

	Note 1				Note 2			Note 3		
PIM 1	163	107	115	123	131		139		147	
	162	106	114	122	130		138		146	
	161	105	113	121	129		137		145	
Not Used	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)	
PIM 0	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	
	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 (L/T) circuit card with cabling in this slot. This slot has no connection to the MDF via the back plane (LTC cables).

Note 2: When an 8-Port L/T card, which requires cabling to MDF, is mounted in Slot 04, Slot 05 must be left vacant or mounted with circuit cards that do not interfere with the 8-Port card mounted in LT04.

Note 3: When an 8-Port L/T card, which requires cabling to MDF, is mounted in Slot 06, Slot 07 must be left vacant or mounted with circuit cards 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 number E200 to LEN Number 0124.

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

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) |

This page is for your notes.

CHAPTER 6 SYSTEM CAPACITY

System Capacity for the NEAX 2000 IVS and Retrofit System

Table 6-1 shows the system capacity for the former NEAX 2000 IVS and Retrofit system.

- 48-Port PIM: NEAX 1000 IVS
- 64-Port PIM: NEAX 2000 IVS, NEAX 7400 ICS Model 120, NEAX 7400 ICS Model 100
- 72-Port PIM: NEAX 2000 IVS Small Platform System, NEAX 7400 ICS Model 110, NEAX 7400 ICS Model 80VS

Table 6-1 System Capacity for the NEAX 2000 IVS and Retrofit System

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	

Table 6-1 System Capacity for the NEAX 2000 IVS and Retrofit System (Continued)

ITEM	FORMER SYSTEM			RETROFIT SYSTEM		
	48-PORT PIM	64-PORT PIM	72-PORT PIM	48-PORT PIM	64-PORT PIM	72-PORT PIM
ISDN Stations	22	96	18	22	64	18
					128 Note 1 Note 2	
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
Call Forwarding Outside Settings	240	240	240	240	240	240
				496 Note 1	496 Note 1	496 Note 1

Table 6-1 System Capacity for the NEAX 2000 IVS and Retrofit System (Continued)

ITEM	FORMER SYSTEM			RETROFIT SYSTEM		
	48-PORT PIM	64-PORT PIM	72-PORT PIM	48-PORT PIM	64-PORT PIM	72-PORT PIM
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 PIM 0.

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CHAPTER 7 SYSTEM UPGRADE MATRIX

Series 1000 through 1900 and 2000 to 2200 Software

Objective This chapter is designed to assist you in determining the equipment needed to upgrade an existing NEAX 1000 IVS/NEAX 2000 IVS and NEAX 2000 IVS² to Series 2200 software.

Recommendations If upgrading from Series 1900 software or earlier it is recommended that a detailed site survey be performed before attempting to configure the system. You will need detailed configuration information to properly configure the system.

Upgrade Matrix The following tables can be used to determine the hardware and software requirements when upgrading to Series 2200 software.

Note: *Tables 7-1 and 7-2 are used to determine the basic requirements. Once the basic requirements are identified then the next step are Tables 7-3, 7-4 and 7-5/7-6.*

- Single CPU and System Software (See [Table 7-1](#)): This table is used to determine the single CPU, FP and software requirements when upgrading to Series 2200 software.
- Additional Card Replacement (See [Table 7-2](#)): This table is used to determine the replacement of any additional cards depending on the new features being added.
- ISDN, CCIS and Conferencing (See [Table 7-3](#)): This table is used to determine hardware and additional software requirements for new features being introduced with Series 2200 software.
- IP Trunk (See [Table 7-4](#)): This table is used to determine the additional hardware and additional software for IP Trunk applications with Series 2200 software.
- Expanded Memory (See [Tables 7-5 and 7-6](#)): These two tables are used to determine the requirements for adding the PZ-M537 daughter card to the CP16.

