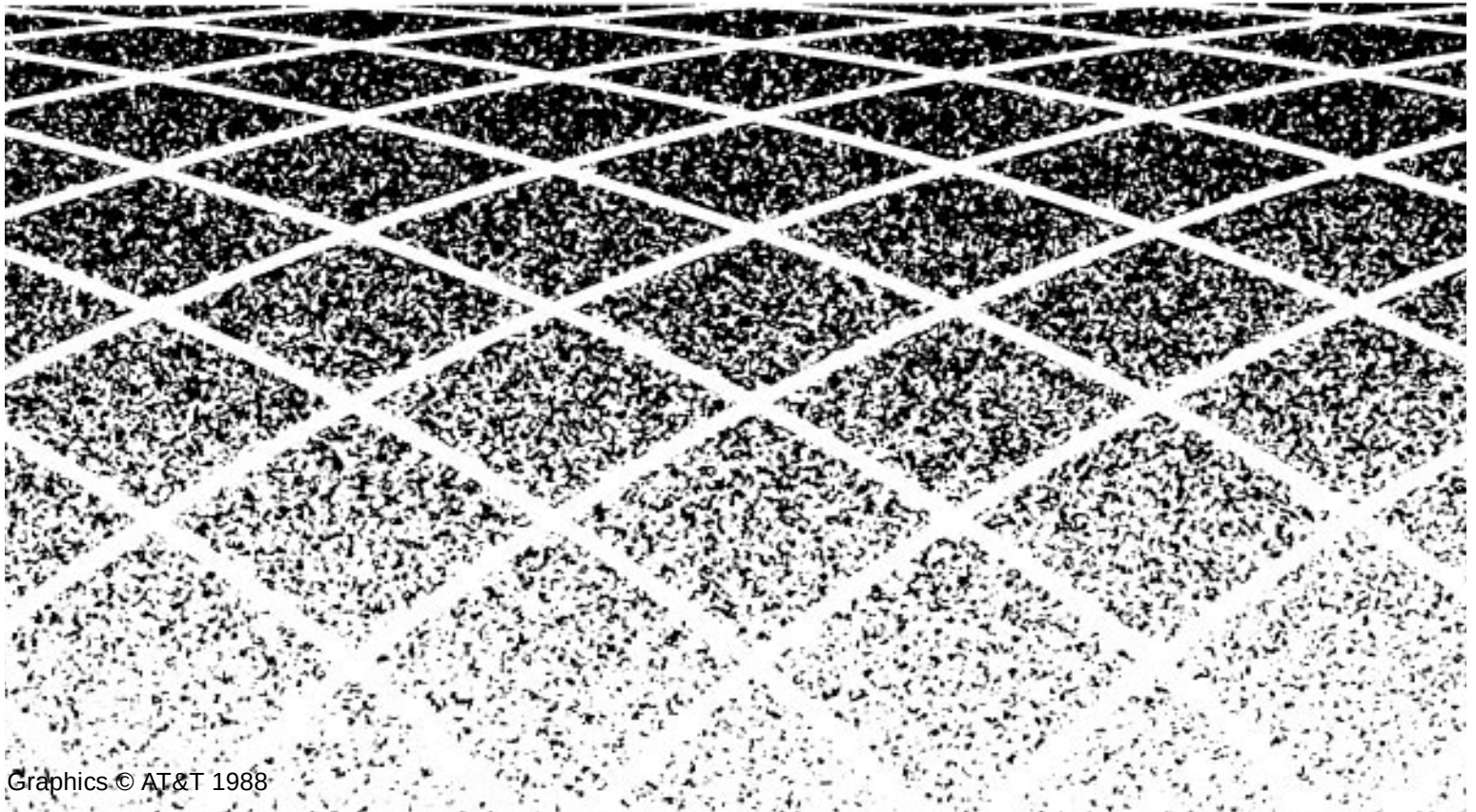




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DEFINITY Enterprise Communications Server Release 5 Upgrades and Additions for R5vs/si



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About This Document

This book provides procedures and information for upgrading and updating an assortment of existing systems to a DEFINITY® Enterprise Communications Server Release 5. This book also contains instructions for adding equipment to an existing DEFINITY ECS.

This book is intended for use by a trained installation technician.

Upgrade Paths

For upgrades to the DEFINITY® Enterprise Communications Server Release 5si, the following table correlates each software upgrade PEC, and an associated hardware upgrade PEC, to chapter numbers within this manual.

 NOTE:

The upgrade paths described in this book assume that the system being upgraded is at the level of a G3 V1.1, V2, V3, or V4, with an I386 processor. To upgrade prior systems to this starting point, refer to the *DEFINITY Communications System Generic 3vs/si Upgrades and Additions*, 555-230-108.

Table 1. Release 5 Software and Hardware Upgrade to Upgrade Chapters

Description	Chapter
G3vs (I386) to DEFINITY ECS Release 5vs	Chapter 1
G3vs (I386) to DEFINITY ECS Release 5si	Chapter 2
G3vs (I386) to DEFINITY ECS Release 5si+m	Chapter 3
G3s/G3si (I386) to DEFINITY ECS Release 5si	Chapter 4
G3s/G3si (I386) to DEFINITY ECS Release 5si+m	Chapter 5
G3i/G3si (I386) to DEFINITY ECS Release 5si+m	Chapter 6
G2 to DEFINITY ECS Release 5si+m (EPN upgrade, new DEFINITY ECS R5 PPN)	
MCC cabinet	Chapter 7
SCC cabinet	Chapter 8
DEFINITY ECS R5vs to DEFINITY ECS R5si	Chapter 9
DEFINITY ECS Release 5vs to DEFINITY ECS Release 5si+m	Chapter 10
DEFINITY ECS Release 5si to DEFINITY ECS Release 5si+m	Chapter 11

Related Documents

As supplemental information, the following documents may be required to perform upgrades and additions to DEFINITY ECS Release 5 systems:

- *GBCS Products Security Handbook*, 555-025-600, Issue 3
- *DEFINITY Communications System Generic 3 V1.1 and V2 Upgrades and Generic 3 Additions*, 555-230-107
- *DEFINITY Communications System Generic 2 to DEFINITY Enterprise Communications Server Release 5 Transition Reference*, 555-230-622
- *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, 555-230-104, Issue 5
- *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Multi-Carrier Cabinets*, 555-230-121, Issue 5
- *DEFINITY Enterprise Communications Server Release 5 Implementation*, 555-230-655
- *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r*, 555-230-105 or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*, 555-204-105
- *DEFINITY Communications System and V2 Maintenance*, 555-230-105, Issue 4

- *DEFINITY Enterprise Communications Server Release 5 System Description and Specifications*, 555-230-206, Issue 3
- *DEFINITY Communications System and System 75 and System 85 Terminals and Adjuncts*, 555-015-201, Issue 5
- *LINEAGE. 2000 Standby Power Systems, Product Manual*, 555-790-110 (required for DC-powered switches)

Conventions Used in This Document

This manual uses the following conventions:

- Information you type is shown in the following typeface:
`save announcements`
- Information displayed on the screen is shown in the following typeface:
`login:`
- Keyboard keys are shown as follows: RETURN.
- Circuit-pack codes (for example, TN772, CFY1, or TN786B) are shown with the *minimum acceptable* alphabetic suffix (like the "B" in the code "TN786B").

Generally, an alphabetic suffix higher than the one shown is also acceptable. However, not every *vintage* of either the minimum-suffix or a higher-suffix code is necessarily acceptable.



NOTE:

Refer to *Technical Monthly: Reference Guide for Circuit-Pack Intages and Change Notices*, for current information about the usable vintages of specific circuit-pack codes (including the suffix) in a DEFINITY ECS Release 5 system.

The following conventions are used to describe the systems referred to in this document.

- The word *system*, is a general term encompassing Release 5 and includes references to the DEFINITY Enterprise Communications Server
- DEFINITY Systems are called: G3V4, Release 5; Release 5vs; and Release 5si
- Older DEFINITY Communications Systems Generic 3vs, Generic 3s, Generic 3i, and Generic 3r are referred to as G3vs, G3s, G3i, and G3r
- All occurrences of G3siV4, G3siV4+m, Release 5si, and Release 5si +memory are called Release 5si unless a specific configuration is required to differentiate between product offerings
- Information in this document is applicable for G3V4 through Release 5, unless otherwise specified

- DEFINITY Enterprise Communications Server is abbreviated as DEFINITY ECS
- Release 5 is referred to as R5
- DEFINITY ECS Release 5si is referred to as R5si
- DEFINITY ECS Release 5vs is referred to as R5vs

Related Documents

The following documents are useful for system-related information:

- *DEFINITY Enterprise Communications Server Release 5 Feature Description*, 555-230-301
- *DEFINITY Enterprise Communications Server Release 5 System Description and Specifications*, 555-230-210
- *DEFINITY Enterprise Communications Server Release 5vs/si Maintenance*, 555-204-105
- *DEFINITY Enterprise Communications Server Release 5r Maintenance*, 555-230-105
- *AT&T Network and Data Connectivity Reference*, 555-025-201
- *GBCS Products Security Handbook*, 555-025-600
- *DEFINITY Wireless Business System Users Guide*, 555-232-105
- *DEFINITY Wireless Business System Installation and Test Guide*, 555-232-102
- *DEFINITY Wireless Business Systems System Interface*, 555-232-108
- *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Multi-Carrier Cabinets*, 555-230-112
- *DEFINITY Enterprise Communications Server Release 5 Implementation*, 555-230-302
- *DEFINITY Enterprise Communications Server Release 5vs/s/i Upgrades and Additions*, 555-230-120
- *DEFINITY Enterprise Communications Server Release 5r Upgrades and Additions*, 555-230-121

How to Order Documentation

In addition to this book, other description, installation and test, maintenance, and administration books are available. A complete list of DEFINITY books can be found in the *Business Communications System Publications Catalog*, 555-000-010.

This document and any other DEFINITY documentation can be ordered directly from the Lucent Technologies Business Communications System Publications Fulfillment Center at 1-317-361-5353 or toll free at 1-800-457-1235.

How to Comment on This Document

Lucent Technologies welcomes your feedback. Please fill out the reader comment card found at the front of this manual and return it. Your comments are of great value and help improve our documentation.

If the reader comment card is missing, fax your comments to 1-303-538-1741 or to your Lucent Technologies representative, and mention this document's name and number, *DEFINITY Enterprise Communication Server Release 5si Upgrades and Additions*, 555-230-120.

Where to Call for Technical Support

Use the following telephone numbers for the region in which the system is being installed:

Region	Phone Number
Streamlined Implementation (for missing equipment)	1-800-772-5409
Technical Service Center (INADS Database Admin.)	1-800-248-1111
Asia/Pacific Regional Support Center	65-872-8686
Western Europe/South Africa/Middle East	441-252-391-889
Eastern/Central Europe	361-270-5160
Latin/Central America & Caribbeans - ITAC	303-538-4666

Trademarks

This document contains references to the following Lucent Technologies trademarked products:

- ACCUNET®
- AUDIX®
- Callmaster™
- CallVisor™
- CONVERSANT®
- DEFINITY®
- FORUM™
- MEGACOM®
- SYSTIMAX®
- TELESEER®
- TRANSTALK™

The following products are trademarked by their appropriate vendor:

- Audichron® is a registered trademark of Audichron Company
- LINX™ is a trademark of Illinois Tool Works, Inc.
- Music Mate® is a registered trademark of Harris Corporation
- PagePac® is a registered trademark of Harris Corporation, Dracon Division
- PORTA™ Systems is a trademark of PORTA Systems Corporation
- Shockwatch® is a registered trademark of Media Recovery, Incorporated
- Styrofoam® is a registered trademark of Styrofoam Corporation
- Tiltwatch® is a registered trademark of Media Recovery, Incorporated
- Zone Mate® is a registered trademark of Harris Corporation

Standards Compliance

The equipment presented in this document complies with the following (as appropriate):

- ITO-T (Formerly CCITT)
- ECMA
- ETSI
- IPNS

- DPNS
- National ISDN-1
- National ISDN-2
- ISO-9000
- ANSI
- FCC Part 15 and Part 68
- EN55022
- EN50081
- EN50082
- CISPR22
- Australia AS3548
- IEC950
- UL 1459
- UL1950
- CSA C222 Number 225

The DEFINITY ECS may contain a Class 1 LASER device if single-mode fiber optic cable is connected to a remote Expansion Port Network (EPN). The LASER device operates within the following parameters:

Power Output: -5 dBm

Wavelength: 1310 nm

Mode Field Diameter: 8.8 microns



CAUTION:

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Contact your Lucent Technologies representative for more information.

Electromagnetic Compatibility Standards

This product complies with and conforms to the following:

- Limits and Methods of Measurements of Radio Interference Characteristics of Information Technology Equipment, EN55022 (CISPR22), 1993
- EN50082-1, European Generic Immunity Standard
- FCC Parts 15 and 68

- Australia AS3548



NOTE:

The system conforms to Class A (industrial) equipment. Voice terminals meet Class B requirements.

- Electrostatic Discharge (ESD) IEC 1000-4-2
- Radiated radio frequency field IEC 1000-4-3
- Electrical Fast Transient IEC 1000-4-4
- Lightning effects IEC 1000-4-5
- Conducted radio frequency IEC 1000-4-6
- Mains frequency magnetic field IEC 1000-4-8
- Low frequency mains disturbance

The system conforms to the following:

- Electromagnetic compatibility General Immunity Standard, part 1; residential, commercial, light industry, EN50082-1, CENELEC, 1991
- Issue 1 (1984) and Issue 2 (1992), Electrostatic discharge immunity requirements (EN55024, Part 2) IEC 1000-4-2
- Radiated radio frequency field immunity requirements IEC 1000-4-3
- Electrical fast transient/burst immunity requirements IEC 1000-4-4

European Union Standards

Lucent Technologies Business Communications Systems declares that the DEFINITY equipment specified in this document bearing the “CE” mark conforms to the European Union Electromagnetic Compatibility Directives.

The “CE” (Conformite/ Europe/enne) mark indicates conformance to the European Union Electromagnetic Compatibility Directive (89/336/EEC) Low Voltage Directive (73/23/EEC) and Telecommunication Terminal Equipment (TTE) Directive (91/263/EEC) and with i-CTR3 Basic Rate Interface (BRI) and i-CTR4 Primary Rate Interface (PRI) as applicable.

The “CE” mark is applied to the following Release 5 products:

- Global AC powered Multi-Carrier Cabinet (MCC)
- DC powered Multi-Carrier Cabinet (MCC) with 25 Hz ring generator
- AC powered Single-Carrier Cabinet (SCC) with 25 Hz ring generator
- AC powered Compact Single-Carrier Cabinet (CSCC) with 25 Hz ring generator
- Enhanced DC Power System

Security Issues



CAUTION:

Login security is an attribute of the DEFINITY® Enterprise Communications Server (ECS) Release 5 software. Remember to:

- *Advise customers that their existing passwords will expire 24 hours after the upgrade*
- *Explain that the new passwords must conform to strict requirements*

Administration

A terminal connected to the control carrier in a multi-carrier system or the control cabinet in a single-carrier system is used to administer the system. Commands are entered at the terminal to access and display screens (forms). The forms are used to list data, and to add, change, and remove system and voice terminal features. Screen 1 shows the two screens of a typical administration form.

Page 1 of X

Extension: ____	BCC: _	STATION	
Type: ____		TN: _	COR: _
Port: ____		Lock Messages? _	COS: _
Name: ____		Security Code: ____	Coverage Path 1: ____
			Coverage Path 2: ____

STATION OPTIONS		
Data Module? ____	Personalized Ringing Pattern: ____	
Display Module? ____	Message Lamp Ext: ____	
Display Language: ____	Coverage Module? ____	

Page 2 of X

	STATION	

FEATURE OPTIONS		
LWC Reception? ____	Auto Select Any Idle Appearance? _	
LWC Activation? _	Coverage Msg Retrieval? _	
CDR Privacy? _	Auto Answer? _	
Redirect Notification? _	Data Restriction? _	
Per Button Ring Control? _	Idle Appearance Preference? _	
Bridged Call Alerting? _	Restrict Last Appearance? _	
Active Station Ringing: ____	Feature Module? _	

AUDIX Name: ____	Audible Message Waiting? _	
Messaging Server Name: ____	Disp Client Redir? _	
	Select Last Used Appearance? _	

Screen 1. Typical Administration Form

System administration is detailed in the *DEFINITY Enterprise Communications Server Release 5 Implementation*, 555-230-302.

Comparisons Between Versions

Table 2 through Table 4 compare the system and cabinet versions.

Table 2. Comparing System Versions

System	Processor	PPN	Maximum EPNs	Direct- or CSS-Connected	Reliability Option
G3s/vsV4	80386	1	0	Does Not Apply	Standard Only
G3iV4	80386	1	2	Direct	Standard, High, or Critical
G3rV4	RISC	1	43	Direct or CSS	Standard, High, or Critical
G3siV4	80386	1	0	Direct	Standard, High, or Critical
G3siV4+m	80386	1	2	Direct	Standard, High, or Critical
R5vs	RISC	1	0	Does Not Apply	Standard Only
R5si	RISC	1	0	Direct	Standard, High, or Critical
R5si+m	RISC	1	2	Direct	Standard, High, or Critical
R5r	RISC	1	43	Direct or CSS	Standard, High, or Critical

Table 3. Comparing Carriers in Multi-Carrier Cabinets

Carrier	R5si	R5r
Control	PPN cabinet	PPN cabinet
Duplicated control	PPN cabinet	PPN cabinet
Port	PPN and EPN cabinets	PPN and EPN cabinets
Expansion control	EPN	EPN
Switch Node (SN)	None	PPN and EPN cabinets

Table 4. Comparing Carriers in Single-Carrier Cabinets

Cabinet	R5vs	R5si	R5si+m
Basic control	Does Not Apply	PPN	PPN
Duplicated control	Does Not Apply	Does Not Apply	PPN
Compact control	PPN	Does Not Apply	Does Not Apply
Port	Does Not Apply	PPN	PPN and EPN
Expansion control	Does Not Apply	Does Not Apply	EPN

Upgrades and Additions

An *upgrade* changes the hardware and software of a previously installed system to the hardware and software of a later system version or release. An upgrade is performed when call processing demands an increased system size, an enhanced feature set is needed, or other changes in customer requirements are needed.

An *addition* consists of adding voice terminals, circuit packs, cabinets, or software features to an existing system without upgrading the version of the system. The system design makes additions and upgrades easy and aids a customer in planning and managing system growth.

G3vs (I386) to DEFINITY ECS Release 5vs

1

This chapter provides the information necessary to perform an upgrade from a DEFINITY G3vs V2, V3, or V4 system with a 80386 processor to a DEFINITY Enterprise Communications Server (ECS) Release 5vs with a RISC processor.

The hardware, software, and procedures involved in these upgrades are also provided.



CAUTION:

Be careful to find the right chapter for your upgrade. Using the software- and sometimes the hardware-upgrade PEC on the customer's order, refer to Table 1 in the About This Document for the correct chapter.



NOTE:

This upgrade process assumes that the system being upgraded is already a DEFINITY G3vs V2, V3, or V4 system with a 386 processor. If the system is not at this level, refer to *DEFINITY Communications Systems Generic 3 V4 Upgrades and Additions* to complete this portion of the upgrade process.



NOTE:

To ensure that the upgrade completes successfully, perform all steps in the order provided.

DEFINITY ECS R5vs features and functions are listed in *DEFINITY Enterprise Communications Server Release 5 Feature Description*. *DEFINITY Enterprise Communications Server Release 5 Implementation* provides the commands, procedures, and forms required to initialize and administer the system.

Task Table

Table 1-1 provides the high-level tasks to perform the upgrades detailed in this chapter. Refer to the appropriate page for detailed instructions for each step.

Table 1-1. Tasks to Upgrade from G3vs (I386) V2, V3, or V4 to Release 5vs

✓	Task Description	Page
	Open Control Cabinet Door	8
	Verify System Status	8
	Prepare for Upgrade	8
	Disable Alarm Origination	9
	Save Translations	10
	Power Down Control Cabinet	10
	Replace Circuit Packs	10
	Reboot the System	12
	Load Upgraded Translations onto DEFINITY ECS R5 Translation Memory Card	14
	Register System as DEFINITY ECS Release 5vs	15
	Return Equipment	15

Considerations

Service Interruption

The upgrade process requires a service interruption of about 30 minutes. This service interruption must be closely coordinated with the customer and the local account team.

Contact Network Technicians

The technician for each public and private network accessed by the switch must be contacted before the update or upgrade begins. Otherwise, if these technicians are not aware of the service interruption caused by the update or upgrade, it is possible that network-access trunk facilities will be busied out at the far end.

Changes to Memory-Card Update or Upgrade Procedures

The steps presented for a DEFINITY ECS R5 upgrade in the System Updates and Upgrades section of this chapter are subject to change. Although these steps are accurate for the DEFINITY ECS R5 memory-card issue that is available on the manual's publication date, the specific steps for a memory-card update or upgrade can change as new DEFINITY ECS R5 memory cards are issued. For the most current information, refer to the Quality Protection Plan Change Notice (QPPCN) Update Supplement provided with the new DEFINITY ECS R5 memory card.

Usable Circuit Packs

Every port or control circuit pack used in the upgraded system must conform to the minimum usable vintage requirements for DEFINITY ECS R5vs.

Those circuit packs shipped for the update or upgrade should always meet the usable vintage specifications. In addition, at a presale site inspection, the QPPCN process must check the vintages of every circuit pack that will be reused in the updated or upgraded system and, if necessary, replace those circuit packs that have unusable vintages.

Refer to *Technical Quarterly, Reference Guide for Circuit-Pack Vintages and Change Notices*, for current information about usable vintages in a DEFINITY ECS R5vs system. For information about usable vintages of international circuit packs, refer to the ITAC's Tech Alert via your regional distributor.

For a description of the circuit packs, refer to *DEFINITY Enterprise Communications Server Release 5 System Description and Specifications*.

Generic 3 — Management Applications (G3-MA)

As part of the QPPCN process, any G3-MAs being used to administer a DEFINITY ECS R5 system must be upgraded to at least an R1V3.1 prior to a DEFINITY ECS R5 upgrade. However, an R1V4.1 G3-MA is necessary for full compatibility with a DEFINITY ECS R5 system.

Call Management System (CMS)

Existing CMS adjuncts (not BCMS) being used to monitor call-center activity for a DEFINITY ECS R5 system with a DEFINITY ECS Release 5 Call Center package must be upgraded to CentreVu CMS R3V5 in conjunction with a DEFINITY ECS R5 upgrade.

Otherwise, the existing (R3V2) CMS is sufficient.

Isolator

Each peripheral connected to a DC-powered system via the asynchronous Electronic Industries Association (EIA) RS-232 interface (behind a PPN control carrier or behind an EPN expansion control carrier), requires a 116A isolator. The isolator, which should be provided with the DC port network, is inserted at the RS-232 interface between the peripheral and the interface connector to isolate grounding between the system and external adjuncts.

Software

Like the earlier translations, the DEFINITY ECS R5vs translations are saved on the DEFINITY ECS R5 translation memory card. Although the G3vs V2, V3, or V4 translations upgrade automatically to DEFINITY ECS R5vs, several features require special attention because of form changes or potential naming conflicts in the update or upgrade procedure.

Between customer confirmation and the actual installation of an update or upgrade, the Software Specialist and Associate should check these forms to ensure that the upgraded translations will be appropriate for the customer's needs. After the upgraded or updated system is rebooted, these translations can be entered either locally by the Software Associate or remotely at the FSAC (with possible assistance from the upgrade technician).

For information to make the required changes, refer to:

- *DEFINITY Communications System Generic 3 V2 to DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

Port-Network Configurations

Every DEFINITY ECS R5vs configuration contains one carrier in a table- or wall-mounted cabinet.

The following sections describe upgrades to a DEFINITY ECS R5vs with one port network.

Software-Translation Upgrade

As a fall-back precaution, the current translations should first be saved to the existing translation memory card. Then, the upgrade process will download the translations to the new DEFINITY ECS R5 memory card.

Specific instructions about when to and how to upgrade translations are included in the following section, System Updates and Upgrades.

System Updates and Upgrades

There are many configurations of DEFINITY G3vs systems in the field. In terms of both hardware and software, each system can have a unique configuration. The manner in which a system is updated or upgraded depends on its present configuration.

However, every DEFINITY G3vs system consists of one carrier in a table- or wall-mounted cabinet. Therefore, upgrading a system always requires downloading the translations to a new memory card and rebooting the system.

Software Upgrade

The software upgrade feature permits a DEFINITY ECS system to upgrade its software to include new features and to fix software problems.



WARNING:

No administration changes should be entered during the following software upgrade procedure. There can be substantial time gaps between steps and, since the system cannot prevent administration changes, it is up to the system technician to make sure that none are attempted during the entire software upgrade process.

Upgrading a G3vs V2, V3, or V4 to DEFINITY ECS R5vs

The software upgrade takes up to 130 minutes, during which time service is interrupted for about 10 minutes. Upgrade software cannot be done remotely, and it must be performed on the local G3-MT.

Ensure that the following items are available before proceeding:

- Software memory card with the software release running currently in the system
- Software memory card containing the new software release for the system
- Existing translation memory card on which the system translations are to be saved (the card should already be in the system)
- Software patch (if it exists) that is currently applied to the system (this patch is downloaded if a software backout is required)
- Software release label to be applied to the TN790 processor circuit pack after a successful upgrade
- Translation memory card (formatted for Release 5 and blank)

The following table indicates the processes and their corresponding time allotment for the upgrade procedure.

Process	Time (minutes)
Save translation	10
Save announcements	45
Upgrade software	10
Save translation	10
Save announcements	45
Miscellaneous	10
Total Time	130

A G3vs V2, V3, or V4 is upgraded to a DEFINITY ECS R5vs by performing the following steps:

- Saving the current translations to the existing translation memory card
- Replacing the existing card with a new translation memory card (which is formatted and blank) into the TN777B Netcon circuit pack
- Saving the current translations to the new translation memory card

- Inserting a 20-Mbyte DEFINITY ECS R5 software memory card into the Netcon circuit pack
- Rebooting the upgraded DEFINITY ECS R5vs system
- When prompted, inserting the new translation memory card with the current translations
- Verifying that the system boots properly

Prerequisite Hardware

The equipment in Table 1-2 *must* be on-site before the upgrade begins. Ensure that the translation memory card is current and, if the system has a TN750B Announcement circuit pack, contains 4 Mbytes of memory.

Table 1-2. Required Hardware

Equipment	Description	Quantity
406805481	J58890TG L4 20-MByte Software Memory Card	2 ¹
	Program Label for TN790 Processor Pack	1 ²
406809889	J58890TG L10 G3 V4 4-MByte Translation Memory Card	1 ³
106718521	TN790 Processor Circuit Pack	1 ⁴
AHF110	TDM/LAN Bus Terminator	1 ⁵

1. For either a maintenance update or an upgrade, acquired from an FSAC-CSA/NSAC. One of these contains the DEFINITY ECS Release 5 software to be loaded during the update or upgrade. The other contains G3 V2 software that may need to be reloaded after an upgrade failure.
2. For either a maintenance update or an upgrade, acquired from an FSAC-CSA/NSAC.
3. A 4-Mbyte translation memory card is required for a system that uses recorded announcements.
4. TN790 Processor circuit pack is required for all system upgrades to DEFINITY ECS Release 5.
5. Required for Wireless Business System.

Required Tools

The following tools and items may be required during the update or upgrade:

- Authorized wrist grounding strap
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications System Release 5 Maintenance for R5vs/si and Generic 3vs/si Maintenance*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*
 - *GBCS Products Security Handbook*, 555-025-600, Issue 3

Open Control Cabinet Door

Use a screwdriver, and turn the door-latch screw counter-clockwise one-fourth turn to open the door.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Prepare for Upgrade

The current translations should first be saved to the existing translation card.

1. Login at the G3-MT or G3-MA terminal.

If translation corruption is detected, the following message is displayed on the copyright screen:

WARNING: translation corruption detected; call Lucent Technologies distributor immediately



NOTE:

The **save translations** command cannot be executed if the translation corruption message appears.

2. Enter **change system-parameters features**, and press RETURN. Use Page 2 of this form to prevent unexpected activation of the Terminal Translation Initialization (TTI) feature during the update or upgrade by changing the value in the "TTI Security Code" field to *n*.
3. Issue the **list configuration software-versions** command to determine whether any patches have been applied.



NOTE:

If the switch must be restored to the old software, the correct patches must be re-downloaded.

4. Verify a software memory card containing the current system software is at hand. This card is needed in case the new software must be backed out.
5. Enter **change system-parameters maintenance**, and press RETURN. Use this form to prevent scheduled daily maintenance from interfering with the update or upgrade. (If scheduled maintenance *has* begun, set the value of the "Stop Time" field to one minute after the current time. If scheduled maintenance *has not* yet begun, change the value of the "Start Time" field to a time after the update or upgrade will be finished.)
6. Verify the switch on the outside edge of the memory card is in the down position to record (see Figure 1-1).

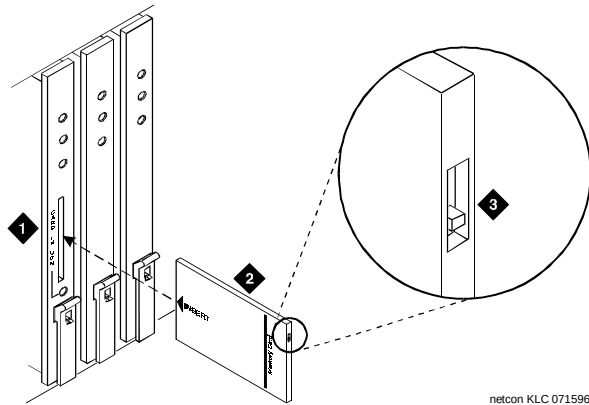


Figure 1-1. Record Switch on DEFINITY Memory Card

7. Insert the original translation memory card into the slot on the TN777B faceplate. (See Figure 1-1.)



NOTE:

The memory card is keyed to assure proper installation. Insert the card with the white 'DEFINITY Memory Card' label facing left and with the insert arrow (on the same side) pointing forward towards the circuit pack.

Disable Alarm Origination

1. Enter **change system-parameters maintenance**, and press RETURN.
2. Enter **n** in the *Alarm Origination Activated* field and press RETURN to disable Alarm Origination.

The INADS Database Administrator at the TSC will enable Alarm Origination as part of the registration process.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets.



NOTE:

For earlier releases of software, you also need to disable *Cleared Alarm Notification* and *Restart Notification* before the form can be submitted.

Save Translations

1. Save translations to the translation memory card in the switch by issuing the **save translation card-mem** command. Press RETURN. This process takes approximately 10 minutes to complete.

This command instructs the system to take all the translation information in memory and write it onto the memory card. Move the slide on the memory card to the write protect position to ensure the safety of the preserved translations.

2. If the system is equipped with a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, these announcements can be saved by entering the following command:

save announcements

and press RETURN.



NOTE:

Make sure that the carrier containing the TN750/B Announcement circuit pack is not powered down before the **save announcements** command successfully completes. Otherwise, all recorded announcements will be lost!

Power Down Control Cabinet

Behind the PPN control cabinet's power supply, set the circuit breaker to OFF.

Replace Circuit Packs



NOTE:

If new adjuncts or features are being added that require additional circuit packs, refer to Chapter 12 of this manual for installation instructions.

1. At the J58890L control cabinet, remove the combined TN786B/CPP1 processor/memory circuit pack).



WARNING:

Before inserting or removing a circuit pack⁹ from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Install the TN790 processor circuit pack into the control-cabinet slot labeled "PROCR". See Figure 1-2 for an illustration of the TN790 processor circuit pack. See Figure 1-3 for an illustration of the DEFINITY ECS R5vs compact single-carrier cabinet (J58890S) for circuit pack placement locations.

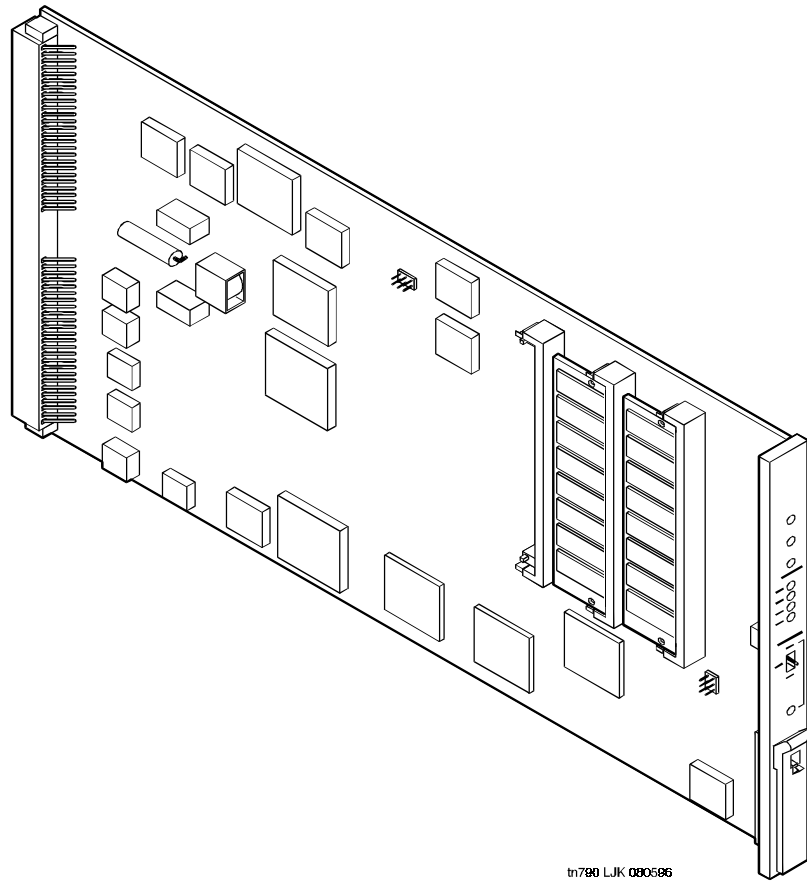


Figure 1-2. TN790 Processor Circuit Pack

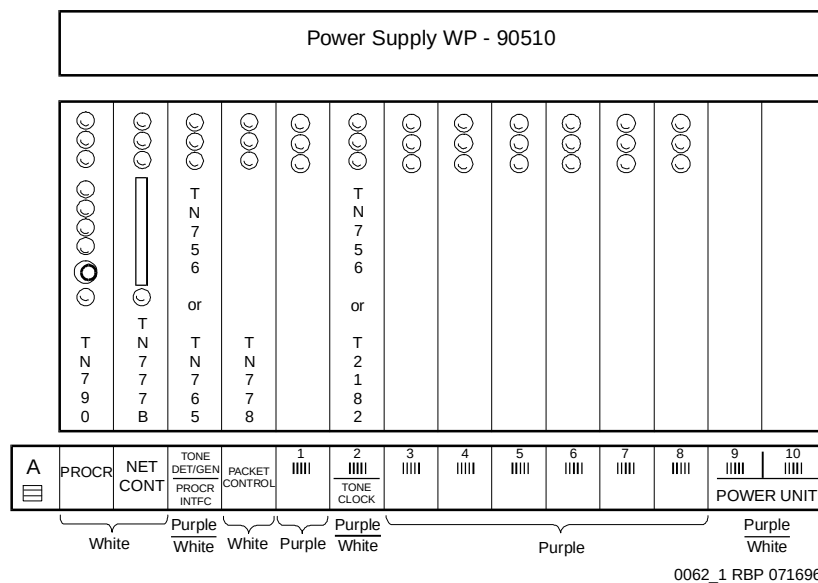


Figure 1-3. DEFINITY ECS R5vs Compact Single-Carrier Cabinet (J58890S)

Reboot the System

1. Behind the PPN control cabinet's power supply, set the circuit breaker to ON.
2. The system now performs the reset level 4 rebooting process by loading translations from the memory card. Loading the translations takes 8 to 11 minutes.
Log in as "craft" at the login: prompt on the G3-MT or G3-MA.
3. Enter **set time**, and press RETURN to set the time and ensure that the system is booted properly.
4. Enter list configuration software-version, and press RETURN to compare the version number of the DEFINITY ECS Release 5 software program (displayed on the G3-MT or G3-MA) with the TN790 version number (written on a label on the TN790's faceplate). If the version numbers are not the same, change the version number on the TN790 label so that they agree.

5. Perform a sanity check on the system running the new software by executing the following commands in this order:
 1. **status system 1** (to check out unusual status in the system)
 2. **list station** (to ensure that the translation is read in properly)
 3. **display alarm** (to ensure no alarm is raised in the system)
 4. **list trunk-group** (to ensure the translation is read in properly)
 5. **list hunt-group** (to ensure the translation is read in properly)

This ensures there is no translation corruption and the translations can be saved with the new software.

⇒ NOTE:

Backout Procedure: If the system is not running properly or the translations seem to be incorrect, follow the technical escalation procedure. If the new load must be backed out (i.e., returned to the previous software load), re-install the TN786B/CPP1 circuit packs and reboot with the previous version's translation card.

6. Get the DOSS order number of the upgrade, and call the regional CSA to request an "init" login. Once logged in as "init," the CSA should assign the DEFINITY ECS Release 5 option, which also automatically sets the 24-hour password aging for the upgraded system's customer logins.

The CSA should enter change system-parameters customer-options, and press RETURN to enable the DEFINITY ECS Release 5 option. For details on enabling this option, see *DEFINITY Enterprise Communications Server Release 5 Implementation*.

⇒ NOTE:

Certain forms have changed for DEFINITY ECS Release 5. Upgraded translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to the following documents to make the necessary changes:

- *DEFINITY Communications System Generic 3 V3 to DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

7. Explain to the switch administrator that any previous login names and passwords still exist, but that the passwords will expire in 24 hours. When changed, the new login names and passwords must conform to the requirement shown in the following note.

⇒ NOTE:

A password must have from 4 to 11 symbols including at least 1 alphabetic character and 1 numeric character. As before, a login name must have from 3 to 6 alphanumeric characters.

Since an R1V3.0 G3-MA cannot notify users about expiring passwords, password aging should be disabled for any login name used with an R1V3.0 G3-MA.

Load Upgraded Translations onto DEFINITY ECS R5 Translation Memory Card

1. Enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. If the system is equipped with a TN750/B Announcement circuit pack, check for completion of an automatic restore of announcements before removing the original translation card. If the system has been running for at least 45 minutes since power on, this operation should be complete. Monitor the yellow light on the TN750/B which is lit while the download is in progress. If this automatic restore did not start within 15 minutes of power on, restore the announcements with the following command:

restore announcements [to PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

3. Insert the new DEFINITY ECS Release 5 formatted translation card. Verify that the switch on the outside edge of the translation memory card is in the downward position to record (see Figure 14-3).
4. Enter **save translation**, and press RETURN. This command instructs the system to write all translation information from memory onto the DEFINITY ECS Release 5 translation memory card.

5. If the system is equipped with a TN750/B Announcement circuit pack and announcements were restored in above step, save these announcements by entering the following command:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

Although not required, customers may choose to back up announcements stored on TN750C circuit packs. These must be stored on an individual translation memory card for the TN750C. While the DEFINITY ECS R5 software can read such memory cards, these cards must be reformatted before DEFINITY ECS R5 can save announcements on the cards. These cards must be ordered in advance from the factory, with the order code of J58890TG-1, L14.

6. Enter **change system-parameters maintenance**, and press RETURN. Use this form to reactivate scheduled daily maintenance after the upgrade process is completed.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.



NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS Release 5vs

Get the serial number of the DEFINITY ECS Release 5vs, and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111) to register the upgraded system as a DEFINITY ECS Release 5vs.

Return Equipment

Return any equipment replaced, during the update or upgrade, should be returned to Lucent Technologies according to the requirements outlined in:

BCS/Material Logistics, MSL/Attended Stocking Locations

Methods and Procedures for Basic Material Returns

The replaced equipment includes:

- TN786B or TN796B Processor and CPP1 Memory circuit packs
- G3i V1.1, V2, V3, or V4 translation memory cards

G3vs (I386) to DEFINITY ECS Release 5si

2

This chapter provides the information necessary to upgrade a wall-mounted DEFINITY G3vs V2, V3, or V4 system to a DEFINITY Enterprise Communications Server Release 5si system with a RISC processor. The hardware and software involved in the upgrades and the upgrade procedures are also provided.

**CAUTION:**

Be careful to find the right chapter for your upgrade. Using the software- and sometimes the hardware-upgrade PEC on the customer's order, refer to Table 1 in About This Document for the correct chapter.

**NOTE:**

This chapter assumes that the switch being upgraded has a 386-based Intel processor. If not, refer to the *DEFINITY Communications System Generic 3 V4 Upgrades and Additions* manual. After that portion of the upgrade is finished, return to this chapter for information about upgrading the wall-mounted G3vs V4 system to a DEFINITY ECS Release 5si system.

**NOTE:**

To ensure that the upgrade completes successfully, perform all steps in the order provided.

DEFINITY ECS R5si features and functions are listed in the *DEFINITY Enterprise Communications Server Release 5 Feature Description*. *DEFINITY Enterprise Communications Server Release 5 Implementation*, provides the commands, procedures, and forms required to initialize and administer the DEFINITY ECS R5si.

Task Tables

Table 2-1 provides the high-level tasks to perform the upgrades detailed in this chapter. Refer to the appropriate page for detailed instructions for each step.

Table 2-1. Tasks to Upgrade from G3vs (I386) V2, V3, or V4 to Release 5si

✓	Task Description	Page
	Unpack and Inspect DEFINITY ECS R5si Enhanced Control Cabinet for Damage	6
	Remove Front Door	6
	Install Enhanced Control Cabinet	7
	Add Earthquake Protection	8
	Install TDM/LAN Bus Terminators	10
	Label Existing Cables	11
	Swing Out Existing System to Maintenance Position	11
	Remove Front Cover from System	11
	Verify System Status	12
	Save Current Translations to Existing Translation Memory Card	12
	Disable Alarm Origination	13
	Save Translations to R5 Memory Card	13
	Power Down Existing System	13
	Remove Circuit Packs from Existing System	14
	Install Circuit Packs in DEFINITY ECS R5si	14
	Connect Power and Grounding	16
	Reboot the System	16
	Close Cabinet Door	19
	Run Acceptance Tests	20
	Resolve Alarms	20
	Load Upgraded Translations onto V5 Translation Memory Card	20
	Register System as DEFINITY ECS R5si	21
	Disassemble Wall-Mounted G3vs V4 System	22
	Return Replaced G3vs V4 Equipment	24

Considerations

Service Interruption

The upgrade process requires a service interruption. This service interruption must be closely coordinated with the customer and the local account team.

Contact Network Technicians

The technician for each public and private network accessed by the switch must be contacted before the upgrade begins. Otherwise, if these technicians are not aware of the service interruption caused by the upgrade, it is possible that network-access trunk facilities will be busied out at the far end.

Isolator

Each peripheral connected to a DC-powered system, via the asynchronous Electronic Industries Association (EIA) RS-232 interface (behind a PPN control cabinet), requires a 116A isolator. The isolator is inserted at the RS-232 interface between the peripheral and the interface connector to isolate grounding between the system and external adjuncts.

Software

Like the previous translations, the DEFINITY ECS R5si translations are saved on the DEFINITY translation memory card. Although the older translations upgrade automatically to DEFINITY ECS R5si, several features require special attention because of form changes or potential naming conflicts in the upgrade procedure.

After the upgrade, the Software Associate should check these forms to ensure that the upgraded translations are appropriate for the customer's needs. For information to make the required changes, refer to:

- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

Usable Circuit Packs

The upgraded DEFINITY ECS R5si system accepts the same set of Tone-Clock circuit packs as the G3vs V4 system. However, to meet the requirements of a specific application, the existing Tone-Clock may need to be replaced.

The various Tone-Clock circuit packs include the TN756, TN768, TN419B, TN780, and TN2182.

Due to limited synchronization capabilities, the TN756 cannot be used in systems with:

- A DS1/E1 Interface
- An Outbound Call Management (OCM) application

In most configurations, the two- or three-board combination of a tone generator pack, tone detector pack, and/or call classifier pack can be replaced with the TN2182 circuit pack, freeing up one or two port slots.

The TN790 Processor circuit pack is required for all upgrades to DEFINITY ECS Release 5.

Port-Network Configurations

Every DEFINITY ECS R5si configuration contains a single port network which consists of single-carrier cabinets.

Since every G3vs V4 contains a single wall-mounted control cabinet, the following sections describe upgrades to a DEFINITY ECS R5si with one port network consisting of single-carrier cabinets.

Port Networks

The DEFINITY ECS R5si offers a single port network (a PPN) with a larger control cabinet and up to three port cabinets.

Software-Translation Upgrade

The current translations are first saved to the existing translation memory card. Then, once the DEFINITY ECS R5si enhanced control cabinet is installed and the existing circuit packs are moved to this control cabinet, the saved translations are loaded from the same old translation memory card and then saved to the new DEFINITY ECS R5si translation memory card.

Specific instructions about when to and how to upgrade translations are included in the following section, "System Upgrades."

System Upgrades

There are many configurations of DEFINITY G3vs in the field. In terms of both hardware and software, each system can have a unique configuration. The manner in which a system is upgraded depends on its present configuration.

However, every G3vs consists of a single wall-mounted control cabinet. Therefore, upgrading a G3vs to a DEFINITY ECS R5si always requires installing a new DEFINITY ECS R5si enhanced control cabinet.

If the upgrade involves adding a new port cabinet, refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for the installation procedures.

Upgrading a G3vs V4 to DEFINITY ECS R5si

Prerequisite Hardware

The equipment in Table 2-2 *must* be on-site before the upgrade begins. Ensure that the translation memory card is current and, if necessary, contains 4 Mbytes of memory.

To place a claim for missing equipment, as part of the Streamlined Implementation process, call “1-800-772-5409,” and respond to the call prompter.

Table 2-2. Required Hardware

Equipment	Description	Quantity
J58890L-1 L5	Enhanced Control Cabinet	1
405970229	WP-91153 Power Unit	1
106718521	TN790 Processor Circuit Pack	1 ¹
105631527	AHF110 TDM/LAN Bus Terminator	2
406809889	J58890TG L10 4-MByte Translation Memory Card	1 ²
846408250	Stiffener	1 ³
846408243	Earthquake Front Mounting Angle	1 ³

1. TN790 Processor circuit pack is required for all system upgrades to DEFINITY ECS Release 5.
2. A 4-Mbyte translation memory card is required for a system that uses recorded announcements.
3. Required if earthquake protection is provided.

Required Tools

The following tools and items may be required during the upgrade:

- Flash maintenance kit (MTCE 00037), acquired from Material Stocking Location (MSL)
- Flashlight or high-intensity AC drop light
- Power screwdriver (optional)
- 1/4-inch flat-blade screwdriver

- 1/4-inch socket with ratchet (optional)
- Long-nose pliers to straighten backplane pins
- Static-proof or original circuit-pack packaging for transporting circuit packs
- Labels for identifying the port circuit packs and cables attached to the rear of cabinets
- Receptacle for holding screws
- One dozen #8 self-tapping screws
- Repair kit for backplane pins (KS-22876 L2 or equivalent)
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

Unpack and Inspect DEFINITY ECS R5si Enhanced Control Cabinet for Damage

1. Unpack cabinet.



DANGER:

Take care to avoid injury while cutting and removing bands.

2. Visually inspect cabinet for any physical damage caused during shipping. Report any damage for appropriate action per local procedures.

Remove Front Door

Remove the front door of new enhanced control cabinet.

1. Use a screwdriver, and turn door-latch screw counterclockwise one quarter turn to release door (see Figure 2-1).
2. Lift door from lower slots and remove from cabinet.

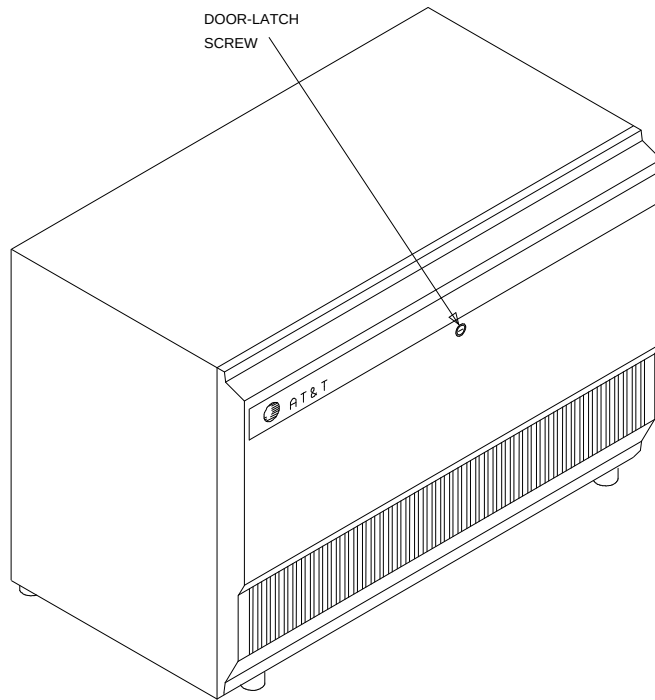


Figure 2-1. Location of Door-Latch Screw for DEFINITY ECS R5si Cabinet

Install Enhanced Control Cabinet

1. Position the J58890L control cabinet "A" at the desired location.



DANGER:

The cabinet may weigh as much as 130 pounds and requires two handlers. Use caution to avoid injury.

2. If earthquake protection is not required, install hole plugs (provided with cabinet) in the holes previously occupied by the two carriage bolts at the bottom rear of the cabinet.

Add Earthquake Protection

If earthquake protection is required:

1. Place the front mounting angle at the location selected for the front of the enhanced control cabinet.
2. Using the angle as a template, mark the locations of the two mounting bolts.
3. Drill two holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 2.
4. Mount the front mounting angle to the floor (Figure 2-2).
5. Move the cabinet back into place, and temporarily stabilize the cabinet by attaching the cabinet to the angle with two No. 12-24 by 1/2-inch thread-forming screws.
6. Insert a pencil or marker through the two holes (previously occupied with carriage bolts) in the bottom rear of the cabinet, and mark the floor directly beneath each hole.
7. Remove the two screws installed in Step 5, and move the cabinet out of the way.
8. Drill two holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 6.
9. Move the cabinet back into place.
10. Attach the cabinet to the front mounting angle using four No. 12-24 by 1/2-inch thread-forming screws.
11. In the rear of the cabinet, lay the stiffener on the bottom of the cabinet, aligning the stiffener with the holes in the bottom of the cabinet.
12. Fasten the cabinet to the floor (Figure 2-3).

