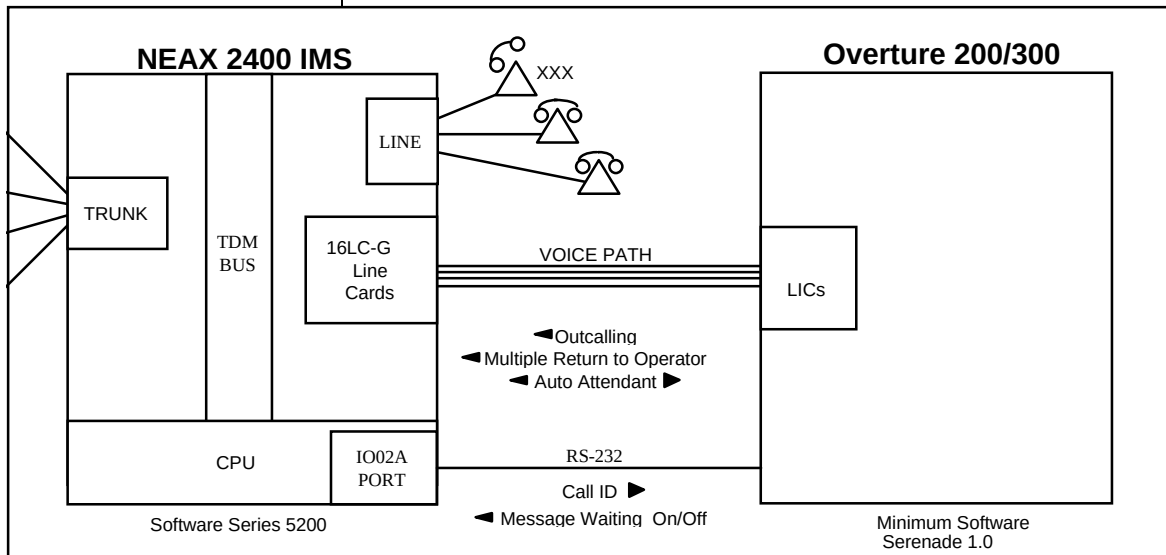


Octel 200/300

Message Server

Configuration Note 6057 - Ver A (1/98)

NEC NEAX 2400 IMS with Series 5200 Software



With RS232 integration, call information is transmitted over a digital RS232 link between the PBX and the Octel system.

Octel requirements

1.0 METHOD OF INTEGRATION

With RS232 integration, call information is transmitted over a digital RS232 link between the PBX and the Octel system. Voice communications are provided by a separate path created by analog lines on the PBX that connect to the Octel system. When an incoming call is received, it is accompanied by a digital message from the PBX containing call information. The Octel system then answers the call and plays the appropriate greeting. To set or cancel message-waiting notification, the Octel system sends a digital message over the RS232 link to the PBX.

2.0 OCTEL ORDERING INFORMATION

- LIC4, LIC8, or DLC16 (4, 8, or 16 ports per LIC card)
- Serenade 1.0 or higher (Refer to the PRM for earlier software releases)
- Disk drives
- Adaptive Integration Software
- One 25-pair cable per slot

PBX hardware requirements

3.0 PBX HARDWARE REQUIREMENTS

- Standard, single-line extension appearances, 16LC-BE, or 16LC-Q; *see section 8.2*
- One single-line port for remote service access
- Line cords for the above
- One I/O 02 port for RS-232 data link
- One NEAX2400 TTY CA-1 I/O cable
- 80 Vdc power supply (for message waiting on single-lines)

NOTE: In order to support message waiting (display) on digital sets the following is required:

- 4DLC (Digital Line Circuit) cards must be Issue A9 or higher.
- 8ELC - (Electronic Line Circuit) cards must be Issue A8 or higher.

PBX software requirements

3.1 PBX SOFTWARE REQUIREMENTS

- Software Series 5200:
level 5201 (SIM), level 5202 (IMG)
level 5203 (MMG), level 5204 (UMG)
- Feature Package 2 activated
- MCI (Message Center Interface) Option (*Refer to section 8.9*)

NOTE: Carefully verify the software level on the PBX. The PBX software level determines the Octel features supported. In addition, the “application disk” recommended for NEC systems with 4200 series software is NOT required with NEC systems with 5200 series software. All features that were previously supported with the application disk are automatically included with 5200 series software. However there may be additional system parameters that need to be enabled.