Table 7-1 Single CPU and System Software

UPGRADING TO SERIES 2200 SOFTWARE														
CPU/SYSTEM TO BE UPGRADED		CPU AND FP					SYSTEM SOFTWARE			HARDWARE		FIRMWARE		
System/CPU Type and Software Type	Number of Station and Analog Trunk Ports (LT)	151179	151180	151181	151486	151411	150391	150441 Key Keeper (FD) Note 1		151029	151280	151398	150445	150456
		CPU Retrofit Kit 128-Port	CPU Retrofit Kit 512-Port	CPU Retrofit Kit 512-Port w/CCIS	PZ-M537	SPN-CP17	48-Port System Series 2200 Software	150600 128-Port Key	150602 512-Port Key	MAT-CA-T	SPN-AP00-B	SC00 (CCH) Chip Kit	AP01 IP-E Chip Kit	CC01-A Chip Kit
NEAX 1000 IVS with CP03	1 to 96 Ports	1		Optional for upgrading existing NEAX 1000 NEAX 2000 with CCIS	See Table 7-2	Note 2	Included with 151179 151180 151181	Included with 151179	Included with 151180 151181	Included with 151179 151180 151181	If system to be upgraded has 151260 AP00-A, it must be replaced with 151280.	If system to be upgraded has 151263 SC00 CCH-C, each CCH-C must be upgraded with 151398.	If system to be upgraded has 151262 CC00 Gateway, the card must be replaced with 151223 CC01 Gateway - A. If the system to be upgraded has 151268 CC01 Gateway, it must be upgraded with 150455.	If system to be upgraded has 151262 CC00 Gateway, the card must be replaced with 151223 CC01 Gateway - A. If the system to be upgraded has 151268 CC01 Gateway, it must be upgraded with 150455.
NEAX 2000 IVS Small (SP) with CP03	1 to 72 Ports													
NEAX 2000 IVS Medium (MP) Large (LP) with CP03/CP00	1 to 128 Ports	1												
	129 to 256 Ports													
	257 to 384 Ports													
	385 to 512 Ports													
NEAX 1000/ NEAX 2000 IVS with CP16	1 - 512 Note 3						1							
NEAX 2000 IVS ² with CP14	1 - 512 Note 3						1							
NEAX 2000 IVS ² Dual CPU with CP20	1 - 512 Note 3						2							

Note 1: If the NEAX 2000 IVS being upgraded has one or more remote PIMs, each Remote PIM is treated as 128 Ports and may require additional port keys.

Note 2: The CP16 CPU has on board Firmware Processors (FP) to handle up to 128 Ports. There are applications (such as OAI) and conditions (such as high traffic) that require the FP to be used below 128 Ports. If the system being upgraded (Retrofit) has one or more FP CP01, it is highly recommended to provide the same quantity of CP17.

Note 3: When upgrading to Series 2200 software, it is not necessary to provide the software keys again. The existing (original) software keys will be retained when upgrading.

Table 7-2 Additional Card Replacement

NEW FEATURES	OLD CARD	NEW CARD
National ISDN NI2 Name Display	24DTAA-A and SC01	24PRTA-B Part No.: 150134
Wireless ZT Handler provides short text message on wireless PS II.	SPN-SC03A 8CHSH-JA (AP)	SPN-SC03A 8CSH-B (AP) Part No.: 151287
D-Channel Handler for ISDN BRI station. This card is equipped with Flash ROM to allow simplified future updates.	SPN-SC03 8ICH (AP)	SPN-SC03A 8ICH (AP) Part No.: 150229
OAI Interface cards provide short text messages on wireless PS II, Sub-NetMask, GW Address, Port Number, and Expansion Monitor Numbers.	SPN-AP00 IP-B (AP) SPN-CC01 Gateway (AP)	SPN-AP01 IP-E (AP) Part No.: 151222 SPN-CC01 Gateway-A (AP) Part No.: 151223