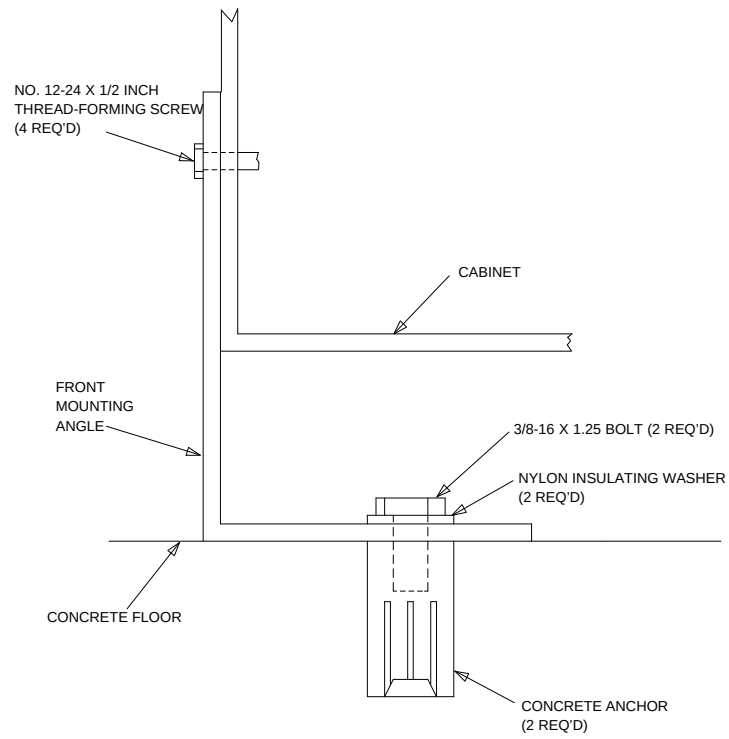
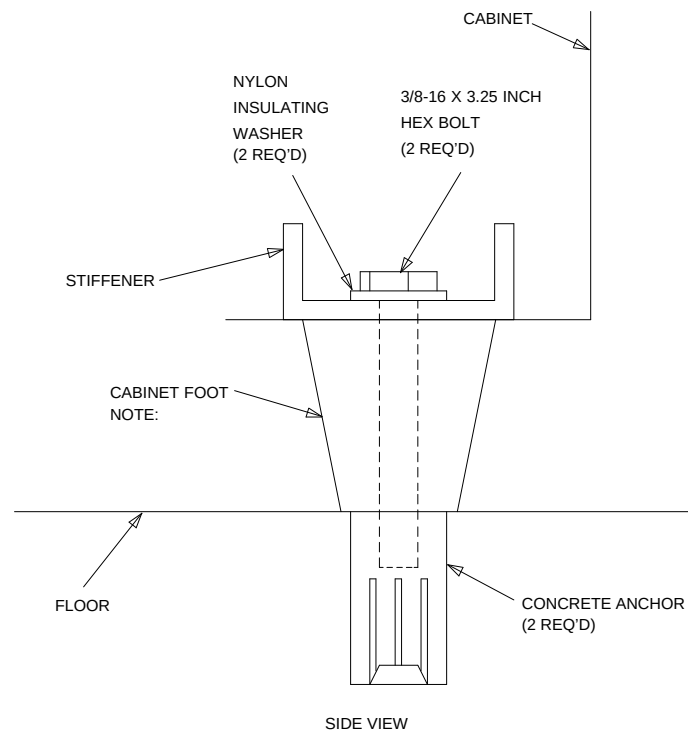


Figure 2-2. Front Mounting Angle — Concrete Floor



NOTE: BOLT DOES NOT RUN THROUGH CABINET FOOT

Figure 2-3. Cabinet Earthquake Mounting — Concrete Floor

Install TDM/LAN Bus Terminators

Verify the two AHF110 TDM/LAN bus terminators are located per Figure 2-4.

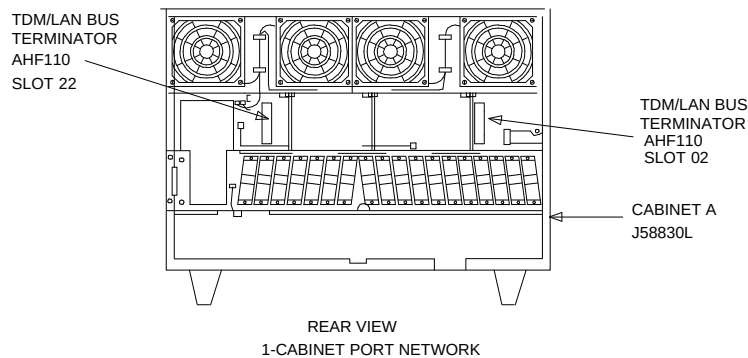


Figure 2-4. Locations of TDM/LAN Bus Terminators for Single-Cabinet PPN

Label Existing Cables

To make reconnecting the cables simpler and more reliable, label every connector cable associated with the system (if not already labeled).

⇒ NOTE:

The I/O cables connected to the wall-mounted G3vs V4 system are likely to be fairly short. Therefore, either the new DEFINITY ECS R5si enhanced control cabinet should be installed near the wall field or the existing I/O cables may need to be replaced with longer ones.

Swing Out Existing System to Maintenance Position

While lifting on the left side of the wall-mounted G3vs cabinet, allow the cabinet's left side to swing outward and to the right.

⇒ NOTE:

During the remainder of these upgrade instructions, the left side of this cabinet will be referred to as the front of the cabinet.

Remove Front Cover from System

Use a screwdriver, and turn the door latch counter-clockwise one-fourth turn to remove the cover.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Save Current Translations to Existing Translation Memory Card

The current G3vs V4 translations are first saved to the translation memory card. After the upgrade, they are then saved to the DEFINITY ECS R5si translation memory card.

⇒ NOTE:

G3vs V4 translations need not be saved for a system that was just upgraded to a G3vs V4 as the first stage of a DEFINITY ECS R5si upgrade.

1. Log in at the G3-MT terminal.
2. Verify that the switch on the outside edge of the memory card is in the downward position to record (see Figure 2-5).

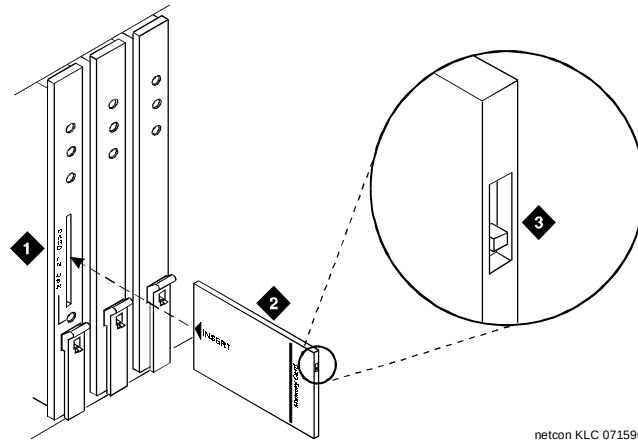


Figure 2-5. Record Switch on DEFINITY Memory Card

Disable Alarm Origination

1. Enter **change system-parameters maintenance**, and press RETURN.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.

2. Enter **n** in the *Alarm Origination Activated* field and press RETURN to disable Alarm Origination.

The INADS Database Administrator at the TSC will enable Alarm Origination as part of the registration process.



NOTE:

For earlier releases of the switch software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations to R5 Memory Card

1. Enter **save translation**. Press RETURN. This command instructs the system to write all translation information from memory to the DEFINITY ECS R5si translation memory card.
2. If the system is equipped with a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Power Down Existing System

Behind the G3vs V4 cabinet, set the circuit breaker to OFF.

Powering down the control cabinet will cause important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup requests, and Do Not Disturb requests to be lost. Refer to DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si for information about preparing the system for a power down. BCMS data cannot be stored to or retrieved from flash.

Remove Circuit Packs from Existing System

1. Label each port circuit pack in the old system with its slot number. See Figure 2-6.
2. Remove all circuit packs from the G3vs V4 system. Store the circuit packs in the static-proof packaging.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.



NOTE:

If a TN756 tone-detector/generator was removed from the DEFINITY G3vs control cabinet, a new DEFINITY ECS R5 tone clock (TN2182) should replace this circuit pack. The TN2182 Tone-Clock serves to replace the tone detector circuits on the old TN756. If a TN2182 is used, no TN748B is required.

3. Remove circuit-pack blanks from the slots that do not contain circuit packs.

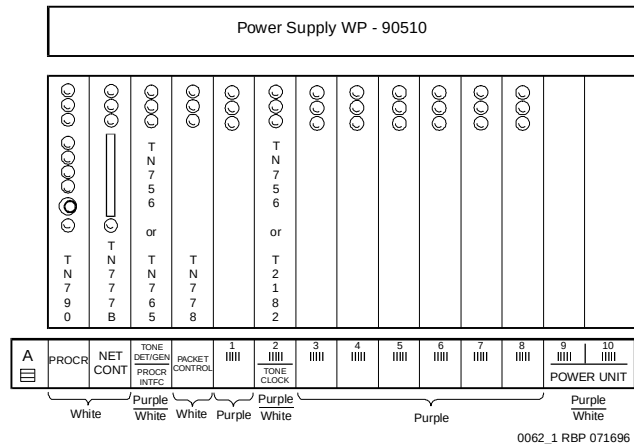


Figure 2-6. Circuit-Pack Locations in G3vs V4 Wall-Mounted Cabinet

Install Circuit Packs in DEFINITY ECS R5si

1. Using the Figure 2-7 and the label, install the power unit and control circuit packs into the new enhanced control cabinet.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.



► **NOTE:**

If a TN756 tone-detector/generator was removed from the DEFINITY G3vs control cabinet, a new DEFINITY ECS R5 tone clock (TN2182) should replace this circuit pack. The TN2182 Tone-Clock serves to replace the tone detector circuits on the old TN756. If a TN2182 is used, no TN748B is required.

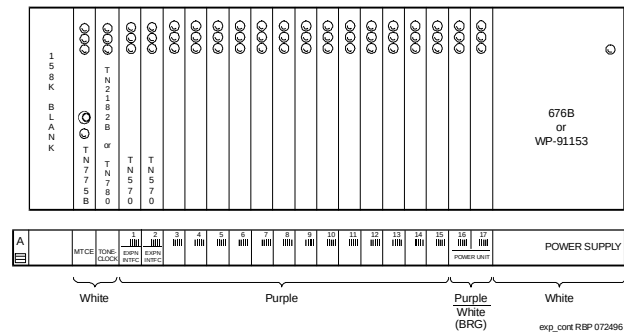


Figure 2-7. Circuit-Pack Locations in DEFINITY ECS R5si Enhanced Control Cabinet

2. Install the port circuit packs, previously removed, into the “A” cabinet using Figure 2-7 and the label as a guide.



► **NOTE:**

Since the new DEFINITY ECS R5si enhanced control cabinet has more port slots than the G3vs V4 cabinet, there should not be a need to move and retranslate these circuit packs.

3. Install circuit-pack blanks in slots not equipped with circuit packs.

Connect Power and Grounding

1. Reconnect the 6-AWG cabinet ground wire to the ground bar in the enhanced control cabinet.



NOTE:

A screwdriver is required to loosen and tighten the bolts that secure the ground wire to the ground bar.

2. Reconnect the coupled bonding conductor.
3. Connect the cabinet power cord behind the enhanced control cabinet.

Reboot the System

1. Behind the PPN control cabinet's power supply, set the circuit breaker to ON.
2. The system now performs the reset level 4 rebooting process by loading translations from the memory card. Loading the translations takes 8 to 11 minutes.

Refer to Screen 2-1, through Screen 2-4 for sample G3-MT or G3-MA screens. Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit pack LED indications and screen displays that occur during system reboot.

3. Log in as "craft" at the login: prompt on the G3-MT or G3-MA.
4. Enter **set time**, and press RETURN to set the time and ensure that the system is booted properly.
5. Enter list configuration software-version, and press RETURN to compare the version number of the DEFINITY ECS Release 5 software program (displayed on the G3-MT or G3-MA) with the TN790 version number (written on a label on the TN790's faceplate). If the version numbers are not the same, change the version number on the TN790 label so that they agree.
6. Perform a sanity check on the system running the new software by executing the following commands in this order:
 - a. **status system 1** (to check out unusual status in the system)
 - b. **list station** (to ensure that the translation is read in properly)
 - c. **display alarm** (to ensure no alarm is raised in the system)
 - d. **list trunk-group** (to ensure the translation is read in properly)
 - e. **list hunt-group** (to ensure the translation is read in properly)

This ensures there is no translation corruption and the translations can be saved with the new software.

⇒ NOTE:

Backout Procedure: If the system is not running properly or the translations seem to be incorrect, follow the technical escalation procedure. If the new load must be backed out (i.e., returned to the previous software load), re-install the TN786B/CPP1 circuit packs and reboot with the previous version's translation card.

7. Get the DOSS order number of the upgrade, and call the regional CSA to request an "init" login. Once logged in as "init," the CSA should assign the DEFINITY ECS R5 option, which also automatically sets the 24-hour password aging for the upgraded system's customer logins.

The CSA should enter change system-parameters customer-options, and press RETURN to enable the G3 V5 option. For details on enabling this option, see the following figures and *DEFINITY Enterprise Communications Server Release 5 Implementation*.

⇒ NOTE:

Certain forms have changed for DEFINITY ECS R5. Upgraded translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to the following books to make the necessary changes:

- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

The default values are shown in the following System Parameter screens.

```

change system-parameters customer-options                               Page 1 of 3
                                OPTIONAL FEATURES

                                G3 Version: V4
                                Maximum Ports: 2800
                                Logged-In ACD Agents: 500

Abbreviated Dialing Enhanced List? n                               Call Work Codes? n
                                ACD? n                               CAS Branch? n
                                AT&T Adjunct Links? n               CAS Main? n
Answer Supervision by Call Classifier? n                           CPN/BN Adjunct? n
                                ARS? n                               DCS (Basic)? n
                                ARS/AAR Partitioning? y
                                ASAI Interface? y                   Emergency Access to Attendant? y
                                ATMS? n                               Expert Agent Selection (EAS)? n
Audible Message Waiting? n                                         Forced ACD Calls? n
Authorization Codes? n                                             Forced Entry of Account Codes? n
                                BCMS (Basic)? n
                                BCMS/VuStats LoginIDs? n
                                BCMS/VuStats Service Level? n

(NOTE: You must logoff & login to effect the permission changes.)

```

Screen 2-1. Sample Display of System-Parameters Customer-Options Form -- Page 1

```

change system-parameters customer-options                               Page 2 of 3
                                OPTIONAL FEATURES

                                Hospitality (Basic)? y
                                G3V3 Hospitality Enhancements? n   Service Observing (Basic)? y
Hospitality Parameter Reduction? n   Service Observing (Remote/By FAC)? n
                                ISDN-PRI? n                           Service Observing (VDNs)? n
                                ISDN-PRI over PACCON? n             Station and Trunk MSP? n
                                Lookahead Interflow? n             Terminal Trans. Init. (TTI)? n
                                Malicious Call Trace? n             Time of Day Routing? n
Multifrequency Signaling? n       Uniform Dialing Plan? n
                                Vectoring (Basic)? n
                                Vectoring (Prompting)? n
                                Multiple Call Handling? n
                                VDN of Origin Announcement? n
                                VDN Return Destination? n
                                Processor and System MSP? n
                                Private Networking? n
                                Restrict Call Forward Off Net? n   VuStats? n
                                Secondary Data Module? n             Wideband Switching? n

(NOTE: You must logoff & login to effect the permission changes.)

```

Screen 2-2. Sample Display of System-Parameters Customer-Options Form -- Page 2


```
change system-parameters customer-options          Page  3 of  3
                                     ASAI CAPABILITY GROUPS

Adjunct Call Control Group? y
Adjunct Routing Group? y
Answering Machine Detection? y
    AT&T-ASAI Links? n
Domain Control Group? y
Event Notification Group? y
Request Feature Group? y
    Set Value Group? y
Switch Classified Calls/Predictive Dialing? y

(NOTE: You must logoff & login to effect the permission changes.)
```

Screen 2-3. Sample Display of System-Parameters Customer-Options Form -- Page 3

8. Explain to the switch administrator that any previous login names and passwords still exist, but that the passwords will expire in 24 hours. When changed, the new login names and passwords must conform to the requirement shown in the following note.



NOTE:

A password must have from 4 to 11 symbols including at least 1 alphabetic character and 1 numeric character. As before, a login name must have from 3 to 6 alphanumeric characters.

Also explain that, since an R1V3.0 G3-MA cannot notify users about expiring passwords, password aging should be disabled for any login name used with an R1V3.0 G3-MA.

```
change password craft          Page  1 of  1
                                     PASSWORD ADMINISTRATION

Password of Login Making Change:

LOGIN BEING CHANGED           Login Name: craft

LOGIN'S PASSWORD INFORMATION
    Login's Password:
    Reenter Login's Password:
```

Screen 2-4. Sample Change-Password Form

Close Cabinet Door

Close the front door and secure with the latch.

Run Acceptance Tests

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, to perform the appropriate tests.

Resolve Alarms

Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.

Load Upgraded Translations onto V5 Translation Memory Card

1. Enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. If the system is equipped with a TN750/B Announcement circuit pack, check for completion of an automatic restore of announcements before removing the original translation card. If the system has been running for at least 45 minutes since power on, this operation should be complete. Monitor the yellow light on the TN750/B which is lit while the download is in progress. If this automatic restore did not start within 15 minutes of power on, restore the announcements with the following command:

restore announcements [to PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

3. Insert the new R5 formatted translation card. Verify that the switch on the outside edge of the R5 translation memory card is in the downward position to record (see Figure 4-3).
4. Enter **save translation**, and press RETURN. This command instructs the system to write all translation information from memory onto the DEFINITY ECS R5 translation memory card.

5. If the system is equipped with a TN750/B Announcement circuit pack and announcements were restored in above step, save these announcements by entering the following command:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

 NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack (TN750B or TN750C), the system defaults to the proper location.

Although not required, customers may choose to back up announcements stored on TN750C circuit packs. These must be stored on individual translation memory cards labeled with the TN750C location when more than one TN750C exists in the system. While the R5 software can read such memory cards, these cards must be reformatted before R5 can save announcements on the cards. These cards must be ordered in advance from the factory, with pec code #J58890TG-1, L14.

6. Enter **change system-parameters maintenance**, and press RETURN. Use this form to reactivate scheduled daily maintenance after the upgrade process is completed.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.

 NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS R5si

Get the serial number of the DEFINITY ECS R5si, and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), or the number provided by your local Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS R5si.

Disassemble Wall-Mounted G3vs V4 System

1. Loosen the four shoulder screws (approximately one complete turn) holding the G3vs V4 cabinet to the mounting panel (see Figure 2-8).
2. Remove the locking screw holding the G3vs V4 cabinet to the center of the mounting panel.
3. Return the G3vs V4 cabinet to its locked operating position, by lifting on the front of the cabinet and allowing the cabinet to swing left and back toward the wall.
4. To remove the cabinet from the mounting panel, lift and slide the right side of the cabinet (now facing forward) upward and toward the right until the four shoulder screws are aligned with the wide parts of the keyhole slots. Once aligned, lift the cabinet away from the mounting panel.
5. To access the wood screws connecting the wall panel to the wall, lift and swing the mounting panel back out to its maintenance position.
6. Remove the five lower wood screws from the wall panel, and loosen the top two wood screws. Then, lift the mounting assembly up and away from the wall.
7. Remove the top two wood screws.

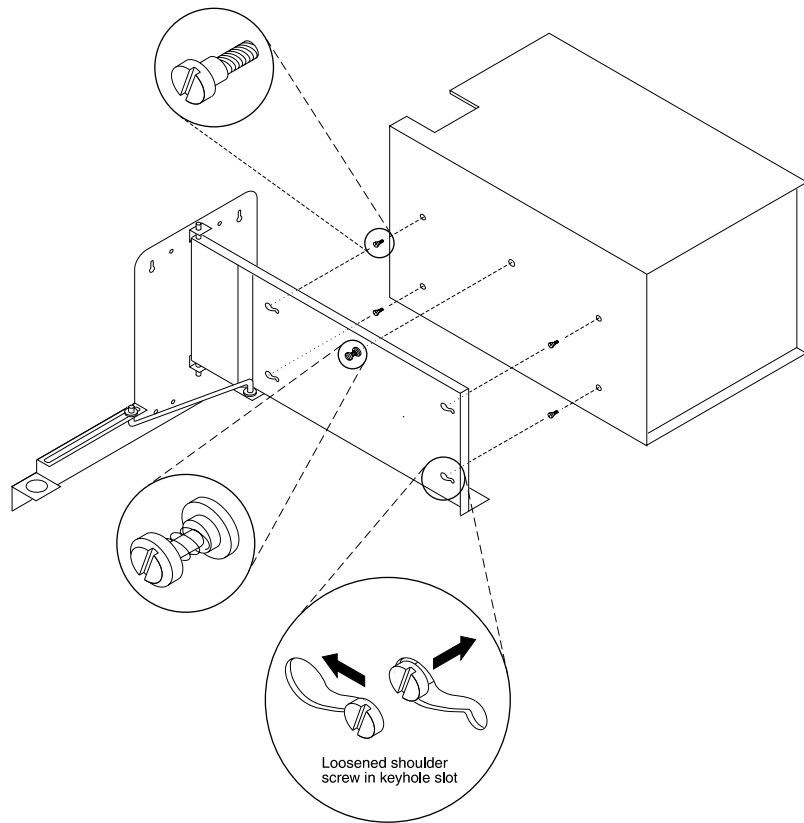


Figure 2-8. Exploded View of Wall-Mounted G3vs V4 System

Return Replaced G3vs V4 Equipment

The G3vs V4 equipment replaced during the upgrade to DEFINITY ECS R5si, should be returned to Lucent Technologies according to the requirements outlined in:

BCS/Material Logistics, MSL/Attended Stocking Locations

Methods and Procedures for Basic Material Returns

The replaced G3vs V4 equipment includes:

- G3vs V4 cabinet and front cover
- G3vs V4 wall mounting assembly

G3vs (I386) to DEFINITY ECS Release 5si+m

3

This chapter provides the information necessary to upgrade a wall-mounted DEFINITY G3vs V4 system to a single-carrier DEFINITY Enterprise Communications Server Release 5si system with a RISC processor with extra memory. The hardware and software involved in the upgrade procedures are also provided.

**CAUTION:**

Be careful to find the right chapter for your upgrade. Using the software- and sometimes the hardware-upgrade PEC on the customer's order, refer to Table 1 in About This Document for the correct chapter.

**NOTE:**

This chapter assumes that the switch being upgraded is a G3vs V4. If not, refer to the *DEFINITY Communications System Generic 3 Upgrades and Additions* manual for information about upgrading a G3vs V1 system to a G3vs V4. After that portion of the upgrade is finished, return to this chapter for information about upgrading the wall-mounted G3vs V4 system to a DEFINITY ECS R5si single-carrier cabinet PPN.

**NOTE:**

To ensure that the upgrade completes successfully, perform all steps in the order provided.

DEFINITY ECS R5 features and functions are listed in the *DEFINITY Enterprise Communications Server Release 5 Feature Description*. *DEFINITY Enterprise Communications Server Release 5 Implementation*, provides the commands, procedures, and forms required to initialize and administer the DEFINITY ECS R5si.

Task Tables

Table 3-1 provides the high-level tasks to perform the upgrades detailed in this chapter. Refer to the appropriate page for detailed instructions for each step.

Table 3-1. Tasks to Upgrade from G3vs (I386) V2, V3, or V4 to Release 5si+m

✓	Task Description	Page
	Contact Network Technicians	3
	Unpack and Inspect R5si Enhanced Control Cabinet for Damage	7
	Remove Front Door	7
	Install Enhanced Control Cabinet	8
	Add Earthquake Protection	9
	Install TDM/LAN Bus Terminators	11
	Label Existing Cables	12
	Swing Out Existing System to Maintenance Position	12
	Remove Front Cover from System	12
	Verify System Status	13
	Save Current Translations to Existing Translation Memory Card	13
	Disable Alarm Origination	13
	Save Translations to the R5 Memory Card	14
	Install the SIMM on the TN790 Processor Circuit Pack	14
	Power Down G3vs V4 System	17
	Remove Circuit Packs from G3vs V4	18
	Install Circuit Packs in DEFINITY ECS R5si	18
	Connect Power and Grounding	19
	Reboot the System	20
	Close Cabinet Door	23
	Run Acceptance Tests	23
	Resolve Alarms	23
	Load Upgraded Translations onto R5 Translation Memory Card	24
	Register System as DEFINITY ECS R5si+m	25
	Disassemble Wall-Mounted G3vs V4 System	25
	Return Replaced Equipment	26

Considerations

Service Interruption

The upgrade process requires a service interruption. This service interruption must be closely coordinated with the customer and the local account team.

Contact Network Technicians

The technician for each public and private network accessed by the switch must be contacted before the upgrade begins. Otherwise, if these technicians are not aware of the service interruption caused by the upgrade, it is possible that network-access trunk facilities will be busied out at the far end.

Isolator

Each peripheral connected to a DC-powered system, via the asynchronous Electronic Industries Association (EIA) RS-232 interface (behind a PPN control cabinet), requires a 116A isolator. The isolator is inserted at the RS-232 interface between the peripheral and the interface connector to isolate grounding between the system and external adjuncts.

Usable Circuit Packs

Refer to *Technical Quarterly, Reference Guide for Circuit-Pack Vintages and Change Notices*, for current information about usable vintages in a DEFINITY ECS R5si system.

The TN790 Processor circuit pack is required for all upgrades to DEFINITY ECS Release 5.

Software

Like the previous translations, the DEFINITY ECS R5si translations are saved on the DEFINITY translation memory card. Although the old translations upgrade automatically to DEFINITY ECS R5si, several features require special attention because of form changes or potential naming conflicts in the upgrade procedure.

After the upgrade, the Software Associate should check these forms to ensure that the upgraded translations are appropriate for the customer's needs. For information to make the required changes, refer to:

- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

Port-Network Configurations

Every DEFINITY ECS R5si port-network configuration contains one PPN which can be either a multicarrier or single-carrier cabinet. Larger configurations can contain either one or two EPNs. Figure 3-1 shows the three main port-network configurations including:

- Basic system, containing only a PPN
 - Directly connected systems, containing:
 - Two port networks (PPN and EPN) connected directly together
 - Three port networks (PPN and two EPNs) connected directly together
-

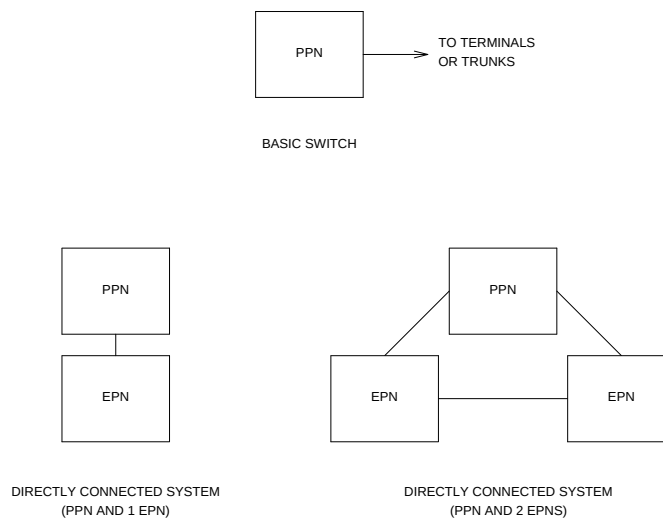


Figure 3-1. DEFINITY ECS R5si Port-Network Configurations

Since every G3vs contains a single wall-mounted control cabinet, the following sections describe upgrades to a DEFINITY ECS R5si PPN consisting of single-carrier cabinets.

Port Networks

From the perspective of a G3vs V4 upgrade, the DEFINITY ECS R5si offers a PPN with a larger control cabinet and up to three port cabinets, as well as two additional port networks. Each of these additional port networks, a first and second EPN, allows the system to grow by one expansion control cabinet and up to three more port cabinets.

Software-Translation Upgrade

The current translations are first saved to the existing translation memory card. Then, once the DEFINITY ECS R5si enhanced control cabinet is installed and the circuit packs are moved to this control cabinet, the saved translations are loaded from the G3vs V4 translation memory card, and then saved to the new DEFINITY ECS R5si translation memory card.

Specific instructions about when to and how to upgrade translations are included in the following section, "System Upgrades."

System Upgrades

There are many configurations of DEFINITY G3vs V4 in the field. In terms of both hardware and software, each system can have a unique configuration. The manner in which a system is upgraded depends on its present configuration.

However, every G3vs V4 consists of a single wall-mounted control cabinet. Therefore, upgrading a G3vs V4 to a DEFINITY ECS R5si always requires installing a new DEFINITY ECS R5si enhanced control cabinet.

If the upgrade involves adding a new port cabinet, refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for the installation procedures.

Upgrading a G3vs V2, V3, or V4 to Standard-Reliability DEFINITY ECS R5si+m PPN

Prerequisite Hardware

The equipment in Table 3-2 *must* be on-site before the upgrade begins.

To place a claim for missing equipment, as part of the Streamlined Implementation process, call "1-800-772-5409," and respond to the call prompter.

Table 3-2. Required Hardware

Equipment	Description	Quantity
J58890L-1 L5	Enhanced Control Cabinet	1
63610	4 Mb SIMM strip	1 ¹
405970229	WP-91153 Power Unit	1
106718521	TN790 Processor Circuit Pack	1 ²
105631527	AHF110 TDM/LAN Bus Terminator	2
406809889	J58890TG L10 4-MByte Mass-Storage Translation Memory Card	1 ³
846408250	Stiffener	1 ⁴
846408243	Earthquake Front Mounting Angle	1 ⁴

1. During the hardware upgrade, attach the SIMM to the TN790 before inserting the combined assembly into the enhanced control cabinet.
2. TN790 Processor circuit pack is required for all system upgrades to DEFINITY ECS Release 5.
3. A 4-Mbyte translation memory card is required for a system that uses recorded announcements.
4. Required if earthquake protection is provided.

Required Tools

The following tools and items may be required during the upgrade:

- Flash maintenance kit (MTCE 00037), acquired from Material Stocking Location (MSL)
- Flashlight or high-intensity AC drop light
- Power screwdriver (optional)
- 1/4-inch flat-blade screwdriver
- 1/4-inch socket with ratchet (optional)

- Long-nose pliers to straighten backplane pins
- Static-proof or original circuit-pack packaging for transporting circuit packs
- Labels for identifying the port circuit packs and cables attached to the rear of cabinets
- Receptacle for holding screws
- One dozen #8 self-tapping screws
- Repair kit for backplane pins (KS-22876 L2 or equivalent)
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

Unpack and Inspect R5si Enhanced Control Cabinet for Damage

1. See DANGER. Unpack cabinet.



DANGER:

Take care to avoid injury while cutting and removing bands.

2. Visually inspect cabinet for any physical damage caused during shipping. Report any damage for appropriate action per local procedures.

Remove Front Door

Remove the front door of new enhanced control cabinet.

1. Use a screwdriver, and turn door-latch screw counterclockwise one quarter turn to release door (see Figure 3-2).
2. Lift door from lower slots and remove from cabinet.

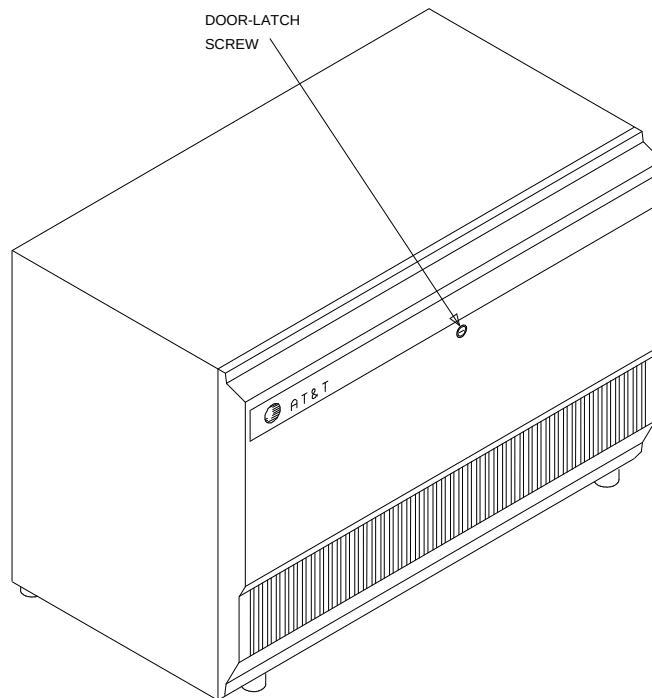


Figure 3-2. Location of Door-Latch Screw for DEFINITY ECS R5si Cabinet

Install Enhanced Control Cabinet

1. See DANGER. Position the J58890L-1 L5 control cabinet "A" at the desired location.



DANGER:

The cabinet may weigh as much as 130 pounds and requires two handlers. Use caution to avoid injury.

2. If earthquake protection is not required, install hole plugs (provided with cabinet) in the holes previously occupied by the two carriage bolts at the bottom rear of the cabinet.

Add Earthquake Protection

If earthquake protection is required:

1. Place the front mounting angle at the location selected for the front of the enhanced control cabinet.
2. Using the angle as a template, mark the locations of the two mounting bolts.
3. Drill two holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 2.
4. Mount the front mounting angle to the floor (Figure 3-3).
5. Move the cabinet back into place, and temporarily stabilize the cabinet by attaching the cabinet to the angle with two No. 12-24 by 1/2-inch thread-forming screws.
6. Insert a pencil or marker through the two holes (previously occupied with carriage bolts) in the bottom rear of the cabinet, and mark the floor directly beneath each hole.
7. Remove the two screws installed in Step 5, and move the cabinet out of the way.
8. Drill two holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 6.
9. Move the cabinet back into place.
10. Attach the cabinet to the front mounting angle using four No. 12-24 by 1/2-inch thread-forming screws.
11. In the rear of the cabinet, lay the stiffener on the bottom of the cabinet, aligning the stiffener with the holes in the bottom of the cabinet.
12. Fasten the cabinet to the floor (Figure 3-4).

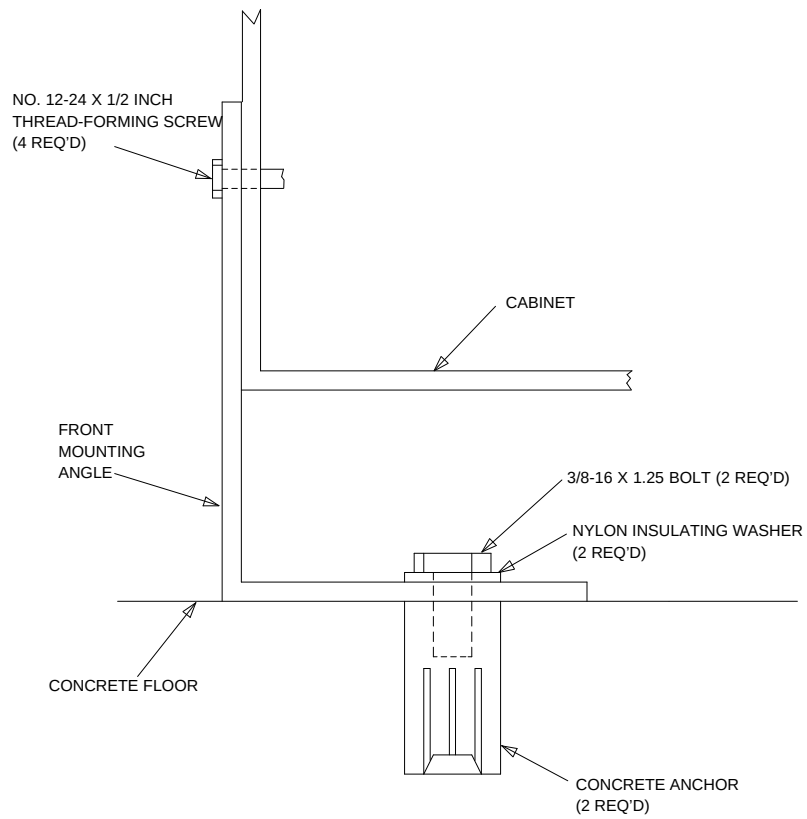


Figure 3-3. Front Mounting Angle — Concrete Floor

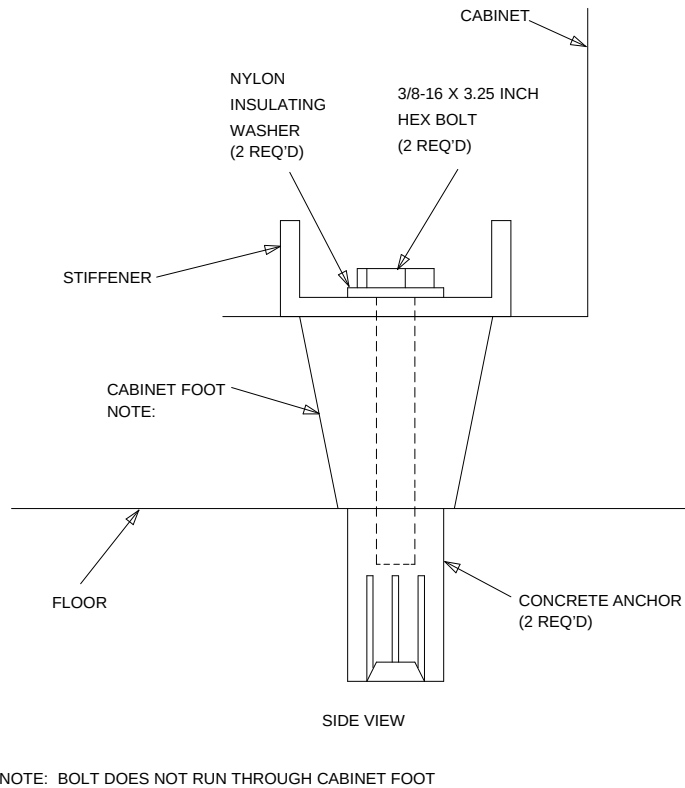


Figure 3-4. Cabinet Earthquake Mounting — Concrete Floor

Install TDM/LAN Bus Terminators

Verify that the two AHF110 TDM/LAN bus terminators are located per Figure 3-5.

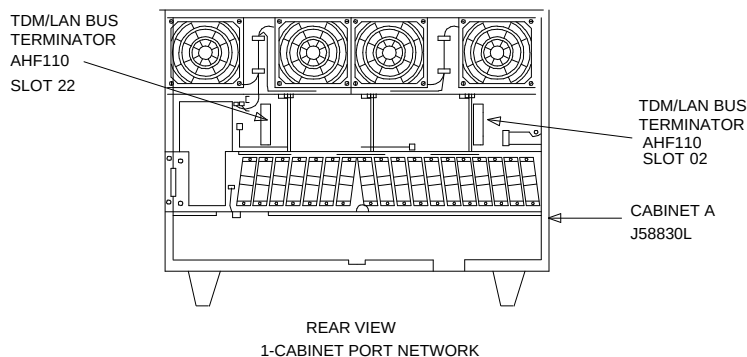


Figure 3-5. Locations of TDM/LAN Bus Terminators for Single-Cabinet PPN

Label Existing Cables

See NOTE. To make reconnecting the cables simpler and more reliable, label every connector cable associated with the system (if not already labeled).

⇒ NOTE:

The I/O cables connected to the wall-mounted G3vs V4 system are likely to be fairly short. Therefore, either the new DEFINITY ECS R5si enhanced control cabinet should be installed near the wall field or the existing I/O cables may need to be replaced with longer ones.

Swing Out Existing System to Maintenance Position

See NOTE. While lifting on the left side of the wall-mounted G3vs cabinet, allow the cabinet's left side to swing outward and to the right.

⇒ NOTE:

During the remainder of these upgrade instructions, the left side of this cabinet will be referred to as the front of the cabinet.

Remove Front Cover from System

Use a screwdriver, and turn the door latch counter-clockwise one-fourth turn to remove the cover.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Save Current Translations to Existing Translation Memory Card

The current G3vs V4 translations are first saved to the translation memory card. They are then saved to the new DEFINITY ECS R5si translation memory card.

⇒ NOTE:

G3vs V4 translations need not be saved for a system that was just upgraded to a G3vs V4 as the first stage of a DEFINITY ECS R5si upgrade.

1. Log in at the G3-MT terminal.
2. Verify that the switch on the outside edge of the memory card is in the downward position to record (see Figure 3-6).

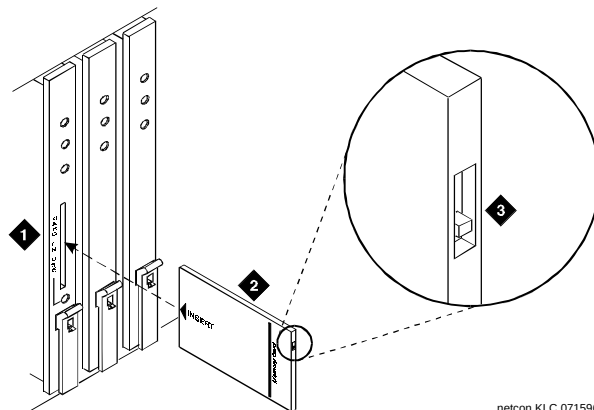


Figure 3-6. Record Switch on DEFINITY Memory Card

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Enter **n** in the *Alarm Origination Activated* field and press RETURN to disable Alarm Origination.

See NOTE. The INADS Database Administrator at the TSC will enable Alarm Origination as part of the registration process.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets.



NOTE:

For earlier releases of the switch software, you also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations to the R5 Memory Card

1. Enter **save translation**. Press RETURN. This command instructs the system to write all translation information from memory to the R5 translation memory card.

2. If the system is equipped with a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Install the SIMM on the TN790 Processor Circuit Pack

This section describes the procedure of adding additional memory to the TN790 Processor Circuit pack.

Required Tools

The following tools and items may be required during the upgrade:

- Authorized wrist grounding strap
- Static-proof or original circuit-pack packaging for transporting circuit packs
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*



WARNING:

Before handling the circuit pack or the SIMM, put on a wrist strap and attach its plug or clip to the cabinet's frame.

See Figure 3-7 to locate the SIMM sockets on the TN790 processor circuit pack.

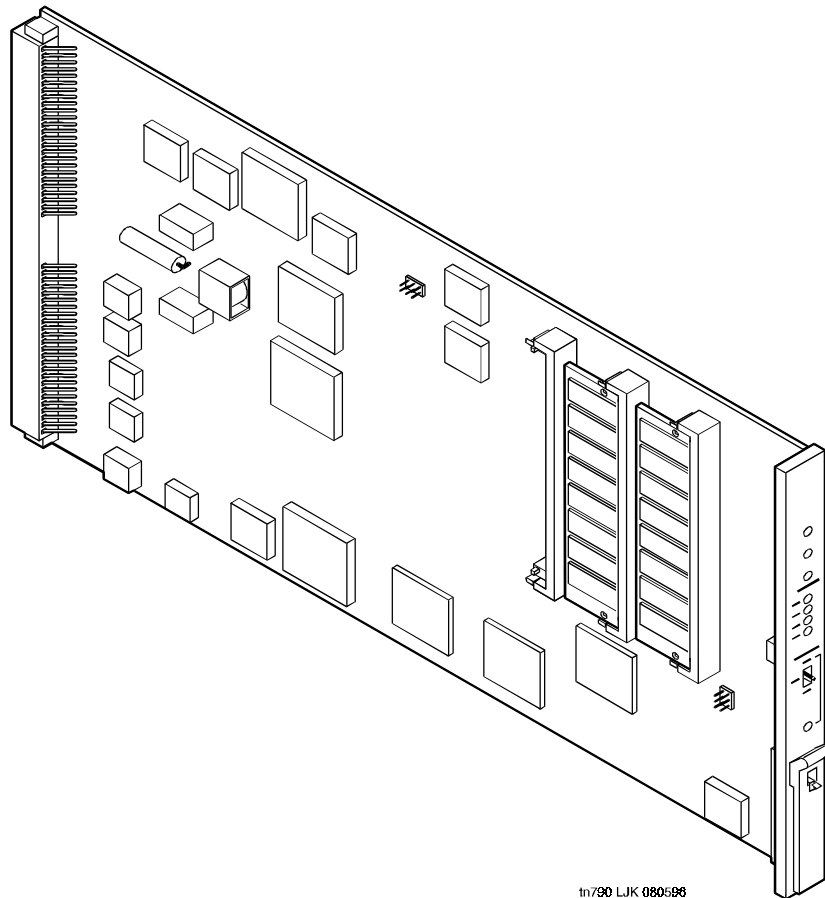


Figure 3-7. TN790 Processor Circuit Pack

Use the following procedure to install a SIMM:

1. Remove the TN790 Processor circuit pack from the control carrier.
2. Place the TN790 Processor circuit pack on an ESD-approved work station, such as the anti-static circuit pack packaging or anti-static mat, with the SIMM socket facing up and to the left, as shown in Figure 3-7.
3. Locate the Notch cutout area on one corner of the SIMM. See Figure 3-8. See WARNING.

**WARNING:**

Do not touch the SIMM's edge connector. Oils from your fingers can cause corrosion and/or oxidation to the contacts.

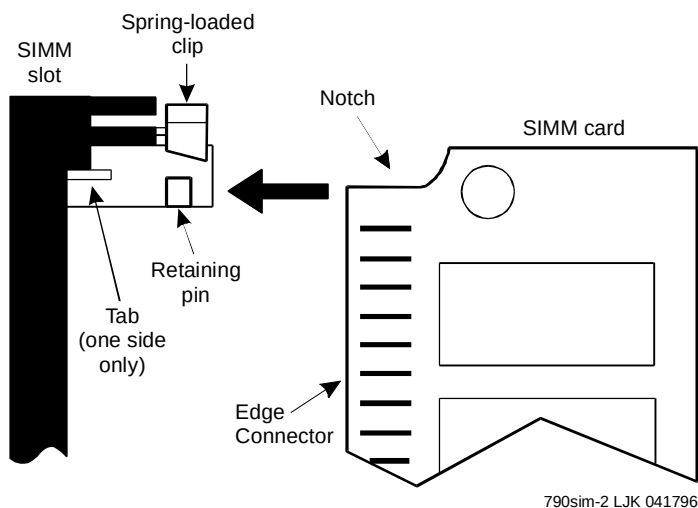


Figure 3-8. Align the SIMM with the SIMM Socket

4. Align the SIMM with the slot in the center of the SIMM socket.

(See Figure 3-8).

Hold the SIMM at a 45-degree angle, with the notch pointing towards the front face plate of the circuit pack. Align the SIMM's edge connector with the slot in the center of the SIMM socket. See WARNING.

**WARNING:**

Do not use force when inserting the SIMM into the SIMM socket. When the SIMM is installed correctly, it will snap easily into place.

5. Press the SIMM's edge connector firmly into the SIMM socket.

Pivot the SIMM down and towards the circuit pack until it clicks into place (as shown in Figure 3-9).

The metal tabs at each end of the socket snap into place around the SIMM and the small retaining pins snap into the holes at each end of the SIMM.

If you have misaligned or only partially seated the SIMM, you will not hear a sharp click, and the retaining pins will not snap cleanly into the holes. You can easily remove the SIMM (see the next section, "Removing a SIMM,") and reinstall it.

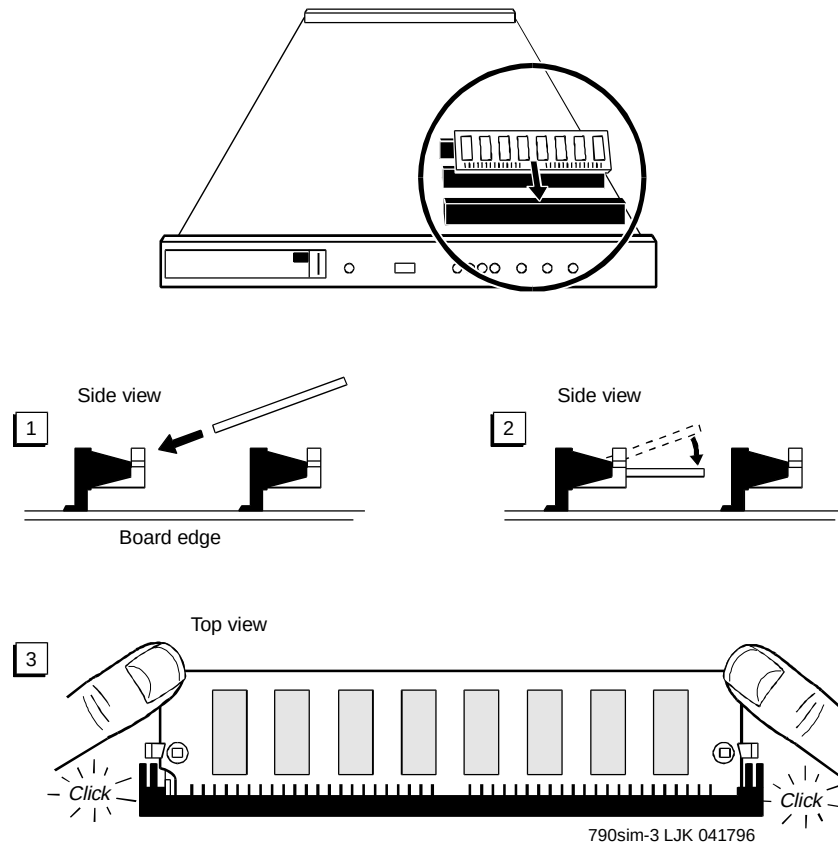


Figure 3-9. SIMM Insertion Procedure

Power Down G3vs V4 System

See CAUTION. Behind the G3vs V4 cabinet, set the circuit breaker to OFF.



CAUTION:

Powering down the control cabinet will cause important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup requests, and Do Not Disturb requests to be lost. Refer to DDEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si for information about preparing the system for a power down. BCMS data cannot be stored to or retrieved from tape.

Remove Circuit Packs from G3vs V4

1. Label each port circuit pack in the G3vs V4 with its slot number.
2. See WARNING and NOTE. Remove all circuit packs from the G3vs V4 system. Store the circuit packs in the static-proof packaging.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.