NEC 2400 Family
Names/Software Series

3.2 NEC 2400 FAMILY NAMES/SOFTWARE SERIES

NEC uses two methods to designate the members of the PBX family. The first descriptor for an NEC PBX is the family name, the second is a software series. It is important to identify the family name and the software series. PBX/Octel functionality is affected based on the software series; commonly accepted features might not be available. Where exceptions exist, they are noted in the Considerations and Supported Features sections of the configuration note.

The NEC uses the last digit of the software level to designate the PBX type. The designations are as follows: 1 = SIM, 2 = IMG, 3 = MMG, and 4 = UMG. For example, software level 4202 is the 4200 series of software for an IMG.

Supported integration features

4.0 SUPPORTED INTEGRATION FEATURES

- System forwarding to personal greeting
 - ring-no-answer
- Station forwarding to personal greeting
 - busy
 - ring-no-answer
 - all calls
- Message-waiting notification
 - lights (*refer to section 8.7*)
 - LCD display (if available)
 - Stutter dial tone (*refer to section 8.8*)
- Multiple return-to-operator
- Automated attendant
- Outcalling
- Direct call
- Personal greeting of original-called party on multiple-call forward

Configuring the NEC 2400 data link

5.0 CONFIGURING THE NEC 2400 DATA LINK

- o Each PBX can support up to four I/O-02 cards. Each I/O-02 card supports two I/O ports. Locate an available I/O port that will be used for the voice mail data link. Assign it as an MCI port through the ASYD command, SYS1 Index 29. *See Section 8.5*
- o Verify the guard timer is set to zero for the MCI port, through the ASYD command.
- o Locate the 6 sets of dip switches on the card. The switches are identified as SW0, SW01, SW02, SW11, SW12, and SW13.
- o Switch SW0 tells the PBX which I/O card (of four) it is. Verify that the switches are set according to *Figure 1* for the voice mail port.

Card Number	SW0 Settings:			
	1	2	3	4
0	off	off	off	off
1	off	on	off	off
2	on	off	off	off
3	on	on	off	off

Figure 1.

- o Port 1 on a given I/O-02 card is controlled by switches SW01 and SW02. Port 2 is controlled by switches SW11 and SW12. All four switches have 8 settings each.

The settings for SW01 should be as follows: Settings 1, 2, and 3 set to *off*, *on*, *off* for a baud rate of 9600 BPS. Setting 4 is set to *on* for Parity Bit valid. Setting 5 is set to *on* for odd parity. Setting 6 is set to *on* for 7 bits. Setting 7 is set to *off* for 2 stop bits. Setting 8 is set to *on* for Send Side FIFO is 1 byte. See *Figure 2*.

	1	2	3	4	5	6	7	8
SW01	off	on	off	on	on	on	off	on

Figure 2.

NOTE: If using Port 2 on the I/O-02 card, configure the settings on SW11 the same as above.

The settings for SW02 or SW12 should be as follows: Setting 1 is set to *on* for PB signal not provided. Setting 2 is set to *on* for DTR. Setting 3 is set to *off* for DSR is provided. Setting 4 is set to *off* for CD is provided. Settings 5, 6, and 7 are set to *on* for CS, CI, and PB not provided. Setting 8 is not used. See *Figure 3*.

	1	2	3	4	5	6	7	8
SW02	on	on	off	off	on	on	on	off

Figure 3.

NOTE: If using Port 2 on the I/O-02 card, configure the settings on SW12 the same as above.

- o Verify that all four settings on SW13 are *off*. The card is now configured for RS-232 operation.

NOTE: If the PBX is taken out of service and restarted, the MCI port might not operate. If this is the case, unplug the RS-232 link from the Octel voice module, then have the PBX vendor reset the system processor.

5.1 CONFIGURING THE VOICE LINES

- o Assign single-line ports for the Octel system in the ASDT (Assign Station Data Table) with TEC=3.
- o Assign a Service Feature Class (SFC) to those ports. Within the SFC, disable the Distinctive Ringing feature for all ports. This is accomplished with ASFC Index 48. If this feature is enabled, problems with integration occur.
- o Assign the Octel voice ports to a UCD group using the ASHU command.