Table 7-3 ISDN, CCIS and Conferencing

	ISDN PRI			CCIS					CONFERENCING	
	HARDWARE QUANTITY	SOFTWARE KEY	FLASH ROM UPDATE	HARDWARE QUANTITY	SOFTWARE KEY				HARDWARE	
									Qty. Cards	Partition
CP16 WITH 48-PORT SYSTEM SERIES 2200 SOFTWARE	150134	150608	150514	150122	150609	150610	150611	150624	150125	SPN-CFTC 32-Party Group Call/ Meet Me CNF
	24PRTA-B T1/DCH Combo Card	ISDN 5 to 8	24PRTA (FD)	24CCTA-A T1/CCH Combo Card	CCIS LINK (1)	CCIS LINK (4)	CCIS LINK (8)	Event-based CCIS		
	1	1 to 4 supported by 150443 48-Port System Software (FD)	For upgrading 150121 24PRTA-A	1	1	1	1	Note 1	1	Each card can be partitioned as follows: • Four 8-Party • Two 16-Party • Two 8-Party • One 16-Party • One 32-Party
	2			2	2					
	3			3	3					
	4			4	4					
	5	1	Provides ISDN NI-2 Name Display	5					5	
	6			6				6		
	7			7				7		
8	8						8			
The SPN-24PRTA-B is being introduced to support ISDN NI-2 Name Display. Part number 150121 SPN-24PRTA-A will be replaced by 150134 SPN-24PRTA-B. The existing SPN-24PRTA-A can be upgraded with 150514 24PRTA (FD).			The SPN-24CCTA-A is being introduced to support T1 with CCIS applications and is a T1 card with on board CCH. The card can be used as just a T1 card without using the built-in CCH if required. Also being introduced is Event-based CCIS for the NEAX 2000 IVS ² .					The SPN-CFTC is being introduced to provide 32 Party Group Call and Meet Me conference. (See 2100 Series release notes or Feature and Specifications Manual for detailed information). The quantity of CFTC cards that can be mounted in the system is dependant on available Application Processor (AP) Time Slots.		

Note 1: Event-based CCIS requires the use of ISDN PRI or BRI Trunks, CCIS Link Key and Event-based CCIS Software Key.

Table 7-4 IP Trunk

CP16 WITH 48-PORT SYSTEM SERIES 2200 SOFTWARE	CARD QUANTITY			151486	SOFTWARE KEYS					
	150132	150133			150618	150620	150628	150609	150610	150611
QUANTITY OF IP CHANNELS	IPT	4VCT WITH	BUS CABLE	PZ-M537	IPT (1)	IPT (4)	IPT (8)	CCIS LINK (1)	CCIS LINK (4)	CCIS LINK (8)
4	1	1	1							
8		2	2		1			1		
12		3	3							
16		4	4							
20	2	5	5							
24		6	6							
28		7	7							
32		8	8							
36	3	9	9							
40		10	10			1			1	
44		11	11							
48		12	12							
52	4	13	13							
58		14	14							
60		15	15							
64		16	16							
68	5	17	17							
72		18	18							
78		19	19							
80		20	20							
84	6	21	21							
88		22	22	1						
92		23	23							
96		24	24				1			1
100	7	25	25							
104		26	26							
108		27	27							
112		28	28							
116	8	29	29							
120		30	30							
124		31	31							
128		32	32							

Table 7-5 Expanded Memory - CP16

CP16 EXPANDED MEMORY		
FEATURE	WITHOUT PZ-M537	WITH PZ-M537
Trunks and Stations	384	768
DID Number Conversions	500	1000
Analog Stations	256	512
Digital Stations	256	512
Virtual Extensions	256	512
Virtual Extensions and Digital Stations	512	768
Name Display	256	512
Built-in SMDR Buffer	256	1280
Analog + Digital + PS Stations	256	512
Wireless PS	128	256
ISDN-BRI Stations	64	128
Data Stations	64	128
Call Forward Outside	240	496
Authorization/Account/DISA Codes	1000	3000
Message Reminder	512	1024
Station Speed Dial	4000	10,000
PS Simultaneous Connections	128	216
IP Trunk Channels	48	128

Table 7-6 Expanded Memory - AP00-B

AP00-B EXPANDED MEMORY		
CENTRALIZED BILLING	CALL BUFFERING CAPACITY	
	WITHOUT PZ-M537	WITH PZ-M537
Center Office (Billing Office)	512	512
Local Office	1,600	27,000

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