NOTE:

If a TN756 tone-detector/generator was removed from the DEFINITY G3vs control cabinet, a new DEFINITY ECS R5r tone clock (TN2182) should replace this circuit pack. The TN2182 Tone-Clock serves to replace the tone detector circuits on the old TN756. If a TN2182 is used, no TN748B is required.

3. Remove circuit-pack blanks from the slots that do not contain circuit packs.

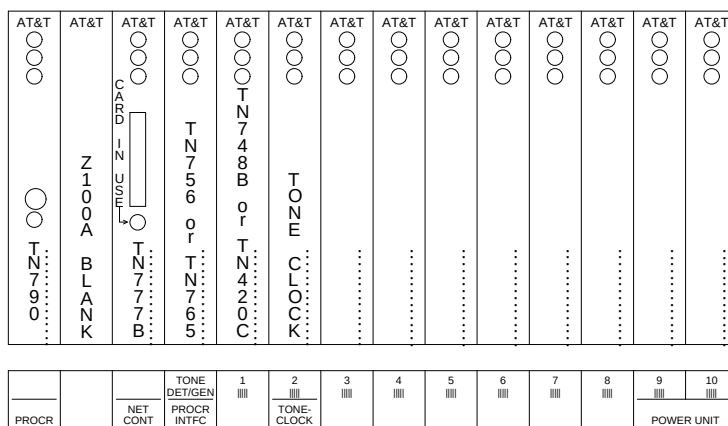


Figure 3-10. Circuit-Pack Locations in G3vs V4 Wall-Mounted Cabinet

Install Circuit Packs in DEFINITY ECS R5si

1. See WARNING and NOTE. Using Figure 3-11 and the label, install the power unit and DEFINITY ECS R5si control circuit packs into the new enhanced control cabinet.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.



NOTE:

If a TN756 tone-detector/generator was removed from the DEFINITY G3vs control cabinet, a new DEFINITY ECS R5r tone clock (TN2182) should replace this circuit pack. The TN2182 Tone-Clock serves to replace the tone detector circuits on the old TN756. If a TN2182 is used, no TN748B is required.

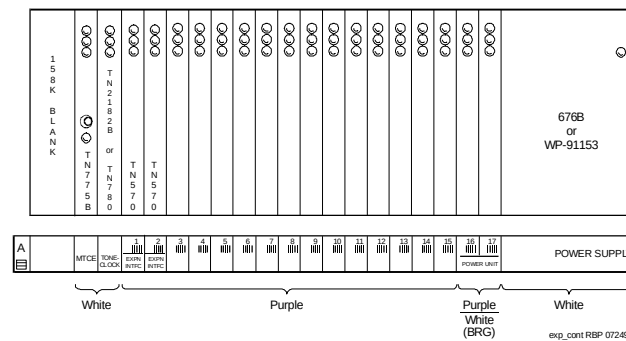


Figure 3-11. Circuit-Pack Locations in Standard-Reliability DEFINITY ECS R5si Expansion Control Cabinet

- See preceding WARNINGS and following NOTE. Install the port circuit packs, previously removed, into the "A" cabinet using the figure and the label as a guide.



NOTE:

Since the new DEFINITY ECS R5si enhanced control cabinet has 6 more port slots than the G3vs V4 cabinet, there should not be a need to move and retranslate these circuit packs.

- Install circuit-pack blanks in slots not equipped with circuit packs.

Connect Power and Grounding

- Reconnect the 6-AWG cabinet ground wire to the ground bar in the enhanced control cabinet.



NOTE:

A screwdriver is required to loosen and tighten the bolts that secure the ground wire to the ground bar.

2. Reconnect the coupled bonding conductor.
3. Connect the cabinet power cord behind the enhanced control cabinet.

Reboot the System

1. Behind the PPN control cabinet's power supply, set the circuit breaker to ON.

The system now performs the reset level 4 rebooting process by loading translations from the memory card. Loading the translations takes 8 to 11 minutes.

Refer to Screen 3-1, Screen 3-2, Screen 3-3, and Screen 3-4 for sample G3-MT or G3-MA screens. Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit pack LED indications and screen displays that occur during system reboot.

2. Log in as "craft" at the login: prompt on the G3-MT or G3-MA.
3. Enter **set time**, and press RETURN to set the time and ensure that the system is booted properly.
4. Enter list configuration software-version, and press RETURN to compare the version number of the DEFINITY ECS Release 5 software program (displayed on the G3-MT or G3-MA) with the TN790 version number (written on a label on the TN790's faceplate). If the version numbers are not the same, change the version number on the TN790 label so that they agree.
5. Perform a sanity check on the system running the new software by executing the following commands in this order:
 - a. **status system 1** (to check out unusual status in the system)
 - b. **list station** (to ensure that the translation is read in properly)
 - c. **display alarm** (to ensure no alarm is raised in the system)
 - d. **list trunk-group** (to ensure the translation is read in properly)
 - e. **list hunt-group** (to ensure the translation is read in properly)

This ensures there is no translation corruption and the translations can be saved with the new software.



NOTE:

Backout Procedure: If the system is not running properly or the translations seem to be incorrect, follow the technical escalation procedure. If the new load must be backed out (i.e., returned to the previous software load), re-install the TN786B/CPP1 circuit packs and reboot with the previous version's translation card.

6. Get the DOSS order number of the upgrade, and call the regional CSA to request an "init" login. Once logged in as "init," the CSA should assign the G3 V5 option, which also automatically sets the 24-hour password aging for the upgraded system's customer logins.

The CSA should enter change system-parameters customer-options, and press RETURN to enable the DEFINITY ECS Release 5 option. For details on enabling this option, see the following figures and *DEFINITY Enterprise Communications Server Release 5 Implementation*.

NOTE:

Certain forms have changed for DEFINITY ECS Release 5. Upgraded translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to the following books to make the necessary changes:

- *DEFINITY Communications System Generic 3 V3 to Generic 3 V5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

The default values are shown in the following System Parameter screens.

change system-parameters customer-options

Page 1 of 3

OPTIONAL FEATURES

G3 Version: V4
Maximum Ports: 2800
Logged-In ACD Agents: 500

Abbreviated Dialing Enhanced List? n
ACD? n
AT&T Adjunct Links? n
Answer Supervision by Call Classifier? n
ARS? n
ARS/AAR Partitioning? y
ASAI Interface? y
ATMS? n
Audible Message Waiting? n
Authorization Codes? n
BCMS (Basic)? n
BCMS/VuStats LoginIDs? n
BCMS/VuStats Service Level? n

Call Work Codes? n
CAS Branch? n
CAS Main? n
CPN/BN Adjunct? n
DCS (Basic)? n
Emergency Access to Attendant? y
Expert Agent Selection (EAS)? n
Forced ACD Calls? n
Forced Entry of Account Codes? n

(NOTE: You must logoff & login to effect the permission changes.)

Screen 3-1. Sample Display of System-Parameters Customer-Options Form -- Page 1

```
change system-parameters customer-options                               Page 2 of 3
                                OPTIONAL FEATURES

    Hospitality (Basic)? y      Service Observing (Basic)? y
    G3V3 Hospitality Enhancements? n  Service Observing (Remote/By FAC)? n
    Hospitality Parameter Reduction? n  Service Observing (VDNs)? n
    ISDN-PRI? n                  Station and Trunk MSP? n
    ISDN-PRI over PACCON? n      Terminal Trans. Init. (TTI)? n
    Lookahead Interflow? n       Time of Day Routing? n
    Malicious Call Trace? n      Uniform Dialing Plan? n
    Multifrequency Signaling? n   Vectoring (Basic)? n
    Multiple Call Handling? n      Vectoring (Prompting)? n
    Processor and System MSP? n    VDN of Origin Announcement? n
    Private Networking? n          VDN Return Destination? n
    Restrict Call Forward Off Net? n
    Secondary Data Module? n
    VuStats? n
    Wideband Switching? n

(NOTE: You must logoff & login to effect the permission changes.)
```

Screen 3-2. Sample Display of System-Parameters Customer-Options Form -- Page 2

```
change system-parameters customer-options                               Page 3 of 3
                                ASAI CAPABILITY GROUPS

    Adjunct Call Control Group? y
    Adjunct Routing Group? y
    Answering Machine Detection? y
    AT&T-ASAI Links? n
    Domain Control Group? y
    Event Notification Group? y
    Request Feature Group? y
    Set Value Group? y
    Switch Classified Calls/Predictive Dialing? y

(NOTE: You must logoff & login to effect the permission changes.)
```

Screen 3-3. Sample Display of System-Parameters Customer-Options Form -- Page 3

7. Explain to the switch administrator that any previous login names and passwords still exist, but that the passwords will expire in 24 hours. When changed, the new login names and passwords must conform to the requirement shown in the following note.



NOTE:

A password must have from 4 to 11 symbols including at least 1 alphabetic character and 1 numeric character. As before, a login name must have from 3 to 6 alphanumeric characters.

Also explain that, since an R1V3.0 G3-MA cannot notify users about expiring passwords, password aging should be disabled for any login name used with an R1V3.0 G3-MA.

change password craft

PASSWORD ADMINISTRATION

Page 1 of 1

Password of Login Making Change:

LOGIN BEING CHANGED

Login Name: craft

LOGIN'S PASSWORD INFORMATION

Login's Password:

Reenter Login's Password:

Screen 3-4. Sample Change-Password Form

Close Cabinet Door

Close the front door and secure with the latch.

Run Acceptance Tests

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation for Single-Carrier Cabinets*, to perform the appropriate tests.

Resolve Alarms

Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.

Load Upgraded Translations onto R5 Translation Memory Card

1. Enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. If the system is equipped with a TN750/B Announcement circuit pack, check for completion of an automatic restore of announcements before removing the original translation card. If the system has been running for at least 45 minutes since power on, this operation should be complete. Monitor the yellow light on the TN750/B which is lit while the download is in progress. If this automatic restore did not start within 15 minutes of power on, restore the announcements with the following command:

restore announcements [to PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

3. Insert the new DEFINITY ECS Release 5 formatted translation card. Verify that the switch on the outside edge of the translation memory card is in the downward position to record (see Figure 4-3).
4. Enter **save translation**, and press RETURN. This command instructs the system to write all translation information from memory onto the DEFINITY ECS Release 5 translation memory card.
5. If the system is equipped with a TN750/B Announcement circuit pack and announcements were restored in above step, save these announcements by entering the following command:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

Although not required, customers may choose to back up announcements stored on TN750C circuit packs. These must be stored on an individual translation memory card for the TN750C. While the DEFINITY ECS R5 software can read such memory cards, these cards must be reformatted before DEFINITY ECS R5 can save announcements on the cards. These cards must be ordered in advance from the factory, with the order code of J58890TG-1, L14.

6. Enter **change system-parameters maintenance**, and press RETURN. Use this form to reactivate scheduled daily maintenance after the upgrade process is completed.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.



NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to *y* before the upgrade, be sure to set the field back to *y*.

Register System as DEFINITY ECS R5si+m

Get the serial number of the DEFINITY ECS R5si+m, and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), or the number provided by your Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS R5si+m.

Disassemble Wall-Mounted G3vs V4 System

1. Loosen the four shoulder screws (approximately one complete turn) holding the G3vs V4 cabinet to the mounting panel (see Figure 3-12).
2. Remove the locking screw holding the G3vs V4 cabinet to the center of the mounting panel.
3. Return the G3vs V4 cabinet to its locked operating position, by lifting on the front of the cabinet and allowing the cabinet to swing left and back toward the wall.
4. To remove the cabinet from the mounting panel, lift and slide the right side of the cabinet (now facing forward) upward and toward the right until the four shoulder screws are aligned with the wide parts of the keyhole slots. Once aligned, lift the cabinet away the mounting panel.
5. To access the wood screws connecting the wall panel to the wall, lift and swing the mounting panel back out to its maintenance position.
6. Remove the five lower wood screws from the wall panel, and loosen the top two wood screws. Then, lift the mounting assembly up and away from the wall.
7. Remove the top two wood screws.



BCS/Material Logistics, MSL/Attended Stocking Locations
Methods and Procedures for Basic Material Returns

- G3vs V4 cabinet and front cover
- G3vs V4 wall mounting assembly

G3s/G3si (I386) to DEFINITY ECS Release 5si

4

This chapter provides the information necessary to perform an upgrade from a DEFINITY G3s V2, V3, or V4 system to a DEFINITY ECS Release 5si system with a RISC processor.

The hardware, software, and procedures involved in these upgrades are also provided.



CAUTION:

Be careful to find the right chapter for your upgrade. Using the software- and sometimes the hardware-upgrade PEC on the customer's order, refer to Table 1 in the "About This Document Supplement" for the correct chapter.



NOTE:

To ensure that the upgrade completes successfully, perform all steps in the order provided.

DEFINITY ECS Release 5si features and functions are listed in *DEFINITY Enterprise Communications Server Release 5 Feature Description*. The manual providing the commands, procedures, and forms required to initialize and administer the system is *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Task Table

Table 4-1 and Table 4-2 provide the high-level tasks to perform the upgrades detailed in this chapter. Refer to the appropriate page for detailed instructions for each step.

Table 4-1. Tasks to Upgrade from G3s/si (I386) V2, V3, or V4 to Release 5si — Standard Reliability

✓	Task Description	Page
	Prepare for Upgrade	9
	Disable Alarm Origination	10
	Save Translations	11
	Shut Down DEFINITY LAN Gateway System	11
	Shut Down DEFINITY AUDIX System	12
	Power Down Control Cabinet	13
	Replace Circuit Packs	13
	Reseat DEFINITY LAN Gateway System	14
	Reseat DEFINITY AUDIX System	15
	Reboot the System	15
	Restart DEFINITY LAN Gateway System	19
	Load Upgraded Translations onto R5 Translation Memory Card	19
	Register System as DEFINITY ECS Release 5	20
	Return Equipment	21

Table 4-2. Tasks to Upgrade from G3s/si (I386) V2, V3, or V4 to Release 5si — High or Critical Reliability

✓	Task Description	Page
	Load Current Translations onto Translation Memory Cards	23
	Disable Alarm Origination	23
	Save Translations	25
	Shut Down DEFINITY LAN Gateway System	25
	Shut Down DEFINITY AUDIX System	26
	Power Down Control Cabinet	26
	Replace Circuit Packs	27
	Reseat DEFINITY LAN Gateway System	28
	Reseat DEFINITY AUDIX System	28
	Reboot the System	29
	Restart DEFINITY LAN Gateway System	32
	Load Upgraded Translations onto R5 Translation Memory Card	33
	Register System as DEFINITY ECS Release 5	34
	Return Equipment	34

Considerations

Service Interruption

The update or upgrade process requires a service interruption. This service interruption must be closely coordinated with the customer and the local account team.

Contact Network Technicians

The technician for each public and private network accessed by the switch must be contacted before the update or upgrade begins. Otherwise, if these technicians are not aware of the service interruption caused by the update or upgrade, it is possible that network-access trunk facilities will be busied out at the far end.

Changes to Memory-Card Upgrade Procedures

The steps presented for a G3s V2 or V3-to-DEFINITY ECS Release 5si upgrade in the "System Upgrades" section of this chapter are subject to change. Although these steps are accurate for the DEFINITY ECS R5si memory-card issue that is available on the manual's publication date, the specific steps for a memory-card update or upgrade can change as new DEFINITY ECS R5si memory cards are issued. For the most current information, refer to the Quality Protection Plan Change Notice (QPPCN) Update Supplement provided with the new DEFINITY ECS Release 5si memory card.

Usable Circuit Packs

Every port or control circuit pack used in the upgraded G3i V2 or V3 system must conform to the minimum usable vintage requirements for DEFINITY ECS R5.

Those circuit packs shipped for the update or upgrade should always meet the usable vintage specifications. In addition, at a presale site inspection, the QPPCN process must check the vintages of every circuit pack that will be reused in the upgraded system and, if necessary, replace those circuit packs that have unusable vintages.

Refer to *Technical Quarterly, Reference Guide for Circuit-Pack Vintages and Change Notices*, for current information about usable vintages in a DEFINITY ECS Release 5si system. For information about usable vintages of international circuit packs, refer to the ITAC's Tech Alert via your regional distributor.

The TN790 Processor circuit pack is required for a DEFINITY ECS Release 5si system upgrade.

For a description of the circuit packs, refer to *DEFINITY Enterprise Communications Server Release 5 System Description*.

Generic 3 — Management Applications (G3-MA)

As part of the QPPCN process, any G3-MAs being used to administer a DEFINITY ECS R5 system must be upgraded to at least an R1V3.1 prior to a DEFINITY ECS R5 upgrade. However, an R1V4.1 G3-MA is necessary for full compatibility with a DEFINITY ECS R5 system.

Call Management System (CMS)

Existing CMS adjuncts (not BCMS), being used to monitor call-center activity for a DEFINITY ECS R5 system with a G3V4 Call Center package, must be upgraded to CentreVu CMS R3V4 in conjunction with a DEFINITY ECS R5 upgrade.

Otherwise, the existing (R3V2) CMS is sufficient.

Isolator

Each peripheral connected to a DC-powered system, via the asynchronous Electronic Industries Association (EIA) RS-232 interface (behind a PPN control carrier or behind an EPN expansion control carrier), requires a 116A isolator. The isolator, which should be provided with the DC port network, is inserted at the RS-232 interface between the peripheral and the interface connector to isolate grounding between the system and external adjuncts.

Software

Like the previous translations, the DEFINITY ECS Release 5si translations are saved on the DEFINITY translation memory card. Although the existing translations update or upgrade automatically to DEFINITY ECS Release 5si, several features require special attention because of form changes or potential naming conflicts in the update or upgrade procedure.

Between customer confirmation and the actual installation of an update or upgrade, the Software Specialist and Associate should check these forms to ensure that the updated or upgraded translations will be appropriate for the customer's needs. After the upgraded or updated system is rebooted, these translations can be entered either locally by the Software Associate or remotely at the FSAC (with possible assistance from the upgrade technician).

For information to make the required changes, refer to:

- *DEFINITY Communications System Generic 2 to DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

Port-Network Configurations

Every DEFINITY ECS Release 5si configuration contains a single port network which consists of single-carrier cabinets.

The following sections describe upgrades to a DEFINITY ECS Release 5si with one port network.

Software-Translation Upgrade

As a fall-back precaution, the current translations should first be saved to the existing translation memory card. Then, the update or upgrade process will download the translations to the new DEFINITY ECS R5 memory card.

Specific instructions about when to and how to update or upgrade translations are included in the following section, "System Upgrades."

System Upgrades

There are many configurations of DEFINITY G3i in the field. In terms of both hardware and software, each system can have a unique configuration. The manner in which a system is updated or upgraded depends on its present configuration.

Upgrading to a DEFINITY ECS R5 requires hardware changes. Upgrading a system also always requires downloading the current translations to a new memory card and rebooting the system.

If the update or upgrade involves adding a new cabinet, refer to *DEFINITY Enterprise Communications Server Installation and Test for Single-Carrier Cabinets*, for the installation procedures.

Software Upgrade

The software upgrade feature permits a DEFINITY ECS R5 system to upgrade its software to include new features and to fix software problems.



WARNING:

No administration changes should be entered during the following software upgrade procedure. There can be substantial time gaps between steps and, since the system cannot prevent administration changes, it is up to the system technician to make sure that none are attempted during the entire software upgrade process.

Standard-Reliability G3s/si V2, V3, or V4 to DEFINITY ECS R5

The software upgrade for a standard reliability system takes up to 130 minutes, during which time service is interrupted for about 10 minutes. Upgrade software cannot be done remotely, and it must be performed on the local G3-MT.

Ensure that the following items are available before proceeding:

- Software memory card with the software release running currently in the system
- Software memory card containing the new software release for the system
- Translation memory card on which the system translations are to be saved (the card should already be in the system)
- Software patch (if it exists) that is currently applied to the system (this patch is downloaded if a software backout is required)
- Software release label to be applied to the TN790 processor circuit pack after a successful upgrade

The following table indicates the processes and their corresponding time allotment for the upgrade procedure.

Process	Time (minutes)
Save translation	10
Save announcements	45
Upgrade software	10
Save translation	10
Save announcements	45
Miscellaneous	10
Total Time	130

A standard-reliability DEFINITY s/si is upgraded to a standard-reliability DEFINITY ECS R5 s/si by completing the following steps:

- Save the current translations to the existing translation memory card
- Save the current announcements stored on a TN750/B circuit pack, if any, to the translation memory card
- Power down the PPN's control cabinet
- Remove the TN786B/CPP1 Processor/Memory circuit packs from the control cabinet
- Install the TN790 Processor circuit pack into the control cabinet

- Reboot the upgraded DEFINITY ECS R5 system
- Verify that the system boots properly
- Insert blank R5 formatted memory card with the current translations into the Netcon circuit pack
- Save the upgraded R5 translations and announcements stored on the TN750/B circuit pack, if any, to the new translation memory card

Prerequisite Hardware

The equipment in the following table *must* be on site before the upgrade begins. Ensure that the translation memory card is current and, if the system has a TN750/B Announcement circuit pack, contains 4 Mbytes of memory

To place a claim for missing equipment, as part of the Streamlined Implementation process, call "1-800-772-5409," and respond to the call prompter.

Table 4-3. Required Hardware

Equipment	Description	Quantity
106718521	TN790 Processor circuit pack	1
106590953	Circuit Pack Blank	1 ¹
406809889	J58890TG-1, L14, DEFINITY ECS R5 Formatted 4-MByte Translation Memory Card	1 ²
847008463	Control-Cabinet Label	1

1. During the hardware upgrade, the CPP1 attached to the TN786B is removed as a combined assembly from the control cabinet. It is replaced with the circuit pack blank.
 2. A 4-MByte translation memory card is required for a system that uses recorded announcements. DEFINITY ECS R5 format is required for all systems.
-

Required Tools

The following tools and items may be required during the update or upgrade:

- Wrist ground strap
- Static-proof or original circuit-pack packaging for transporting circuit packs

- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

Prepare for Upgrade

The current G3i translations should first be saved to the existing translation card.

1. Login at the G3-MT or G3-MA terminal.

If translation corruption is detected, the following message is displayed on the copyright screen:

WARNING: translation corruption detected; call Lucent Technologies distributor immediately



NOTE:

The **save translations** command cannot be executed if the translation corruption message appears.

2. Disable Terminal Translation Initialization (TTI) during the upgrade using the **change system parameters feature** command (note that it must be restored after the upgrade).
3. Issue the **list configuration software-versions** command to determine whether any patches have been applied.



NOTE:

If the switch must be restored to the old software, the correct patches must be re-downloaded.

4. Verify that a software memory card containing the current system software is at hand. This card is needed in case the new software must be backed out.
5. Enter **change system-parameters maintenance**, and press RETURN. Use this form to prevent scheduled daily maintenance from interfering with the update or upgrade. (If scheduled maintenance *has* begun, set the value of the "Stop Time" field to one minute after the current time. If scheduled maintenance *has not* yet begun, change the value of the "Start Time" field to a time after the update or upgrade will be finished.)
6. Verify the switch on the outside edge of the memory card is in the down position to record (see Figure 4-1).

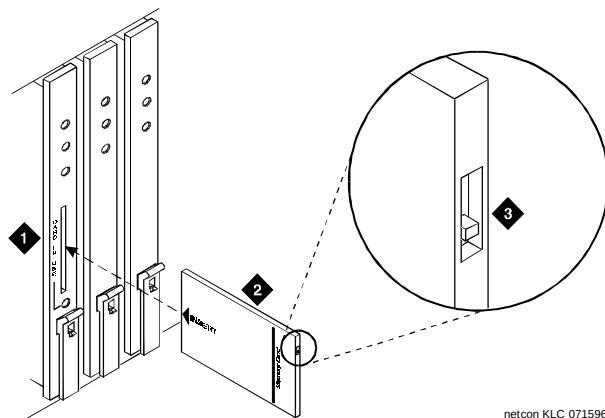


Figure 4-1. Record Switch on DEFINITY Memory Card

7. See NOTE. Insert the original translation memory card into the slot on the TN777B faceplate. (See Figure 4-1.)



NOTE:

The memory card is keyed to assure proper installation. Insert the card with the white "DEFINITY Memory Card" label facing left and with the insert arrow (on the same side) pointing forward towards the circuit pack.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Enter **n** in the *Alarm Origination Activated* field and press RETURN to disable Alarm Origination.

See NOTE. The INADS Database Administrator at the TSC will enable Alarm Origination as part of the registration process.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the switch software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Save translations to the translation memory card in the switch by issuing the **save translation card-mem** command. Press RETURN. This process takes approximately 10 minutes to complete.

This command instructs the system to take all the translation information in memory and write it onto the memory card. Move the slide on the memory card to the write protect position to ensure the safety of the preserved translations.

2. If the system is equipped with a TN750/B Announcement circuit pack, enter display announcements, and press RETURN.

If administered recorded announcements are listed, these announcements can be saved by entering the following command:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).



NOTE:

Make sure that the carrier containing the TN750/B Announcement circuit pack is not powered down before the **save announcements** command successfully completes. Otherwise, all recorded announcements will be lost!



NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack (TN750B or TN750C), the system defaults to the proper location.

3. Enter **change system-parameters features**, and press RETURN. Use Page 2 of this form to prevent unexpected activation of the Terminal Translation Initialization (TTI) feature during the update or upgrade by changing the value in the "TTI Security Code" field.

Shut Down DEFINITY LAN Gateway System

If a DEFINITY LAN Gateway system resides in the control cabinet to be upgraded, prepare to shut down the DEFINITY LAN Gateway assembly and allow the disk to completely spin down. See Caution. See WARNING.



CAUTION:

Before using this procedure to shut down the DEFINITY LAN Gateway, make sure that you save the system parameters if you plan to reuse the current system.



WARNING:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet where it resides can damage the LAN Gateway disk.

1. See WARNING. To avoid an unexpected LAN Gateway reboot after an unplanned switch reboot, unseat the LAN Gateway assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
3. When the main menu appears, select *Maintenance*.
4. Select *Reset System* from the *Maintenance* menu.
5. Select *Shutdown* from the *Reset System* menu.

Shut Down DEFINITY AUDIX System



NOTE:

The DEFINITY AUDIX, if present in the control cabinet, should have already been shut down if the Netcon circuit pack was just updated.

1. See WARNING. If a DEFINITY AUDIX System resides in the control cabinet to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down and AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. See WARNING. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Down Control Cabinet

Behind the PPN control cabinet's power supply, set the circuit breaker to OFF.

Replace Circuit Packs



NOTE:

If new adjuncts or features are being added that require additional circuit packs, refer to Chapter 12, "Changes to R5vs, R5si, and R5si +m Systems" of this manual for installation instructions.

1. See WARNING. At the J58890L control cabinet, remove the combined TN786B/CPP1 processor/memory circuit pack).



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. See NOTE. Install the new TN790 processor circuit-pack position label (designation strip) in its place on the control cabinet.



NOTE:

Since the new label has an adhesive backing, it can be placed over the existing label.

3. See previous WARNING. Install the TN790 processor circuit pack into the control-cabinet slots labeled "PROCR" and "MEM". See Figure 4-2 for an illustration of the TN790 processor circuit pack.
4. Install circuit-pack blanks in slots not equipped with circuit packs.

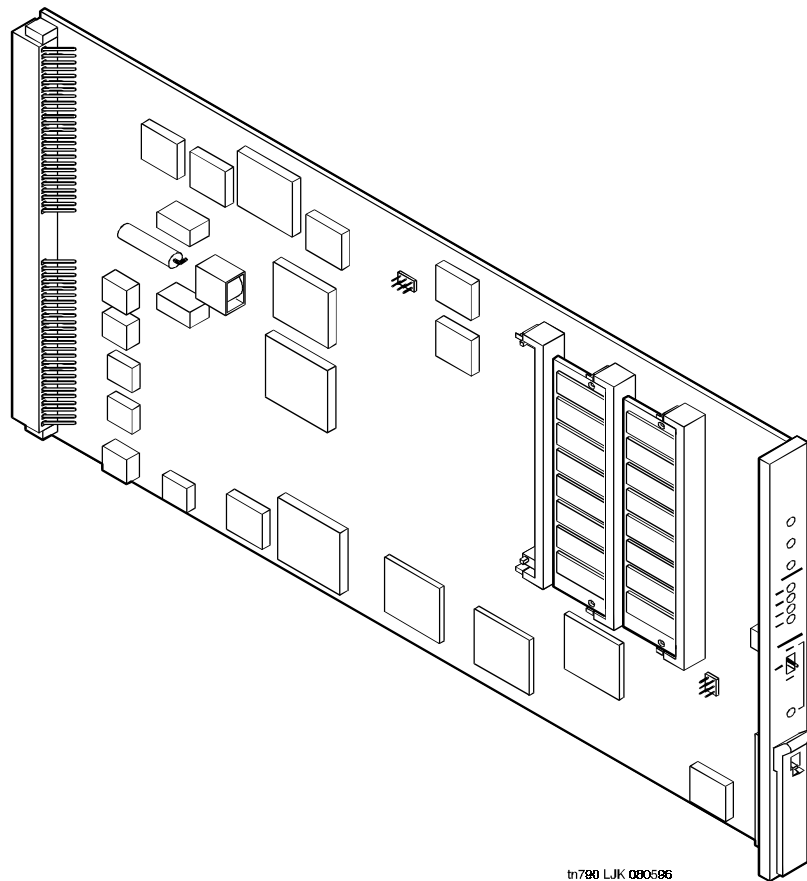


Figure 4-2. TN790 Processor Circuit Pack

Reseat DEFINITY LAN Gateway System

Reseat the LAN Gateway assembly into its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reseat DEFINITY AUDIX System

If a DEFINITY AUDIX System resides in the control cabinet, reseat the AUDIX assembly to its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reboot the System

1. Behind the PPN control cabinet's power supply, set the circuit breaker to ON.
2. The system now performs the reset level 4 rebooting process by loading translations from the memory card. Loading the translations takes 8 to 11 minutes.

Refer to Screen 4-1, Screen 4-2, Screen 4-3, and Screen 4-4 for sample G3-MT or G3-MA screens. Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit pack LED indications and screen displays that occur during system reboot.

3. Log in as "craft" at the login: prompt on the G3-MT or G3-MA.
4. Enter **set time**, and press RETURN to set the time and ensure that the system is booted properly.
5. Enter list configuration software-version, and press RETURN to compare the version number of the DEFINITY ECS Release 5 software program (displayed on the G3-MT or G3-MA) with the TN790 version number (written on a label on the TN790's faceplate). If the version numbers are not the same, change the version number on the TN790 label so that they agree.
6. Perform a sanity check on the system running the new software by executing the following commands in this order:
 - a. **status system 1** (to check out unusual status in the system)
 - b. **list station** (to ensure that the translation is read in properly)
 - c. **display alarm** (to ensure no alarm is raised in the system)
 - d. **list trunk-group** (to ensure the translation is read in properly)
 - e. **list hunt-group** (to ensure the translation is read in properly)

This ensures there is no translation corruption and the translations can be saved with the new software.

 NOTE:

Backout Procedure: If the system is not running properly or the translations seem to be incorrect, follow the technical escalation procedure. If the new load must be backed out (i.e., returned to the previous software load), re-install the TN786B/CPP1 circuit packs and reboot with the previous version's translation card.

7. Get the DOSS order number of the upgrade, and call the regional CSA to request an "init" login. Once logged in as "init," the CSA should assign the DEFINITY ECS R5 option, which also automatically sets the 24-hour password aging for the upgraded system's customer logins.

The CSA should enter change system-parameters customer-options, and press RETURN to enable the G3 V5 option. For details on enabling this option, see the following figures and *DEFINITY Enterprise Communications Server Release 5 Implementation*.

 NOTE:

Certain forms have changed for DEFINITY ECS R5. Upgraded translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to the following books to make the necessary changes:

- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

The default values are shown in the following System Parameter screens.


```
change system-parameters customer-options                               Page 1 of 3
                                OPTIONAL FEATURES

                                G3 Version: V4
                                Maximum Ports: 2800
                                Logged-In ACD Agents: 500

Abbreviated Dialing Enhanced List? n                                Call Work Codes? n
                                ACD? n                                CAS Branch? n
                                AT&T Adjunct Links? n                CAS Main? n
Answer Supervision by Call Classifier? n                            CPN/BN Adjunct? n
                                ARS? n                                DCS (Basic)? n
                                ARS/AAR Partitioning? y
                                ASAI Interface? y                    Emergency Access to Attendant? y
                                ATMS? n                                Expert Agent Selection (EAS)? n
Audible Message Waiting? n                                Forced ACD Calls? n
Authorization Codes? n                                Forced Entry of Account Codes? n
                                BCMS (Basic)? n
                                BCMS/VuStats LoginIDs? n
                                BCMS/VuStats Service Level? n

(NOTE: You must logoff & login to effect the permission changes.)
```

Screen 4-1. Sample Display of System-Parameters Customer-Options Form -- Page 1

```
change system-parameters customer-options                               Page 2 of 3
                                OPTIONAL FEATURES

                                Hospitality (Basic)? y
                                G3V3 Hospitality Enhancements? n
                                Hospitality Parameter Reduction? n
                                ISDN-PRI? n
                                ISDN-PRI over PACCON? n
                                Lookahead Interflow? n
                                Malicious Call Trace? n
                                Multifrequency Signaling? n
                                Multiple Call Handling? n
                                Processor and System MSP? n
                                Private Networking? n
                                Restrict Call Forward Off Net? n
                                Secondary Data Module? n

                                Service Observing (Basic)? y
                                Service Observing (Remote/By FAC)? n
                                Service Observing (VDNs)? n
                                Station and Trunk MSP? n
                                Terminal Trans. Init. (TTI)? n
                                Time of Day Routing? n
                                Uniform Dialing Plan? n
                                Vectoring (Basic)? n
                                Vectoring (Prompting)? n
                                VDN of Origin Announcement? n
                                VDN Return Destination? n
                                VuStats? n
                                Wideband Switching? n

(NOTE: You must logoff & login to effect the permission changes.)
```

Screen 4-2. Sample Display of System-Parameters Customer-Options Form -- Page 2

```
change system-parameters customer-options          Page 3 of 3
              ASAI CAPABILITY GROUPS

      Adjunct Call Control Group? y
      Adjunct Routing Group? y
      Answering Machine Detection? y
      AT&T-ASAI Links? n
      Domain Control Group? y
      Event Notification Group? y
      Request Feature Group? y
      Set Value Group? y
      Switch Classified Calls/Predictive Dialing? y

      (NOTE: You must logoff & login to effect the permission changes.)
```

Screen 4-3. Sample Display of System-Parameters Customer-Options Form -- Page 3

8. Explain to the switch administrator that any previous login names and passwords still exist, but that the passwords will expire in 24 hours. When changed, the new login names and passwords must conform to the requirement shown in the following note.

**NOTE:**

A password must have from 4 to 11 symbols including at least 1 alphabetic character and 1 numeric character. As before, a login name must have from 3 to 6 alphanumeric characters.

Also explain that, since an R1V3.0 G3-MA cannot notify users about expiring passwords, password aging should be disabled for any login name used with an R1V3.0 G3-MA.

```
change password craft          Page 1 of 1
              PASSWORD ADMINISTRATION

      Password of Login Making Change:

      LOGIN BEING CHANGED
              Login Name: craft

      LOGIN'S PASSWORD INFORMATION
              Login's Password:
              Reenter Login's Password:
```

Screen 4-4. Sample Change-Password Form

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway if you have not previously logged on. *See the DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway, 555-230-223, for the procedure to log in.*
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

NOTE:

To ensure that the upgrade completes successfully, perform all steps in the order provided.

Load Upgraded Translations onto R5 Translation Memory Card

1. Enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. If the system is equipped with a TN750/B Announcement circuit pack, check for completion of an automatic restore of announcements before removing the original translation card. If the system has been running for at least 45 minutes since power on, this operation should be complete. Monitor the yellow light on the TN750/B which is lit while the download is in progress. If this automatic restore did not start within 15 minutes of power on, enter **restore announcements**, and press RETURN.
3. Insert the new R5 formatted translation card. Verify that the switch on the outside edge of the R5 translation card is in the down position to record (see Figure 4-3).
4. Enter **change system-parameters maintenance**, and press RETURN. Use this form to activate scheduled daily maintenance after the upgrade process is completed.
5. Enter **change system-parameters features**, and press RETURN. Use Page 2 of this form to activate the Terminal Translation Initialization (TTI) feature by changing the value in the "TTI Security Code" field.
6. Enter **save translation**, and press RETURN. This command instructs the system to write all translation information from memory onto the DEFINITY ECS R5 translation memory card.

7. If the system is equipped with a TN750/B Announcement circuit pack and announcements were restored in above step, save these announcements by entering the following command:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

 NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack (TN750B or TN750C), the system defaults to the proper location.

Although not required, customers may choose to back up announcements stored on TN750C circuit packs. These must be stored on individual translation memory cards labeled with the TN750C location when more than one TN750C exists in the system. While the R5 software can read such memory cards, these cards must be reformatted before R5 can save announcements on the cards. These cards must be ordered in advance from the factory, with pec code #J58890TG-1, L14.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.

 NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS R5

Get the serial number of the system, and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), or the number provided by your Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS Release 5.

Return Equipment

Return any equipment replaced, during the update or upgrade, should be returned to Lucent Technologies according to the requirements outlined in the following documents:

BCS/Material Logistics, MSL/Attended Stocking Locations

Methods and Procedures for Basic Material Returns

The replaced equipment includes:

- TN786B Processor and CPP1 Memory circuit packs
- G3i V1.1, V2, V3, or V4 translation memory cards

High- or Critical-Reliability G3s/si V2, V3, or V4 to High- or Critical-Reliability DEFINITY ECS Release 5

A high- or critical-reliability DEFINITY G3s/si is upgraded to a high- or critical-reliability DEFINITY ECS Release 5 by completing the following steps:

- Save the current translations to the existing translation memory cards
- Save the current announcements stored on a TN750/B circuit pack, if any, to the translation memory card
- Power down the PPN's control cabinet
- Remove the TN786B/PP1 Processor/Memory circuit packs from each control cabinet
- Install the TN790 Processor circuit pack into each control cabinet
- Reboot the upgraded DEFINITY ECS R5 system
- Verify that the system boots properly
- Insert blank R5 formatted memory cards with the current translations into the Netcon circuit packs
- Save the upgraded DEFINITY ECS R5 translations and announcements stored on a TN750/B circuit pack, if any, to the new R5 translation memory card

Prerequisite Hardware

The equipment in Table 4-4 *must* be on-site before the upgrade begins. Ensure that the translation memory cards are current and, if the system has a TN750B Announcement circuit pack, contain 4 Mbytes of memory.

To place a claim for missing equipment, as part of the Streamlined Implementation process, call 1-800-772-5409, or the number provided by your Lucent Technologies representative.

Table 4-4. Required Hardware

Equipment	Description	Quantity
106718521	TN790 Processor circuit pack	2
106590953	Circuit Pack Blank	2 ¹
406809889	J58890TG-1, L14, 4-MByte Translation Memory Card	2 ²
847008463	Control-Cabinet Label	1
847008851	Duplex Control-Cabinet Label	1

1. During the hardware upgrade, each CPP1 attached to a TN786B before is removed as a combined assembly from the control cabinets. It is replaced by a circuit pack blank.
2. A 4-Mbyte translation memory card is required for a system that uses recorded announcements.

Required Tools

The following tools and items may be required during the update or upgrade:

- Authorized wrist grounding strap
- 1/4-inch flat-blade screwdriver
- Static-proof or original circuit-pack packaging for transporting circuit packs
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

Load Current Translations onto Translation Memory Cards

1. See NOTE. For each control cabinet, insert the translation memory card into the slot on the TN777B faceplate (see Figure 0-2).



NOTE:

The memory cards are keyed to assure proper installation. Insert each card with the white "DEFINITY Memory Card" label facing left and with the insert arrow (on the same side) pointing forward towards the circuit pack.

2. Verify the switch on the outside edge of each memory card is in the down position to record.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Enter **n** in the *Alarm Origination Activated* field and press RETURN to disable Alarm Origination.

See NOTE. The INADS Database Administrator at the TSC will enable Alarm Origination as part of the registration process.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the switch software, you also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

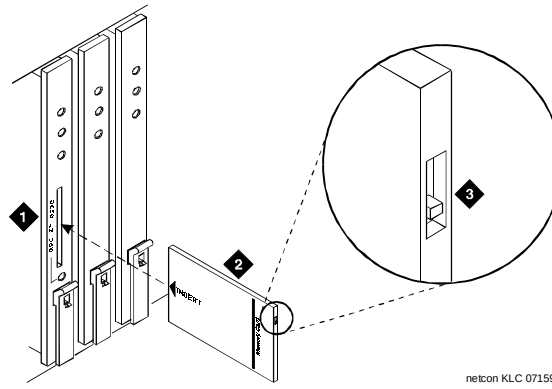


Figure 4-3. Translation Card

Save Translations

1. Enter **status system 1**, and press RETURN to verify the system is in the "active/standby" mode.
2. Enter **save translation**. Press RETURN. This command instructs the system to take all the translation information in memory and write it onto the memory cards.
3. If the system is equipped with a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, these announcements can be saved by entering the following command:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).



NOTE:

Make sure that the carrier containing the TN750/B Announcement circuit pack is not powered down before the **save announcements** command successfully completes. Otherwise, all recorded announcements will be lost!



NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack (TN750B or TN750C), the system defaults to the proper location.

Shut Down DEFINITY LAN Gateway System

If a DEFINITY LAN Gateway system resides in the control cabinet to be upgraded, prepare to shut down the DEFINITY LAN Gateway assembly and allow the disk to completely spin down. See Caution. See WARNING.



CAUTION:

Before using this procedure to shut down the DEFINITY LAN Gateway, make sure that you save the system parameters if you plan to reuse the current system.



WARNING:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet where it resides can damage the LAN Gateway disk.

1. See WARNING. To avoid an unexpected LAN Gateway reboot after an unplanned switch reboot, unseat the LAN Gateway assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Log onto the DEFINITY LAN Gateway if you have not previously logged on. *See the DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway, 555-230-223, for the procedure to log in.*
3. When the main menu appears, select *Maintenance*.
4. Select *Reset System* from the *Maintenance* menu.
5. Select *Shutdown* from the *Reset System* menu.

Shut Down DEFINITY AUDIX System

1. See WARNING. If a DEFINITY AUDIX System resides in the control cabinet to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. See WARNING. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Down Control Cabinet

See CAUTION. Behind the PPN control cabinet's power supply, set the circuit breaker to OFF.

Powering down the PPN's control cabinet will cause important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup request, and Do Not Disturb requests to be lost. Refer to DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si for information about preparing the system for a power down.



Reseat DEFINITY AUDIX System

See WARNING. If a DEFINITY AUDIX System resides in the control cabinet, reseal the AUDIX assembly to its backplane connectors.

 **WARNING:**
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reboot the System

1. Behind the PPN control cabinet's power supply, set the circuit breaker to ON.
2. The system now performs the reset level 4 rebooting process by loading translations from the memory card. Loading the translations takes 10 to 15 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit pack LED indications and screen displays that occur during system reboot.

3. Log in as "craft" at the login: prompt on the G3-MT or G3-MA.
4. Enter **set time**, and press RETURN to set the time and ensure that the system is booted properly.



NOTE:

Refer to Screen 0-5, Screen 0-6, Screen 0-7, and Screen 0-8 for sample G3-MT and G3-MA screens.

5. Enter list configuration software-version, and press RETURN to compare the version number of the DEFINITY ECS R5 software program (displayed on the G3-MT or G3-MA) with the TN790 version number (written on a label on the TN790's faceplate). If the version numbers are not the same, change the version number on the TN790 label so that they agree.
6. Perform a sanity check on the system running the new software by executing the following commands in this order:
 - a. **status system 1** (to check out unusual status in the system)
 - b. **list station** (to ensure that the translation is read in properly)
 - c. **display alarm** (to ensure no alarm is raised in the system)
 - d. **list trunk-group** (to ensure the translation is read in properly)
 - e. **list hunt-group** (to ensure the translation is read in properly)

This ensures there is no translation corruption and the translations can be saved with the new software.



NOTE:

Backout Procedure: If the system is not running properly or the translations seem to be incorrect, follow the technical escalation procedure. If the new load must be backed out (i.e., returned to the previous software load), re-install the TN786B/CPP1 circuit packs and reboot with the previous version's translation card.

7. Get the DOSS order number of the upgrade, and call the regional CSA to request an "init" login. Once logged in as "init," the CSA should assign the DEFINITY ECS R5 option, which also automatically sets the 24-hour password aging for the upgraded system's customer logins.

The CSA should enter change system-parameters customer-options, and press RETURN to enable the DEFINITY ECS R5 option. For details on enabling this option, see the following figures and *DEFINITY Enterprise Communications Server Release 5 Implementation*.

⇒ NOTE:

Certain forms have changed for DEFINITY ECS R5. Upgraded translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to the following books to make the necessary changes:

- *DEFINITY Communications System Generic 2 to DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

The default values are shown in the following System Parameter screens.

```

change system-parameters customer-options                               Page 1 of 3
                                OPTIONAL FEATURES

                                G3 Version: V4
                                Maximum Ports: 2800
                                Logged-In ACD Agents: 500

Abbreviated Dialing Enhanced List? n                               Call Work Codes? n
                                ACD? n                               CAS Branch? n
                                AT&T Adjunct Links? n                CAS Main? n
Answer Supervision by Call Classifier? n                            CPN/BN Adjunct? n
                                ARS? n                               DCS (Basic)? n
                                ARS/AAR Partitioning? y
                                ASAI Interface? y                    Emergency Access to Attendant? y
                                ATMS? n                               Expert Agent Selection (EAS)? n
Audible Message Waiting? n                                         Forced ACD Calls? n
                                Authorization Codes? n                Forced Entry of Account Codes? n
                                BCMS (Basic)? n
                                BCMS/VuStats LoginIDs? n
                                BCMS/VuStats Service Level? n

(NOTE: You must logoff & login to effect the permission changes.)

```

Screen 4-5. Sample Display of System-Parameters Customer-Options Form -- Page 1

```
change system-parameters customer-options                               Page 2 of 3
                                OPTIONAL FEATURES

    Hospitality (Basic)? y      Service Observing (Basic)? y
    G3V3 Hospitality Enhancements? n  Service Observing (Remote/By FAC)? n
    Hospitality Parameter Reduction? n  Service Observing (VDNs)? n
    ISDN-PRI? n                  Station and Trunk MSP? n
    ISDN-PRI over PACCON? n      Terminal Trans. Init. (TTI)? n
    Lookahead Interflow? n      Time of Day Routing? n
    Malicious Call Trace? n      Uniform Dialing Plan? n
    Multifrequency Signaling? n   Vectoring (Basic)? n
    Multiple Call Handling? n      Vectoring (Prompting)? n
    Processor and System MSP? n    VDN of Origin Announcement? n
    Private Networking? n          VDN Return Destination? n
    Restrict Call Forward Off Net? n  VuStats? n
    Secondary Data Module? n         Wideband Switching? n

    (NOTE: You must logoff & login to effect the permission changes.)
```

Screen 4-6. Sample Display of System-Parameters Customer-Options Form -- Page 2

```
change system-parameters customer-options                               Page 3 of 3
                                ASAI CAPABILITY GROUPS

    Adjunct Call Control Group? y
    Adjunct Routing Group? y
    Answering Machine Detection? y
    AT&T-ASAI Links? n
    Domain Control Group? y
    Event Notification Group? y
    Request Feature Group? y
    Set Value Group? y
    Switch Classified Calls/Predictive Dialing? y

    (NOTE: You must logoff & login to effect the permission changes.)
```

Screen 4-7. Sample Display of System-Parameters Customer-Options Form -- Page 3

8. Explain to the switch administrator that any previous login names and passwords still exist, but that the passwords will expire in 24 hours. When changed, the new login names and passwords must conform to the requirement shown in the following note.

 NOTE:

A password must have from 4 to 11 symbols including at least 1 alphabetic character and 1 numeric character. As before, a login name must have from 3 to 6 alphanumeric characters.

Also explain that, since an R1V3.0 G3-MA cannot notify users about expiring passwords, password aging should be disabled for any login name used with an R1V3.0 G3-MA.

change password craft

PASSWORD ADMINISTRATION

Page 1 of 1

Password of Login Making Change:

LOGIN BEING CHANGED

Login Name: craft

LOGIN'S PASSWORD INFORMATION

Login's Password:

Reenter Login's Password:

Screen 4-8. Sample Change-Password Form

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway if you have not previously logged on. *See the DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway, 555-230-223, for the procedure to log in.*
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

 NOTE:

To ensure that the upgrade completes successfully, perform all steps in the order provided.

Load Upgraded Translations onto R5 Translation Memory Card

1. Enter **status system 1**, and press RETURN to verify that the system is in the “active/standby” mode.
2. Insert the new R5 formatted translation card. Verify that the switch on the outside edge of each R5 translation memory card is in the downward position to record (see Figure 4-2).
3. Verify that the automatic restore of any TN750/B Announcement circuit pack completes. The yellow LED will be off.
4. Enter **save translation**, and press RETURN. This command instructs the system to write all translation information from memory onto both G3i V5 translation memory cards.
5. If the system is equipped with a TN750/B Announcement circuit pack and announcements were saved above, enter **restore announcements**, and press RETURN.

Once the administered recorded announcements are restored, these announcements should be saved using the following command.

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).



NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack (TN750B or TN750C), the system defaults to the proper location.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.



NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS Release 5

Get the system's serial number and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), or the number provided by your Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS Release 5.

Return Equipment

The G3i equipment replaced during the upgrade should be returned to Lucent Technologies according to the requirements outlined in the following documents:

BCS/Material Logistics, MSL/Attended Stocking Locations

Methods and Procedures for Basic Material Returns

The replaced G3i equipment includes the following:

- TN786B Processor and CPP1 Memory circuit packs from each control cabinet
- G3i translation memory cards.

G3s/G3si (I386) to DEFINITY ECS Release 5si+m

5

This chapter provides the information necessary to upgrade a DEFINITY G3s V4 or DEFINITY G3si V4.3 system (single-carrier cabinets) to a DEFINITY ECS Release 5si + memory system. The hardware and software required in the procedures are also listed.

**CAUTION:**

Be careful to find the right chapter for your upgrade. Using the software- and sometimes the hardware-upgrade PEC on the customer's order, refer to Table 1 in "About This Document" for the correct chapter.