The pilot number of the above UCD group is the **Octel voice module Access Number**. It is used by subscribers to call the Octel voice module to retrieve their messages. It is also used by subscribers to forward their phones to the Octel voice module.

Configuring the single-line ports for the Octel System

Unsupervised transfers to the attendant console are supported with Series 5200 E9.00 Software

- o Create a single-line extension in the PBX. Set call forward all-calls to the pilot number of the UCD group. Do *not* create a voice mailbox for this extension. This extension is used as the Octel voice module **Transfer Target Number**. Any call to be transferred to the voice module should be transferred to this number so that the caller will hear the general system greeting instead of the direct call greeting.

5.2 SUPPORTING UNSUPERVISED TRANSFERS TO THE ATTENDANT CONSOLE

Unsupervised transfers to the attendant console are supported with Series 5200 E9.00 Software.

NOTES:

- Reorder tone is sent to an extension attempting to transfer a caller to an attendant in Night Mode, unless a station has been programmed in the PBX as the Attendant Night Transfer Target in the ASID command.
- If the attendant does not answer an unsupervised transfer within the predetermined time set for Transfer Call Recall, the call will be sent back to the Octel voice module and the caller will hear the system greeting. The Transfer Recall Timer is set in ASYD SYS1, Index 145.

5.3 CONFIGURING THE PBX TO SUPPORT MORE THAN 20 VOICE MAIL PORTS

Configuring the PBX to support more than 20 voice mail ports

5200 software supports one UCD group of 20 members which can overflow to a second UCD group of 20 members. Only one overflow is allowed for a total of 40 ports.

If more than 40 integrated ports are required, add a third UCD group (overflowing to a fourth UCD group, if necessary) with the required number of ports. ***However, creating a third (and possibly fourth) UCD group, requires splitting subscribers between UCD groups and requires two different access numbers.*** Multiple MCI links are not needed.

- o Configure an overflow target for a UCD group using the AUOG (Assign UCD Overflow Group) command.

5.4 CONFIGURING THE NEC WITHOUT DISTINCTIVE RINGING

The NEC 2400 comes with “Distinctive ringing” in its default programming. Internal calls ring differently than external calls therefore the number of actual rings on a station before forwarding will vary depending on the type of call - even though the timers are the same. To remedy this, remove “distinctive ringing” and have all calls ring in the same manner. There will then be consistency in the number of rings before a call forwards.

5.5 SUPPORTING MULTIPLE NEC PBX'S IN A CCIS NETWORK WITH ONE OCTEL 200/300 MESSAGE SERVER

With Series 5200 Software,
multiple SIMs, IMGs, MMGs,
UMGs, and 1400s can be
supported with one Octel system

With Series 5200 Software, multiple SIMs, IMGs, MMGs, UMGs, and 1400s can be supported with one Octel system. If the CCIS network involves 4200 series software.

In a CCIS network, one PBX will be the designated main node. An Octel system must integrate directly with the main node if remote PBXs are to be supported. At 5200 software, the main node (where the Octel system is located) can be any NEC PBX except an NEC 1400. Restrictions apply to lower PBX software levels; refer to the appropriate configuration note.

All of the remote PBXs will receive full integration: forward to personal greeting, message waiting, and multiple return to operator. Automated attendant may also be used to transfer callers to extensions on the remote PBXs. ***The direct call feature and the automatic reply to internal telephone-answering messages feature are not supported from the remote PBXs.***

Configuring the Octel system

6.0 CONFIGURING THE OCTEL VOICE MODULE

.. Refer to the PRM Integration Volume: NEC NEAX-2400 section 5.0 for a detailed description on programming, installing and trouble shooting the Octel server.

.. System Parameter Table

- System parameter 3 to 5 (NEC)
- System parameter 51 to YES (RS232 Integrated with PBX)
- System parameter 180 to 0 or 1 (0 = 7 bits, 1 = 8 bits RS232 byte format)
- System parameter 224 to Yes (with Serenade 1.0 or higher PBX uses NEC long extension format)
- System parameter 99 to 5 (Number of rings before answering CX port)
- System parameter 100 to 5 (Number of rings before answering MX port)
- System parameter 117 to 5 (number of rings before answering AX port)
- System parameter 130 to Yes (Send DTMF for forwarded calls)

.. COS

- Assign COS Attribute 9 for sets with message waiting

NOTE: Message waiting should only be allowed for mailboxes that have a valid MW extension on the PBX.