**NOTE:**

This chapter assumes the switch being upgraded is a G3s V4 or G3si V4.3. If not, refer to *DEFINITY Communications System Generic 3 Version 4 Upgrades and Additions*, 555-230-108, for information about upgrading a G3s V1 system to a G3s V4. After that portion of the upgrade is finished, return to this chapter for information about upgrading the G3s V4 to a DEFINITY ECS Release 5si+m system.

Task Table

Table 5-1 and Table 5-2 provide the high-level tasks to perform the upgrades detailed in this chapter. Refer to the appropriate page for detailed instructions for each step.

Table 5-1. Tasks to Upgrade from G3s/si (I386) V2, V3, or V4 to Release 5si — Standard Reliability

✓	Task Description	Page
	Contact Network Technicians	4
	Register System as DEFINITY ECS Release 5	5
	Prepare for Upgrade	9
	Disable TTI	11
	Disable TTI	11
	Disable TTI	11
	Shut Down DEFINITY LAN Gateway System	12
	Shut Down DEFINITY AUDIX System	12
	Install the Third SIMM on the TN790 Processor Circuit Pack (Release 5si + Memory Only)	13
	Power Down Control Cabinet	16
	Replace Circuit Packs	16
	Reseat DEFINITY LAN Gateway System	16
	Reseat DEFINITY AUDIX System	16
	Reboot the System	16
	Restart DEFINITY LAN Gateway System	18
	Enable TTI	18
	Enable Alarm Origination to INADS	18
	Save Upgraded Translations onto Release 5 Translation Card	19

Table 5-2. Tasks to Upgrade from G3s/si (I386) V2, V3, or V4 to Release 5si — High or Critical Reliability

✓	Task Description	Page
	Contact Network Technicians	4
	Register System as DEFINITY ECS Release 5	5
	Prepare for Upgrade	9
	Load Current Translations onto Translation Cards	20
	Save Translations	21
	Check TN790 SIMM Configuration	22
	Shut Down DEFINITY AUDIX System	22
	Install the SIMM on the TN790 Processor Circuit Pack	23
	Power Down Control Cabinet	25
	Replace Circuit Packs	26
	Reseat DEFINITY LAN Gateway System	26
	Reseat DEFINITY AUDIX System	26
	Reboot the System	27
	Restart DEFINITY LAN Gateway System	28
	Save Upgrade Translations onto Release 5 Translation Card	29

Considerations

Service Interruption

The upgrade process requires a service interruption. This service interruption must be closely coordinated with the customer and the local account team.

Contact Network Technicians

The technician for each public and private network accessed by the switch must be contacted before the upgrade begins. Otherwise, if these technicians are not aware of the service interruption caused by the upgrade, it is possible that network-access trunk facilities will be busied out at the far end.

Software

The Release 5 translations are saved on the translation card. Although the older translations upgrade automatically to Release 5, several features require special attention because of form changes or potential naming conflicts in the upgrade procedure.

After the upgrade, the Software Associate should check these forms to ensure the upgraded translations are appropriate for the customer's needs. For information to make the required changes, refer to:

- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

Usable Circuit Packs

Every port or control circuit pack used in the upgraded G3i V2 or V3 system must conform to the minimum usable vintage requirements for Release 5. The circuit packs shipped for the update or upgrade should always meet the usable vintage specifications. In addition, at a presale site inspection, the QPPCN process may check the vintages of every circuit pack reused in the upgraded system and replace those circuit packs with unusable vintages.

Since Release 5 supports international call processing applications, a wide variety of non-US circuit packs can be used. For a list of circuit packs, refer to Chapter 13, "Circuit Packs and Equipment".

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.



NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS Release 5

When the upgrade is completed, get the serial number of the DEFINITY ECS Release 5. Call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), or the number provided by your Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS Release 5.

System Upgrades

There are many configurations of DEFINITY G3i in the field. Each system can have a unique configuration. The manner in which a system is updated or upgraded depends on its present configuration.

Upgrading to a Release 5 requires hardware changes. Upgrading a system also always requires downloading the current translations to a new Release 5 translation card.

If the update or upgrade involves adding a new cabinet, refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets* for the installation procedures.

Software Upgrade

The software upgrade feature permits a Release 5 system to upgrade its software to include new features and to fix software problems.



CAUTION:

No administration changes should be entered during the following software upgrade procedure. There can be substantial time gaps between steps and, since the system cannot prevent administration changes, it is up to the system technician to make sure that none are attempted during the entire software upgrade process. If any changes are made, they may be lost and need to be re-entered.

Software Upgrades to Standard- Reliability Release 5

The software upgrade for a standard reliability system takes up to 130 minutes, during which time service is interrupted for about 10 minutes. Upgrade software cannot be performed remotely, and it must be performed on the local G3-MT.

Ensure the following items are available before proceeding:

- Generic program card software release running currently in the system (needed in case of backout)
- Release 5 generic program card containing the new software release for the system
- Translation card on which the system translations are to be saved (the card should already be in the system)
- Software patch (if it exists) currently applied to the system (this patch is downloaded if a software backout is required)
- Software release label to be applied to the TN790 Processor circuit pack after a successful upgrade

Table 5-3 indicates the processes and their corresponding time allotment for the upgrade procedure.

Table 5-3. Process Time Allotment

Process	Time (minutes)
Save translation	10
Save announcements	45
Upgrade software	10
Save translation	10
Save announcements	45
Miscellaneous	10
Total Time	130

Required Hardware

The equipment in Table 5-4 or Table 5-5 *must* be on site before the upgrade begins. Ensure the translation card (white card) is current. Release 5 format is required for all Release 5 systems.

To place a claim for missing equipment, as part of the Streamlined Implementation process, call 1-800-772-5409, or the number provided by your Lucent Technologies representative.

Table 5-4. Required Hardware for Standard Reliability Systems

Equipment	Description	Quantity
106718521	TN790 Processor Circuit Pack	1
106590953	Circuit Pack Blank	1
601817448 or 601817422 or 601817430	2 MByte Mass-Storage Translation Card (White Card) or 4 MByte Mass-Storage Translation Card (White Card) or 10 MByte Mass-Storage Translation Card (White Card)	1 ¹ 1 ¹ 1 ¹
601819790	Release 5 Generic Program Card (Orange Card) (if TN790 does not contain latest software)	1
847008463	Control Cabinet Label	1
	Single In-Line Memory Module (SIMM)	1

1. A 4 MByte translation card is required for systems using recorded announcements. A 10 MByte translation card is required for systems with a "DEFINITY Wireless Business Communications System installed.

Table 5-5. Required Hardware for High and Critical Reliability Systems

Equipment	Description	Quantity
106718521	TN790 Processor Circuit Pack	2
106590953	Circuit Pack Blank	2
601817448 or 601817422 or 601817430	2 MByte Mass-Storage Translation Card (White Card) or 4 MByte Mass-Storage Translation Card (White Card) or 10 MByte Mass-Storage Translation Card (White Card)	2 ¹ 2 ¹ 2 ¹
601819790	Release 5 Generic Program Card (Orange Card) (if TN790 does not contain latest software)	1
847008463 and 847008851	Control Cabinet Label	1
	Duplex Control Cabinet Label	1
	Single In-Line Memory Module (SIMM)	1

1. A 4 MByte translation card is required for systems using recorded announcements. A 10 MByte translation card is required for systems with a "DEFINITY Wireless Business Communications System installed.

Required Tools

The following tools and items may be required during the update or upgrade:

- Wrist ground strap
- Static-proof or original circuit pack packaging for transporting circuit packs
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

Prepare for Upgrade

The current translations should first be saved to the existing translation card.

1. Login at the G3-MT or G3-MA terminal.

If translation corruption is detected, the following message is displayed on the copyright screen:

WARNING: translation corruption detected; call Lucent Technologies distributor immediately



NOTE:

The **save translations** command cannot be executed if the translation corruption message appears.

2. Issue the **list configuration software-versions** command to determine whether any patches have been applied.



NOTE:

If the system must be restored to the old software, the correct patches must be re-downloaded.

3. Verify a generic program card containing the original system software is available. This card is needed in case the new software must be backed out.
4. Enter **change system-parameters maintenance**, and press RETURN. Use this form to prevent scheduled daily maintenance from interfering with the update or upgrade. If scheduled maintenance *has* begun, set the value of the "Stop Time" field to one minute after the current time. If scheduled maintenance *has not* yet begun, change the value of the "Start Time" field to a time after the update or upgrade will be finished.

Disable Alarm Origination

1. Enter **change system-parameters maintenance**, and press RETURN.
2. Enter **n** in the *Alarm Origination Activated* field and press RETURN.
3. For earlier releases of the switch software, disable *Cleared Alarm Notification* and *Restart Notification* before submitting the form.



NOTE:

If you do not disable Alarm Origination before making changes, the system may generate alarms, resulting in unnecessary trouble tickets.



CAUTION:

Before inserting or removing a circuit pack from a cabinet, wear a wrist strap and attach its plug or clip to the cabinet's metal frame.

4. Verify the write switch on the original translation card is in the down position. See Figure 5-1.
5. Insert the original translation card into the slot on the TN777B faceplate. See Figure 5-1.

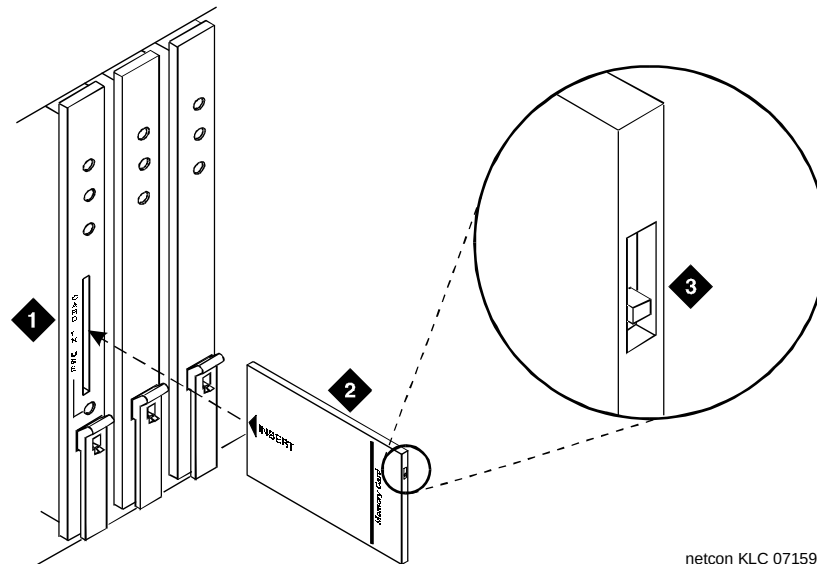


Figure 5-1. Record Switch on Translation Card

Standard-Reliability

Disable TTI

Enter **change system-parameters features** and press RETURN. Use Page 2 of the form to disable Terminal Translation Initialization (TTI) by changing the value to **n**.

Save Translations

1. Save translations to the original translation card by issuing the **save translation** command. Press RETURN. This process takes approximately 10 minutes to complete.

This command instructs the system to write all the translation information in memory and write it onto the translation card.

2. If the system is equipped with a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, these announcements can be saved by entering the following command:

save announcements ['from' cabinet(1-X). carrier (A-E), slot (0-20)] and press RETURN.

Where cabinet/carrier/slot is the location of the TN750/B.



NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack, the system defaults to the proper location.



NOTE:

The TN750C Announcement circuit pack has on-board non-volatile storage and does not need to be saved to the translation card.

Check TN790 SIMM Configuration

1. Remove the TN790 Processor circuit pack from the packing material and place it on an ESD-approved work station.
2. For a Release 5si system, the TN790 should have two SIMMs. For a Release 5si + memory system, the TN790 should have three SIMMs. See Figure 5-2.

Shut Down DEFINITY LAN Gateway System



CAUTION:

Before shutting down the DEFINITY LAN Gateway, make sure you save the system parameters if you plan to reuse the current system.



CAUTION:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet can damage the LAN Gateway disk.

1. Log onto the DEFINITY LAN Gateway. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Shutdown* from the *Reset System* menu. Allow the disk to completely spin down.
5. Unseat the LAN Gateway assembly from its backplane connectors in the carrier.

Shut Down DEFINITY AUDIX System

1. If a DEFINITY AUDIX System resides in the control cabinet to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down and AUDIX assembly before powering down the system cabinet can damage the AUDIX disk.

2. Unseat the AUDIX assembly from its backplane connectors in the carrier.

Install the Third SIMM on the TN790 Processor Circuit Pack (Release 5si + Memory Only)

This section describes the procedure of adding additional memory to the TN790 Processor circuit pack. See Figure 5-2 to locate the SIMM sockets.

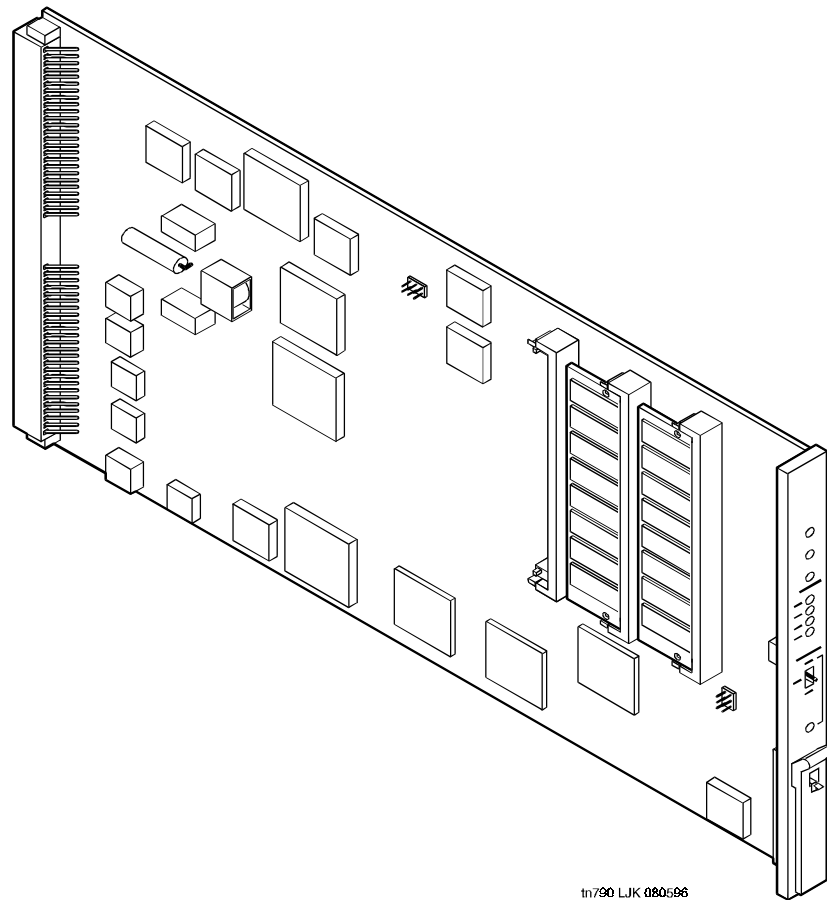


Figure 5-2. TN790 Processor Circuit Pack

Use the following procedure to install a SIMM:

1. Remove the TN790 Processor circuit pack from the packing material.
2. Place the TN790 Processor circuit pack on an ESD-approved work station, such as an anti-static mat, with the SIMM sockets facing up and to the left. See Figure 5-2.
3. Locate the notch cutout area on one corner of the SIMM. See Figure 5-3.

⚠ CAUTION:
Do not touch the SIMM's edge connector. Oils from your fingers can cause corrosion and/or oxidation to the contacts.

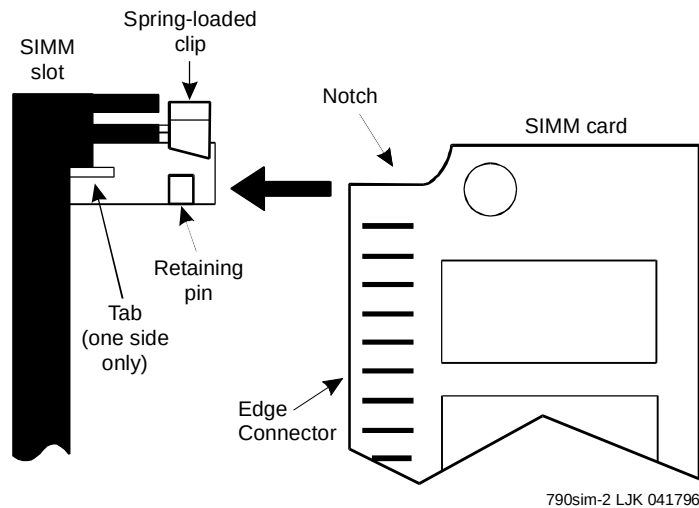


Figure 5-3. Align the SIMM with the SIMM Socket

4. Align the SIMM with the slot in the center of the socket. See Figure 5-3.
5. Hold the SIMM at a 45-degree angle, with the notch pointing toward the front face plate of the circuit pack. Align the SIMM's edge connector with the slot in the center of the SIMM socket.

⚠ WARNING:
Do not use force when inserting the SIMM into the SIMM socket. When the SIMM is installed correctly, it will snap easily into place.

6. Press the SIMM's edge connector firmly into the SIMM socket.

Pivot the SIMM down and toward the circuit pack until it clicks into place. See Figure 5-4. The metal tabs at each end of the socket snap into place around the SIMM and the small retaining pins snap into the holes at each end of the SIMM.

If you have misaligned or only partially seated the SIMM, you will not hear a sharp click, and the retaining pins will not snap cleanly into the holes. The SIMM can be easily removed and reinstalled.

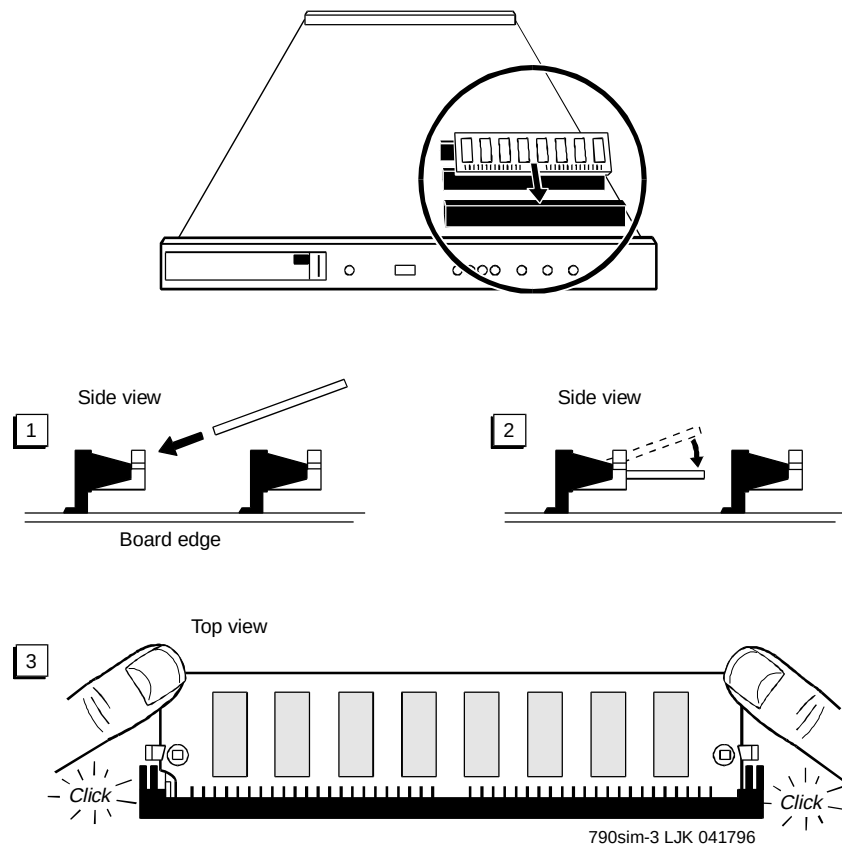


Figure 5-4. SIMM Insertion Procedure

Power Down Control Cabinet

Behind the PPN control cabinet power supply, set the circuit breaker to OFF.



CAUTION:

Powering down the PPN control cabinet will cause important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup request, and Do Not Disturb requests to be lost. Refer to DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si for information about preparing the system for a power down.

Replace Circuit Packs

1. At the J58890L Control Cabinet, remove the TN786B Processor circuit pack.
2. Peel the paper backing from the new TN790 Processor circuit pack position label (designation strip) and affix it to the control cabinet, over the "PROCR" and "MEMORY" area.
3. Install the TN790 Processor circuit pack into the control cabinet slot labeled "PROCR".
4. Install circuit pack blanks in slots not equipped with circuit packs.

Reseat DEFINITY LAN Gateway System

Reseat the LAN Gateway assembly into its backplane connectors in the carrier.

Reseat DEFINITY AUDIX System

Reseat the AUDIX assembly into its backplane connectors.

Reboot the System

1. Behind the PPN control cabinet power supply, set the circuit breaker to ON. The system performs the reset level 4 rebooting process by loading translations from the original translation card. This takes 8 to 11 minutes.

Log in as "craft" at the login: prompt on the G3-MT or G3-MA. If translation corruption is detected, the following message is displayed on the copyright screen:

WARNING: translation corruption detected; call Lucent Technologies distributor immediately
2. Enter **set time**, and press RETURN to set the time and ensure the system is booted properly.

3. Enter **list configuration software-version** and press RETURN to compare the version number of the G3si Release 5 generic program card with the TN790 version number (written on a label on the TN790 face plate). If the version numbers are not the same, change the version number on the TN790 label to agree.
4. Perform a sanity check on the new software by executing the following commands. Check for any translation corruption.
 - a. **status system 1** (to check out unusual status in the system)
 - b. **list station** (to ensure the translation is read in properly)
 - c. **display alarm** (to ensure no alarm is raised in the system)
 - d. **list trunk-group** (to ensure the translation is read in properly)
 - e. **list hunt-group** (to ensure the translation is read in properly)

This ensures there is no translation corruption and the translations can be saved with the new software.

 NOTE:

Backout Procedure: If the system is not running properly or the translations seem to be incorrect, follow the technical escalation procedure. If the new load must be backed out (returned to the previous software load), re-install the TN786B circuit pack and reboot with the previous version's translation card.

5. Get the DOSS order number of the upgrade, and call the regional CSA to request an "init" login. Once logged in as "init," the CSA should assign the Release 5 option, which also automatically sets the 24-hour password aging for the upgraded system's customer logins.
6. The CSA should enter **change system-parameters customer-options**, and press RETURN to enable the Release 5 option (change V4 to V5 only if the customer order indicates the system is now a Release 5). For details on enabling this option, see *DEFINITY Enterprise Communications Server Release 5 Implementation*.

 NOTE:

Some forms have changed for Release 5. Upgraded translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to the following documents:

- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

7. Inform the system administrator that any previous login names and passwords still exist, but the passwords will expire in 24 hours. When changed, the new login names and passwords must conform to the requirement shown in the following note.



NOTE:

A password must have from 4 to 11 symbols including at least 1 alphabetic character and 1 numeric character. As before, a login name must have from 3 to 6 alphanumeric characters.

Since an R1V3.0 G3-MA cannot notify users about expiring passwords, password aging should be disabled for any login name used with an R1V3.0 G3-MA.

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

Enable TTI

1. Enter **change system-parameters features** and press RETURN.
2. Use page 2 of the form to change the TTI field back to **y** (if necessary).

Enable Alarm Origination to INADS

1. Enter **change system-parameters maintenance** and press RETURN.
2. Enter **y** in the *Alarm Origination Activated* field and press RETURN.

Save Upgraded Translations onto Release 5 Translation Card

1. Enter **status system 1**, and press RETURN to verify the system is in "active" mode.
2. If the system is equipped with a TN750/B Announcement circuit pack, check for completion of an automatic restore of announcements before removing the original translation card. If the system has been running for at least 45 minutes since power on, this operation should be complete. Monitor the yellow light on the TN750/B which is lit while the download is in progress. If this automatic restore did not start within 15 minutes of power on, enter **restore announcements**, and press RETURN.



NOTE:

At this point, all installed telephones should be working properly.

3. Insert the new Release 5 translation card into the TN777B NETCON circuit pack. Verify the write switch is down.



NOTE:

The original translation card can be reformatted and reused. Enter **format card-mem announcements**, and press RETURN. This formats the original translation card into Release 5 format (even if no announcement circuit packs are installed).

4. Enter **save translation**, and press RETURN. This instructs the system to write all translation information from memory onto the Release 5 translation card.
5. If the system is equipped with a TN750/B Announcement circuit pack and announcements were restored in the above step, save the announcements by entering the following command:

save announcements ['from' cabinet(1-X). carrier (A-E), slot (0-20)] and press RETURN.

Where cabinet/carrier/slot is the location of the TN750/B.



NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack, the system defaults to the proper location.



NOTE:

The TN750C Announcement circuit pack has on-board non-volatile storage and does not need to be saved to the translation card.

6. The upgrade is complete.

High or Critical Reliability

A high or critical reliability DEFINITY G3s/si is upgraded to a high or critical reliability Release 5 by completing the following steps:

- Save the current translations to the existing translation cards
- Save the current announcements stored on a TN750/B circuit pack, if any, to the translation card
- Power down the PPN control cabinet
- Remove the TN786B Processor circuit pack from each control cabinet
- Install the TN790 Processor circuit pack into each control cabinet
- Reboot the upgraded Release 5 system
- Insert blank Release 5 formatted translation cards with the current translations into the TN777B NETCON circuit packs
- Save the upgraded Release 5 translations and announcements stored on a TN750/B circuit pack to the new Release 5 translation cards

Load Current Translations onto Translation Cards

1. For each control cabinet, insert the translation card into the slot on the TN777B faceplate. See Figure 5-5.



NOTE:

Insert each card with the white label facing left and the arrow (on the same side) pointing toward the circuit pack.

2. Verify the write switch on each translation card is in the down position.

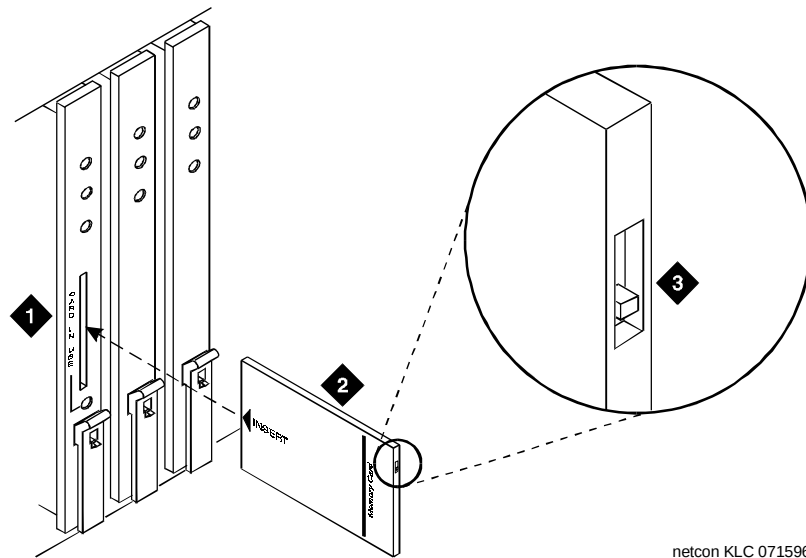


Figure 5-5. Record Switch on Translation Card

Save Translations

1. Enter **status system 1**, and press RETURN to verify one carrier is in the "active" mode and one carrier is in the "standby" mode. Use the **refresh-spe** command to get the standby processor in the standby mode.
2. Enter **save translation**. Press RETURN. This command instructs the system to write all the translation information from memory and onto the translation cards.
3. If the system is equipped with a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, these announcements can be saved by entering the following command:

save announcements ['from' cabinet(1-X). carrier (A-E), slot (0-20)] and press RETURN.

Where cabinet/carrier/slot is the location of the TN750/B Announcement circuit pack.

➤ NOTE:

The TN750C Announcement circuit pack has on-board non-volatile storage and does not need to be saved to the translation card.



NOTE:

If multiple TN750/B Announcement circuit packs are installed, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack, the system defaults to the proper location.

Check TN790 SIMM Configuration

1. Remove the TN790 Processor circuit pack from the packing material and place it on an ESD-approved work station.
2. For a Release 5si system, the TN790 should have two SIMMs. For a Release 5si + memory system, the TN790 should have three SIMMs. See Figure 5-6 for the location of the SIMMs.

Shut Down DEFINITY LAN Gateway System



CAUTION:

Before shutting down the DEFINITY LAN Gateway, make sure you save the system parameters if you plan to reuse the current system. Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet can damage the LAN Gateway disk.

1. Log onto the DEFINITY LAN Gateway. *See the DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway, 555-230-223, for the procedure to log in.*
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Shutdown* from the *Reset System* menu.
5. Unseat the LAN Gateway assembly from its backplane connectors.

Shut Down DEFINITY AUDIX System

1. Shut down the AUDIX assembly and allow the disk to completely spin down.



CAUTION:

Neglecting to shut down and AUDIX assembly before powering down the system cabinet can damage the AUDIX disk.

2. Unseat the AUDIX assembly from its backplane connectors in the carrier.

Install the SIMM on the TN790 Processor Circuit Pack

See Figure 5-6 to locate the SIMM sockets on the TN790 processor circuit pack.

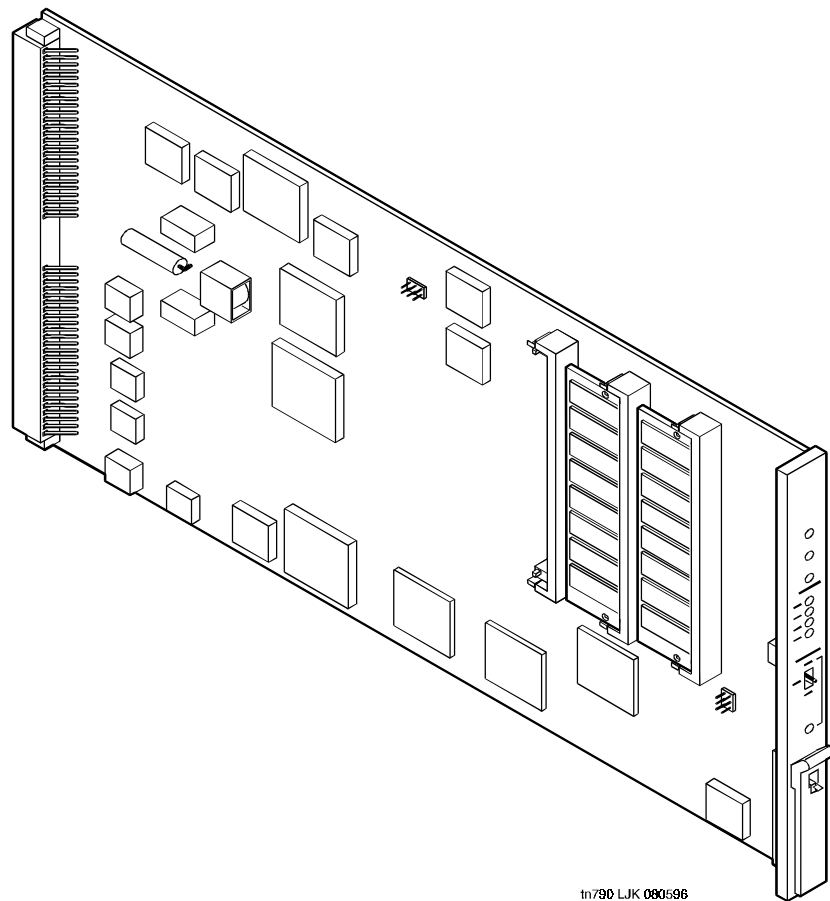


Figure 5-6. TN790 Processor Circuit Pack

1. Remove the TN790 from the packing material.
2. Place the TN790 Processor circuit pack on an ESD-approved work station with the SIMM sockets facing up, as shown in Figure 5-6.
3. Locate the notch cutout area on one corner of the SIMM. See Figure 5-7.



CAUTION:

Do not touch the SIMM's edge connector. Oils from your fingers can cause corrosion and/or oxidation to the contacts.

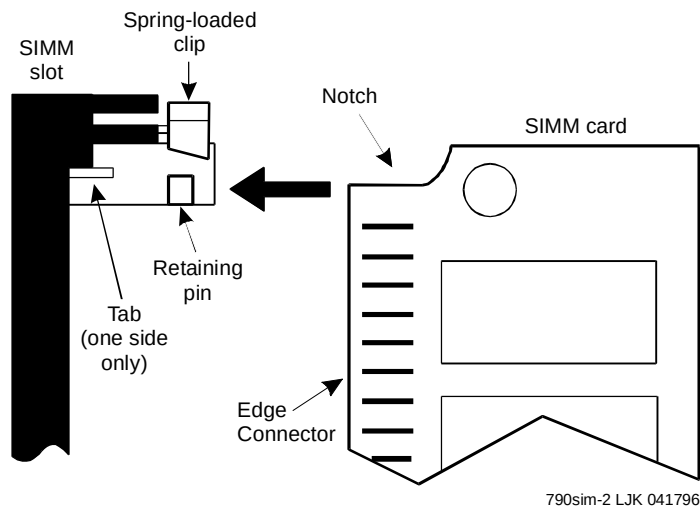


Figure 5-7. Align the SIMM with the SIMM Socket

4. Align the SIMM with the slot in the center of the socket. See Figure 5-7.
5. Hold the SIMM at a 45-degree angle, with the notch pointing toward the front face plate of the circuit pack. Align the SIMM's edge connector with the slot in the center of the SIMM socket.



WARNING:

*Do not use force when inserting the SIMM into the SIMM socket.
When the SIMM is installed correctly, it will snap easily into place.*

6. Press the SIMM's edge connector firmly into the SIMM socket.
7. Pivot the SIMM down and towards the circuit pack until it clicks into place. See Figure 5-8.

The metal tabs at each end of the socket snap into place around the SIMM and the small retaining pins snap into the holes at each end of the SIMM.

If you have misaligned or only partially seated the SIMM, you will not hear a sharp click, and the retaining pins will not snap cleanly into the holes. You can easily remove the SIMM and reinstall it.

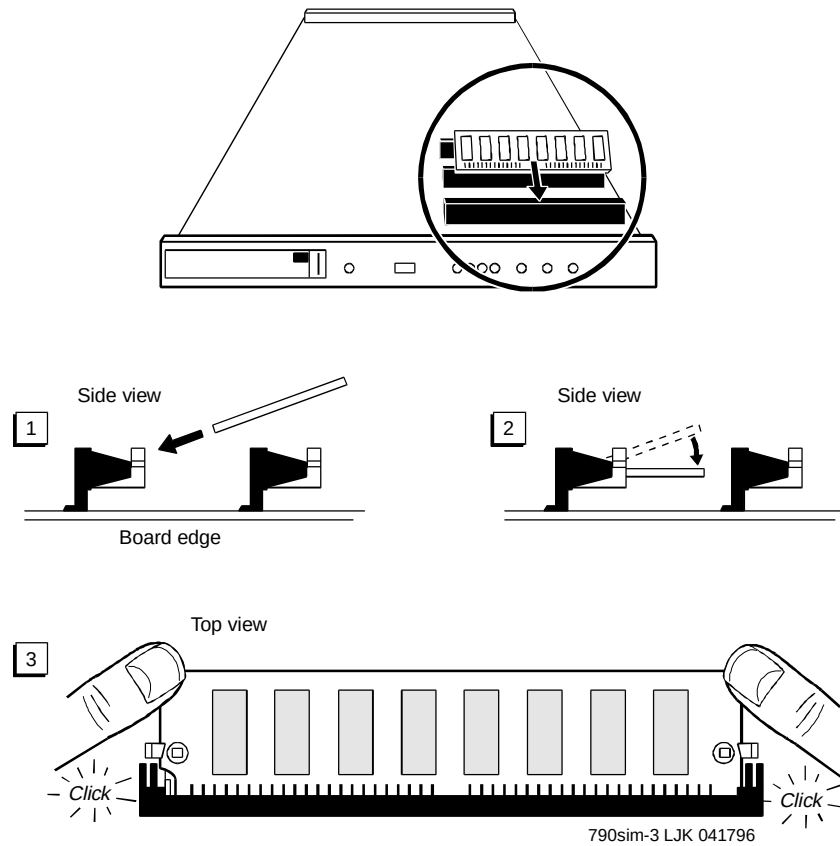


Figure 5-8. SIMM Insertion Procedure

Power Down Control Cabinet

Behind each PPN control cabinet power supply, set the circuit breaker to OFF.



CAUTION:

Powering down the PPN control cabinet will cause important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup request, and Do Not Disturb requests to be lost. Refer to DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si for information about preparing the system for a power down.

Replace Circuit Packs

1. At each control cabinet, remove the TN786B Processor circuit pack.
2. Peel the paper backing from the new TN790 circuit pack position label (designation strip) and affix it to each control cabinet.
3. At each control cabinet, install the TN790 Processor circuit pack into the slot labeled "PROCR" (see Figure 5-9).
4. Install circuit pack blanks in slots not equipped with circuit packs.

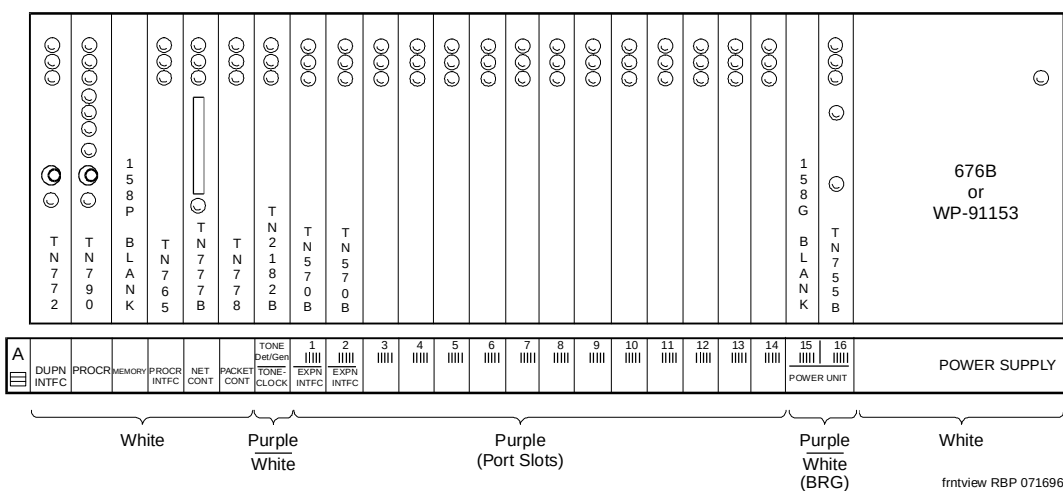


Figure 5-9. Circuit Pack Locations in Duplicated Control Carrier

Reseat DEFINITY LAN Gateway System

Reseat the LAN Gateway assembly into its backplane connectors.

Reseat DEFINITY AUDIX System

Reseat the AUDIX assembly into its backplane connectors.

Reboot the System

1. Behind each PPN control cabinet power supply, set the circuit breaker to ON. The system now performs the reset level 4 rebooting process by loading translations from the translation card. Loading the translations takes 10 to 15 minutes.

Log in as "craft" at the login: prompt on the G3-MT or G3-MA. If translation corruption is detected, the following message is displayed on the copyright screen:

WARNING: translation corruption detected; call Lucent Technologies distributor immediately

2. Enter **set time**, and press RETURN to set the time and ensure the system is booted properly.
3. Enter **list configuration software-version** and press RETURN to compare the version number of the Release 5 generic program card with the TN790 version number (written on a label on the TN790 face plate). If the version numbers are not the same, change the version number on the TN790 label to agree.
4. Perform a sanity check on the system running the new software by executing the following commands:
 1. **status system 1** (to check out unusual status in the system)
 2. **list station** (to ensure the translation is read in properly)
 3. **display alarm** (to ensure no alarm is raised in the system)
 4. **list trunk-group** (to ensure the translation is read in properly)
 5. **list hunt-group** (to ensure the translation is read in properly)

This ensures there is no translation corruption and the translations can be saved with the new software.



NOTE:

Backout Procedure: If the system is not running properly or the translations seem to be incorrect, follow the technical escalation procedure. If the new load must be backed out (i.e., returned to the previous software load), re-install the TN786B circuit packs and reboot with the previous version's translation card.

5. Get the DOSS order number of the upgrade, and call the regional CSA to request an "init" login. Once logged in as "init," the CSA should assign the G3 V5 option, which also automatically sets the 24-hour password aging for the upgraded system's customer logins.

6. The CSA should enter **change system-parameters customer-options**, and press RETURN to enable the Release 5 option (change V4 to V5 only if the customer order indicates the system is now a Release 5). For details on enabling this option, see *DEFINITY Enterprise Communications Server Release 5 Implementation*.

⇒ NOTE:

Certain forms have changed for G3si Release 5. Upgraded G3i translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to the following documents to make the necessary changes:

- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

7. Notify the switch administrator that any previous login names and passwords still exist, but the passwords will expire in 24 hours. When changed, the new login names and passwords must conform to the requirement shown in the following note.

⇒ NOTE:

A password must have from 4 to 11 symbols including at least 1 alphabetic character and 1 numeric character. A login name must have from 3 to 6 alphanumeric characters.

Since an R1V3.0 G3-MA cannot notify users about expiring passwords, password aging should be disabled for any login name used with an R1V3.0 G3-MA.

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

Save Upgraded Translations onto Release 5 Translation Card

1. Enter **status system 1**, and press RETURN to verify one carrier is in the "active" mode and one carrier is in the "standby" mode. Use the **refresh-spe** command to get the standby processor in the standby mode.
2. Verify the automatic restore of any TN750/B Announcement circuit pack completes. The yellow LED is off.
3. Insert the new Release 5 translation cards into the TN777B NETCON circuit packs. Verify the write switch on each translation card is down.
4. Enter **save translation**, and press RETURN. This command instructs the system to write all translation information from memory onto both translation cards.
5. If the system is equipped with a TN750/B Announcement circuit pack and announcements were saved above, enter **restore announcements**, and press RETURN.

Once the administered recorded announcements are restored, these announcements should be saved using the following command.

save announcements ['from' cabinet(1-X). carrier (A-E), slot (0-20)] and press RETURN.

Where cabinet/carrier/slot is the location of the TN750/B Announcement circuit pack.

⇒ NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack, the system defaults to the proper location.

⇒ NOTE:

The TN750C Announcement circuit pack has on-board non-volatile storage and does not need to be saved to the translation card.

G3i/G3si (I386) to DEFINITY ECS Release 5si+m

6

This chapter provides the information necessary to perform an upgrade from a DEFINITY G3i V2 or V3 to a DEFINITY ECS Release 5si system with a RISC processor with additional memory. The hardware, software, and procedures involved in these updates and upgrades are also provided.

**CAUTION:**

Be careful to find the right chapter for your upgrade. Using the software- and sometimes the hardware-upgrade PEC on the customer's order, refer to Table 1 in the "About This Document Supplement" for the correct chapter.

**NOTE:**

To ensure that the upgrade completes successfully, perform all steps in the order provided.

DEFINITY ECS Release 5 features and functions are listed in *DEFINITY Enterprise Communications Server Release 5 Feature Description*. The manual providing the commands, procedures, and forms required to initialize and administer the system is *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Task Tables

Table 6-1 and Table 6-2 provide the high-level tasks to perform the upgrades detailed in this chapter. Refer to the appropriate page for detailed instructions for each step.

Table 6-1. Tasks to Upgrade from G3i/si (I386) V2, V3, or V4 to Release 5si+m — Standard Reliability

✓	Task Description	Page
	Open Control Cabinet Door	9
	Verify System Status	9
	Prepare for Upgrade	9
	Disable Alarm Origination	10
	Save Translations	11
	Shut Down DEFINITY LAN Gateway System	12
	Install the SIMM on the TN790 Processor Circuit Pack	13
	Power Down Control Cabinet	16
	Replace Circuit Packs	17
	Reseat DEFINITY LAN Gateway System	18
	Reseat DEFINITY AUDIX System	19
	Reboot the System	19
	Restart DEFINITY LAN Gateway System	20
	Load Upgraded Translations onto Release 5 Translation Card	21
	Register System as DEFINITY ECS Release 5	22
	Return Equipment	22

Table 6-2. Tasks to Upgrade from G3i/si (I386) V2, V3, or V4 to Release 5si+m — High or Critical Reliability

✓	Task Description	Page
	Load Current Translations onto Translation Cards	25
	Load Current Translations onto Translation Cards	25
	Disable Alarm Origination	25
	Save Translations	26
	Shut Down DEFINITY LAN Gateway System	26
	Shut Down DEFINITY AUDIX System	27
	Power Down Control Cabinet	28
	Replace Circuit Packs	28
	Reseat DEFINITY LAN Gateway System	29
	Reseat DEFINITY AUDIX System	29
	Reboot the System	30
	Restart DEFINITY LAN Gateway System	31
	Save Upgraded Translations onto Release 5 Translation Card	32
	Register System as DEFINITY ECS Release 5	33
	Return Equipment	33

Considerations

Service Interruption

The update or upgrade process requires a service interruption. This service interruption must be closely coordinated with the customer and the local account team.

Contact Network Technicians

The technician for each public and private network accessed by the switch must be contacted before the update or upgrade begins. Otherwise, if these technicians are not aware of the service interruption caused by the update or upgrade, it is possible that network-access trunk facilities will be busied out at the far end.

Changes to Memory-Card Update or Upgrade Procedures

The steps presented for a G3i V2 or V3-to-DEFINITY ECS R5 upgrade in the "System Upgrades" section of this chapter are subject to change. Although these steps are accurate for the DEFINITY ECS R5 memory-card issue available on the manual's publication date, the specific steps for a memory-card update or upgrade can change as new DEFINITY ECS R5 memory cards are issued. For the most current information, refer to the Quality Protection Plan Change Notice (QPPCN) Update Supplement provided with the new DEFINITY ECS R5 memory card.

Usable Circuit Packs

Every port or control circuit pack used in the upgraded DEFINITY ECS R5 system must conform to the minimum usable vintage requirements for DEFINITY ECS R5. Those circuit packs shipped for the update or upgrade should always meet the usable vintage specifications. In addition, at a presale site inspection, the QPPCN process must check the vintages of every circuit pack that will be reused in the updated or upgraded system and, if necessary, replace those circuit packs that have unusable vintages.

Refer to *Technical Monthly, Reference Guide for Circuit-Pack Vintages and Change Notices*, for current information about usable vintages in a DEFINITY ECS R5 system. For information about usable vintages of international circuit packs, refer to the ITAC's Tech Alert via your regional distributor.

The new TN790 processor circuit pack is required for a DEFINITY ECS R5 system upgrade.

For a description of the circuit packs, refer to *DEFINITY Enterprise Communications Server Release 5 System Description and Specifications*.

Generic 3 — Management Applications (G3-MA)

As part of the QPPCN process, any G3-MAs being used to administer a DEFINITY ECS R5 system must be upgraded to at least an R1V3.1 prior to an upgrade. However, an R1V4.1 G3-MA is necessary for full compatibility with a DEFINITY ECS R5 system.

Call Management System (CMS)

Existing CMS adjuncts (not BCMS), being used to monitor call-center activity for a DEFINITY ECS R5 system with a G3V4 Call Center package, must be upgraded to CentreVu CMS R3V4 in conjunction with a DEFINITY ECS R5 upgrade.

Otherwise, the existing (R3V2) CMS is sufficient.

Isolator

Each peripheral connected to a DC-powered system, via the asynchronous Electronic Industries Association (EIA) RS-232 interface (behind a PPN control carrier or behind an EPN expansion control carrier), requires a 116A isolator. The isolator, which should be provided with the DC port network, is inserted at the RS-232 interface between the peripheral and the interface connector to isolate grounding between the system and external adjuncts.

Software

Like the previous translations, the DEFINITY ECS R5 translations are saved on the DEFINITY ECS R5 translation memory card. Although the older translations update or upgrade automatically to DEFINITY ECS R5, several features require special attention because of form changes or potential naming conflicts in the update or upgrade procedure.

Between customer confirmation and the actual installation of an update or upgrade, the Software Specialist and Associate should check these forms to ensure that the updated or upgraded translations will be appropriate for the customer's needs. After the upgraded or updated system is rebooted, these translations can be entered either locally by the Software Associate or remotely at the FSAC (with possible assistance from the upgrade technician).

For information to make the required changes, refer to:

- *DEFINITY Communications System Generic 2 to DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

Port-Network Configurations

The DEFINITY ECS R5 (like the previous systems) offers an optional third port network. This port network, a second EPN, allows the system to grow by either:

- One expansion control carrier and up to four more port carriers
- One expansion control cabinet and up to three more port cabinets

This second EPN cabinet is the same as the “DEFINITY” style EPN cabinets that were first available for G1 systems.

Software-Translation Upgrade

As a fall-back precaution, the current translations should first be saved to the existing translation memory card. Then, the update or upgrade process will download the translations to the new DEFINITY ECS R5 memory card.

Specific instructions about when to and how to update or upgrade translations are included in the following section, “System Upgrades.”

System Upgrades

There are many configurations of DEFINITY in the field. In terms of both hardware and software, each system can have a unique configuration. The manner in which a system is updated or upgraded depends on its present configuration.

Upgrading to a DEFINITY ECS R5 requires hardware changes. Upgrading a system also always requires downloading the current translations to a new memory card and rebooting the system.

If the update or upgrade involves adding a new cabinet, refer to *DEFINITY Enterprise Communications Server Installation and Test for Single-Carrier Cabinets*, for the installation procedures.

Software Upgrade

The software upgrade feature permits a DEFINITY ECS R5 system to upgrade its software to include new features and to fix software problems.



WARNING:

No administration changes should be entered during the following software upgrade procedure. There can be substantial time gaps between steps and, since the system cannot prevent administration changes, it is up to the system technician to make sure that none are attempted during the entire software upgrade process.

Upgrading to Standard-Reliability DEFINITY ECS R5 (Simplex Systems)

The software upgrade for a standard reliability system takes up to 130 minutes, during which time service is interrupted for about 10 minutes. Upgrade software cannot be done remotely, and it must be performed on the local G3-MT.

Ensure that the following items are available before proceeding:

- Software memory card with the software release running currently in the system
- Software memory card containing the new software release for the system
- Translation memory card on which the system translations are to be saved (the card should already be in the system)
- Software patch (if it exists) that is currently applied to the system (this patch is downloaded if a software backout is required)
- Software release label to be applied to the TN790 processor circuit pack after a successful upgrade

The following table indicates the processes and their corresponding time allotment for the upgrade procedure.

Process	Time (minutes)
Save translation	10
Save announcements	45
Upgrade software	10
Save translation	10
Save announcements	45
Miscellaneous	10
Total Time	130

A standard-reliability DEFINITY s/si is upgraded to a standard-reliability DEFINITY ECS R5 s/si by completing the following steps:

- Save the current translations to the existing translation memory card
- Save the current announcements stored on a TN750/B circuit pack, if any, to the translation memory card
- Power down the PPN's control cabinet
- Remove the TN786B/CPPI Processor/Memory circuit packs from the control cabinet
- Install the TN790 Processor circuit pack into the control cabinet

- Reboot the upgraded DEFINITY ECS R5 system
- Verify that the system boots properly
- Insert blank R5 formatted memory card with the current translations into the Netcon circuit pack
- Save the upgraded R5 translations and announcements stored on the TN750/B circuit pack, if any, to the new translation memory card

Prerequisite Hardware

The equipment in the following table *must* be on site before the upgrade begins. Ensure that the translation memory card is current and, if the system has a TN750/B Announcement circuit pack, contains 4 Mbytes of memory

To place a claim for missing equipment, as part of the Streamlined Implementation process, call "1-800-772-5409," and respond to the call prompter.

Table 6-3. Required Hardware

Equipment	Description	Quantity
106718521	TN790 Processor circuit pack	1
106590953	Circuit Pack Blank	1 ¹
406809889	J58890TGTG-1, L14, DEFINITY ECS R5 Formatted 4-MByte Translation Memory Card	1 ²
63610	4 Mb SIMM strip memory	1 ³
847008463	Control-Cabinet Label	1

1. During the hardware upgrade, the TN786B is removed as a combined assembly from the control cabinet. It is replaced with the circuit pack blank.
2. A 4-MByte translation memory card is required for a system that uses recorded announcements. DEFINITY ECS R5 format is required for all systems.
3. Attach the SIMM strip to the TN790 before installing the TN790 into the control cabinet.

Required Tools

The following tools and items may be required during the update or upgrade:

- Authorized wrist grounding strap
- 1/4-inch flat-blade screwdriver

- Static-proof or original circuit-pack packaging for transporting circuit packs
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

Open Control Cabinet Door

Use a screwdriver and turn the door-latch screw counterclockwise one-fourth turn to open the door.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Prepare for Upgrade

As a fall-back precaution, the current G3i translations should first be saved to the existing translation memory card.

1. Login at the G3-MT or G3-MA terminal.

If translation corruption is detected, the following message is displayed on the copyright screen:

```
WARNING: translation corruption detected; call Lucent  
Technologies distributor immediately
```

The save translations command cannot be executed if the translation corruption message appears.
2. Disable Terminal Translation Initialization (TTI) during the upgrade using the **change system parameters feature** command (note that it must be restored after the upgrade).
3. Issue the **list configuration software-versions** command to determine whether any patches have been applied.



NOTE:

If the switch must be restored to the old software, the correct patches must be re-downloaded.

4. Verify that a software memory card containing the current system software is at hand. This card is needed in case the new software must be backed out.

5. Enter **change system-parameters maintenance**, and press RETURN. Use this form to prevent scheduled daily maintenance from interfering with the update or upgrade. (If scheduled maintenance *has* begun, set the value of the "Stop Time" field to one minute after the current time. If scheduled maintenance *has not* yet begun, change the value of the "Start Time" field to a time after the update or upgrade will be finished.)
 6. Verify the switch on the outside edge of the memory card is in the down position to record (see Figure 6-1).
-

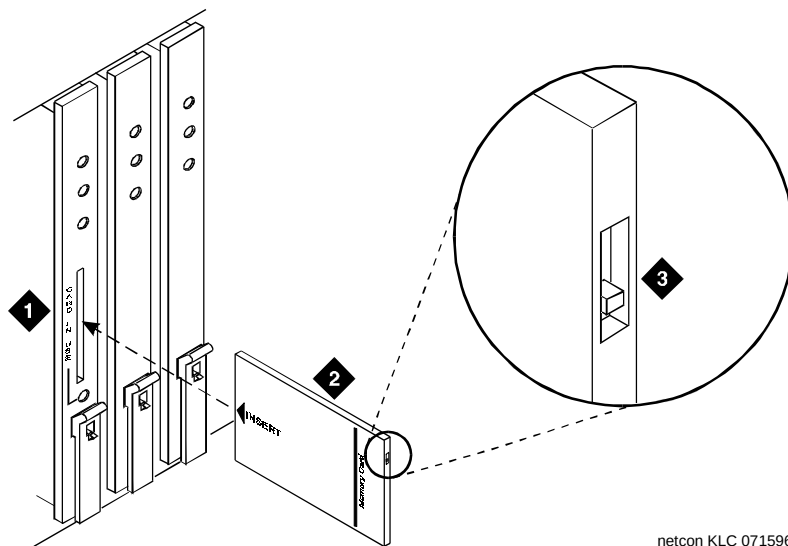


Figure 6-1. Record Switch on Translation Card

7. Insert the original translation card into the slot on the TN777B faceplate. (See Figure 6-1.)



NOTE:

The translation card is keyed to assure proper installation. Insert the card with the white label facing left and with the insert arrow (on the same side) pointing forward toward the circuit pack.

Disable Alarm Origination

1. Enter **change system-parameters maintenance**, and press RETURN.
2. Enter **n** in the *Alarm Origination Activated* field and press RETURN to disable Alarm Origination.

The INADS Database Administrator at the TSC will enable Alarm Origination as part of the registration process.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the switch software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Save translations to the translation memory card in the switch by issuing the **save translation card-mem** command. Press RETURN. This process takes approximately 10 minutes to complete.

This command instructs the system to take all the translation information in memory and write it onto the memory card. Move the slide on the memory card to the write protect position to ensure the safety of the preserved translations.

2. If the system is equipped with a TN750/B Announcement circuit pack, enter display announcements, and press RETURN.

If administered recorded announcements are listed, these announcements can be saved by entering the following command:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).



NOTE:

Make sure that the carrier containing the TN750/B Announcement circuit pack is not powered down before the **save announcements** command successfully completes. Otherwise, all recorded announcements will be lost!



NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack (TN750B or TN750C), the system defaults to the proper location.

3. Enter **change system-parameters features**, and press RETURN. Use Page 2 of this form to prevent unexpected activation of the Terminal Translation Initialization (TTI) feature during the update or upgrade by changing the value in the "TTI Security Code" field.

Shut Down DEFINITY LAN Gateway System

If a DEFINITY LAN Gateway system resides in the control cabinet to be upgraded, prepare to shut down the DEFINITY LAN Gateway assembly and allow the disk to completely spin down. See Caution. See WARNING.



CAUTION:

Before using this procedure to shut down the DEFINITY LAN Gateway, make sure that you save the system parameters if you plan to reuse the current system.



WARNING:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet where it resides can damage the LAN Gateway disk.

1. See WARNING. To avoid an unexpected LAN Gateway reboot after an unplanned switch reboot, unseat the LAN Gateway assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
3. When the main menu appears, select *Maintenance*.
4. Select *Reset System* from the *Maintenance* menu.
5. Select *Shutdown* from the *Reset System* menu.

Shut Down DEFINITY AUDIX System

NOTE:

The DEFINITY AUDIX, if present in the control cabinet, should have already been shut down if the Netcon circuit pack was just updated.

1. See WARNING. If a DEFINITY AUDIX System resides in the control cabinet to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down and AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. See WARNING. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Install the SIMM on the TN790 Processor Circuit Pack

This section describes the procedure of adding additional memory to the TN790 Processor Circuit pack.

Required Tools

The following tools and items may be required during the upgrade:

- Authorized wrist grounding strap
- Static-proof or original circuit-pack packaging for transporting circuit packs
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

See WARNING.



WARNING:

Before handling the circuit pack or the SIMM, put on a wrist strap and attach its plug or clip to the cabinet's frame.

See Figure 6-2 to locate the SIMM sockets on the TN790 processor circuit pack.

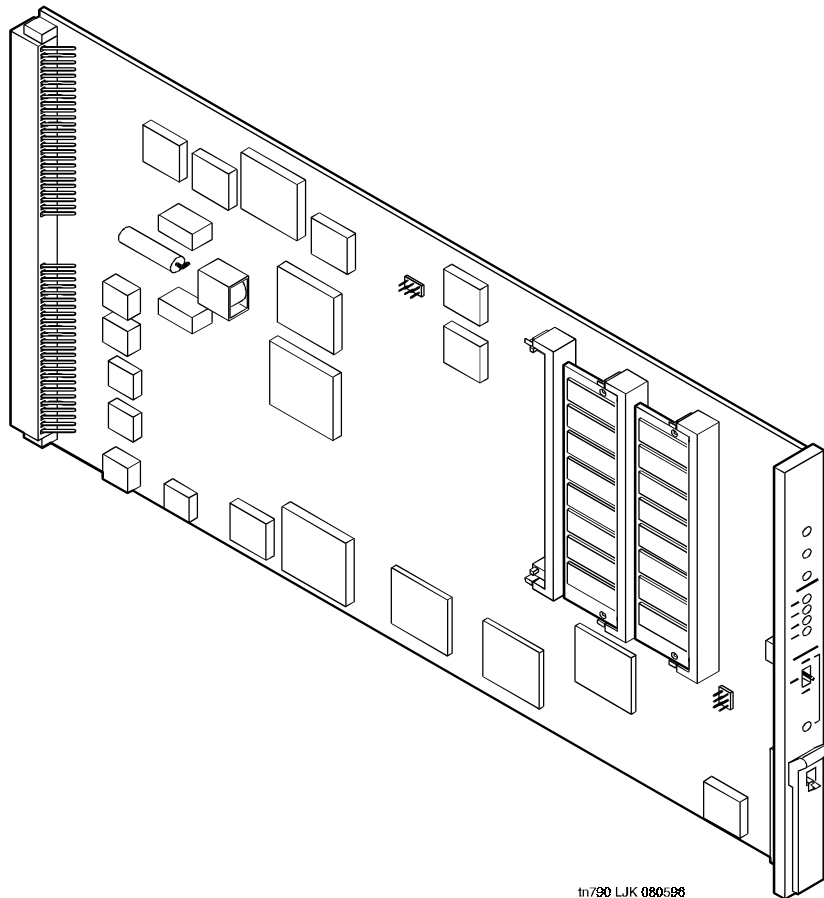


Figure 6-2. TN790 Processor Circuit Pack

Use the following procedure to install a SIMM:

1. Remove the TN790 Processor circuit pack from the control carrier.
2. Place the TN790 Processor circuit pack on an ESD-approved work station, such as the anti-static circuit pack packaging or anti-static mat, with the SIMM sockets facing up and to the left, as shown in Figure 6-2.
3. Locate the Notch cutout area on one corner of the SIMM. See Figure 6-3. See WARNING.



WARNING:

Do not touch the SIMM's edge connector. Oils from your fingers can cause corrosion and/or oxidation to the contacts.

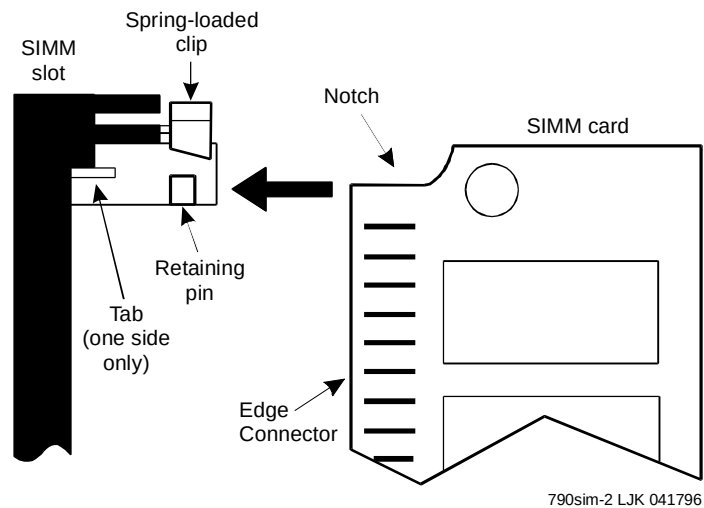


Figure 6-3. Align the SIMM with the SIMM Socket

4. Align the SIMM with the slot in the center of the SIMM socket.

(See Figure 6-3).

Hold the SIMM at a 45-degree angle, with the notch pointing towards the front face plate of the circuit pack. Align the SIMM's edge connector with the slot in the center of the SIMM socket. See WARNING.



WARNING:

Do not use force when inserting the SIMM into the SIMM socket. When the SIMM is installed correctly, it will snap easily into place.

5. Press the SIMM's edge connector firmly into the SIMM socket.

Pivot the SIMM down and towards the circuit pack until it clicks into place (as shown in Figure 6-4).

The metal tabs at each end of the socket snap into place around the SIMM and the small retaining pins snap into the holes at each end of the SIMM.

If you have misaligned or only partially seated the SIMM, you will not hear a sharp click, and the retaining pins will not snap cleanly into the holes. You can easily remove the SIMM (see the section entitled, "Removing a SIMM," in Chapter 12, "Changes to R5vs, R5si, and R5si +m Systems") and reinstall it.

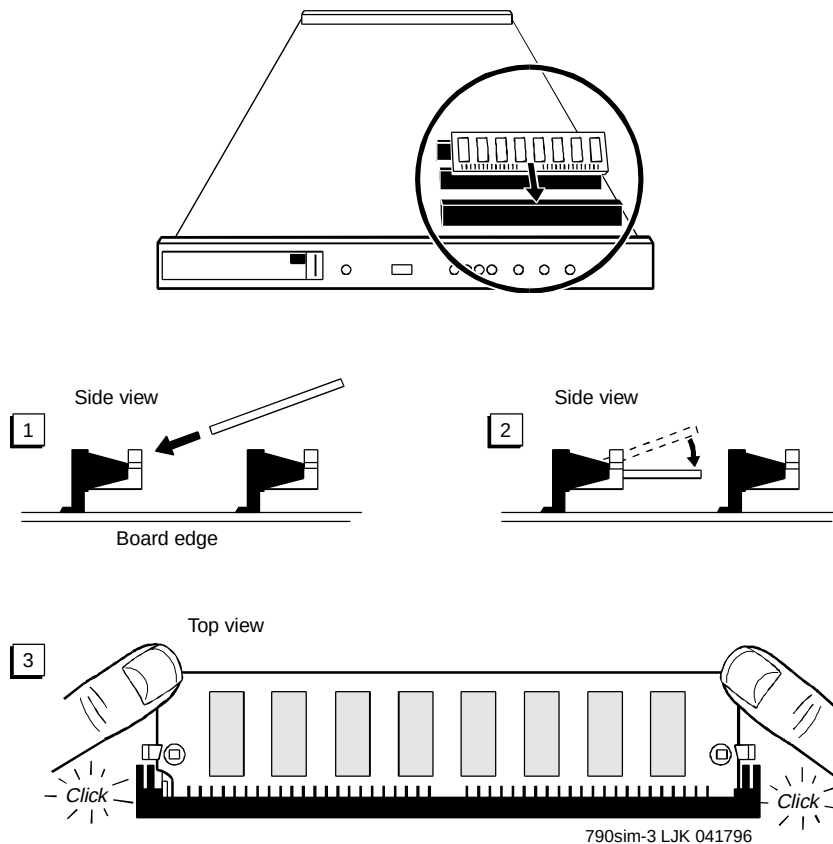


Figure 6-4. SIMM Insertion Procedure

Power Down Control Cabinet

Behind the PPN control cabinet's power supply, set the circuit breaker to OFF.

Replace Circuit Packs



NOTE:

If new adjuncts or features are being added that require additional circuit packs, refer to Chapter 12, "Changes to R5vs, R5si, and R5si +m Systems" of this manual for installation instructions.

1. See WARNING. At the J58890L control cabinet, remove the combined TN786B/CPP1 processor/memory circuit pack).



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. See NOTE. Install the new TN790 processor circuit-pack position label (designation strip) in its place on the control cabinet.



NOTE:

Since the new label has an adhesive backing, it can be placed over the existing label.

3. See previous WARNING. Install the TN790 processor circuit pack into the control-cabinet slots labeled "PROCR" and "MEM". See Figure 6-5 for an illustration of the TN790 processor circuit pack.
4. Install circuit-pack blanks in slots not equipped with circuit packs.

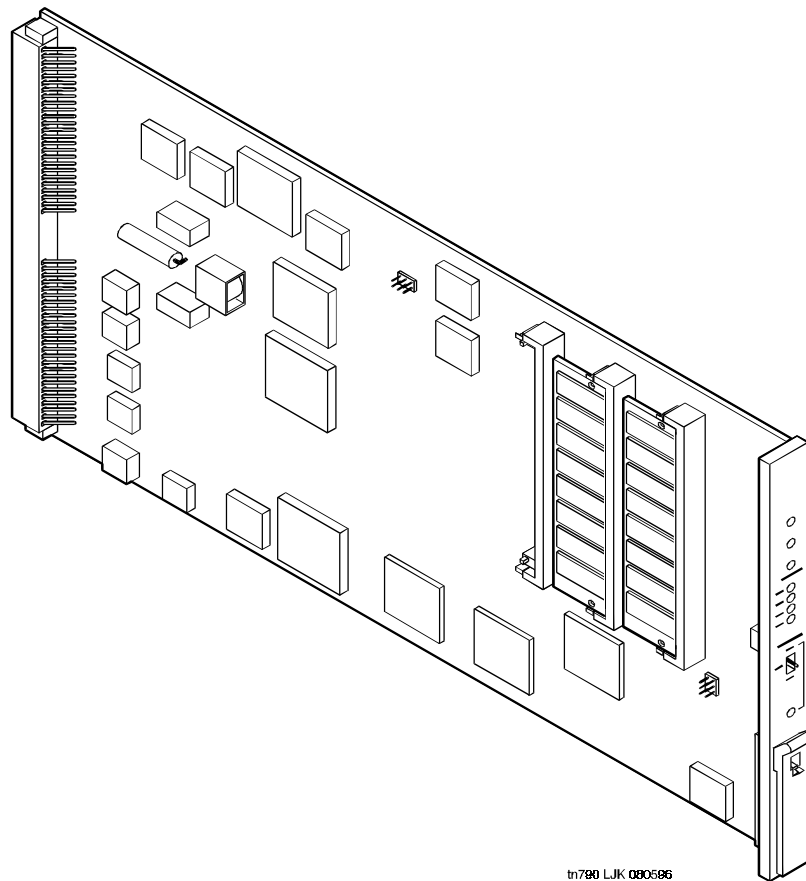


Figure 6-5. TN790 Processor Circuit Pack

Reseat DEFINITY LAN Gateway System

Reseat the LAN Gateway assembly into its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's metal frame.

Reseat DEFINITY AUDIX System

If a DEFINITY AUDIX System resides in the control cabinet, reseat the AUDIX assembly to its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reboot the System

1. Behind the PPN control cabinet power supply, set the circuit breaker to ON.
2. The system now performs the reset level 4 rebooting process by loading translations from the memory card. Loading the translations takes 8 to 11 minutes.
3. Log in as "craft" at the login: prompt on the G3-MT or G3-MA.
4. Enter **set time**, and press RETURN to set the time and ensure the system is booted properly.
5. Enter list configuration software-version, and press RETURN to compare the version number of the DEFINITY ECS Release 5 software program (displayed on the G3-MT or G3-MA) with the TN790 version number (written on a label on the TN790's faceplate). If the version numbers are not the same, change the version number on the TN790 label so that they agree.
6. Perform a sanity check on the system running the new software by executing the following commands in this order:
 - a. **status system 1** (to check out unusual status in the system)
 - b. **list station** (to ensure that the translation is read in properly)
 - c. **display alarm** (to ensure no alarm is raised in the system)
 - d. **list trunk-group** (to ensure the translation is read in properly)
 - e. **list hunt-group** (to ensure the translation is read in properly)

This ensures there is no translation corruption and the translations can be saved with the new software.



NOTE:

Backout Procedure: If the system is not running properly or the translations seem to be incorrect, follow the technical escalation procedure. If the new load must be backed out (i.e., returned to the previous software load), re-install the TN786B/CPP1 circuit packs and reboot with the previous version's translation card.

7. Get the DOSS order number of the upgrade, and call the regional CSA to request an "init" login. Once logged in as "init," the CSA should assign the DEFINITY ECS R5 option, which also automatically sets the 24-hour password aging for the upgraded system's customer logins.
8. The CSA should enter change system-parameters customer-options, and press RETURN to enable the R5 option. For details on enabling this option, see *DEFINITY Enterprise Communications Server Release 5 Implementation*.



NOTE:

Certain forms have changed for DEFINITY ECS R5. Upgraded translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to the following documents to make the necessary changes:

- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

The default values are shown in the following System Parameter screens.

9. Notify the switch administrator that any previous login names and passwords still exist, but that the passwords will expire in 24 hours. When changed, the new login names and passwords must conform to the requirement shown in the following note.



NOTE:

A password must have from 4 to 11 symbols including at least 1 alphabetic character and 1 numeric character. As before, a login name must have from 3 to 6 alphanumeric characters.

Since an R1V3.0 G3-MA cannot notify users about expiring passwords, password aging should be disabled for any login name used with an R1V3.0 G3-MA.

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

Load Upgraded Translations onto Release 5 Translation Card

1. Enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. If the system is equipped with a TN750/B Announcement circuit pack, check for completion of an automatic restore of announcements before removing the original translation card. If the system has been running for at least 45 minutes since power on, this operation should be complete. Monitor the yellow light on the TN750/B which is lit while the download is in progress. If this automatic restore did not start within 15 minutes of power on, enter **restore announcements**, and press RETURN.
3. Insert the new R5 formatted translation card. Verify that the switch on the outside edge of the R5 translation memory card is in the downward position to record (see Figure 14-3).
4. Enter **change system-parameters maintenance**, and press RETURN. Use this form to activate scheduled daily maintenance after the upgrade process is completed.
5. Enter **change system-parameters features**, and press RETURN. Use Page 2 of this form to activate the Terminal Translation Initialization (TTI) feature by changing the value in the "TTI Security Code" field.
6. Enter **save translation**, and press RETURN. This command instructs the system to write all translation information from memory onto the DEFINITY ECS R5 translation memory card.
7. If the system is equipped with a TN750/B Announcement circuit pack and announcements were restored in above step, save these announcements by entering the following command:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack (TN750B or TN750C), the system defaults to the proper location.

Although not required, customers may choose to back up announcements stored on TN750C circuit packs. These must be stored on individual translation memory cards labeled with the TN750C location when more than one TN750C exists in the system. While the R5 software can read

such memory cards, these cards must be reformatted before R5 can save announcements on the cards. These cards must be ordered in advance from the factory, with pec code #J58890TG-1, L14.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.



NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS Release 5

Get the serial number of the DEFINITY ECS Release 5, and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), or the number provided by your Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS Release 5.

Return Equipment

Return any equipment replaced, during the update or upgrade, should be returned to Lucent Technologies according to the requirements outlined in the following documents:

BCS/Material Logistics, MSL/Attended Stocking Locations

Methods and Procedures for Basic Material Returns

The replaced equipment includes:

- TN786B Processor and CPP1 Memory circuit packs
- G3i V1.1, V2, V3, or V4 translation cards

High- or Critical-Reliability

A high- or critical-reliability DEFINITY G3s/si is upgraded to a high- or critical-reliability DEFINITY ECS Release 5 by completing the following steps:

- Save the current translations to the existing translation memory cards
- Save the current announcements stored on a TN750/B circuit pack, if any, to the translation memory card
- Power down the PPN's control cabinet
- Remove the TN786B/CPPI Processor/Memory circuit packs from each control cabinet
- Install the TN790 Processor circuit pack into each control cabinet
- Reboot the upgraded DEFINITY ECS R5 system
- Verify that the system boots properly
- Insert blank R5 formatted memory cards with the current translations into the Netcon circuit packs
- Save the upgraded DEFINITY ECS R5 translations and announcements stored on a TN750/B circuit pack, if any, to the new R5 translation memory card

Prerequisite Hardware

The equipment in the following table *must* be on-site before the upgrade begins. Ensure that the translation memory cards are current and, if the system has a TN750B Announcement circuit pack, contain 4 Mbytes of memory.

To place a claim for missing equipment, as part of the Streamlined Implementation process, call "1-800-772-5409," and respond to the call prompter.

Table 6-4. Required Hardware

Equipment	Description	Quantity
106718521	TN790 Processor circuit pack	2
158P-10627806 or Z106A1-10626006	Circuit Pack Blank for SCC Circuit Pack Blank for MCC	1 1
406809889	J58890TG-1, L14, 4-MByte Translation Memory Card	2 ¹
847008463	Control-Cabinet Label	1
847008851	Duplex Control-Cabinet Label	1

1. A 4-Mbyte translation memory card is required for a system that uses recorded announcements.

Required Tools

The following tools and items may be required during the update or upgrade:

- Wrist ground strap
- Static-proof or original circuit-pack packaging for transporting circuit packs
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

Load Current Translations onto Translation Cards

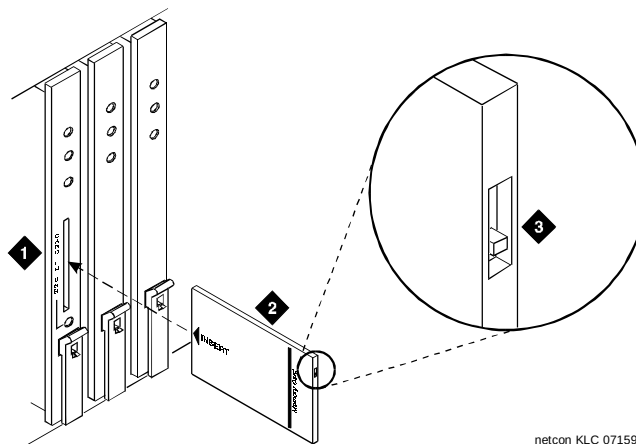
1. For each control cabinet, insert the translation card into the slot on the TN777B faceplate (see Figure 6-6).



NOTE:

The translation cards are keyed to assure proper installation. Insert each card with the white "DEFINITY Memory Card" label facing left and with the insert arrow (on the same side) pointing forward towards the circuit pack.

2. Verify the switch on the outside edge of each memory card is in the down position to record.



netcon KLC 071596

Figure 6-6. Write Switch on Translation Card

Disable Alarm Origination

1. Enter **change system-parameters maintenance**, and press RETURN.
2. Enter **n** in the *Alarm Origination Activated* field and press RETURN to disable Alarm Origination.

The INADS Database Administrator at the TSC will enable Alarm Origination as part of the registration process.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the switch software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Enter **status system 1**, and press RETURN to verify the system is in the "active/standby" mode.
2. Enter **save translation card-mem**. Press RETURN. This command instructs the system to take all the translation information in memory and write it onto the memory cards.
3. If the system is equipped with a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, these announcements can be saved by entering the following command:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).



NOTE:

Make sure that the carrier containing the TN750/B Announcement circuit pack is not powered down before the **save announcements** command successfully completes. Otherwise, all recorded announcements will be lost!



NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack (TN750B or TN750C), the system defaults to the proper location.

Shut Down DEFINITY LAN Gateway System

If a DEFINITY LAN Gateway system resides in the control cabinet to be upgraded, prepare to shut down the DEFINITY LAN Gateway assembly and allow the disk to completely spin down.



CAUTION:

Before shutting down the DEFINITY LAN Gateway, make sure that you save the system parameters if you plan to reuse the current system.



WARNING:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet can damage the LAN Gateway disk.

1. To avoid an unexpected LAN Gateway reboot after an unplanned switch reboot, unseat the LAN Gateway assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CalVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
3. When the main menu appears, select *Maintenance*.
4. Select *Reset System* from the *Maintenance* menu.
5. Select *Shutdown* from the *Reset System* menu.

Shut Down DEFINITY AUDIX System

1. If a DEFINITY AUDIX System resides in the control cabinet to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down and AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Down Control Cabinet

Behind the PPN control cabinet power supply, set the circuit breaker to OFF.



CAUTION:

Powering down the PPN's control cabinet will cause important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup request, and Do Not Disturb requests to be lost. Refer to DDEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si for information about preparing the system for a power down.

Replace Circuit Packs



NOTE:

If new adjuncts or features are being added that require additional circuit packs, refer to Chapter 12, "Changes to R5vs, R5si, and R5si +m Systems" of this manual for installation instructions.

1. At each control cabinet, remove the combined TN786B/CPP1 processor/memory circuit pack from the control-cabinet "MEM" (see Figure 6-7).



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Install the new circuit pack position label (designation strip) in its place on each control cabinet.



NOTE:

Since the new labels have an adhesive backing, they can be placed over the existing labels.

3. At each control cabinet, install the TN790 processor circuit pack into the control cabinet slot labeled "PROCR" (see Figure 6-7).
4. Install circuit-pack blanks in slots not equipped with circuit packs.

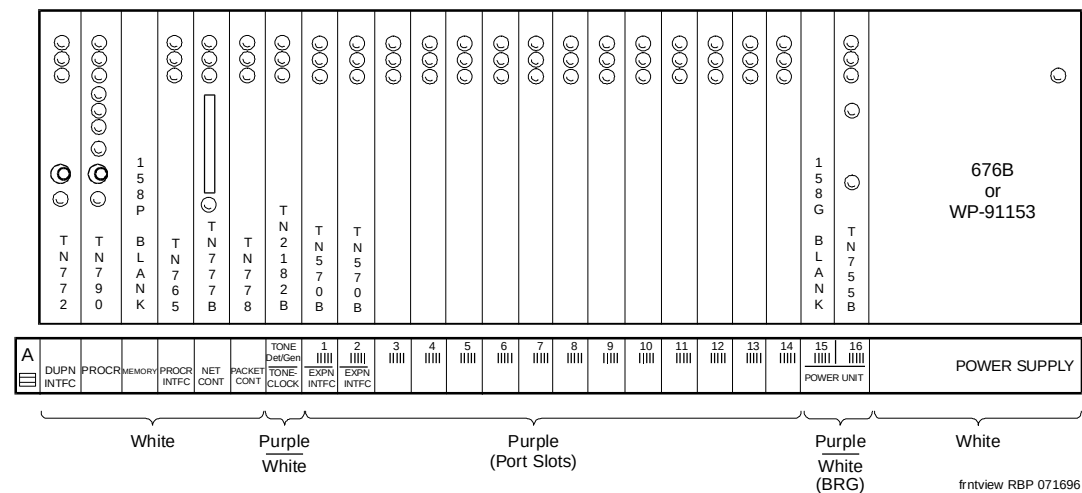


Figure 6-7. Circuit Pack Locations in Duplicated Control Cabinet

Reseat DEFINITY LAN Gateway System

Reseat the LAN Gateway assembly into its backplane connectors in the carrier.

WARNING:
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reseat DEFINITY AUDIX System

If a DEFINITY AUDIX System resides in the control cabinet, reseat the AUDIX assembly to its backplane connectors.

WARNING:
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reboot the System

1. Behind the PPN control cabinet power supply, set the circuit breaker to ON.
2. The system now performs the reset level 4 rebooting process by loading translations from the memory card. Loading the translations takes 10 to 15 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit pack LED indications and screen displays that occur during system reboot.

3. Log in as "craft" at the `login:` prompt on the G3-MT or G3-MA.
4. Enter **set time**, and press RETURN to set the time and ensure that the system is booted properly.
5. Enter list configuration software-version, and press RETURN to compare the version number of the DEFINITY ECS R5 software program (displayed on the G3-MT or G3-MA) with the TN790 version number (written on a label on the TN790's faceplate). If the version numbers are not the same, change the version number on the TN790 label so that they agree.
6. Perform a sanity check on the system running the new software by executing the following commands in this order:
 - a. **status system 1** (to check out unusual status in the system)
 - b. **list station** (to ensure that the translation is read in properly)
 - c. **display alarm** (to ensure no alarm is raised in the system)
 - d. **list trunk-group** (to ensure the translation is read in properly)
 - e. **list hunt-group** (to ensure the translation is read in properly)

This ensures there is no translation corruption and the translations can be saved with the new software.



NOTE:

Backout Procedure: If the system is not running properly or the translations seem to be incorrect, follow the technical escalation procedure. If the new load must be backed out (i.e., returned to the previous software load), re-install the TN786B/CP1 circuit packs and reboot with the previous version's translation card.

7. Get the DOSS order number of the upgrade, and call the regional CSA to request an "init" login. Once logged in as "init," the CSA should assign the DEFINITY ECS R5 option, which also automatically sets the 24-hour password aging for the upgraded system's customer logins.

8. The CSA should enter change system-parameters customer-options, and press RETURN to enable the DEFINITY ECS R5 option. For details on enabling this option, see *DEFINITY Enterprise Communications Server Release 5 Implementation*.



NOTE:

Certain forms have changed for DEFINITY ECS R5. Upgraded translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to the following books to make the necessary changes:

- *DEFINITY Communications System Generic 2 to DEFINITY Enterprise Communications Server Release 5 Transition Reference*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*
9. Explain to the switch administrator that any previous login names and passwords still exist, but that the passwords will expire in 24 hours. When changed, the new login names and passwords must conform to the requirement shown in the following note.



NOTE:

A password must have from 4 to 11 symbols including at least 1 alphabetic character and 1 numeric character. As before, a login name must have from 3 to 6 alphanumeric characters.

Also explain that, since an R1V3.0 G3-MA cannot notify users about expiring passwords, password aging should be disabled for any login name used with an R1V3.0 G3-MA.

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

Save Upgraded Translations onto Release 5 Translation Card

1. Enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. Insert the new R5 formatted translation card. Verify that the switch on the outside edge of each R5 translation memory card is in the downward position to record (see Figure 0-2).
3. Verify that the automatic restore of any TN750/B Announcement circuit pack completes. The yellow LED will be off.
4. Enter **change system-parameters maintenance**, and press RETURN. Use this form to activate scheduled daily maintenance after the upgrade process is completed.
5. Enter **change system-parameters features**, and press RETURN. Use Page 2 of this form to activate the Terminal Translation Initialization (TTI) feature by changing the value in the "TTI Security Code" field.
6. Enter **save translation**, and press RETURN. This command instructs the system to write all translation information from memory onto both G3i V5 translation memory cards.
7. If the system is equipped with a TN750/B Announcement circuit pack and announcements were saved above, enter **restore announcements**, and press RETURN.

Once the administered recorded announcements are restored, these announcements should be saved using the following command:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack (TN750B or TN750C), the system defaults to the proper location.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.



NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS Release 5

Get the system's serial number and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), , or the number provided by your Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS Release 5.

Return Equipment

The G3i equipment replaced during the upgrade should be returned to Lucent Technologies according to the requirements outlined in the following documents:

BCS/Material Logistics, MSL/Attended Stocking Locations

Methods and Procedures for Basic Material Returns

The replaced G3i equipment includes the following:

- TN786B Processor and CPP1 Memory circuit packs from each control cabinet
- G3i translation memory cards.

Multicarrier G2 Universal Module to DEFINITY ECS R5 si+m EPN

7

This chapter provides the information necessary to upgrade a DEFINITY® G2 universal module to a multicarrier EPN of a DEFINITY ECS R5si+m system. The hardware and software involved in the upgrades and the upgrade procedures are also provided.

**CAUTION:**

Be careful to find the right chapter for your upgrade. Using the software- and sometimes the hardware-upgrade PEC on the customer's order, refer to Table 1 in "About This Document" for the correct chapter.

**NOTE:**

To ensure that the upgrade completes successfully, perform all steps in the order provided.

DEFINITY ECS Release 5 features and functions are listed in the *DEFINITY Enterprise Communications Server Release 5 Feature Description*. *DEFINITY Enterprise Communications Server Release 5 Implementation*, provides the commands, procedures, and forms required to initialize and administer the DEFINITY ECS Release 5.

Task Tables

Table 7-1, Table 7-2 and Table 7-3 provide the high-level tasks to perform the upgrades detailed in this chapter. Refer to the appropriate page for detailed instructions for each step.

Table 7-1. Tasks to Upgrade from G2 Universal Module to Release 5si+m — Standard Reliability

✓	Task Description	Page
	Contact Network Technicians	5
	Save Translations	13
	Make Source Tape for TRACS Report	13
	Upgrade Cabinets	15
	Follow Routine Preventive Maintenance	17
	Verify System Status	17
	Label Cables	17
	Power Down G2 System	18
	Install Power-Failure Transfer Ground Strap	18
	Remove Doors and Panels and Disconnect Cables	18
	Remove Circuit Packs from Module Control Carrier A	18
	Remove CURL from Module Control Carrier A	19
	Remove Module Control Carrier A	19
	Prepare New Expansion Control Carrier A	23
	Install New Expansion Control Carrier A	24
	Install Circuit Packs	29
	Interconnect Port Networks — Standard-Reliability System	30
	Verify Usable Circuit-Pack Vintages	40
	Remove Power-Failure Ground Strap	40
	Boot the DEFINITY ECS Release 5 System	40
	Close Upgraded EPN Cabinet and Reconnect Cables	42
	Power Up the EPN Cabinets	42
	Retranslate Port Circuits	42
	Run Acceptance Tests	43
	Resolve Alarms	43
	Register System as DEFINITY ECS Release 5	43
	Return Replaced G2 Equipment	43

Table 7-2. Tasks to Upgrade from G2 Universal Module to Release 5si+m — High Reliability

✓	Task Description	Page
	Upgrade Cabinets	44
	Follow Routine Preventive Maintenance	46
	Verify System Status	46
	Label Cables	46
	Power Down G2 System	46
	Install Power-Failure Transfer Ground Strap	47
	Remove Doors and Panels and Disconnect Cables	47
	Remove Circuit Packs from Module Control Carrier A	47
	Remove CURL from Module Control Carrier A	48
	Remove Module Control Carrier A	48
	Prepare New Expansion Control Carrier A	52
	Install New Expansion Control Carrier A	53
	Install Circuit Packs	57
	Interconnect Port Networks — High-Reliability System	58
	Verify Usable Circuit-Pack Vintages	68
	Remove Power-Failure Ground Strap	68
	Boot the DEFINITY ECS Release 5 System	68
	Close Upgraded EPN Cabinet and Reconnect Cables	69
	Power Up the EPN Cabinets	69
	Retranslate Port Circuits	70
	Run Acceptance Tests	70
	Resolve Alarms	70
	Register System as DEFINITY ECS Release 5	70
	Return Replaced G2 Equipment	71

Table 7-3. Tasks to Upgrade from G2 Universal Module to Release 5si+m — Critical Reliability

✓	Task Description	Page
	Upgrade Cabinets	71
	Follow Routine Preventive Maintenance	73
	Verify System Status	73
	Label Cables	74
	Power Down G2 System	74
	Install Power-Failure Transfer Ground Strap	74
	Remove Doors and Panels and Disconnect Cables	74
	Remove Circuit Packs from Module Control Carriers A and B	74
	Remove CURL from Module Control Carrier A	75
	Remove Module Control Carriers A and B	74
	Prepare the New A and B Position Carriers	80
	Install the New A and B Position Carriers	81
	Test the CURL	87
	Install Circuit Packs	88
	Interconnect Port Networks — Critical-Reliability System	89
	Verify Usable Circuit-Pack Vintages	102
	Remove Power-Failure Ground Strap	102
	Boot the DEFINITY ECS Release 5 System	102
	Close Upgraded EPN Cabinet and Reconnect Cables	103
	Power Up the EPN Cabinets	103
	Retranslate Port Circuits	104
	Run Acceptance Tests	104
	Resolve Alarms	104
	Register System as DEFINITY ECS Release 5	104
	Return Replaced G2 Equipment	105

Considerations

Service Interruption

The upgrade process requires a service interruption. This service interruption must be closely coordinated with the customer and the local account team.

Communication between Equipment Rooms

For an upgrade where some of the equipment resides at a remote location, the upgrade activity will be much easier if temporary communications are established between the equipment rooms.

Contact Network Technicians

The technician for each public and private network accessed by the system must be contacted before the upgrade begins. Otherwise, if these technicians are not aware of the service interruption caused by the upgrade, it is possible that network-access trunk facilities will be busied out at the far end.

Relocation of Port Circuit Packs

A G2 universal-module upgrade to DEFINITY ECS Release 5 *does not* cause port circuit packs, from the G2 universal module, to be moved and manually retranslated. This is because a G2 universal module is always upgraded to an EPN. So, during the universal-module upgrade to a DEFINITY ECS Release 5 EPN, a DEFINITY ECS Release 5 expansion control carrier (with 18 available port slots) always replaces the G2 module-control carrier (with no port slots), providing a net gain of 18 port slots.

Usable Circuit Packs

Every circuit pack used in the upgraded DEFINITY ECS Release 5 system must conform to the minimum usable vintage requirements for DEFINITY ECS Release 5. Those circuit packs shipped in the new DEFINITY ECS Release 5 PPN or shipped loose with the new EPN equipment should always meet the usable vintage specifications. In addition, at a presale site inspection, the Quality Protection Plan Change Notice (QPPCN) process must check the vintages of every G2 circuit pack (including any CFY1 current limiters) that will be reused in the upgraded DEFINITY ECS Release 5 and, if necessary, replace those circuit packs that have unusable vintages. Refer to *Technical Monthly*, "Reference Guide for Circuit-Pack Vintages and Change Notices," for current information about usable vintages in a DEFINITY ECS Release 5 system.

In most configurations, the two- or three-board combination of a tone generator pack, tone detector pack, and/or call classifier pack can be replaced with the TN2182 circuit pack, freeing up one or two port slots.

Since DEFINITY ECS Release 5 supports international call-processing applications, a wide variety of non-US circuit packs can also be used in this system. For a listing of these circuit packs, refer to Chapter 13, "Circuit Packs and Equipment".

Site Inspections

For the purposes of a DEFINITY ECS Release 5 upgrade, most G2 systems are already equipped with the correct TDM/LAN cables (WP-91716 L6 and L7) and with the correct lightwave transceivers (9823-A or -B). However, some G2 systems contain earlier versions of these components, and (based on a site inspection) these older components must be replaced.

The two earlier versions of the TDM/LAN cable included the WP-91112 (L1 and L2) and the WP-91716 (L1 and L2). Both of these versions, had white labels. In contrast, the correct cables (WP-91716 L6 and L7) have blue labels. If a QPPCN site inspection reveals that the older cables reside in the system, the older cables are replaced under the QPPCN process.

See NOTE. The earlier versions of lightwave transceivers included the 4-series transceivers (4A through 4F). These transceivers supported fiber connections up to 7,000 feet apart; whereas the 9823-A supports connections up to 5,000 feet, and the 9823-B supports connections up to 25,000 feet. If the site inspection reveals that the older transceivers reside in the system, the correct transceivers are ordered and shipped according to a separate PEC.

NOTE:

The 9823-A transceiver is *not* a direct replacement for the 4-series transceiver (since a pair of 9823-A transceivers *cannot* replace a pair of 4-series transceivers supporting a connection of between 5,000 and 7,000 feet).

Power and Grounding

The new multicarrier PPN cabinet or any EPN cabinet added for the upgrade can be either AC- or DC-powered. If an added cabinet is powered differently from the existing cabinets, the existing cabinets do not have to be converted since mixed power configurations are allowed. However, the system's power and grounding must be modified so that the AC-powered cabinets are grounded to the same single-point ground bar as the DC-powered cabinets (see Figure 7-1).

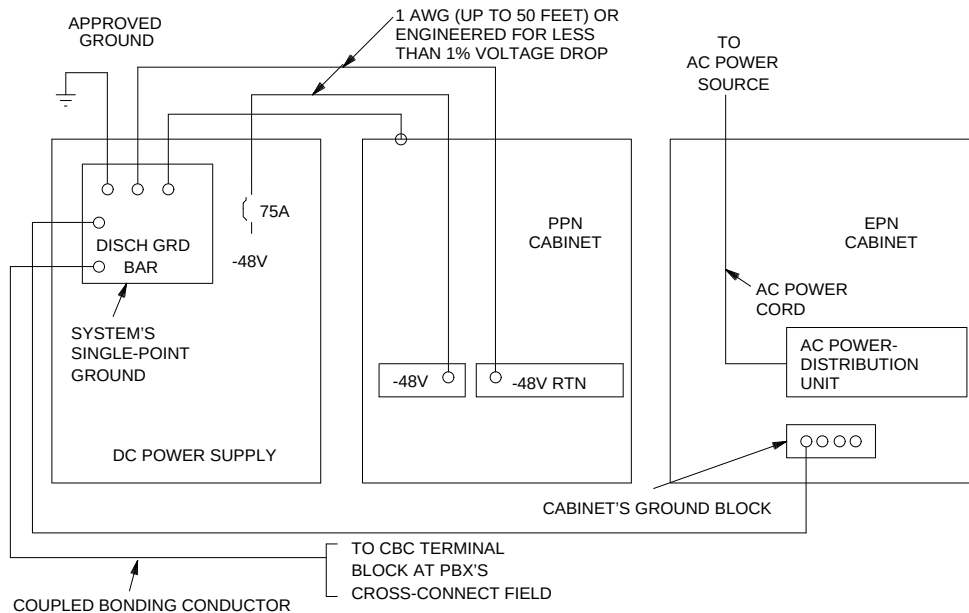


Figure 7-1. Typical Power and Grounding Arrangement for a Mixed AC/DC-Powered Multicabinet Configuration

See NOTE. If a new AC-powered cabinet is to be added, a separate AC receptacle is provided to support the new cabinet. This AC receptacle must not be shared with any other equipment and must not be controlled by a wall switch. For the convenience and safety of equipment-room personnel, the receptacle should not be located under the cross-connect field.

NOTE:

In contrast to the AC power that is likely to be currently available in a G2 equipment room, the new AC-powered PPN added for a DEFINITY ECS Release 5 upgrade uses 3-wire, 50A, 115 VAC power. Whereas, G2 traditional cabinets used 4-wire, 20A, 208 VAC power and G2 universal cabinets used 3-wire, 30A, 208 VAC power.

If a new DC-powered cabinet is to be added, refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for DC power and grounding requirements.

116A Isolator

Each G3-MT connected to a DC-powered cabinet, via the asynchronous Electronic Industries Association (EIA) RS-232 interface (behind a PPN control carrier or behind an EPN expansion control carrier), requires a 116A isolator. The isolator is inserted at the RS-232 interface between the G3-MT and the interface connector to isolate grounding between the system and external adjuncts.

Power-Failure Stations

During routine system operation, the ground for the power-failure stations is derived from the system's auxiliary cable. This ground will be disconnected during the upgrade, thus disabling the power-failure stations. Therefore, a ground strap will have to be run to the power-failure transfer panel. This strap should be connected shortly after power is removed and then disconnected just before power is restored to the upgraded system.

To minimize downtime during the DEFINITY ECS Release 5 upgrade, power-failure transfer equipment should be tested and, if need be, repaired before the hardware upgrade begins.

Software

The DEFINITY ECS Release 5 translations will be saved on a memory card installed in the new TN777B Netcon circuit pack. The format of this translation memory card is not compatible with the format of the G2 disk/tape system (DTS).

If the customer plans to emulate existing G2 translations in the upgraded DEFINITY ECS Release 5, then these translations must be copied to a spare tape and sent to Software Technical Support (STS) so that reports of the current G2 translations and a G3-MA diskette with basic station translations can be generated. After STS receives the spare tape, this process takes one week. STS must return the G2 reports and the diskette to the Project Manager before the upgrade can begin. For each G2 processor, two tapes (one system tape and one backup tape) must always be retained on site with the G2 system.

After the reports arrive, many features will require special attention because of feature differences, form changes, and potential naming conflicts in the upgrade process.

During the upgrade, the Software Specialist should implement DEFINITY ECS Release 5 translations that are appropriate for the customer's needs. For information to make the required changes, refer to:

- *DEFINITY Communications System Generic 3r Transition Reference*, 555-230-620
- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*, 555-230-498
- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*, 555-230-636
- *DEFINITY Communications System Generic 3 Feature Description*, 555-230-204
- *DEFINITY Communications System Generic 2 Feature Description*, 555-105-301
- *DEFINITY Enterprise Communications Server Release 5 Implementation*, 555-230-653

Alarm Connection

See NOTE. The D6 connector on G2 systems had 31 alarm-monitor appearances (Unit 1 to Unit 31) for external equipment. Whereas, the AUXILIARY connector on a DEFINITY ECS R5si+m PPN only has appearances for 1M (major alarm) and 1m (minor alarm). If the G2 system being upgraded used more than one major or more than one minor alarm-monitor appearance, these extra appearances, they can either be distributed to the AUXILIARY connector on a DEFINITY ECS Release 5 EPN, or "ganged" so that several external devices share the same appearance. The alarms can also be accommodated by paralleling them to the above connections.

NOTE:

When several external devices are ganged to the same appearance, each device loses its individual identity. An alarm on a shared appearance only denotes that one of several devices reported a problem. Subsequent maintenance effort is needed to determine which device reported the problem and the nature of the problem.

The control circuit pack behind the AUXILIARY connector detects external alarms with a ground-detector chip. Therefore, to gang several external devices, every device must be able to return a true relay ground closure to the AUXILIARY connector. Alternatives, such as a TTL low driver, are inadequate.

The following tables correlate wall-field terminal numbers, connector pin numbers, lead colors, and lead designations for the G2 D6 and DEFINITY ECS Release 5 AUXILIARY connectors.