- Assign COS Attribute 15 (ONLY for systems below software 5200 Series Version 9.03

NOTE: Do not use COS attribute 15 for extensions forwarded to the Octel system. RNA count must be less than five and less than the RNA forward count configured in the PBX. This does not apply to systems with 9.04 or higher.

- Assign COS Attribute 89 if subscriber use Auto-logon

.. **Slots Table**

- Configure all integrated ports for AX mode.
- Configure non-integrated ports in CX or MX mode.

§ Octel port extensions that do not match the PBX extension will not receive the call record therefore, will not be integrated.

.. **User Table**

§ All extension numbers must match the mailbox number in order to achieve integration.

Installing the Voice Lines

7.0 INSTALLING THE VOICE LINES

- o Each LIC supports four, eight, or sixteen set appearances. Each LIC port connects to the NEC via a 25 pair connector at the rear of the Octel server. Connect each equipped port to the NEC. Ensure that all Yellow LED's on the LIC cards are extinguished.

7.1 CONNECTING THE RS232 CABLE

- o Refer to the Integration PRM, section 5.5 for further instructions on connecting the RS232 for your Octel system.

7.1 TESTING THE INSTALLATION

- o Create two voice mailboxes associated with two test extensions. Record a name and personal greeting for each mailbox.
- o System forward one test extensions to the Octel Overture access number.
- o Using one test extension, call the Direct Pilot number. You should hear "to enter your mailbox press # ", enter # #, you should hear "please enter your security code". Enter the security code and verify that the correct mailbox has been accessed.
- o Using one test extension, call the other test extension. You should hear the personal greeting.

Testing the installation when complete

Important notes regarding this integration

- o Leave a message. Verify that the message waiting indicator turns on. The CMWL command can be used to manually set and cancel MWI on the PBX for trouble-shooting MWI problems.
- o Press 0. Verify that the voice module transfers the call to an operator or personal assistant on the PBX.
- o Delete the message. Verify that the message waiting indicator turns off.
- .. Refer to the Integration PRM section for further testing instructions.

8.0 CONSIDERATIONS

8.1 Without specific PBX programming, unsupervised call transfers to extensions that are ring-no-answer do not forward to the ring-no-answer destination. Calls ring at the extension and then recall to the extension that transferred the call. Program through the ASYD SYS 1 command to allow the call to forward under these conditions.

8.2 Supported NEC line cards are the 16LC-G, the 16LC-GB, the 16LC-GG, and the 16LC-Q. However, NEC recommends the 16LC-Q card when integrating with any voice mail system , since this cards provides a 128-194 millisecond open on disconnect, in addition the 16LC-BE card can be used which provides the same functionality.

8.3 5200 Release II NEC software supports attendant console overflow. Consult your NEC representative for details. Earlier software levels do not support attendant overflow.

8.4 Octel Communications will not support line drivers or devices exceeding the 50 feet distance limitation for RS-232 connections.

8.5 It is recommended to define the MCI UCD group in a separate Tenant from all other non-MCI UCD groups. This prevents invalid MCI packets from being sent to the VPM causing multiple 75 type errors to be logged in the error log. The following System programming will accomplish this.

ASYD SYS1 Index 92 bit 0 = 0

This requires that each tenant be assigned in SYS2.

ASYD SYS2 Index 6 bit 0 = 1 (*MCI tenant UCD*)

All other tenants should be set to 0.

8.6 "Expanded MCI" is supported on the Serenade platform. Enable system parameter 224 to "yes".

8.7 Light message waiting lamps on 2500 sets. These stations must be supported by a 16LCGB card with a message waiting power supply or by a 16LCQ card.

8.8 Stutter dial tone requires the 16LCBB card.

8.9 In some situations, if the PBX has ACD it will not be able to support MCI due to memory constraints in the PBX.

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PN 001-7-6057