Table 7-4. Pinouts for D6 Connector on G2 System

Terminal #	Pin #	Color	Desig.	Terminal #	Pin #	Color	Desig.
1	26	W-BL	UNIT20	2	01	BL-W	UNIT19
3	27	W-O	UNIT22	4	02	O-W	UNIT21
5	28	W-G	UNIT24	6	03	G-W	UNIT23
7	29	W-BR		8	04	BR-W	UNIT25
9	30	W-S	UNIT27	10	05	S-W	UNIT26
11	31	R-BL	UNIT29	12	06	BL-R	UNIT28
13	32	R-O	UNIT31	14	07	O-R	UNIT30
15	33	R-G	AUXCTMP	16	08	G-R	UNIT32
17	34	R-BR	EXTEQMN	18	09	BR-R	EXTEQMJ
19	35	R-S	AUXCRCT	20	10	S-R	AUXCHO
21	36	BK-BL	AUXCCB	22	11	BL-BK	AUXCFRQ
23	37	BK-O	AUXCFAN	24	12	O-BK	
25	38	BK-G	EXTPRMJ	26	13	G-BK	EXTPRMN
27	39	BK-BR	UNIT2	28	14	BR-BK	UNIT1
29	40	BK-S	UNIT4	30	15	S-BK	UNIT3
31	41	Y-BL	UNIT6	32	16	BL-Y	UNIT5
33	42	Y-O	UNIT8	34	17	O-Y	UNIT7
35	43	Y-G	UNIT10	36	18	G-Y	UNIT9
37	44	Y-BR		38	19	BR-Y	UNIT11
39	45	Y-S	UNIT13	40	20	S-Y	UNIT12
41	46	V-BL	UNIT15	42	21	BL-V	UNIT14
43	47	V-O	UNIT17	44	22	O-V	UNIT16
45	48	V-G		46	23	G-V	UNIT18
47	49	V-BR	RING0	48	24	BR-V	TIP0
49	50	V-S	RING1	50	25	S-V	TIP1

Table 7-5. Pinouts for Auxiliary Connector on DEFINITY ECS Release 5 System

Terminal #	Pin #	Color	Desig.	Terminal #	Pin #	Color	Desig.
1	26	W-BL	AUXMJ	2	01	BL-W	GRD
3	27	W-O	AUXMN	4	02	O-W	GRD
5	28	W-G		6	03	G-W	GRD
7	29	W-BR		8	04	BR-W	GRD
9	30	W-S		10	05	S-W	GRD
11	31	R-BL		12	06	BL-R	GRD
13	32	R-O		14	07	O-R	GRD
15	33	R-G		16	08	G-R	
17	34	R-BR		18	09	BR-R	
19	35	R-S		20	10	S-R	
21	36	BK-BL	XFER48	22	11	BL-BK	GRD
23	37	BK-O	XFER48	24	12	O-BK	GRD
25	38	BK-G	XFER48	26	13	G-BK	GRD
27	39	BK-BR	XFER48	28	14	BR-BK	GRD
29	40	BK-S	XFER48	30	15	S-BK	GRD
31	41	Y-BL	XFER48	32	16	BL-Y	GRD
33	42	Y-O	XFER48	34	17	O-Y	GRD
35	43	Y-G		36	18	G-Y	
37	44	Y-BR	GRD	38	19	BR-Y	ACC48A
39	45	Y-S	GRD	40	20	S-Y	ACC48B
41	46	V-BL	GRD	42	21	BL-V	ACC48C
43	47	V-O		44	22	O-V	
45	48	V-G	EXT_ALM	46	23	G-V	EXT_ALM_RT
47	49	V-BR		48	24	BR-V	
49	50	V-S	INADS TIP	50	25	S-V	INADS RING

Port-Network Configurations

Every DEFINITY ECS Release 5 port-network configuration contains one PPN which, for this DEFINITY ECS Release 5 upgrade, is always a new multicarrier cabinet. Larger configurations can contain either one or two EPNs. Figure 7-2 shows the three main port-network configurations including:

- Basic system, containing only a PPN
- Directly connected systems, containing:
 - Two port networks (PPN and EPN) connected directly together
 - Three port networks (PPN and two EPNs) connected directly together

The following sections describe various upgrades to a DEFINITY ECS Release 5 with either two or three port networks.

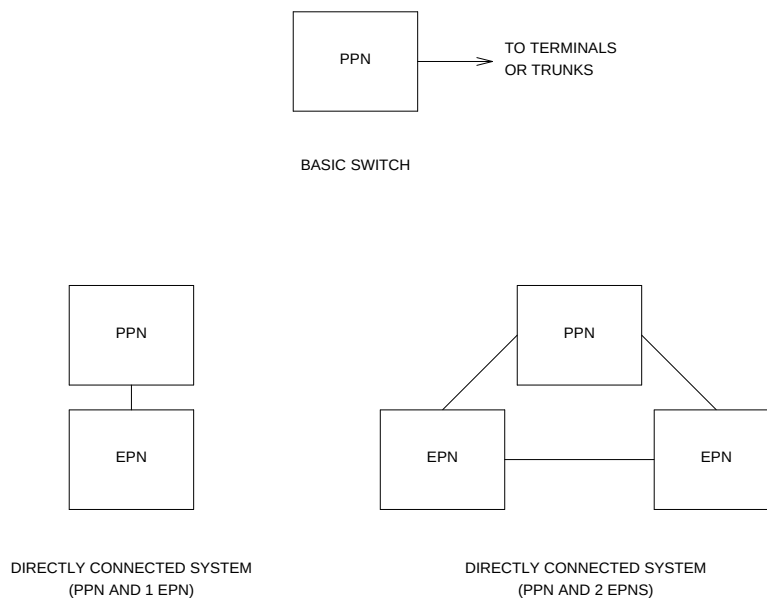


Figure 7-2. DEFINITY ECS Release 5 Port-Network Configurations

Software-Translation Upgrade

The DEFINITY ECS Release 5 translations will be saved on a memory card installed in the new TN777B Netcon circuit pack. The format of this translation memory card is not compatible with the format of the G2 disk/tape system (DTS).

During an upgrade from a G2 to a DEFINITY ECS Release 5, STS generates TRACS reports (that show the current software translations) and G3-MA diskettes

(with basic station translations) in the G2 system and sends the reports to the Project Manager. To enable these activities, replace the system tape with a spare G2 tape. (Spare G2 tape cartridges can be acquired from the QPPCN before the upgrade.) Then, copy the current G2 translations to the spare tape, and overnight mail to STS. Also, put the original system tape back into the system.

If possible, the customer should put a freeze on any new translations while the spare tape is being converted. If not, be sure that the customer's switch administrator keeps detailed records of any translation changes made during that interval. These records will supplement the TRACS reports to facilitate the transition from G2 to DEFINITY ECS Release 5 software translations.

The TRACS reports with the current G2 translations must be on-site before the upgrade begins.

Save Translations

1. Log in at the Manager II on the G2.
2. Enter **rtx** (run tape, execute). Press RETURN. This command instructs the system to write all translation information from memory to the tape.
3. Remove the system tape, install the backup tape, and wait for the tape to retention.
4. Enter **rtx** (run tape, execute). Press RETURN.

Make Source Tape for TRACS Report

A spare G2 tape must be acquired from the QPPCN before performing the following steps. For each processor, there must always be two tapes on site with the G2 system. Do not send a system or backup tape to STS.

After performing the previous procedures, copy the G2 translations to the spare tape used to make the TRACS report. Perform the following procedures:

1. Remove the backup tape, install the spare tape, and wait for the tape to retention.
2. Enter **rtx** (run tape, execute). Press RETURN. This command instructs the system to write all translation information from memory to the tape.
3. Remove the source tape.
4. Insert the system tape.

The tape removed in Step 3 should be mailed (with next-day delivery) to STS for use in making the G2 TRACS report.

System Upgrades

There are many configurations of DEFINITY G2 in the field. In terms of both hardware and software, each system can have a unique configuration. However, to simplify DEFINITY ECS Release 5 upgrades:

- The existing common control is always replaced by a multicarrier PPN
- Existing traditional modules are replaced by EPNs ¹
- Existing universal modules are upgraded to EPNs

A new multicarrier cabinet would then always serve as the PPN.

If a G2 universal module is upgraded to a DEFINITY ECS Release 5 EPN, hardware changes (including carrier replacement) are required.

This section gives a sequential list of the steps required to upgrade the system.

1. There is not necessarily a one-to-one correspondence between DEFINITY ECS Release 5 EPNs and G2 modules. With careful hardware and traffic engineering, an upgraded DEFINITY ECS Release 5 can have fewer EPNs than the G2 had modules.

Standard-Reliability G2 to Standard-Reliability DEFINITY ECS Release 5

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, to install the new PPN cabinet.

If traditional modules are being replaced by EPNs, refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, to install the new EPNs.

Upgrade Cabinets

An existing universal-module cabinet is always upgraded to an EPN. Upgrade the cabinets using the following procedures.

A standard-reliability G2 universal module is upgraded to a standard-reliability DEFINITY ECS Release 5 EPN by:

- Removing the module control carrier in position "A"
- Installing the J58890AF expansion control carrier in position "A"
- Adding the DEFINITY ECS Release 5 circuit packs
- Restructuring the port circuits as required

Prerequisite Hardware

The equipment in Table 7-4 *must* be on-site before the upgrade begins. Ensure that the translation memory card is current and, if necessary, contains enough memory for recorded announcements.

To place a claim for missing equipment, as part of the Streamlined Implementation process, call 1-800-772-5409, or the number provided by your Lucent Technologies representative.

Table 7-6. Required Hardware

Equipment	Description	Quantity
PEC 6300-05X	Processor Port Network	1
J58890AF-1	Expansion Control Carrier	1
106647985	TN775B Maintenance	1
103557294 or 103281788	TN776 Expansion Interface TN570 Expansion Interface	2 or 6 ¹ 2 or 6 ^{1,2}
406809889	J58890TG L10 4-MByte Translation Memory Card	1 ³
63300A	FL2P-P-XX Fiber Cable	1 or 3 ⁴
106455348 or 106455363	9823-A Lightwave Transceiver 9823-B Lightwave Transceiver	2 or 6 ⁵ 2 or 6 ⁵

1. Depending on the number of DEFINITY ECS Release 5 EPNs. Two are required for a standard-reliability system with two port networks; six with three port networks. Either one or four Expansion Interfaces (EIs) are shipped loose with the EPN equipment. The factory has installed either one or two EIs in the new PPN.
2. Required port-network interfaces in a DEFINITY ECS Release 5 system with the optional packet bus.
3. A 4-Mbyte translation memory card is required for a system that uses recorded announcements.
4. Depending on the number of DEFINITY ECS Release 5 EPNs. Two or six are required if the PPN and EPN(s) are remotely located. Assuming acceptable lengths, the fiber that previously connected an upgraded G2 universal module (not a traditional module) to the G2 TMS has the correct transceiver connectors and, therefore, can be reused.
5. One pair for each fiber connection. For each connection, either one 9823-type lightwave transceiver is installed in an EPN and one in the PPN. A 9823-type transceiver can be reused from each upgraded G2 universal module. Additional 9823-type transceivers, ordered separately, are also shipped loose with the EPN equipment.

Required Tools

The following tools and items may be required during the upgrade:

- High-intensity flashlight or AC drop light
- 3/8-inch flat-blade screwdriver with a 10-inch shank (minimum)
- 5/16-inch and 1/4-inch sockets with a ratchet and 10-inch extension
- Power screwdriver (optional)

- Long-nose pliers to disconnect grounding straps and straighten backplane pins
- Static-proof or original circuit-pack packaging for transporting circuit packs
- Labels for identifying the port circuit packs and cables attached to the rear of cabinets
- Receptacle for holding approximately 100 self-tapping screws
- 12 spare #12 and #10 self-tapping screws
- 4 spare carrier grounding straps
- Authorized wrist grounding strap
- Repair kit for backplane pins (KS-22876 L2 or equivalent)
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5vs/si or DEFINITY Enterprise Communications Server Release 5r*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

Follow Routine Preventive Maintenance

During the DEFINITY ECS Release 5 upgrade, follow routine preventive maintenance procedures on the system to be upgraded. For information about the procedures and necessary equipment, refer to the "Preventive Maintenance" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r*.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Label Cables

To make reconnecting the cables simpler and more reliable, label both ends of the connector cables associated with the carrier to be removed (if not already labeled).

Power Down G2 System

1. At the common control's power-distribution unit, set the main circuit breaker to OFF.
2. At the universal module's power-distribution unit, set the main circuit breaker to OFF.

Install Power-Failure Transfer Ground Strap



CAUTION:

To avoid contaminating single-point ground, do not connect the ground strap while the system is powered up.

1. Connect a strap's lead either to pin 49 of the connecting block or to pin 49 of the CAP (cable access panel) associated with the power-failure transfer panel.
2. Route the other lead to an approved ground source.
3. Connect the lead to the approved ground source.

Remove Doors and Panels and Disconnect Cables

1. Remove the front door from the cabinet (if desired).
2. With the cable retainer in front of you and the part number visible (4B or 4C), locate the slot that is almost vertical. (This slot is adjacent to the part number.) Insert a flat-blade screwdriver with a wide blade (1/4-inch recommended) into the slot, and twist the screwdriver. The retainer will snap open easily so that the cable can be removed.
3. At the cabinet, disconnect previously labeled cables associated with the carrier to be removed.
4. Behind a "DEFINITY style" cabinet, remove the back doors from the cabinet.
5. Behind a previously upgraded cabinet, remove all of the back panels. (Two different types of screws hold the back panels to the cabinet. The #10 screws can be removed with a screwdriver or a 1/4-inch socket. The #12 screws can be removed with a screwdriver or a 5/16-inch socket.)

Remove Circuit Packs from Module Control Carrier A

1. To ensure that power units in the "A" carrier are properly replaced, label each power unit with its slot number.
2. Disconnect the power cords from the power units in the "A" carrier.

3. See WARNING. Remove all circuit packs and power units from carrier "A." Store the circuit packs in the static-proof packaging.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

4. Remove the circuit-pack blanks from slots that do not contain circuit packs.
5. Remove the front trim plate from the "A" carrier by pulling straight off.

Remove CURL from Module Control Carrier A

See NOTES. Remove the CFY1 current limiter (CURL) from the pin-field block marked "CURL" on the "A" carrier. The CURL is reused in the DEFINITY ECS Release 5 EPN.



NOTE:

Note the position of the components on the left side of the CURL.



NOTE:

Verify the CURL meets the minimum usable vintage requirements.

Remove Module Control Carrier A

1. See CAUTION and NOTE. Disconnect one end of the TDM/LAN cable (between the "A" and "C" carriers) from the "A" carrier (see Figure 7-3).
2. See CAUTION and NOTE. Disconnect one end of the TDM/LAN cable (between the "A" and "D" carriers) from the "A" carrier (see Figure 7-3).



CAUTION:

When removing the TDM/LAN cables from a previously upgraded carrier, be careful that none of the short pieces of shrink tubing come off the four corner pins of the pin-field block. Otherwise, when the new equipment is connected, -48 volts could short to ground.



NOTE:

Note the position of the cable before disconnecting the TDM/LAN cables.

3. Disconnect one end of the eight ground straps (between the "A" and "C" carriers) from the "A" carrier (see Figure 7-4). These straps will be reconnected to the new "A" carrier.

4. Disconnect one end of the eight ground straps (between the "A" and "D" carriers) from the "A" carrier (see Figure 7-4). These straps will be reconnected to the new "A" carrier.
5. Disconnect the "P1" (small 9-pin) connector and the "P2" (large 38-pin) connector from the "A" carrier (see Figure 7-5). Move the cables into a position where they will not interfere with removing the carrier.
6. Remove the fan trim plate by pulling straight off.
7. Clean or replace the air filter (403326820) if necessary.
8. In front of carrier, remove the four screws (top two first) holding the "A" carrier to the cabinet frame. Use a long-handle screwdriver or 5/16-inch socket with a 10-inch extension.
9. Behind the carrier in a "DEFINITY style" cabinet, remove the two screws holding the "A" carrier's rear connector panel to the cabinet frame.
10. See CAUTION. Slide the carrier forward 1 to 2 inches; then, from the back, be sure that no cables or wiring harnesses are caught on the cabinet/carrier framework.



CAUTION:

Cables and wiring harnesses can be damaged if they catch on the framework and if too much pressure is applied in removing the carrier.

11. Remove the carrier by sliding it out the front of the cabinet.

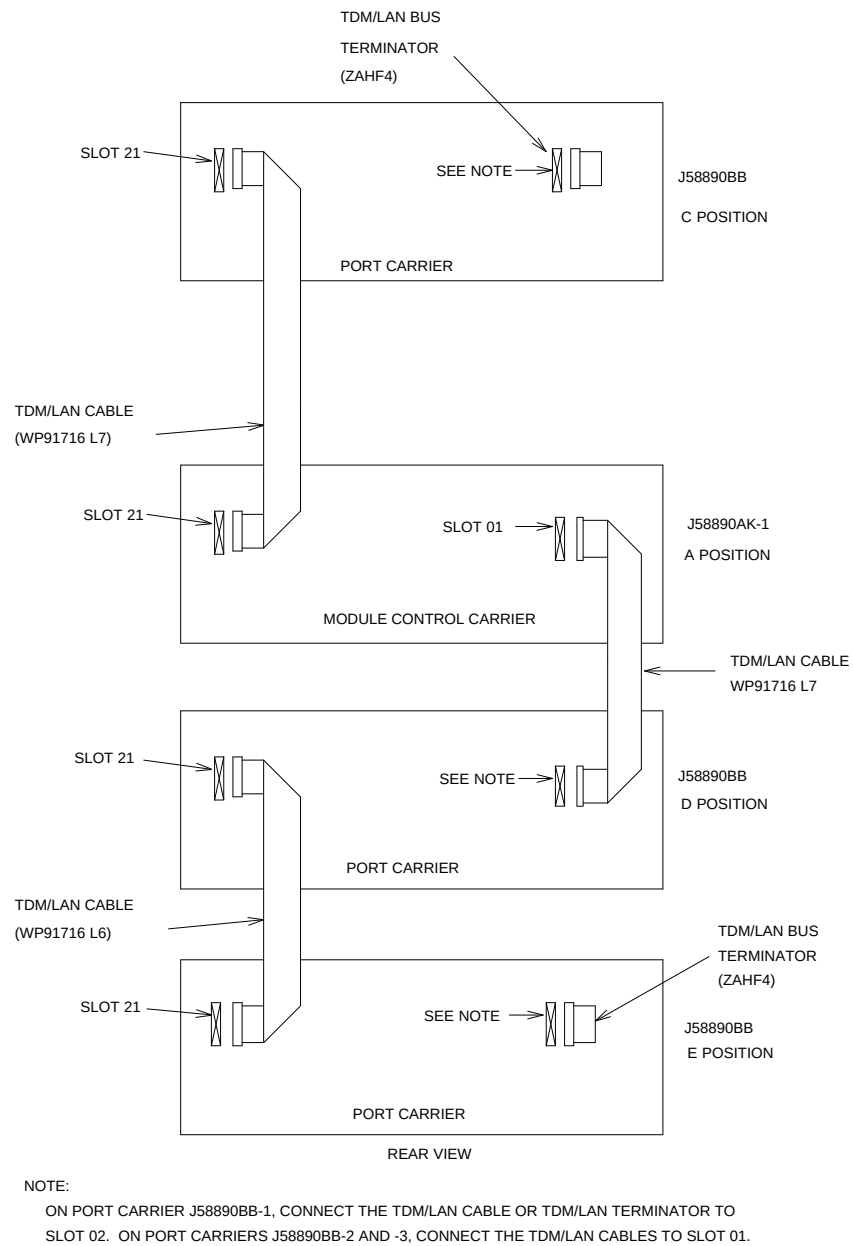


Figure 7-3. TDM/LAN Connections for Standard-Reliability G2 Universal Module

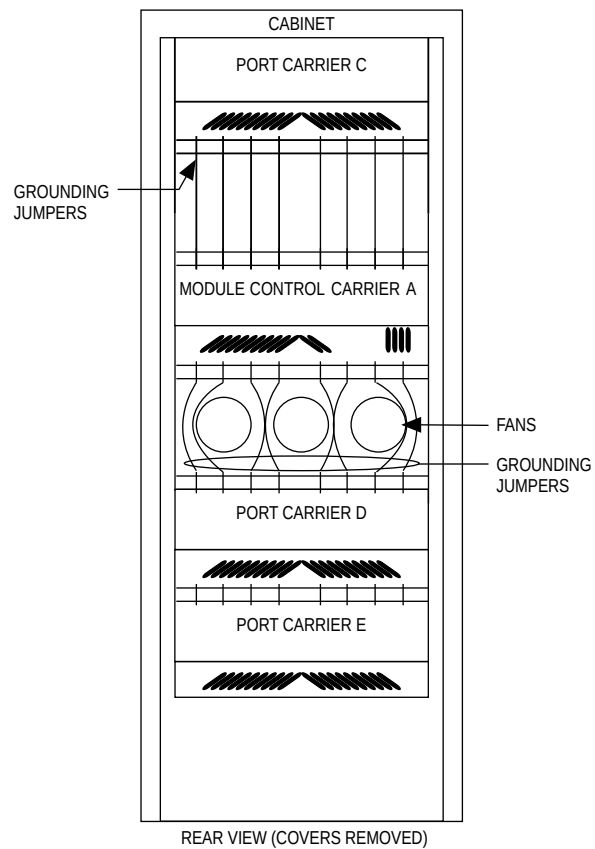


Figure 7-4. Locations of Grounding Jumpers

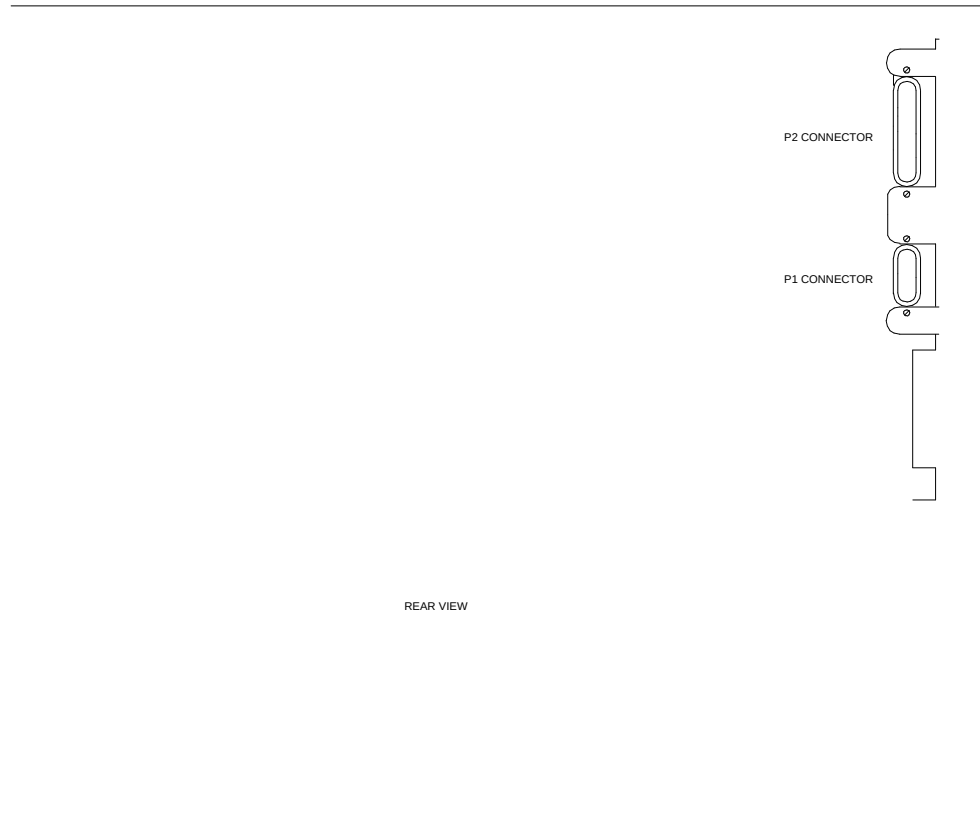


Figure 7-5. Location of P1 and P2 Connectors

Prepare New Expansion Control Carrier A

1. Visually inspect the new carrier for any damage. Verify that the backplane pins are not bent.
2. Place the expansion control carrier on the floor so that the rear of the carrier faces up.
3. Install the CFY1 current limiter (CURL) on the "A" carrier to the pin-field block marked "CURL." The CURL is inserted with the components on the left side as viewed from the rear.
4. At the rear connector panel, determine which connectors will have a cable attached, and install a 4B cable retainer on each of these connectors.

Install New Expansion Control Carrier A

1. Install the J58890AF expansion control carrier in position "A" by lining up the plastic alignment tips on the top rear of the carrier with the screw holes in the cabinet. These alignment tips will support the carrier while the screws are being replaced. Ensure that the power cords are properly placed in the slots at the sides of the carrier.
2. See CAUTION. Fasten the carrier into position with four self-tapping screws saved from the removal of the old carrier.



CAUTION:

Carefully realign the threads on the self-tapping screws by turning them clockwise a turn or two before tightening them to avoid stripping the threads out of the framework.

3. Behind the carrier in a "DEFINITY style" cabinet, replace the two screws saved from the removal of the old carrier.
4. Connect the "P2" and "P1" (large and small) connectors to the "A" carrier (see Figure 7-5). If necessary, to get enough slack in the cables, cut the tie wrap holding the intercabinet cables from the upright in the area being installed. Snap the connector lock into place to ensure the connection is properly made.
5. Connect the eight ground straps from the "C" carrier to the new "A" carrier (see Figure 7-4). These straps were left connected to the "C" carrier when the old "A" carrier was removed.
6. Connect the eight ground straps from the "D" carrier to the new "A" carrier (see Figure 7-4). These straps were left connected to the "D" carrier when the old "A" carrier was removed.

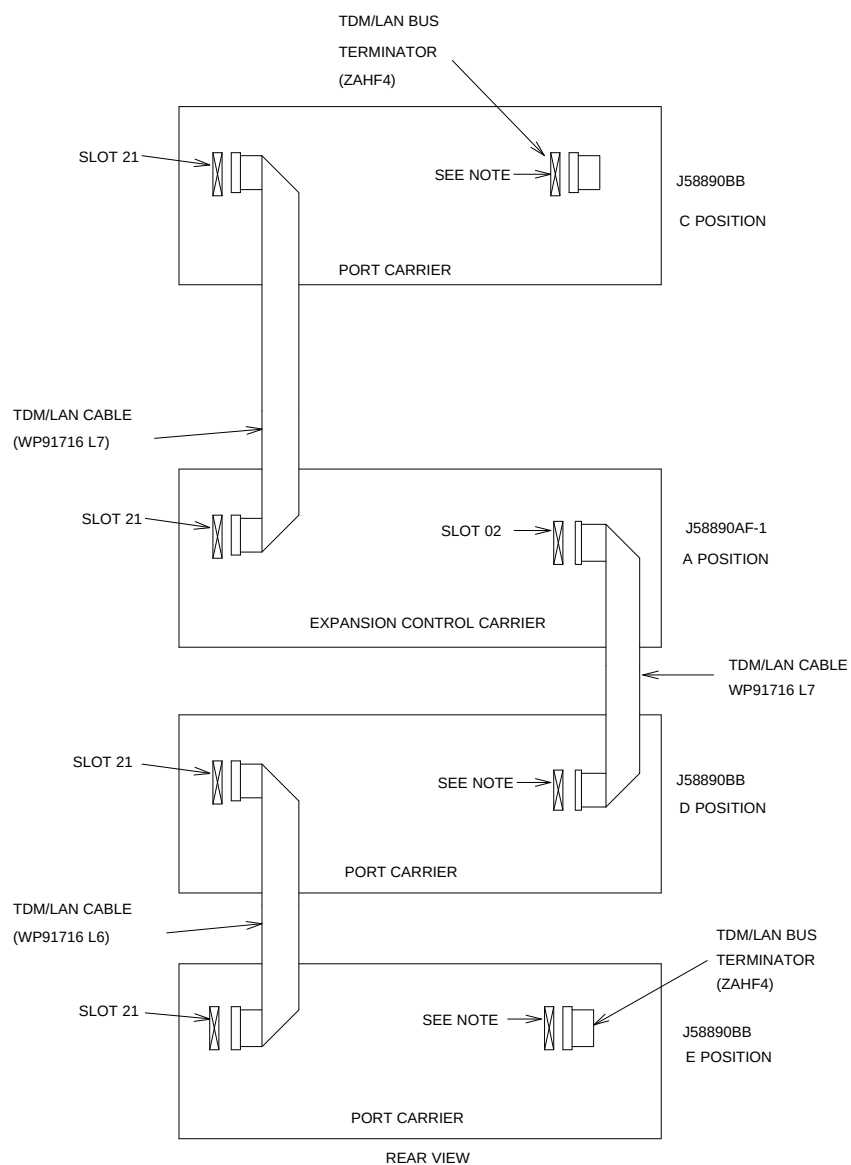
7. See NOTE. For an AC-powered expansion control carrier, install the two new carrier-ground straps. One strap connects ground point "1" to the A-carrier frame (on the right side), and the other connects ground point "8" to the A-carrier frame (on the left side).



NOTE:

DC-powered carriers do not use these carrier-ground straps.

8. Connect the loose end of the TDM/LAN cable (between the "A" and "D" carriers) to the pin-field block marked "TDM" on the right side of the "A" carrier (see Figure 7-6 and Table 7-8). The other end remained connected to the "D" carrier when the old carrier was removed.
9. Connect the loose end of the TDM/LAN cable (between the "A" and "C" carriers) to the pin-field block marked "TDM" on the left side of the "A" carrier (see Figure 7-6 and Table 7-8). The other end remained connected to the "C" carrier when the old carrier was removed.



NOTE:

ON PORT CARRIER J58890BB-1, CONNECT THE TDM/LAN CABLE OR TDM/LAN TERMINATOR TO SLOT 02. ON PORT CARRIERS J58890BB-2 AND -3, CONNECT THE TDM/LAN CABLES TO SLOT 01.

Figure 7-6. TDM/LAN Connections for Standard-Reliability DEFINITY ECS Release 5 EPN

Table 7-7. TDM/LAN Connections

"J" Number	Carrier Type	LHS Slot	RHS Slot
J58890BB-1	Port	21	02
J58890BB-2	Port	21	01
J58890BB-3	Port	21	01
J58890AF	EPN Control "A"	21	02

10. Install the front trim plate on the "A" carrier. Install the fan trim plate.
11. Install the power units (removed from G2 universal module) into the "A" carrier. There are four different pairs of power units available. They are the 631AR1 and 631BR1, the 631WA1 and 631WB1, the 631DA1 and 631DB1, and the 644A and 645B.

Do not interchange the physical locations of the units. The 631AR1, 631WA1, 631DA1, or 644A are installed in the left side, while the 631BR1, 631WB1, 631DB1, or 645B are installed in the right side (see Figure 7-7).

12. If the expansion control carrier contains a 631BR1, 631WB1, or 645B power unit, install the previously removed TN736 power unit in port slots "18" and "19" of the carrier (adjacent to the 631BR1, 631WB1, or 645B). If the system is equipped for neon message waiting, a TN752 or TN755 power unit must be used.



NOTE:

The TN736 is not required when the 631DB1 or 645B power unit is used in the J58890AF-1 expansion control carrier or the J58890BB-2 or J58890BB-3 port carriers. It is required in the J58890BB-1 port carrier, regardless of which 631 power unit is provided. Use the TN752 or TN755 if the system is equipped with neon message waiting.

13. Connect the power cords to the power units. The power cords are the white cables equipped with plugs that are run through the slots in the front of each carrier (see Figure 7-8).

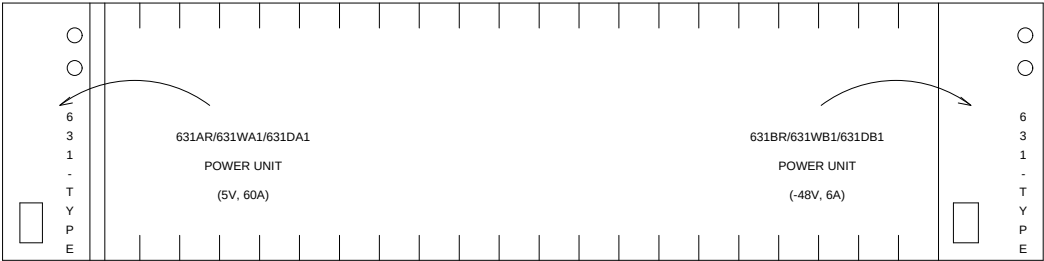


Figure 7-7. Locations of Power Units

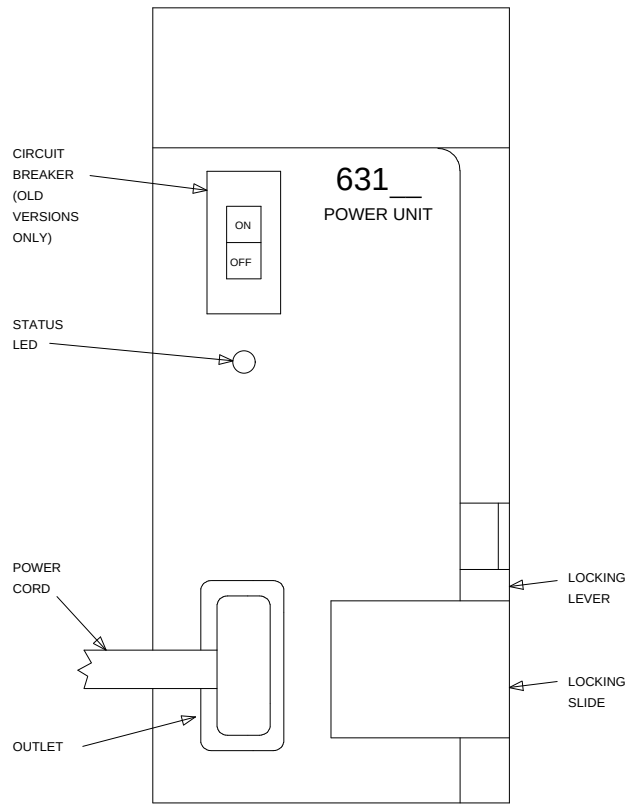


Figure 7-8. 631-Type Power Unit

Install Circuit Packs

1. See WARNING and NOTE. Install the new DEFINITY ECS Release 5 control circuit packs into carrier "A." See Figure 7-9. The new decal, and the annotated "list configuration all" (provided with the DEFINITY ECS Release 5 tape) as a guide.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.



NOTE:

Currently, the TN768 Tone-Clock circuit pack resides in a port slot of the universal module being upgraded. As part of this step, relocate this circuit pack to the "TONE CLOCK" slot of carrier "A." Lucent Technologies recommends that you upgrade to the TN2182 Tone-Clock.

2. Install circuit-pack blanks in slots not equipped with circuit packs.
3. For a directly connected standard-reliability DEFINITY ECS Release 5 system with two port networks, ensure that the PPN and this EPN are both equipped with a TN776 or TN570 expansion interface circuit pack.

For a directly connected system with three port networks, ensure that the PPN and each EPN have two TN776s or TN570s.

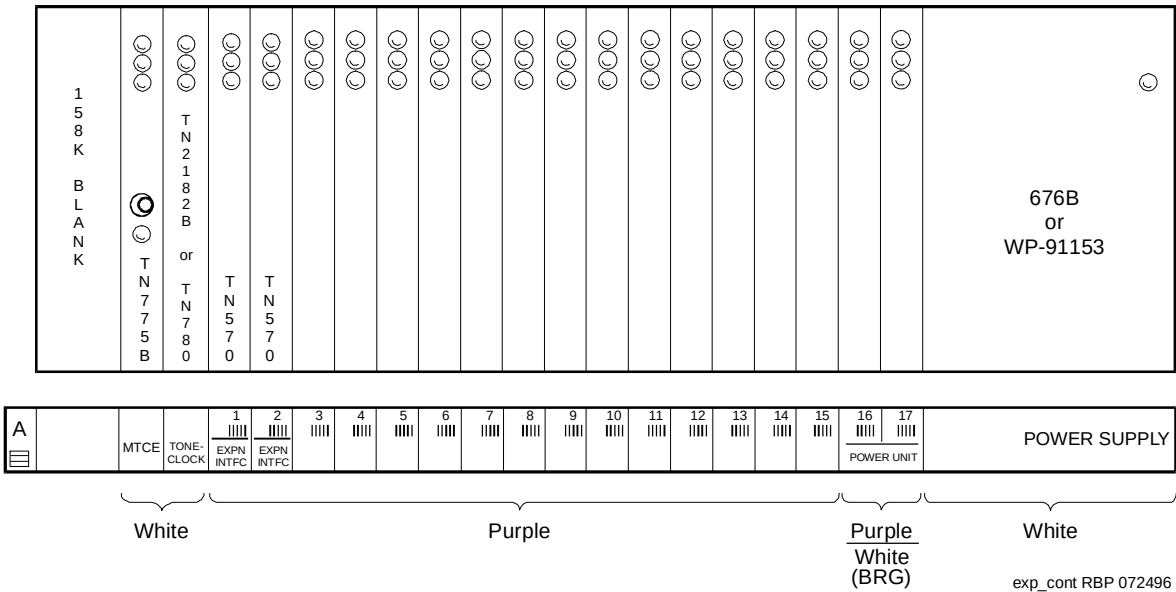


Figure 7-9. Circuit-Pack Locations in DEFINITY ECS Release 5 Expansion Control Carrier

**Interconnect Port Networks —
Standard-Reliability System**

See NOTES. Fiber-optic cabling terminated to 9823A lightwave transceivers can interconnect port networks (PNs) located up to 4,900 feet (about 9/10 mile) apart. Whereas, fiber-optic cabling terminated to 9823B lightwave transceivers can interconnect port networks located up to 25,000 feet (about 4.7 miles) apart.

- NOTE:**
As always, these distance limitations are approximate measurements of the *actual* fiber right-of-way (not of the shortest linear distance) between the two endpoints.
- NOTE:**
It is important to label every cable that you install. For details, refer to the section, *Labels for Fiber-Optic Cables*, in Appendix E of the installation manual.
- NOTE:**
Throughout these procedures, remember to keep track of which fiber is attached to which connector on each lightwave transceiver. This section provides figures offering the suggested way of making these connections.

The connectors on the lightwave transceivers are labeled either "TX" (transmit) or "RX" (receive), while the fibers attached to each connector are numbered either "1" or "2." A viable fiber connection is only made when both fibers in each cable (that is, "1" and "2") route from the "TX" connector of a port network to the "RX" connector of its adjacent port network. For an example, refer to Figure 7-11 on page 7-34.

⇒ NOTE:

For implementation details, refer to the 'Fiber Link Administration' sections of *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Collocated Port Networks

For a standard-reliability system with one collocated expansion port network, one fiber-optic cable (FL2P-P-XX) and two lightwave transceivers (9823-type) are required to directly connect the networks.

For a standard-reliability system with two collocated expansion port networks, three fiber-optic cables (FL2P-P-XX) and six lightwave transceivers (9823-type) are required to directly connect the networks.

⇒ NOTE:

For the FL2P-P-XX fiber-optic cable, the -XX suffix represents the length of the cable in feet. Based on floor-plan considerations, the length of these cables may vary. However, 20-foot cables are normally adequate for a DEFINITY ECS Release 5 with two port networks.

See NOTE. For collocated cabinets, the fiber-optic cables should be routed directly from the PPN to the EPN cabinet. If, for this upgrade, a "DEFINITY style" PPN cabinet is collocated with another "DEFINITY style" EPN cabinet, the preferred routing is to run the cables *up* the cable tray and out the top of the PPN cabinet. The cables are then run to the other cabinet, through the top of the cabinet, and down the cable tray to the desired carrier level.

⇒ NOTE:

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for additional guidelines about fiber routing.

If, for this upgrade, a "DEFINITY style" PPN cabinet is collocated with either a small cabinet, medium cabinet, or single-carrier cabinet stack, the preferred routing is to run the cables *down* the cable tray and out the bottom of the PPN cabinet. The cables are then run to the EPN cabinet and up the outside of the rear panels to the desired carrier level.

Fiber-Remoted Port Networks

For a standard-reliability system with one fiber-remoted expansion port network, two fiber-optic cables (FL2P-P-XX), two lightwave transceivers (9823-type), and two lightwave-interface units (provided by the PSC) are required.

For a standard-reliability system with two fiber-remoted expansion port networks, six fiber-optic cables (FL2P-P-XX), six lightwave transceivers (9823-type), and six lightwave-interface units (provided by the PSC) are required.

For fiber-remoted cabinets, the cables should be routed down the cable tray and out the bottom of the cabinet to the cross-connect field where the lightwave-interface units are located.

In either case, use cable ties to secure the cable against the walls of the cable tray at the cable-tie positions built into the trays.

For Either One or Two Collocated Expansion Port Networks

1. Behind control carrier A of PPN cabinet 1 (see Figure 7-10, Figure 7-11, Figure 7-12, and Figure 7-12):
 - Install a 9823-type lightwave transceiver on cable connector at slot 1A01.
 - Connect one end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 1A01.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control carrier A of EPN cabinet 2:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2A01.
 - Connect the other end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 2A01.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At the top of the cabinet, coil up the surplus length of fiber-optic cable, and delicately attach the coil to the wall of the cable tray.

For Two Collocated Expansion Port Networks

1. Behind control carrier A of PPN cabinet 1:
 - Install a 9823-type lightwave transceiver on cable connector at slot 1A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 1A02.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control carrier A of EPN cabinet 3:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A01.
 - Connect the other end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 3A01.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At the top of the cabinet, coil up the surplus length of fiber-optic cable, and delicately attach the coil to the wall of the cable tray.
3. Behind control carrier A of EPN cabinet 2:
 - Install a 9823-type lightwave transceiver on cable connector at slot 2A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 2A02.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
4. Behind control carrier A of EPN cabinet 3:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A02.
 - Connect the other end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 3A02.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At the top of the cabinet, coil up the surplus length of fiber-optic cable, and delicately attach the coil to the wall of the cable tray.

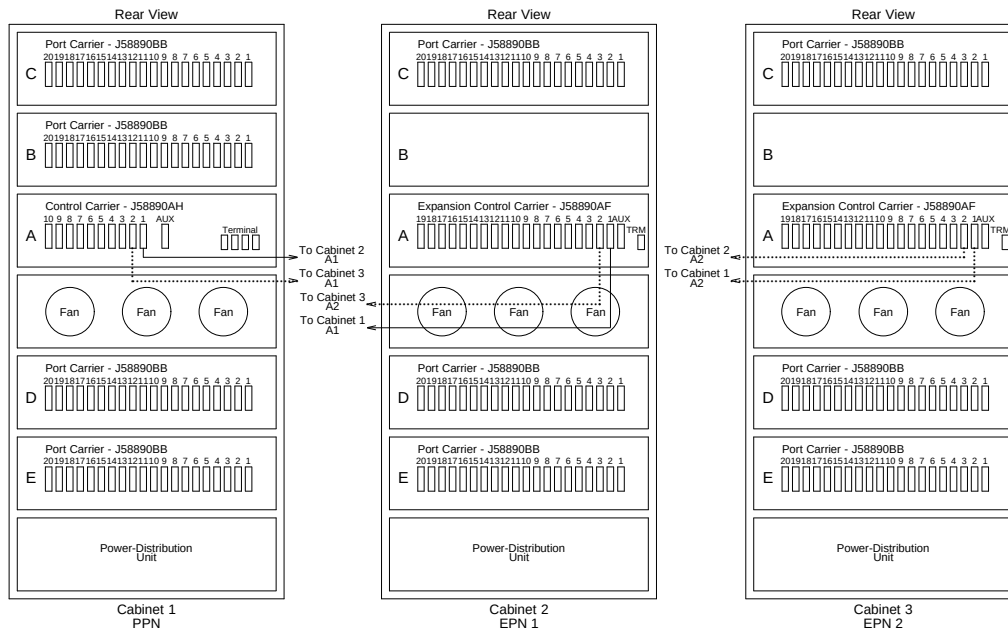


Figure 7-10. Standard-Reliability DEFINITY ECS Release 5 with Two or Three Port Networks

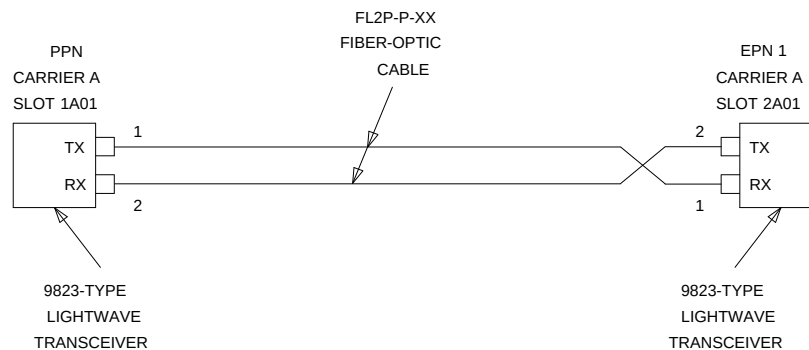


Figure 7-11. Fiber-Optic Connections PPN to EPN1

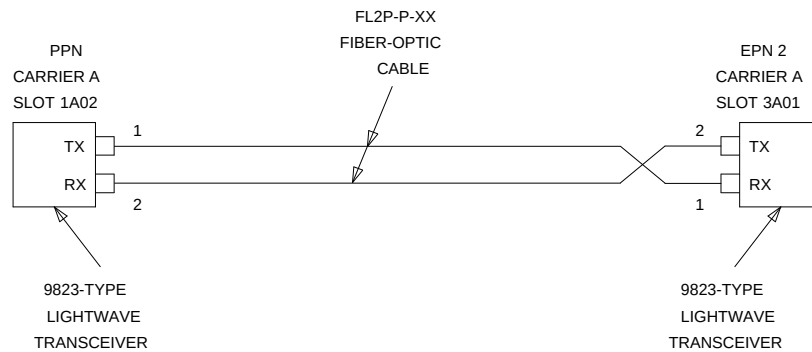


Figure 7-12. Collocated Fiber-Optic Connections PPN to EPN2

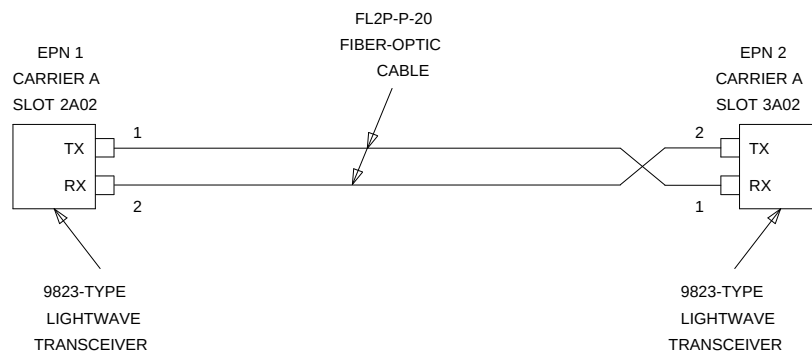


Figure 7-13. Collocated Fiber-Optic Connections EPN1 to EPN2

For Either One or Two Fiber-Remoted Expansion Port Networks

1. Behind control carrier A of PPN cabinet 1 (see Figure Figure 7-14, Figure 7-15, Figure 7-16, and Figure 7-17):
 - Install a 9823-type lightwave transceiver on cable connector at slot 1A01.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A01.
 - Route the fiber-optic cable from the transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control carrier A of EPN cabinet 2:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2A01.
 - Connect the fiber-optic cable to the lightwave transceiver slot 2A01.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

For Two Fiber-Remoted Expansion Port Networks

1. Behind control carrier A of PPN cabinet 1:

- Install a 9823-type lightwave transceiver on cable connector at slot 1A02.
- Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

2. Behind control carrier A of EPN cabinet 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A01.
- Connect the fiber-optic cable to the lightwave transceiver slot 3A01.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

3. Behind control carrier A of EPN cabinet 2:

- Install a 9823-type lightwave transceiver on cable connector at slot 2A02.
- Connect one end of the fiber-optic cable to the lightwave transceiver at slot 2A02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

4. Behind control carrier A of EPN cabinet 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A02.
- Connect the fiber-optic cable to the lightwave transceiver slot 3A02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

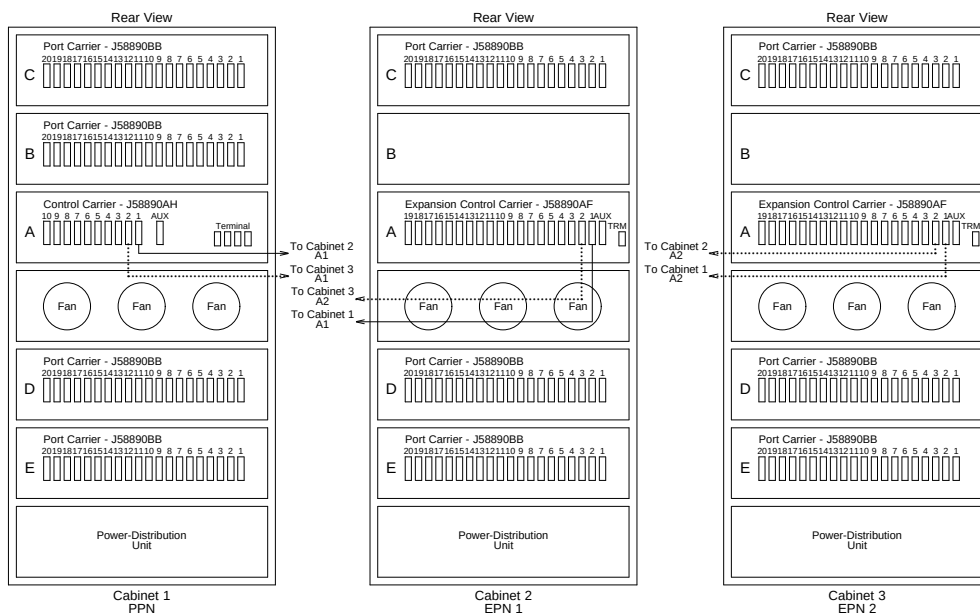


Figure 7-14. Standard-Reliability DEFINITY ECS Release 5 with Two or Three Port Networks

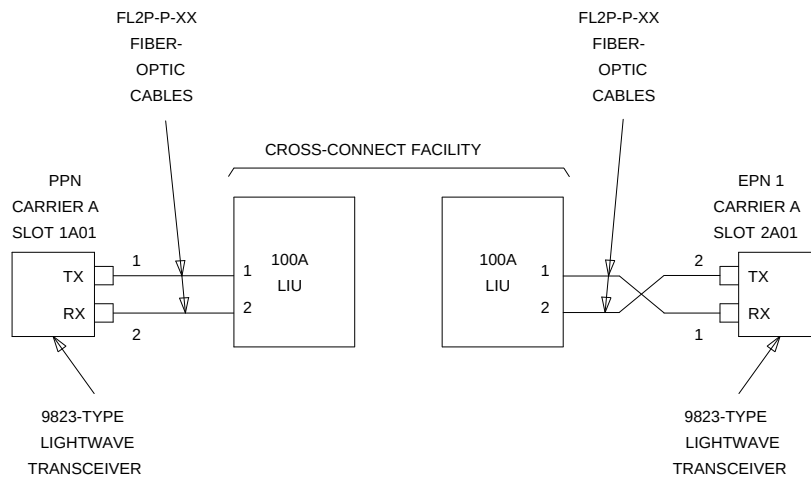


Figure 7-15. Fiber-Optic Connections PPN to EPN1

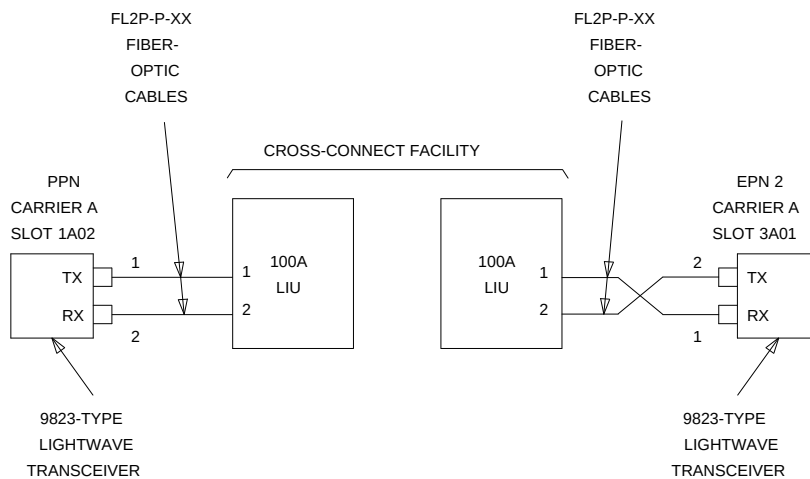


Figure 7-16. Fiber-Optic Connections PPN to EPN2

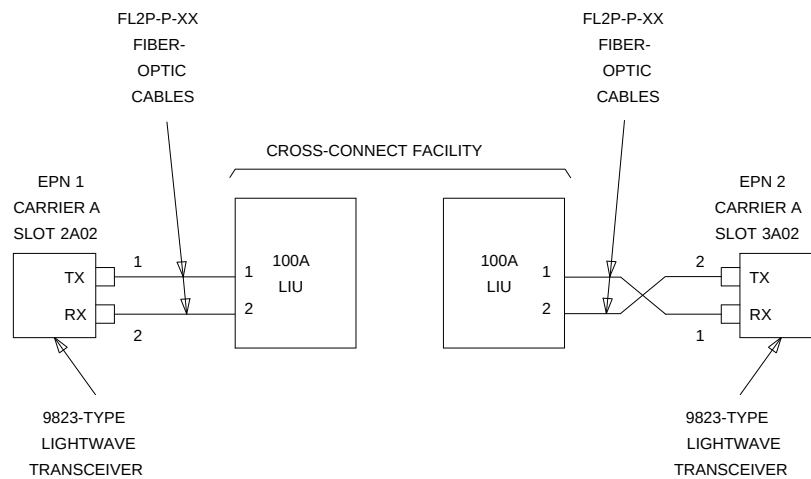


Figure 7-17. Fiber-Optic Connections EPN1 to EPN2

Verify Usable Circuit-Pack Vintages

Verify that every G2 circuit pack reused in the upgrade conforms to the usable vintage requirements for a DEFINITY ECS Release 5 system (see Reference Guide for Circuit-Pack Vintages and Change Notices).

Remove Power-Failure Ground Strap

Remove the ground strap from the power-failure transfer unit.

Boot the DEFINITY ECS Release 5 System

1. Connect the G3-MT to the connector labeled "TERMINAL" behind PPN control carrier "A," or install the G3-MA according to the "Set Up G3-MA" chapter of *DEFINITY Communications System Generic 3 Management Applications — Operations*, 585-229-202.
2. See NOTE. Verify that the translation memory card is inserted in the TN777B faceplate.



NOTE:

The memory card is keyed to assure proper installation. Insert the card with the white "DEFINITY Memory Card" label facing left with the insert arrow (on the same side) pointing forward.

3. At each EPN power-distribution unit, set the main circuit breaker to ON.

4. At the PPN power-distribution unit, set the main circuit breaker to ON.
5. The system now goes through the reset level 4 rebooting process, loading default system translations from the memory card. Rebooting takes 8 to 11 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

6. Get the order number of the upgrade, and call the regional CSA to request an "init" login so that the G3 V4 option and other right-to-use options can be enabled on the upgraded system.
7. Enter **set time**, and press RETURN to set the time and ensure that the system is booted properly.
8. Enter **list configuration software-version**, and press RETURN to compare the version number of the DEFINITY ECS Release 5 software program (displayed on the G3-MT or G3-MA) with the TN786B version number (written on a label on the TN786B's faceplate). If the version numbers are not the same, change the version number on the TN786B label so that they agree.
9. Enter **change system-parameters customer-options**. Press RETURN. Use this form to enable the G3 V4 option and to assign the customer's other right-to-use options on the G2-to-DEFINITY ECS Release 5 upgrade order. See *DEFINITY Enterprise Communications Server Release 5 Implementation*, for details on enabling these options.
10. Enter **change site-data**. Press RETURN. Use this form to assign system-specific information (such as building, floor, stations, etc.)
11. Enter **save translation**. Press RETURN. This command instructs the system to write all translation information from memory to the memory card.



WARNING:

If the terminal screen displays "translation corruption detected; call Lucent Technologies distributor immediately", an error was detected in the translations. Call your Lucent Technologies representative.

Close Upgraded EPN Cabinet and Reconnect Cables

1. At the power-distribution unit of the upgraded EPN, set the main circuit breaker to OFF.



NOTE:

Powering down an EPN without powering down the PPN will set off alarms. However, these alarms should clear after power is restored to each EPN.

2. Temporarily disconnect the lightwave transceivers and fiber-optic cables, already labeled, from the appropriate carriers.
3. Replace the back doors or back panels previously removed.
4. At the EPN cabinet, reconnect the lightwave transceivers, fiber-optic cables, and the connector cables associated with the carrier being replaced.
5. Install the front door on the EPN cabinet if previously removed.

Power Up the EPN Cabinets

1. At each EPN power-distribution unit, set the main circuit breaker to ON. After about 40 seconds, EPN power and PPN/EPN communications return.
2. After power returns to each EPN and all trouble is cleared, verify the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Retranslate Port Circuits

If port circuit packs in the G2 module control carrier were relocated in order to put:

- A critical port circuit pack, requiring longer nominal battery holdover (such as a DS1 or an Announcement circuit pack), in a port slot
- A TN736, TN752, or TN755 power supply in port slots "18" and "19"
- A TN776 or TN570 Expansion Interface in port slot "1"
- A TN776 or TN570 in port slot "2" (for a second directly connected EPN)

of the new expansion control carrier, verify that they were retranslated during the off-site software upgrade. If not, they must be retranslated now. Refer to *DEFINITY Enterprise Communications Server Release 5 Implementation*, for instructions on performing the retranslations.

Run Acceptance Tests

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, and perform the appropriate tests.

Resolve Alarms

Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.

NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS Release 5

Get the serial number of the new DEFINITY ECS Release 5 PPN and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), or the number provided by your Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS Release 5.

Return Replaced G2 Equipment

The G2 equipment replaced, during the upgrade to DEFINITY ECS Release 5, should be returned to Lucent Technologies according to the requirements outlined in:

BCS/Material Logistics, MSL/Attended Stocking Locations

Methods and Procedures for Basic Material Returns

The replaced G2 equipment includes:

- G2 common control (CC) cabinet, carriers, and circuit packs and G2 time-multiplexed switch (TMS) cabinet, carriers, and circuit packs
- or
- G2 CC/TMS cabinet, carriers, and circuit packs
- G2 traditional module cabinets, carriers, and circuit packs

- G2 universal module control carrier (J58890AK) and control circuit packs
- G2 tape cartridges
- 4-series lightwave transceivers

High-Reliability G2 to High-Reliability DEFINITY ECS Release 5

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, to install the new PPN cabinet.

If traditional modules are being replaced by EPNs, refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, to install the new EPNs.

Upgrade Cabinets

An existing universal-module cabinet is always upgraded to an EPN. Upgrade the cabinets using the following procedures.

A high-reliability G2 universal module is upgraded to a high-reliability DEFINITY ECS Release 5 EPN by:

- Removing the module control carrier in position "A"
- Installing the J58890AF-1 expansion control carrier in position "A"
- Adding the DEFINITY ECS Release 5 circuit packs
- Restructuring the port circuits as required

Prerequisite Hardware

The equipment in Table 7-8 *must* be on-site before the upgrade begins. Ensure that the translation memory cards are current and, if necessary, contain enough memory for recorded announcements.

To place a claim for missing equipment, as part of the Streamlined Implementation process, call 1-800-772-5409, or the number provided by your Lucent Technologies representative.

Table 7-8. Required Hardware

Equipment	Description	Quantity
PEC 6300-05X	Processor Port Network	1
J58890AF	Expansion Control Carrier	1
106647985	TN775B Maintenance	1
103557294 or 103281788	TN776 Expansion Interface TN570 Expansion Interface	2 or 6 ¹ 2 or 6 ^{1,2}
406809889	J58890TG L10 4-MByte Translation Memory Card	2 ³
J58890TF	Tape Cartridge	4
63300A	FL2P-P-XX Fiber Cable	1 or 3 ⁴
106455348 or 106455363	9823-A Lightwave Transceiver 9823-B Lightwave Transceiver	2 or 6 ⁵ 2 or 6 ⁵

1. Depending on the number of DEFINITY ECS Release 5 EPNs. Two are required for a high-reliability system with two port networks; six with three port networks. Either one or four Expansion Interfaces (EIs) are shipped loose with the EPN equipment. The factory has installed either one or two EIs in the new PPN.
2. Required port-network interfaces in a DEFINITY ECS Release 5 system with the optional packet bus.
3. 4-Mbyte translation memory cards are required for a system that uses recorded announcements.
4. Depending on the number of DEFINITY ECS Release 5 EPNs. Two or six are required if the PPN and EPN(s) are remotely located. Assuming acceptable lengths, the fiber that previously connected an upgraded G2 universal module (not a traditional module) to the G2 TMS has the correct transceiver connectors and, therefore, can be reused.
5. One pair for each fiber connection. For each connection, one 9823-type lightwave transceiver is installed in an EPN, and one in the PPN. A 9823-type transceiver can be reused from each upgraded G2 universal module. Additional 9823-type transceivers, ordered separately, are also shipped loose with the EPN equipment.

Required Tools

The following tools and items may be required during the upgrade:

- High-intensity flashlight or AC drop light
- 3/8-inch flat-blade screwdriver with a 10-inch shank (minimum)
- 5/16-inch and 1/4-inch sockets with a ratchet and 10-inch extension
- Power screwdriver (optional)
- Long-nose pliers to disconnect grounding straps and straighten backplane pins

- Static-proof or original circuit-pack packaging for transporting circuit packs
- Labels for identifying the port circuit packs and cables attached to the rear of cabinets
- Receptacle for holding approximately 100 self-tapping screws
- 12 spare #12 and #10 self-tapping screws
- 4 spare carrier grounding straps
- Authorized wrist grounding strap
- Repair kit for backplane pins (KS-22876 L2 or equivalent)
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

Follow Routine Preventive Maintenance

During the DEFINITY ECS Release 5 upgrade, follow routine preventive maintenance procedures on the system to be upgraded. For information about the procedures and necessary equipment, refer to the "Preventive Maintenance" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Label Cables

To make reconnecting the cables simpler and more reliable, label both ends of the connector cables associated with the carrier to be removed (if not already labeled).

Power Down G2 System

At the power-distribution unit, set the main circuit breaker to OFF.

Install Power-Failure Transfer Ground Strap



CAUTION:

To avoid contaminating single-point ground, do not connect the ground strap while the system is powered up.

1. Connect a strap's lead either to pin 49 of the connecting block or to pin 49 of the CAP (cable access panel) associated with the power-failure transfer panel.
2. Route the other lead to an approved ground source.
3. Connect the lead to the approved ground source.

Remove Doors and Panels and Disconnect Cables

1. Remove the front door from the cabinet (if desired).
2. With the cable retainer in front of you and the part number visible (4B or 4C), locate the slot that is almost vertical. This slot is adjacent to the part number. Insert a flat-blade screwdriver with a wide blade (1/4-inch recommended) into the slot. Twist the screwdriver while the blade is in the slot. The retainer will snap open easily, and the cable can be removed.
3. Disconnect previously labeled cables associated with the carrier to be removed.
4. Behind a "DEFINITY style" cabinet, remove the back doors from the cabinet.
5. Behind a previously upgraded cabinet, remove all of the back panels. (Two different types of screws hold the back panels to the cabinet. The #10 screws can be removed with a screwdriver or a 1/4-inch socket. The #12 screws can be removed with a screwdriver or a 5/16-inch socket.)

Remove Circuit Packs from Module Control Carrier A

1. To ensure that power units in the "A" carrier are properly replaced, label each power unit with its slot number.
2. Disconnect the power cords from the power units in the "A" carrier.
3. See WARNING. Remove all circuit packs and power units from carrier "A." Store the circuit packs in the static-proof packaging.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

4. Remove the circuit-pack blanks from slots that do not contain circuit packs.
5. Remove the front trim plate from the "A" carrier by pulling straight off.

Remove CURL from Module Control Carrier A

See NOTES. Remove the CFY1 current limiter (CURL) from the pin-field block marked "CURL" on the "A" carrier. The CURL will be reused in the DEFINITY ECS Release 5 EPN.

 NOTE:

Note the position of the components on the left side of the CURL.

 NOTE:

Verify that the CURL meets the minimum usable vintage requirements.

Remove Module Control Carrier A

1. See CAUTION and NOTE. Disconnect one end of the TDM/LAN cable (between the "A" and "C" carriers) from the "A" carrier (see Figure 7-18 on page 7-50). Leave the other end connected to the "C" carrier, and move the cable into a position so that it will not interfere with removing the "A" carrier.
2. See CAUTION and NOTE. Disconnect one end of the TDM/LAN cable (between the "A" and "D" carriers) from the "A" carrier (see Figure 7-18). Leave the other end connected to the "D" carrier, and move the cable into a position so that it will not interfere with removing the "D" carrier.



CAUTION:

When removing the TDM/LAN cables from a previously upgraded carrier, be careful that none of the short pieces of shrink tubing come off the four corner pins of the pin-field block. Otherwise, when the new equipment is connected, -48 volts could short to ground.



NOTE:

Note the position of the cable before disconnecting each TDM/LAN cable.

3. Disconnect one end of the eight ground straps (between the "A" and "C" carriers) from the "A" carrier (see Figure 7-19 on page 7-51). These straps will be reconnected to the new "A" carrier.
4. Disconnect one end of the eight ground straps (between the "A" and "D" carriers) from the "A" carrier (see Figure 7-19). These straps will be reconnected to the new "A" carrier.

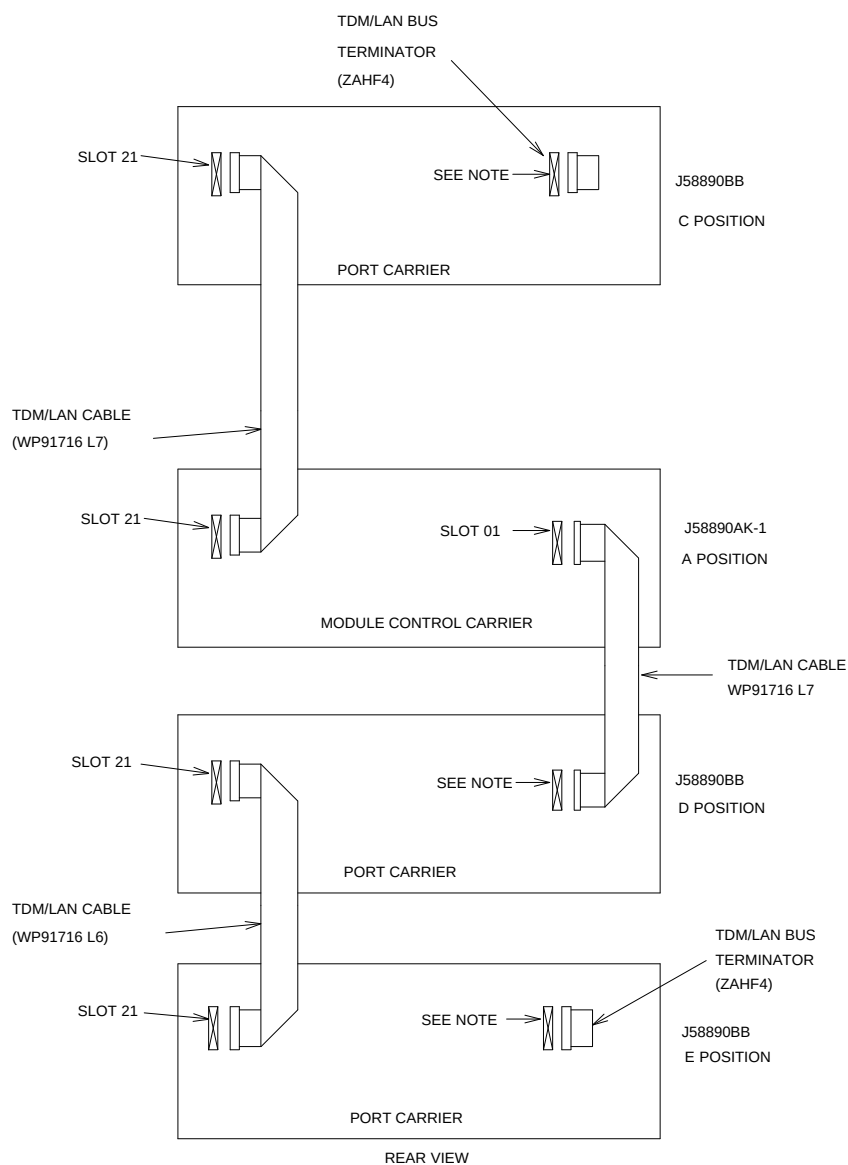
5. Disconnect the "P1" (small 9-pin) connector and the "P2" (large 38-pin) connector from the "A" carrier (see Figure 7-20 on page 7-52). Move the cables into a position where they will not interfere with removing the carrier.
6. Slide the latch up, and disconnect the "P1" (small 9-pin) connector from the "B" carrier (see Figure 7-20). Move the cable into a position where it will not interfere with removing the carrier.
7. Remove the fan trim plate by pulling straight off.
8. Clean or replace the air filter (403326820) if necessary.
9. In front of carrier, remove the four screws (top two first) holding the "A" carrier to the cabinet frame. Use a long-handle screwdriver or 5/16-inch socket with a 10-inch extension.
10. Behind the carrier in a "DEFINITY style" cabinet, remove the two screws holding the "A" carrier's rear connector panel to the cabinet frame.
11. See CAUTION. Slide the carrier forward 1 to 2 inches; then, from the back, be sure that no cables or wiring harnesses are caught on the cabinet/carrier framework.



CAUTION:

Cables and wiring harnesses can be damaged if they catch on the framework and if too much pressure is applied in removing the carrier.

12. Remove the carrier by sliding it out the front of the cabinet.



NOTE:

ON PORT CARRIER J58890BB-1, CONNECT THE TDM/LAN CABLE OR TDM/LAN TERMINATOR TO SLOT 02. ON PORT CARRIERS J58890BB-2 AND -3, CONNECT THE TDM/LAN CABLES TO SLOT 01.

Figure 7-18. TDM/LAN Connections for High-Reliability G2 Universal Module

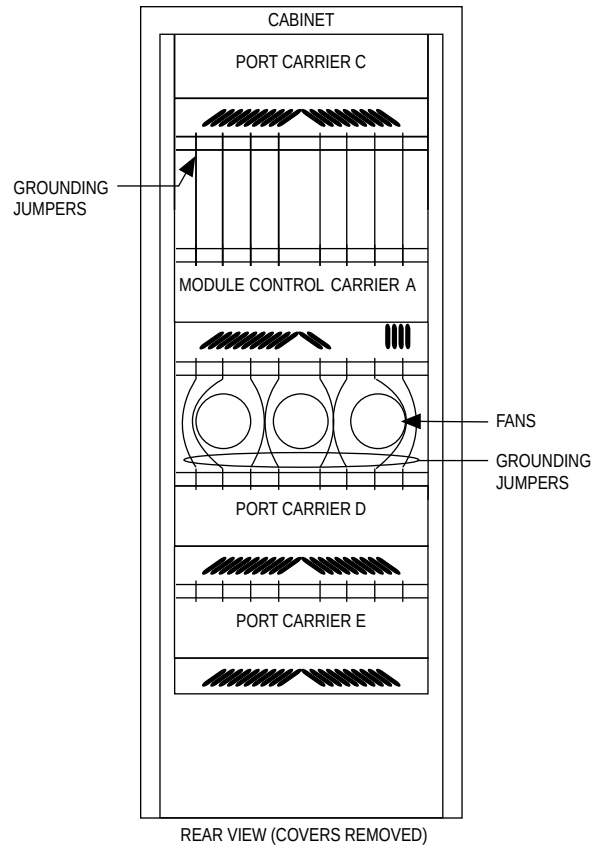


Figure 7-19. Locations of Grounding Jumpers

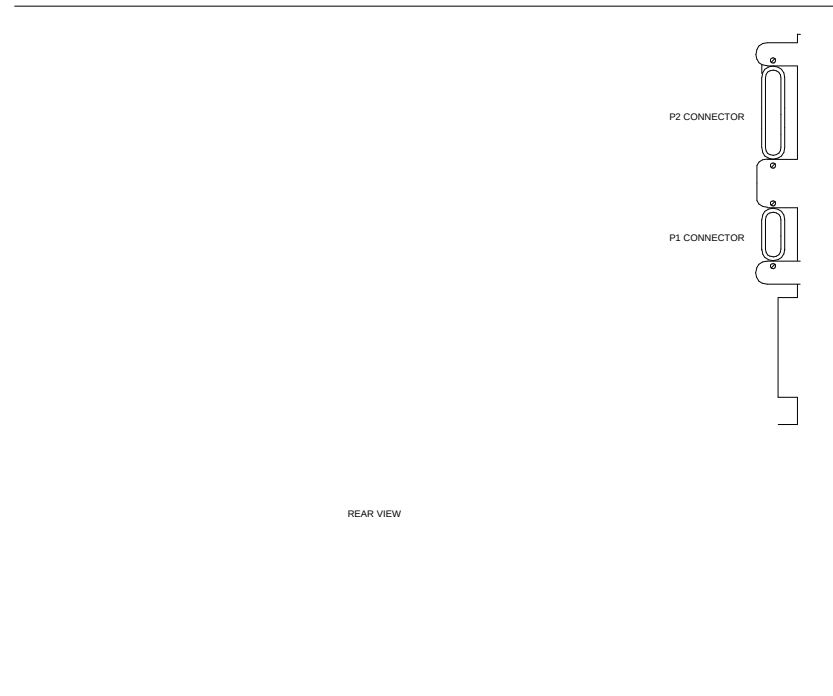


Figure 7-20. Location of P1 and P2 Connectors

Prepare New Expansion Control Carrier A

1. Visually inspect the new carrier for any damage. Verify that the backplane pins are not bent.
2. Place the expansion control carrier on the floor so that the rear of the carrier faces up.
3. Install the CFY1 current limiter (CURL) on the "A" carrier to the pin-field block marked "CURL." The CURL is inserted with the components on the left side as viewed from the rear.
4. At the rear connector panel, determine which connectors will have a cable attached, and install a 4B cable retainer on each of these connectors.

Install New Expansion Control Carrier A

1. Install the J58890AF expansion control carrier in position "A" by lining up the plastic alignment tips on the top rear of the carrier with the screw holes in the cabinet. These alignment tips will support the carrier while the screws are being replaced. Ensure that the power cords are properly placed in the slots at the sides of the carrier.
2. See CAUTION. Fasten the carrier into position with four self-tapping screws saved from the removal of the old carrier.



CAUTION:

Carefully realign the threads on the self-tapping screws by turning them clockwise a turn or two before tightening them to avoid stripping the threads out of the framework.

3. Behind the carrier in a "DEFINITY style" cabinet, replace the two screws saved from the removal of the old carrier.
4. Connect the "P2" and "P1" (large and small) connectors to the "A" carrier. If necessary, to get enough slack in the cables, cut the tie wrap holding the intercabinet cables from the upright in the area of the carrier being installed. Snap the connector lock into place to ensure the connection is properly made (see Figure 7-20).
5. Connect the "P1" (small) connector to the "C" carrier. To get enough slack in the cables, cut the tie wrap holding the intercabinet cables from the upright in the area of the carrier being installed. Snap the connector lock into place to ensure the connection is properly made (see Figure 7-20).
6. Connect the eight ground straps from the "D" carrier to the new "A" carrier (see Figure 7-19). These straps were left connected to the "D" carrier.
7. Connect the eight ground straps from the "C" carrier to the new "A" carrier (see Figure 7-19). These straps were left connected to the "C" carrier.
8. See NOTE. For an AC-powered expansion control carrier, install the two new carrier-ground straps. One strap connects ground point "1" to the A-carrier frame (on the right side), and the other connects ground point "8" to the A-carrier frame (on the left side).

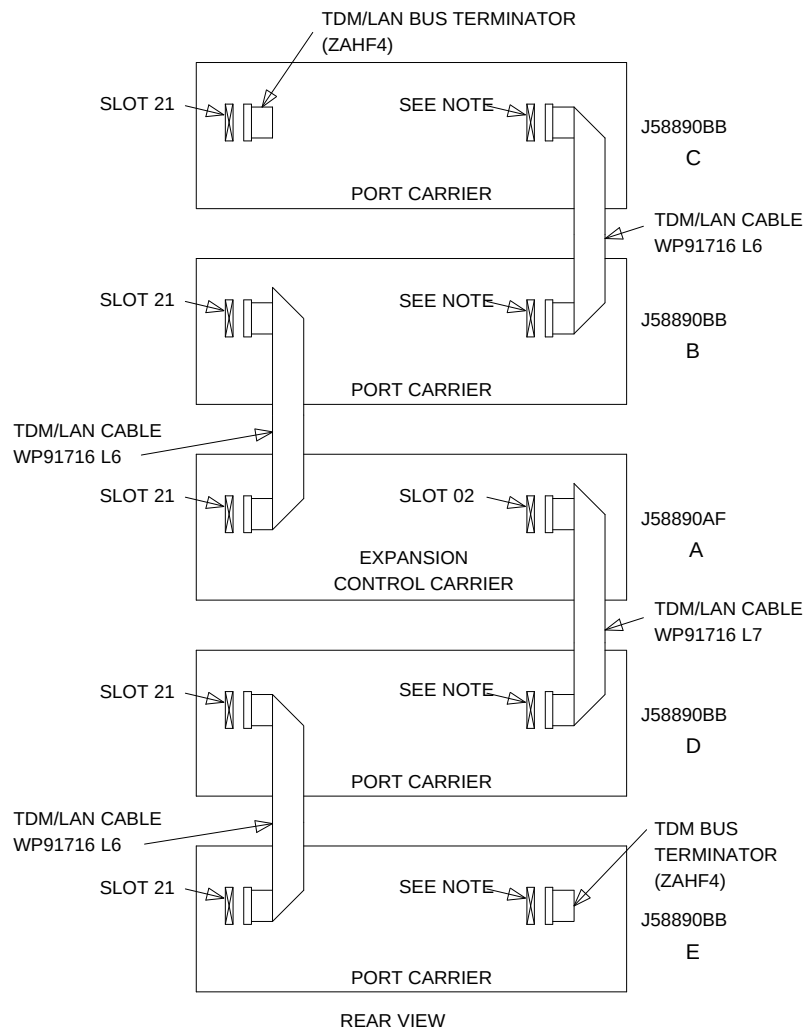


NOTE:

DC-powered carriers do not use these carrier-ground straps.

9. Connect the loose end of the TDM/LAN cable (between the "A" and "D" carriers) to the pin-field block marked "TDM" on the right side of the "A" carrier (see Figure 7-21 and Table 7-9). The other end remained connected to the "D" carrier when the old carrier was removed.

10. Connect the loose end of the TDM/LAN cable (between the "A" and "C" carriers) to the pin-field block marked "TDM" on the left side of the "A" carrier. The other end remained connected to the "C" carrier when the old carrier was removed.
-



NOTE:

- ON PORT CARRIER J58890BB-1, CONNECT THE TDM CABLE OR TDM TERMINATOR TO SLOT 02.
- ON PORT CARRIERS J58890BB-2 AND -3, CONNECT THE TDM CABLES TO SLOT 01.

**Figure 7-21. TDM/LAN Connections for High-Reliability DEFINITY ECS
Release 5 EPN**

Table 7-9. TDM/LAN Connections

"J" Number	Carrier Type	LHS Slot	RHS Slot
J58890BB-1	Port	21	02
J58890BB-2	Port	21	01
J58890BB-3	Port	21	01
J58890AF	EPN Control "A"	21	02

11. Install the front trim plate on the "A" carrier.
12. Install the power units (removed from G2 module control carrier) into the "A" carrier. There are four different pairs of power units available. They are the 631AR1 and 631BR1, the 631WA1 and 631WB1, the 631DA1 and 631DB1, and the 644A and 645B.

Do not interchange the physical locations of the units. The 631AR1, 631WA1, 631DA1, or 644A are installed in the left side, while the 631BR1, 631WB1, 631DB1, or 645B are installed in the right side (see Figure 7-22).

13. If the expansion control carrier contains a 631BR1, 631WB1, or 645B power unit, install the previously removed TN736 power unit in port slots "18" and "19" of the carrier (adjacent to the 631BR1, 631WB1, or 645B). If the system is equipped for neon message waiting, a TN752 or TN755 power unit must be used.

⇒ NOTE:

The TN736 is not required when the 631DB1 or 645B power unit is used in the J58890AH control carrier or the J58890BB-2 or J58890BB-3 port carriers. It is required in the J58890BB-1 port carrier, regardless of which 631 power unit is provided. Use the TN752 or TN755 if the system is equipped with neon message waiting.

14. Connect the power cords to the power units. The power cords are the white cables equipped with plugs that are run through the slots in the front of each carrier (see Figure 7-23).

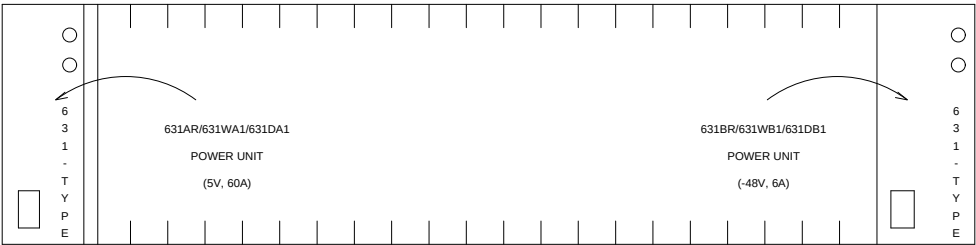


Figure 7-22. Locations of Power Units

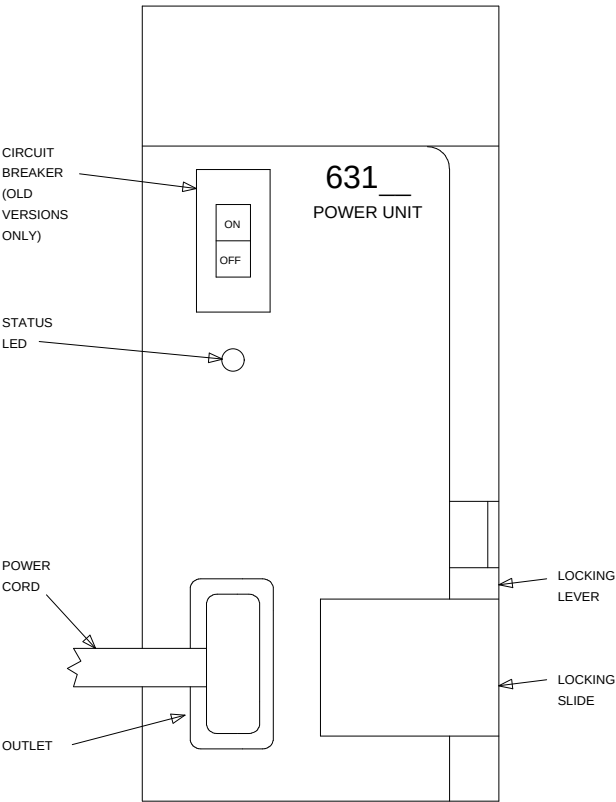


Figure 7-23. 631-Type Power Unit

Install Circuit Packs

1. See WARNING and NOTE. Install the new DEFINITY ECS Release 5 control circuit packs into carrier "A." See Figure 7-24. The new decal, and the annotated "list configuration all" (provided with the DEFINITY ECS Release 5 tape) as a guide.

WARNING:
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

NOTE:
Currently, the TN768 Tone-Clock circuit pack resides in a port slot of the universal module being upgraded. As part of this step, relocate this circuit pack to the "TONE CLOCK" slot of carrier "A." Lucent Technologies recommends that you upgrade to the TN2182 Tone-Clock.

2. For a directly connected high-reliability DEFINITY ECS Release 5 system with two port networks, ensure that the PPN and this EPN are both equipped with a TN776 or TN570 expansion interface circuit pack.

For a directly connected system with three port networks, ensure that the PPN and each EPN have two TN776s or TN570s.

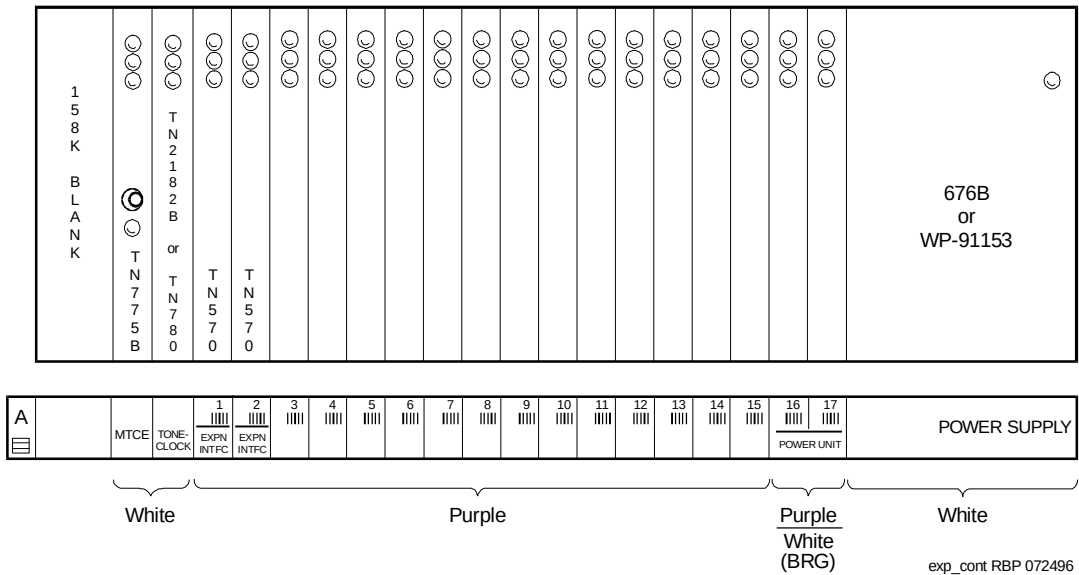


Figure 7-24. Circuit-Pack Locations in DEFINITY ECS Release 5 Expansion Control Carrier

Interconnect Port Networks — High-Reliability System

See NOTES. Fiber-optic cabling terminated to 9823A lightwave transceivers can interconnect port networks (PNs) located up to 4,900 feet (about 9/10 mile) apart. Whereas, fiber-optic cabling terminated to 9823B lightwave transceivers can interconnect port networks located up to 25,000 feet (about 4.7 miles) apart.

⇒ NOTE:

As always, these distance limitations are approximate measurements of the *actual* fiber right-of-way (not of the shortest linear distance) between the two endpoints.

⇒ NOTE:

It is important to label every cable that you install. For details, refer to the section, *Labels for Fiber-Optic Cables*, in Appendix E of the installation manual.

⇒ NOTE:

Throughout these procedures, remember to keep track of which fiber is attached to which connector on each lightwave transceiver. This section provides figures offering the suggested way of making these connections.

The connectors on the lightwave transceivers are labeled either "TX" (transmit) or "RX" (receive), while the fibers attached to each connector are numbered either "1" or "2." A viable fiber connection is only made when both fibers in each cable (that is, "1" and "2") route from the "TX" connector of a port network to the "RX" connector of its adjacent port network. For an example, refer to Figure 7-26 on page 7-62.

⇒ NOTE:

For implementation details, refer to the "Fiber Link Administration" sections of *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Collocated Port Networks

For a high-reliability system with one collocated expansion port network, one fiber-optic cable (FL2P-P-XX) and two lightwave transceivers (9823-type) are required to directly connect the networks.

For a high-reliability system with two collocated expansion port networks, three fiber-optic cables (FL2P-P-XX) and six lightwave transceivers (9823-type) are required to directly connect the networks.

⇒ NOTE:

For the FL2P-P-XX fiber-optic cable, the -XX suffix represents the length of the cable in feet. Based on floor-plan considerations, the length of these cables may vary. However, 20-foot cables are normally adequate for a DEFINITY ECS Release 5 with two port networks.

See NOTE. For collocated cabinets, the fiber-optic cables should be routed directly from the PPN to the EPN cabinet. If, for this upgrade, a "DEFINITY style" PPN cabinet is collocated with another "DEFINITY style" EPN cabinet, the preferred routing is to run the cables *up* the cable tray and out the top of the PPN cabinet. The cables are then run to the other cabinet, through the top of the cabinet, and down the cable tray to the desired carrier level.

⇒ NOTE:

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for additional guidelines about fiber routing.

If, for this upgrade, a "DEFINITY style" PPN cabinet is collocated with either a small cabinet, medium cabinet, or single-carrier cabinet stack, the preferred routing is to run the cables *down* the cable tray and out the bottom of the PPN cabinet. The cables are then run to the EPN cabinet and up the outside of the rear panels to the desired carrier level.

Fiber-Remoted Port Networks

For a high-reliability system with one fiber-remoted expansion port network, two fiber-optic cables (FL2P-P-XX), two lightwave transceivers (9823-type), and two lightwave-interface units (provided by the PSC) are required.

For a high-reliability system with two fiber-remoted expansion port networks, six fiber-optic cables (FL2P-P-XX), six lightwave transceivers (9823-type), and six lightwave-interface units (provided by the PSC) are required.

For fiber-remoted cabinets, the cables should be routed down the cable tray and out the bottom of the cabinet to the cross-connect field where the lightwave-interface units are located.

In either case, use cable ties to secure the cable against the walls of the cable tray at the cable-tie positions built into the trays.

For Either One or Two Collocated Expansion Port Networks

1. Behind control carrier A of PPN cabinet 1 (see Figure 7-25 on page 7-61, Figure 7-26, Figure 7-27, and Figure 7-28):
 - Install a 9823-type lightwave transceiver on cable connector at slot 1A01.
 - Connect one end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 1A01.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control carrier A of EPN cabinet 2:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2A01.
 - Connect the other end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 2A01.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At the top of the cabinet, coil up the surplus length of fiber-optic cable, and delicately attach the coil to the wall of the cable tray.

For Two Collocated Expansion Port Networks

1. Behind control carrier A of PPN cabinet 1:
 - Install a 9823-type lightwave transceiver on cable connector at slot 1A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 1A02.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control carrier A of EPN cabinet 3:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A01.
 - Connect the other end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 3A01.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At the top of the cabinet, coil up the surplus length of fiber-optic cable, and delicately attach the coil to the wall of the cable tray.

3. Behind control carrier A of EPN cabinet 2:

- Install a 9823-type lightwave transceiver on cable connector at slot 2A02.
- Connect one end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 2A02.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

4. Behind control carrier A of EPN cabinet 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A02.
- Connect the other end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 3A02.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- At the top of the cabinet, coil up the surplus length of fiber-optic cable, and delicately attach the coil to the wall of the cable tray.

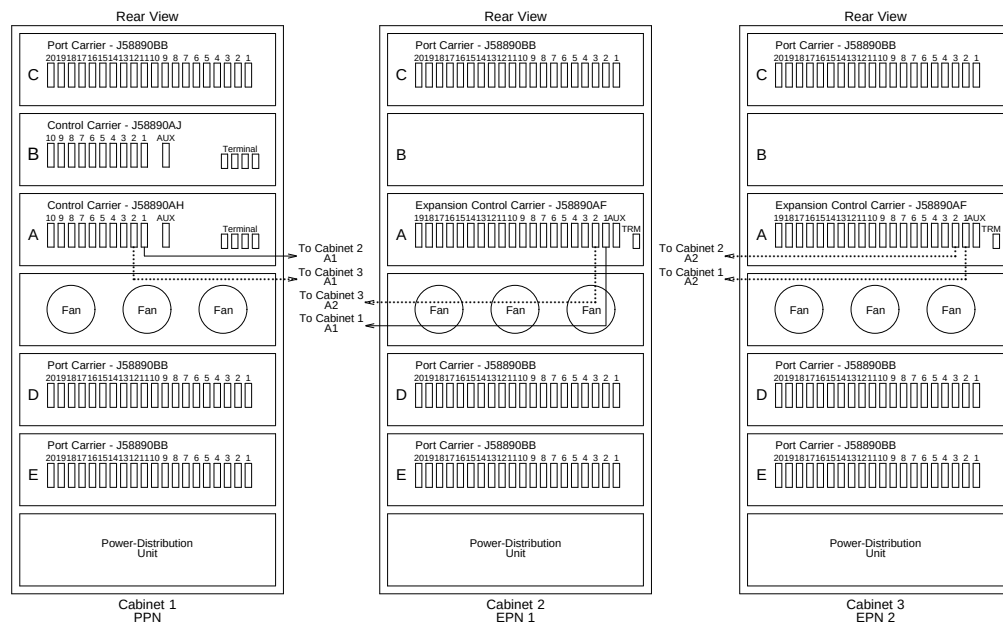


Figure 7-25. High-Reliability DEFINITY ECS Release 5 with Two or Three Port Networks

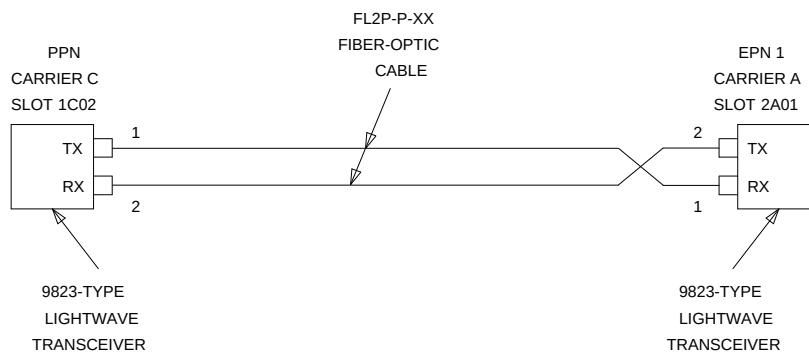


Figure 7-26. Fiber-Optic Connections PPN to EPN1

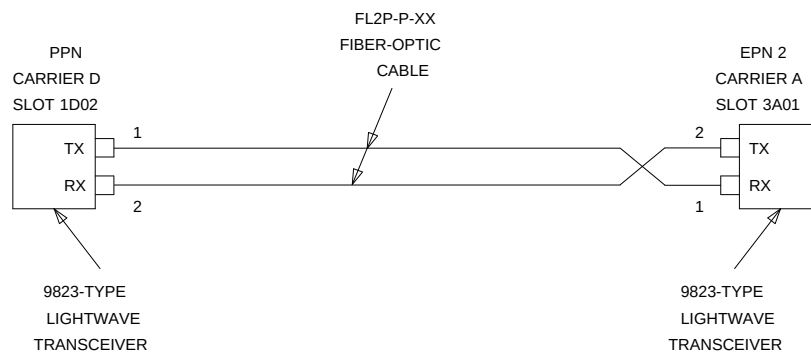


Figure 7-27. Fiber-Optic Connections PPN to EPN2

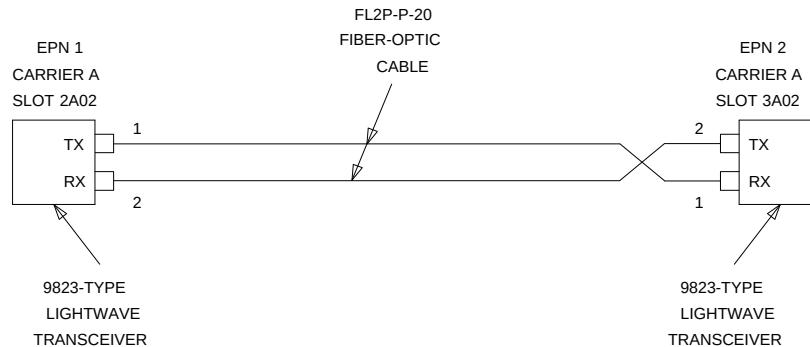


Figure 7-28. Fiber-Optic Connections EPN1 to EPN2

For Either One or Two Fiber-Remoted Expansion Port Networks

1. Behind control carrier A of PPN cabinet 1 (see Figure 7-29 on page 7-66, Figure 7-30, Figure 7-31, and Figure 7-32):
 - Install a 9823-type lightwave transceiver on cable connector at slot 1A01.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A01.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

2. Behind control carrier A of EPN cabinet 2:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2A01.
- Connect the fiber-optic cable to the lightwave transceiver slot 2A01.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

For Two Fiber-Remoted Expansion Port Networks

1. Behind control carrier A of PPN cabinet 1:

- Install a 9823-type lightwave transceiver on cable connector at slot 1A02.
- Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

2. Behind control carrier A of EPN cabinet 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A01.
- Connect the fiber-optic cable to the lightwave transceiver slot 3A01.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

3. Behind control carrier A of EPN cabinet 2:

- Install a 9823-type lightwave transceiver on cable connector at slot 2A02.
- Connect one end of the fiber-optic cable to the lightwave transceiver at slot 2A02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

4. Behind control carrier A of EPN cabinet 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A02.
- Connect the fiber-optic cable to the lightwave transceiver slot 3A02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

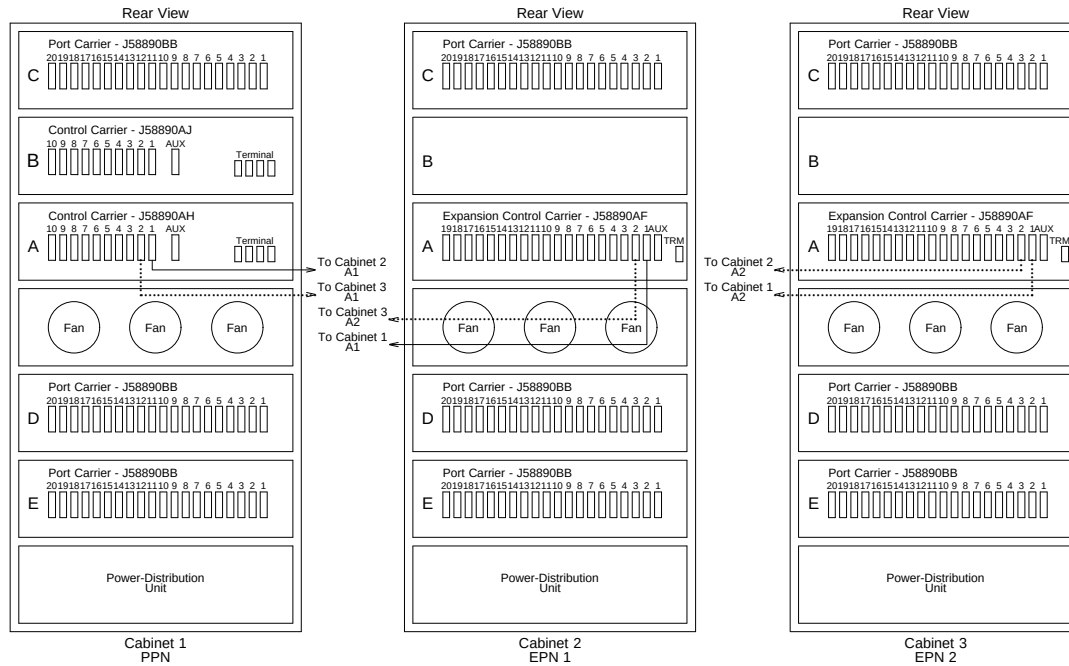


Figure 7-29. High-Reliability DEFINITY ECS Release 5 with Two or Three Port Networks

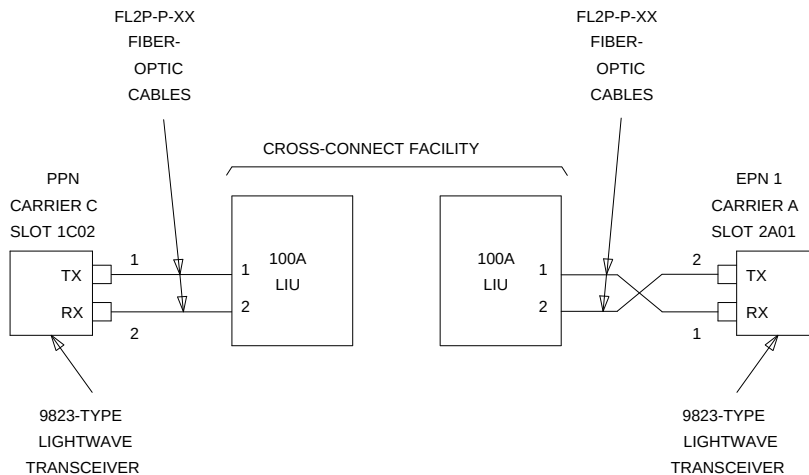


Figure 7-30. Fiber-Optic Connections PPN to EPN1

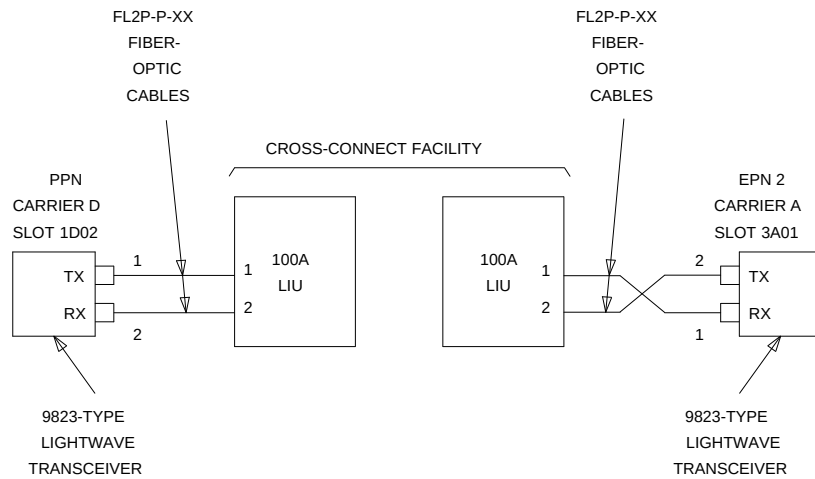


Figure 7-31. Fiber-Optic Connections PPN to EPN2

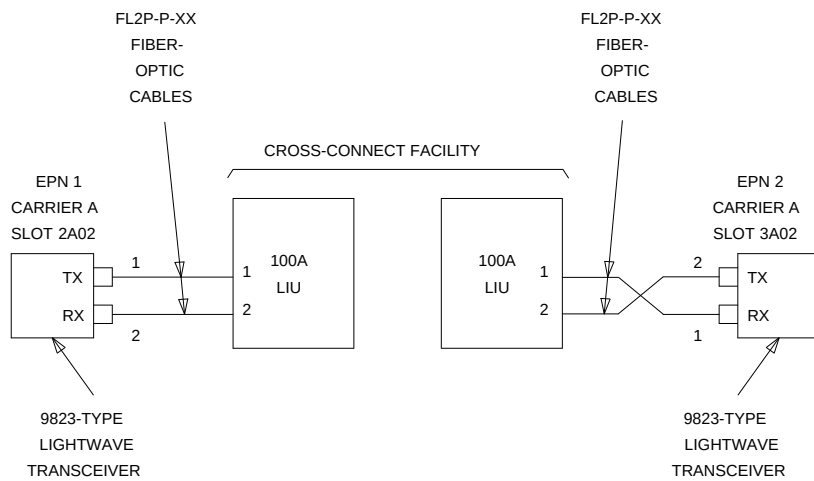


Figure 7-32. Fiber-Optic Connections EPN1 to EPN2

Verify Usable Circuit-Pack Vintages

Verify that every G2 circuit pack reused in the upgrade conforms to the usable vintage requirements for a DEFINITY ECS Release 5 system (see Reference Guide for Circuit Pack Vintages and Change Notices).

Remove Power-Failure Ground Strap

Remove the ground strap from the power-failure transfer unit.

Boot the DEFINITY ECS Release 5 System

1. Connect the G3-MT to the connector labeled "TERMINAL" behind PPN control carrier "A," or install the G3-MA according to the "Set Up G3-MA" chapter of *DEFINITY Communications System Generic 3 Management Applications — Operations*, 585-229-202.
2. See NOTE. Verify that the translation memory cards are inserted in the TN777B faceplates.



NOTE:

The memory cards are keyed to assure proper installation. Insert each card with the white "DEFINITY Memory Card" label facing left with the insert arrow (on the same side) pointing forward.

3. At each EPN power-distribution unit, set the main circuit breaker to ON.
4. At the PPN power-distribution unit, set the main circuit breaker to ON.
5. The system now goes through the reset level 4 rebooting process, loading the default system translations from the memory card. Rebooting takes 8 to 11 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

6. Get the order number of the upgrade, and call the regional CSA to request an "init" login so that the G3 V4 option and other right-to-use options can be enabled on the upgraded system.
7. Enter **set time**, and press RETURN to set the time and ensure that the system is booted properly.
8. Enter **list configuration software-version long**, and press RETURN to compare the version number of the DEFINITY ECS Release 5 software program (displayed on the G3-MT or G3-MA) with the TN786B version number (written on a label on the TN786B's faceplate). If the version numbers are not the same, change the version number on the TN786B label so that they agree.

9. Enter **change system-parameters customer-options**. Press RETURN. Use this form to enable the R5 option and to assign the customer's other right-to-use options on the G2-to-DEFINITY ECS Release 5 upgrade order. See *DEFINITY Enterprise Communications Server Release 5 Implementation*, for details on enabling these options.
10. Enter **change site-data**. Press RETURN. Use this form to assign system-specific information (such as building, floor, stations, etc.)
11. Enter **status system 1**, and press RETURN to verify the system is in the "active/standby" mode.
12. Enter **save translation**. Press RETURN. This command instructs the system to write all translation information from memory to the memory card.



WARNING:

If the terminal screen displays "translation corruption detected; call Lucent Technologies distributor immediately", an error was detected in the translations. Call your Lucent Technologies representative.

Close Upgraded EPN Cabinet and Reconnect Cables

1. At the power-distribution unit of the upgraded EPN, set the main circuit breaker to OFF.



NOTE:

Powering down an EPN without powering down the PPN will set off alarms. However, these alarms should clear after power is restored to each EPN.

2. Temporarily disconnect the lightwave transceivers and fiber-optic cables, already labeled, from the appropriate carriers.
3. Replace the back doors or back panels previously removed.
4. At the EPN cabinet, reconnect the lightwave transceivers, fiber-optic cables, and the connector cables associated with the carrier being replaced.
5. Install the front door on the EPN cabinet if previously removed.

Power Up the EPN Cabinets

1. At each EPN power-distribution unit, set the main circuit breaker to ON.
After about 40 seconds, EPN power and PPN/EPN communications return.
2. After power returns to each EPN and all trouble is cleared, verify that the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Retranslate Port Circuits

If port circuit packs in the G2 module control carrier were relocated in order to put:

- A critical port circuit pack, requiring longer nominal battery holdover (e.g., a DS1 or an Announcement circuit pack), in a port slot
- A TN736, TN752, or TN755 power supply in port slots "18" and "19"
- A TN776 or TN570 Expansion Interface in port slot "1"
- A TN776 or TN570 in port slot "2" (for a second directly connected EPN)

of the new expansion control carrier, verify that they were retranslated during the off-site software upgrade. If not, they must be retranslated now. Refer to *DEFINITY Enterprise Communications Server Release 5 Implementation*, for instructions on performing the retranslations.

Run Acceptance Tests

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, and perform the appropriate tests.

Resolve Alarms

Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.

NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS Release 5

Get the serial number of the new DEFINITY ECS Release 5 PPN, and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), or the number provided by your Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS Release 5.

Return Replaced G2 Equipment

The G2 equipment replaced, during the upgrade to DEFINITY ECS Release 5, should be returned to Lucent Technologies according to the requirements outlined in:

BCS/Material Logistics, MSL/Attended Stocking Locations

Methods and Procedures for Basic Material Returns

The replaced G2 equipment includes:

- G2 common control (CC) cabinet, carriers, and circuit packs and G2 time-multiplexed switch (TMS) cabinet, carriers, and circuit packs
- or
- G2 CC/TMS cabinet, carriers, and circuit packs
- G2 traditional module cabinets, carriers, and circuit packs
- G2 universal module control carriers (J58890AK) and control circuit packs
- G2 tape cartridges
- 4-series lightwave transceivers

Critical-Reliability G2 to Critical-Reliability DEFINITY ECS Release 5

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, to install the new PPN cabinet.

If traditional modules are being replaced by EPNs, refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, to install the new EPNs.

Upgrade Cabinets

An existing universal module cabinet is always upgraded to an EPN. A critical-reliability G2 universal module is upgraded to a critical-reliability DEFINITY ECS Release 5 EPN by:

- Removing the module control carrier in position "A"
- Installing the J58890AF expansion control carrier in position "A"
- Removing the module control carrier in position "B"
- Installing the J58890BB-3 port carrier in position "B"
- Adding the DEFINITY ECS Release 5 circuit packs
- Restructuring the port circuits as required

Prerequisite Hardware

The equipment in Table 7-7 *must* be on-site before the upgrade begins. Ensure the translation memory cards are current and they contain enough memory for recorded announcements.

To place a claim for missing equipment, as part of the Streamlined Implementation process, call "1-800-772-5409," and respond to the call prompter.

Table 7-10. Required Hardware

Equipment	Description	Quantity
PEC 6300-05X	Processor Port Network	1
J58890AF	Expansion Control Carrier	1
J58890BB-3	Port Carrier	1
106647985	TN775B Maintenance	1
103557294 or 103281788	TN776 Expansion Interface TN570 Expansion Interface	4 or 12 ¹ 4 or 12 ^{1,2}
406809889	J58890TG L10 4-MByte Translation Memory Card	2 ³
J58890TF	Tape Cartridge	4
H-600-204 G1	ICC	2 ⁴
63300A	FL2P-P-XX Fiber Cable	2 or 6 ⁵
106455348 or 106455363	9823-A Lightwave Transceiver 9823-B Lightwave Transceiver	4 or 12 ⁶ 4 or 12 ⁶
106689516	TN771D Maintenance Test	1 or 2 ⁷

- Depending on the number of DEFINITY ECS Release 5 EPNs. Four are required for a critical-reliability system with two port networks; twelve with three port networks. Either two or eight Expansion Interfaces (EIs) are shipped loose with the EPN equipment. The factory has installed the other two or four EIs in the new PPN.
- Required port-network interfaces in a DEFINITY ECS Release 5 system with the optional packet bus.
- 4 Mbyte translation memory cards are required for a system using recorded announcements.
- Required for an EPN in a critical-reliability system.
- Depending on the number of DEFINITY ECS Release 5 EPNs. Four or twelve are required if the EPNs and the PPN are remotely located. Assuming acceptable lengths, the fibers previously connecting an upgraded G2 universal module (not a traditional module) to the G2 TMS have the correct transceiver connectors and can be reused.
- One pair for each fiber connection. For each connection, one 9823-type lightwave transceiver is installed in an EPN and one in the PPN. Two 9823-type transceivers can be reused from each upgraded G2 universal module. Additional 9823-type transceivers, ordered separately, are shipped loose with the EPN equipment.
- Depending on the number of DEFINITY ECS Release 5 EPNs.

Required Tools

The following tools and items may be required during the upgrade:

- High-intensity flashlight or AC drop light
- 3/8-inch flat-blade screwdriver with a 10-inch shank (minimum)
- 5/16-inch and 1/4-inch sockets with a ratchet and 10-inch extension
- Power screwdriver (optional)
- Long-nose pliers to disconnect grounding straps and straighten backplane pins
- Static-proof or original circuit-pack packaging for transporting circuit packs
- Labels for identifying the port circuit packs and cables attached to the rear of cabinets
- Receptacle for holding approximately 100 self-tapping screws
- 12 spare #12 and #10 self-tapping screws
- 4 spare carrier grounding straps
- Authorized wrist grounding strap
- Repair kit for backplane pins (KS-22876 L2 or equivalent)
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

Follow Routine Preventive Maintenance

During the DEFINITY ECS Release 5 upgrade, follow routine preventive maintenance procedures on the system to be upgraded. For information about the procedures and necessary equipment, refer to the "Preventive Maintenance" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Label Cables

To make reconnecting the cables simpler and more reliable, label both ends of the connector cables associated with the carrier to be removed.

Power Down G2 System

At the power-distribution unit, set the main circuit breaker to OFF.

Install Power-Failure Transfer Ground Strap



CAUTION:

To avoid contaminating single-point ground, do not connect the ground strap while the system is powered up.

1. Connect a strap's lead either to pin 49 of the connecting block or to pin 49 of the CAP (cable access panel) associated with the power-failure transfer panel.
2. Route the other lead to an approved ground source.
3. Connect the lead to the approved ground source.

Remove Doors and Panels and Disconnect Cables

1. Remove the front door from the cabinet (if desired).
2. With the cable retainer in front of you and the part number visible (4B or 4C), locate the slot that is almost vertical. This slot is adjacent to the part number. Insert a flat-blade screwdriver with a wide blade (1/4-inch recommended) into the slot. Twist the screwdriver while the blade is in the slot. The retainer will snap open easily, and the cable can be removed.
3. Disconnect previously labeled cables associated with the carrier to be removed.
4. Behind a "DEFINITY style" cabinet, remove the back doors from the cabinet.
5. Behind a previously upgraded cabinet, remove all of the back panels. (Two different types of screws hold the back panels to the cabinet. The #10 screws can be removed with a screwdriver or a 1/4-inch socket. The #12 screws can be removed with a screwdriver or a 5/16-inch socket.)

Remove Circuit Packs from Module Control Carriers A and B

1. To ensure that power units in the "A" and "B" carriers are properly replaced, label each power unit with its slot number.

2. Disconnect the power cords from the power units in the "A" and "B" carriers.
3. See WARNING. Remove all circuit packs and power units from carrier "A." Store the circuit packs in the static-proof packaging.
4. See WARNING. Remove all circuit packs from carrier "B." Store the circuit packs in the static-proof packaging.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

5. Remove the circuit-pack blanks from slots that do not contain circuit packs.
6. Remove the front trim plate from the "B" carrier by pulling straight off. Then remove the front trim plate from the "A" carrier.

Remove CURL from Module Control Carrier A

See NOTES. Remove the CFY1 current limiter (CURL) from the pin-field block marked "CURL" on the "A" carrier. The CURL will be reused in the DEFINITY ECS Release 5 EPN.



NOTE:

Note the position of the components on the left side of the CURL.



NOTE:

Verify that the CURL meets the minimum usable vintage requirements.

Remove Module Control Carriers A and B

1. See the following CAUTION and NOTE. Remove the TDM/LAN cable from between the "A" and "B" carriers (see Figure 7-33 on page 7-78). This cable will be reused.
2. See CAUTION and NOTE. Disconnect one end of the TDM/LAN cable (between the "A" and "D" carriers) from the "A" carrier. Leave the other end connected to the "D" carrier, and move the cable into a position so that it will not interfere with removing the "A" carrier.
3. See CAUTION and NOTE. Disconnect one end of the TDM/LAN cable (between the "B" and "C" carriers) from the "B" carrier. Leave the other end connected to the "C" carrier, and move the cable into a position so that it will not interfere with removing the "B" carrier.



CAUTION:

When removing the TDM/LAN cables from a previously upgraded carrier, be careful that none of the short pieces of shrink tubing come off the four corner pins of the pin-field block. Otherwise, when the new equipment is connected, -48 volts could short to ground.



NOTE:

Note the position of the TDM/LAN cable before disconnecting.

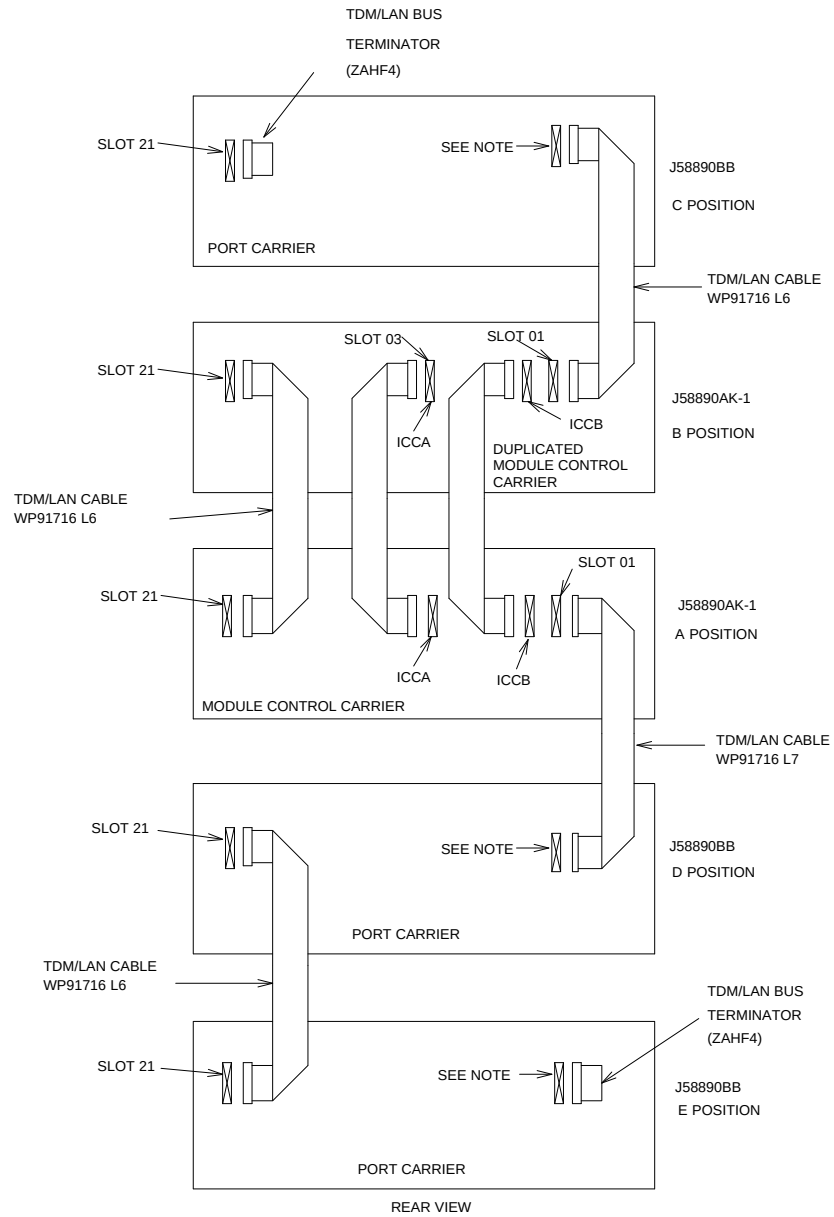
4. Remove the eight ground straps from between the "A" and "B" carriers (see Figure 7-34 on page 7-79). Retain these straps since they will be reconnected to the new "A" and "B" carriers.
5. Disconnect one end of the eight ground straps (between the "A" and "D" carriers) from the "A" carrier. These straps will be reconnected to the new "A" carrier.
6. Disconnect one end of the eight ground straps (between the "B" and "C" carriers) from the "B" carrier. These straps will be reconnected to the new "B" carrier.
7. Disconnect the "P1" (small 9-pin) connector and the "P2" (large 38-pin) connector from the "A" carrier (see Figure 7-35 on page 7-80). Move the cables into a position where they will not interfere with removing the carrier.
8. Slide the latch up, and disconnect the "P1" (small 9-pin) connector from the "B" carrier. Move the cable into a position where it will not interfere with removing the carrier.
9. Disconnect and remove the ICC cables (see Figure 7-33). They will not be reused.
10. Remove the fan trim plate by pulling straight off.
11. Clean or replace the air filter (403326820) if necessary.
12. In front of carrier, remove the four screws (top two first) holding the "B" carrier to the cabinet frame. Use a long-handle screwdriver or 5/16-inch socket with a 10-inch extension.
13. Behind the carrier in a "DEFINITY style" cabinet, remove the two screws holding the "B" carrier's rear connector panel to the cabinet frame.
14. See CAUTION. Slide the carrier forward 1 to 2 inches; then, from the back, be sure that no cables or wiring harnesses are caught on the cabinet/carrier framework.



CAUTION:

Cables and wiring harnesses can be damaged if they catch on the framework and if too much pressure is applied in removing the carrier.

15. Remove the carrier by sliding it out the front of the cabinet.
16. Repeat Steps 12 through 15 for the "A" carrier.



NOTE:
ON PORT CARRIER J58890BB-1, CONNECT THE TDM CABLE OR TDM TERMINATOR TO SLOT 02.
ON PORT CARRIERS J58890BB-2 AND J58890BB-3, CONNECT THE TDM CABLES OR TDM TERMINATOR TO SLOT 01. IF THE PORT CARRIER HAS J58890BB-1 AND J58890BB-2 STENCILLED ON IT, TREAT IT AS J58890BB-1.

Figure 7-33. TDM/LAN Connections for Duplicated G2 Universal Module

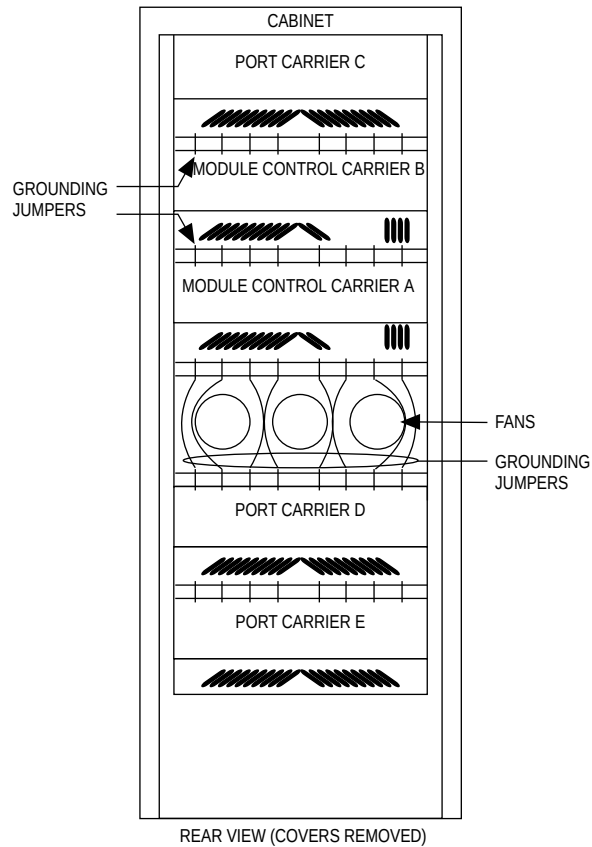


Figure 7-34. Locations of Grounding Jumpers

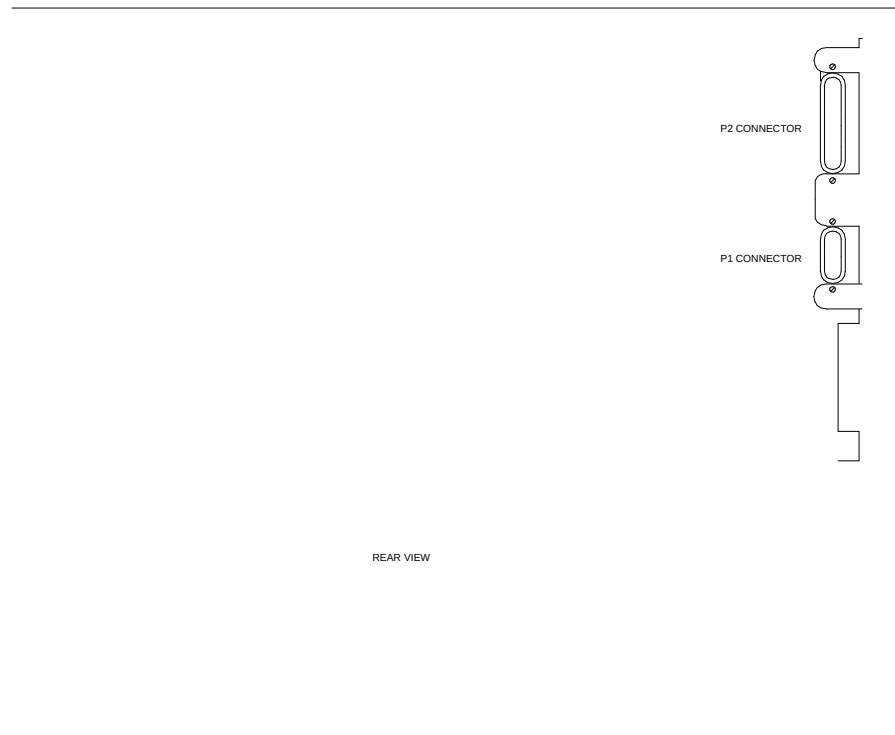


Figure 7-35. Location of P1 and P2 Connectors

Prepare the New A and B Position Carriers

1. Visually inspect the new carriers for any damage. Verify that the backplane pins are not bent.
2. Place the expansion control carrier on the floor so that the rear of the carrier faces up.
3. Install the CFY1 current limiter (CURL) on the "A" carrier to the pin-field block marked "CURL." The CURL is inserted with the components on the left side as viewed from the rear.
4. At the rear connector panel, determine which connectors will have a cable attached, and install a 4B cable retainer on each of these connectors.

Install the New A and B Position Carriers

1. Install the J58890AF expansion control carrier in position "A" by lining up the plastic alignment tips on the top rear of the carrier with the screw holes in the cabinet. These alignment tips will support the carrier while the screws are being replaced. Ensure that the power cords are properly placed in the slots at the sides of the carrier.
2. See CAUTION. Fasten the carrier into position with four self-tapping screws saved from the removal of the old carrier.



CAUTION:

Carefully realign the threads on the self-tapping screws by turning them clockwise a turn or two before tightening them to avoid stripping the threads out of the framework.

3. Behind the carrier in a "DEFINITY style" cabinet, replace the two screws saved from the removal of the old carrier.
4. Install the J58890BB-3 port carrier in position "B" by lining up the plastic alignment tips on the top rear of the carrier with the screw holes in the cabinet. These alignment tips support the carrier while the screws are being replaced. Ensure the power cords are properly placed in the slots at the sides of the carrier.
5. See previous CAUTION. Fasten the carrier into position with four self-tapping screws saved from the removal of the old carrier.
6. Connect the "P2" and "P1" (large and small) connectors to the "A" carrier. To get enough slack in the cables, cut the tie wrap holding the intercabinet cables from the upright in the area of the carrier being installed. Snap the connector lock into place to ensure the connection is properly made (see Figure 7-35).
7. Connect the "P1" (small) connector to the "B" carrier. To get enough slack in the cables, cut the tie wrap holding the intercabinet cables from the upright in the area of the carrier being installed. Snap the connector lock into place to ensure the connection is properly made.
8. Connect the eight ground straps from the "D" carrier to the new "A" carrier (see Figure 7-34). These straps were left connected to the "D" carrier.
9. Connect the eight ground straps from the "C" carrier to the new "B" carrier. These straps were left connected to the "C" carrier.
10. Install the eight ground straps between the new "A" and "B" carriers. These straps were removed from the old carriers.

11. See NOTE. For an AC-powered expansion control carrier, install the two new carrier-ground straps. One strap connects ground point "1" to the A-carrier frame (on the right side), and the other connects ground point "8" to the A-carrier frame (on the left side).



NOTE:

DC-powered carriers do not use these carrier-ground straps.

12. Connect the loose end of the TDM/LAN cable (between the "A" and "D" carriers) to the pin-field block marked "TDM" on the right side of the "A" carrier (see Figure 7-36 and Table 7-11). The other end remained connected to the "D" carrier when the old carrier was removed.
13. Connect the loose end of the TDM/LAN cable (between the "B" and "C" carriers) to the pin-field block marked "TDM" on the right side of the "B" carrier. The other end remained connected to the "C" carrier when the old carrier was removed.
14. Install the TDM/LAN cable between the "A" and "B" carriers. The cable is connected to the "A" and "B" carriers at the pin-field blocks marked "TDM" on the left side of each carrier.

Table 7-11. TDM/LAN Connections

"J" Number	Carrier Type	LHS Slot	RHS Slot
J58890BB-1	Port	21	02
J58890BB-2	Port	21	01
J58890BB-3	Port	21	01
J58890AF	EPN Control "A"	21	02

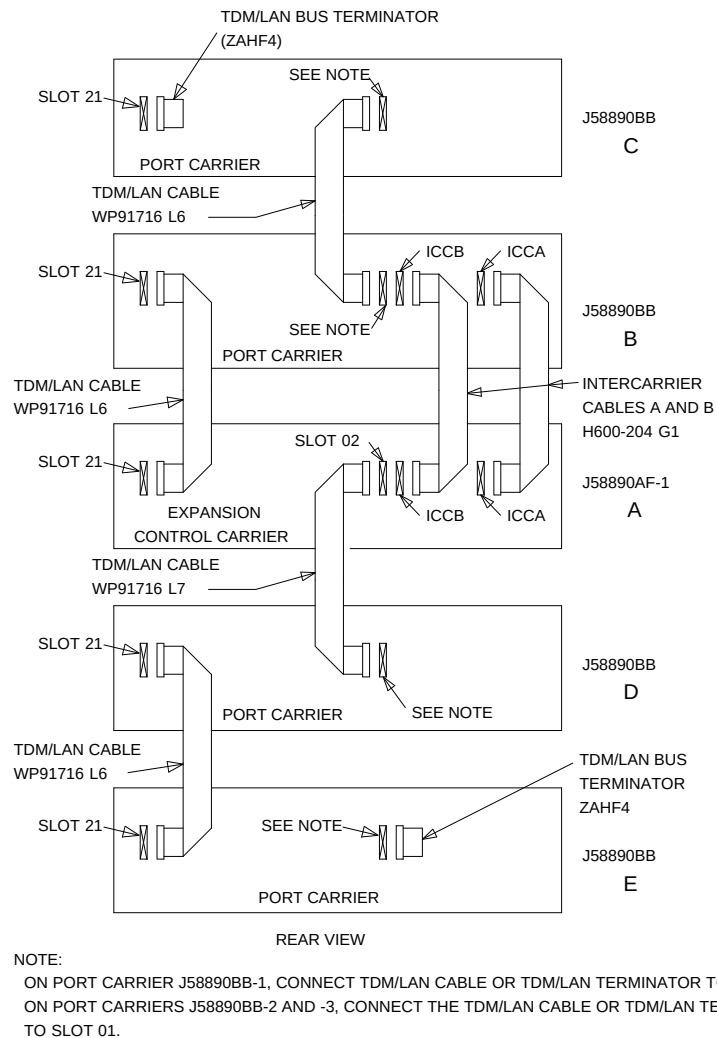


**Figure 7-36. TDM/LAN Connections for Critical-Reliability DEFINITY ECS
Release 5 EPN**

15. Install the front trim plates; first on the "A" carrier, and then on the "B" carrier.
16. See CAUTION. Install the ICC cables (H600-204 G1) between carriers "A" and "B." Connect the cables to the "ICC" pin-field block on both carriers (see Figure 7-37 and Figure 7-38 and Table 7-12). The cable is installed so that the dark red, blue, or purple stripe (depending on the supplier) is on the bottom at both ends.



CAUTION:

While installing the ICC cable connectors, be careful not to bend any backplane pins. Double check each connection to verify that the pins are straight.

17. Install the power units (removed from G2 universal module) into the "A" carrier. There are four different pairs of power units available. They are the 631AR1 and 631BR1, the 631WA1 and 631WB1, the 631DA1 and 631DB1, and the 644A and 645B.

Do not interchange the physical locations of the units. The 631AR1, 631WA1, 631DA1 or 644A are installed in the left side, while the 631BR1, 631WB1, 631DB1 or 645B are installed in the right side (see Figure 7-39 on page 7-86).

18. If the expansion control carrier contains a 631BR1, 631WB1, or 645B power unit, install the previously removed TN736 power unit in port slots "18" and "19" of the carrier (adjacent to the 631BR1, 631WB1, or 645B). If the system is equipped for neon message waiting, a TN752 or TN755 power unit must be used.



NOTE:

The TN736 is not required when the 631DB1 or 645B power unit is used in the J58890AH control carrier or the J58890BB-2 or J58890BB-3 port carriers. It is required in the J58890BB-1 port carrier regardless of which 631 power unit is provided. Use the TN752 or TN755 if the system is equipped with neon message waiting.

19. Connect the power cords to the power units. The power cords are the white cables equipped with plugs that are run through the slots in the front of each carrier (see Figure 7-40 on page 7-87).

Table 7-12. Intercarrier Cable Connections

Connect ICC Cables				
	From		To	
	Carrier	Pin-Field Block	Carrier	Pin-Field Block
EPN	J58890AF	ICCA	J58890BB	ICCA
		ICCB		ICCB

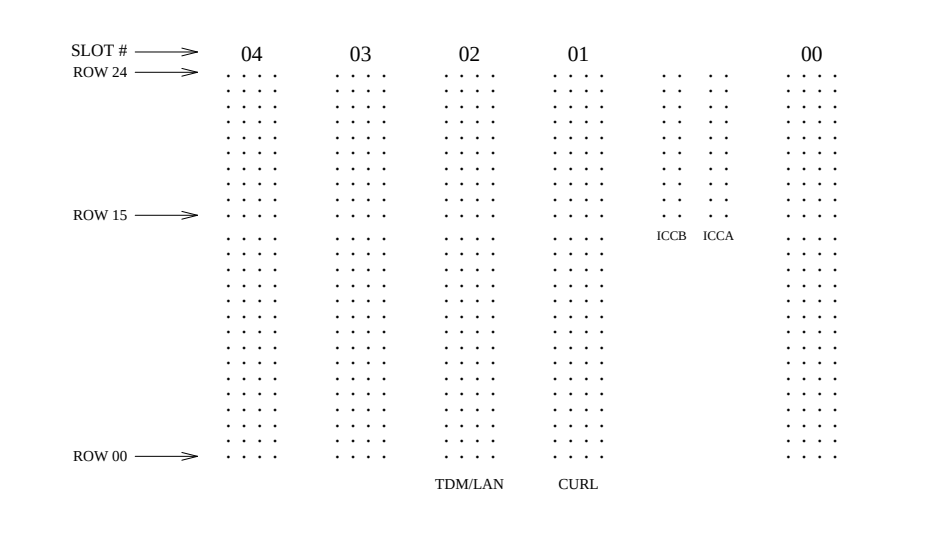


Figure 7-37. ICC Connections for Expansion Control Carrier

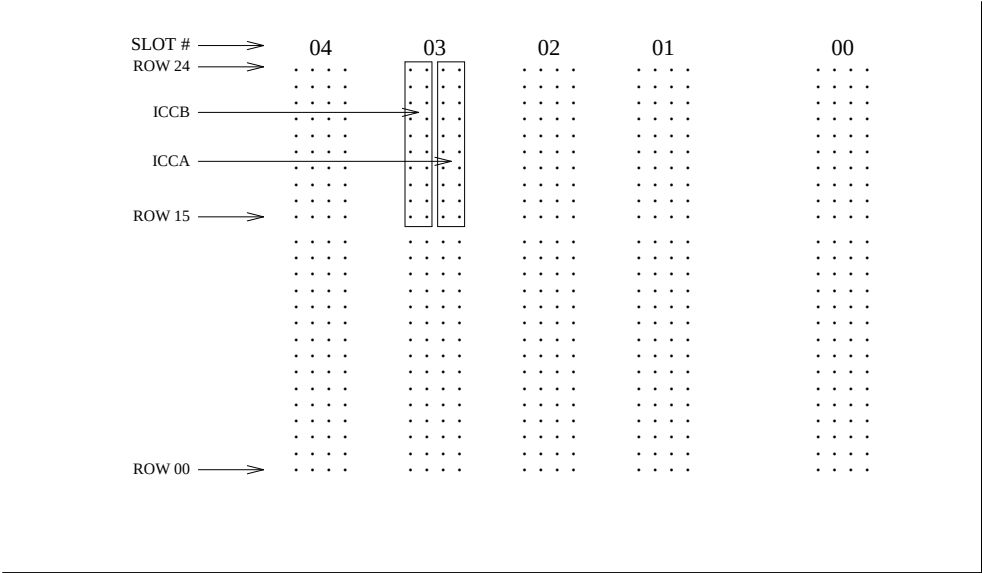


Figure 7-38. ICC Connections for Port Carrier

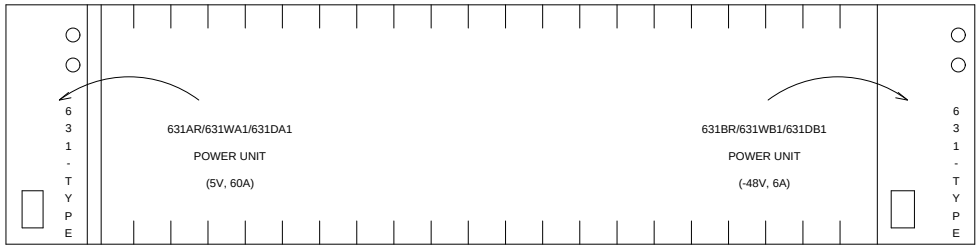


Figure 7-39. Locations of Power Units

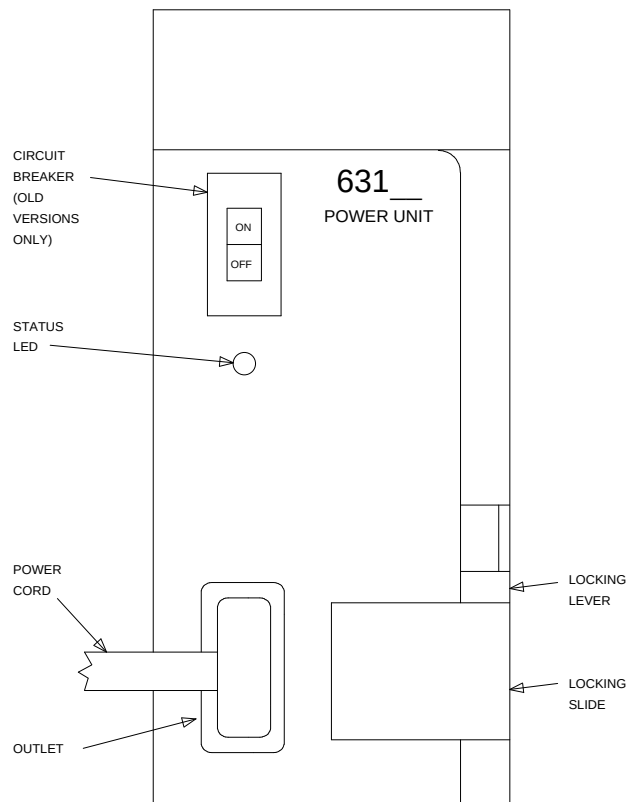


Figure 7-40. 631-Type Power Unit

Test the CURL

1. Plug the cabinet power cord into the appropriate receptacle.
2. At the power-distribution unit, set the main circuit breaker to ON.
3. Unplug the power cord from the power unit "B" (right-hand side) in the "A" carrier.
4. Verify that the fans continue running. If they are not running, check the installation of the CURL.
5. Reconnect the power cord to the power unit in the "A" carrier, then unplug the power cord from power unit "B" (right-hand side) in the "B" carrier.
6. Verify that the fans continue running. If they are not running, check the installation of the CURL.
7. Reconnect the power cord to the power unit in the "B" carrier.
8. At the power-distribution unit, set the main circuit breaker to OFF.

Install Circuit Packs

1. See WARNING and NOTE. Install the new DEFINITY ECS Release 5 control circuit packs into carriers "A" and "B." See Figure 7-41. The new decal, and the annotated "list configuration all" (provided with the DEFINITY ECS Release 5 translation memory card) as a guide.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.



NOTE:

Currently, both TN768 Tone Clock circuit packs reside in port slots of the universal module being upgraded. As part of this step, relocate these circuit packs to the "TONE CLOCK" slot of carrier "A" and port slot "1" of carrier "B."

2. For a directly connected critical-reliability DEFINITY ECS Release 5 system with two port networks, ensure that the PPN and this EPN are both equipped with two TN776 or TN570 expansion interface circuit packs.

For a directly connected system with three port networks, ensure that the PPN and each EPN have four TN776s or TN570s.

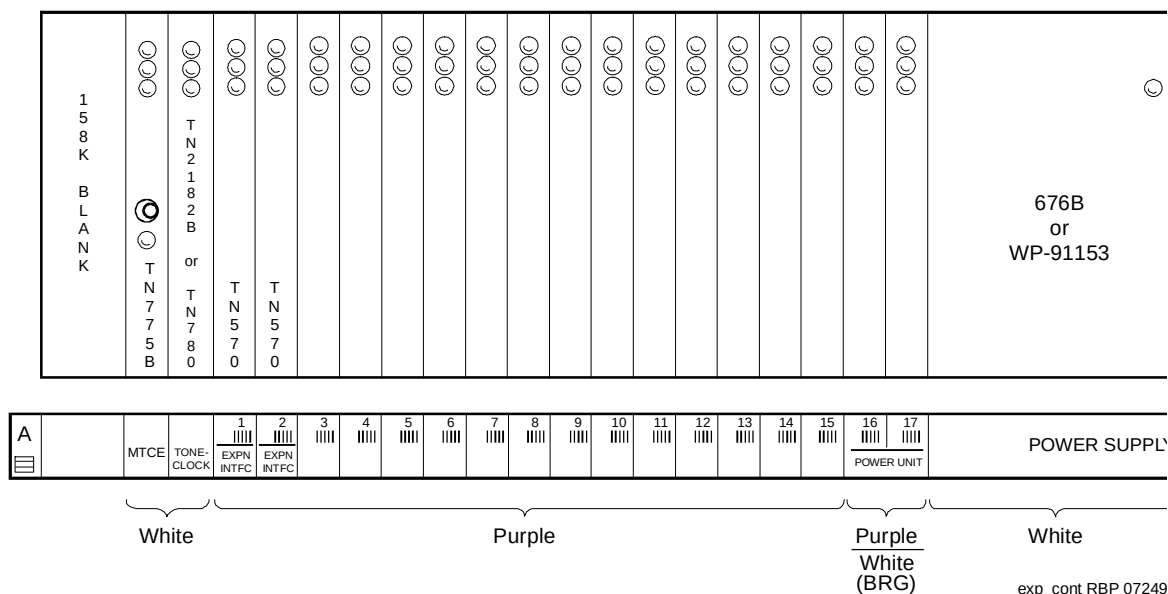


Figure 7-41. Circuit-Pack Locations in DEFINITY ECS Release 5 Expansion Control Carrier

Interconnect Port Networks — Critical-Reliability System

See NOTES. Fiber-optic cabling terminated to 9823A lightwave transceivers can interconnect port networks (PNs) located up to 4,900 feet (about 9/10 mile) apart. Whereas, fiber-optic cabling terminated to 9823B lightwave transceivers can interconnect port networks located up to 25,000 feet (about 4.7 miles) apart.

⇒ NOTE:

As always, these distance limitations are approximate measurements of the *actual* fiber right-of-way (not of the shortest linear distance) between the two endpoints.

⇒ NOTE:

It is important to label every cable that you install. For details, refer to the section, *Labels for Fiber-Optic Cables*, in Appendix E of the installation manual.

⇒ NOTE:

Throughout these procedures, remember to keep track of which fiber is attached to which connector on each lightwave transceiver. This section provides figures offering the suggested way of making these connections.

The connectors on the lightwave transceivers are labeled either "TX" (transmit) or "RX" (receive), while the fibers attached to each connector are numbered either "1" or "2." A viable fiber connection is only made when both fibers in each cable ("1" and "2") route from the "TX" connector of a port network to the "RX" connector of its adjacent port network. For an example, refer to Figure 7-43 on page 7-94.

⇒ NOTE:

For implementation details, refer to the "Fiber Link Administration" sections of *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Collocated Port Networks

For a critical-reliability system with one collocated expansion port network, two fiber-optic cables (FL2P-P-XX) and four lightwave transceivers (9823-type) are required to directly connect the networks.

For a critical-reliability system with two collocated expansion port networks, six fiber-optic cables (FL2P-P-XX) and twelve lightwave transceivers (9823-type) are required to directly connect the networks.

⇒ NOTE:

For the FL2P-P-XX fiber-optic cable, the -XX suffix represents the length of the cable in feet. Based on floor-plan considerations, the length of these cables may vary. However, 20-foot cables are normally adequate for a DEFINITY ECS Release 5 with two port networks.

See NOTE. For collocated cabinets, the fiber-optic cables should be routed directly from the PPN to the EPN cabinet. If, for this upgrade, a "DEFINITY style" PPN cabinet is collocated with another "DEFINITY style" EPN cabinet, the preferred routing is to run the cables *up* the cable tray and out the top of the PPN cabinet. The cables are then run to the other cabinet, through the top of the cabinet, and down the cable tray to the desired carrier level.

⇒ NOTE:

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for additional guidelines about fiber routing.

If, for this upgrade, a "DEFINITY style" PPN cabinet is collocated with either a small cabinet, medium cabinet, or single-carrier cabinet stack, the preferred routing is to run the cables *down* the cable tray and out the bottom of the PPN cabinet. The cables are then run to the EPN cabinet and up the outside of the rear panels to the desired carrier level.

Fiber-Remoted Port Networks

For a critical-reliability system with one fiber-remoted expansion port network, four fiber-optic cables (FL2P-P-XX), four lightwave transceivers (9823-type), and four lightwave-interface units (provided by the PSC) are required.

For a critical-reliability system with two fiber-remoted expansion port networks, twelve fiber-optic cables (FL2P-P-XX), twelve lightwave transceivers (9823-type), and twelve lightwave-interface units (provided by the PSC) are required.

For fiber-remoted cabinets, the cables should be routed down the cable tray and out the bottom of the cabinet to the cross-connect field where the lightwave-interface units are located.

In either case, use cable ties to secure the cable against the walls of the cable tray at the cable-tie positions built into the trays.

For Either One or Two Collocated Expansion Port Networks

1. Behind control carrier A of PPN cabinet 1 (see Figure 7-42 on page 7-94, Figure 7-43, Figure 7-44, and Figure 7-45):
 - Install a 9823-type lightwave transceiver on cable connector at slot 1A01.
 - Connect one end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 1A01.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

2. Behind control carrier A of EPN cabinet 2:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2A01.
- Connect the other end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 2A01.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- At the top of the cabinet, coil up the surplus length of fiber-optic cable, and delicately attach the coil to the wall of the cable tray.

3. Behind control carrier B of PPN cabinet 1:

- Install a 9823-type lightwave transceiver on cable connector at slot 1B01.
- Connect one end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 1B01.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

4. Behind port carrier B of EPN cabinet 2:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2B02.
- Connect the other end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 2B02.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- At the top of the cabinet, coil up the surplus length of fiber-optic cable, and delicately attach the coil to the wall of the cable tray.

For Two Collocated Expansion Port Networks

1. Behind control carrier A of PPN cabinet 1:

- Install a 9823-type lightwave transceiver on cable connector at slot 1A02.
- Connect one end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 1A02.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

2. Behind control carrier A of EPN cabinet 3:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A01.
 - Connect the other end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 3A01.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At the top of the cabinet, coil up the surplus length of fiber-optic cable, and delicately attach the coil to the wall of the cable tray.
3. Behind control carrier B of PPN cabinet 1:
 - Install a 9823-type lightwave transceiver on cable connector at slot 1B02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 1B02.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
4. Behind port carrier B of EPN cabinet 3:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3B02.
 - Connect the other end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 3B02.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At the top of the cabinet, coil up the surplus length of fiber-optic cable, and delicately attach the coil to the wall of the cable tray.
5. Behind control carrier A of EPN cabinet 2:
 - Install a 9823-type lightwave transceiver on cable connector at slot 2A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 2A02.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
6. Behind control carrier A of EPN cabinet 3:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A02.
 - Connect the other end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 3A02.

- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At the top of the cabinet, coil up the surplus length of fiber-optic cable, and delicately attach the coil to the wall of the cable tray.
7. Behind port carrier B of EPN cabinet 2:
- Install a 9823-type lightwave transceiver on cable connector at slot 2B03.
 - Connect one end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 2B03.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
8. Behind port carrier B of EPN cabinet 3:
- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3B03.
 - Connect the other end of the fiber-optic cable to the lightwave transceiver, just installed, at slot 3B03.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At the top of the cabinet, coil up the surplus length of fiber-optic cable, and delicately attach the coil to the wall of the cable tray.

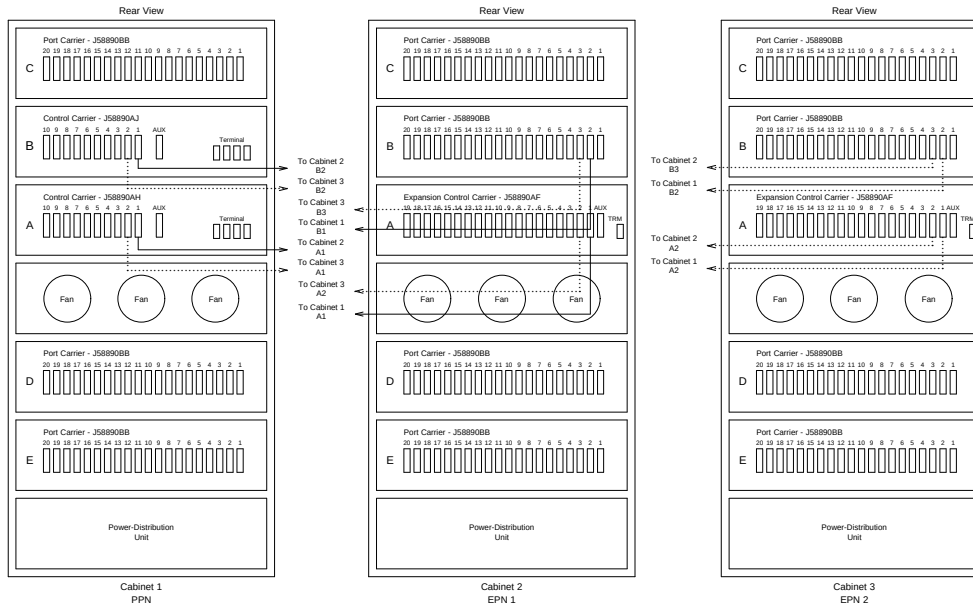


Figure 7-42. Critical-Reliability DEFINITY ECS Release 5 with Two or Three Port Networks

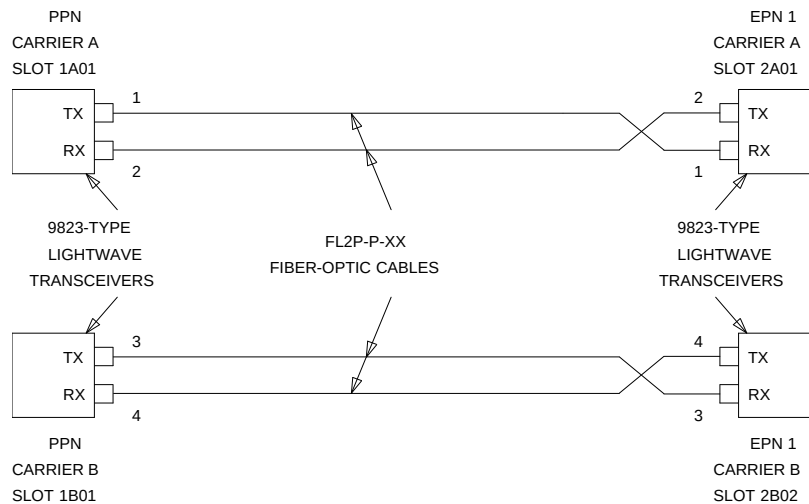


Figure 7-43. Fiber-Optic Connections PPN to EPN1

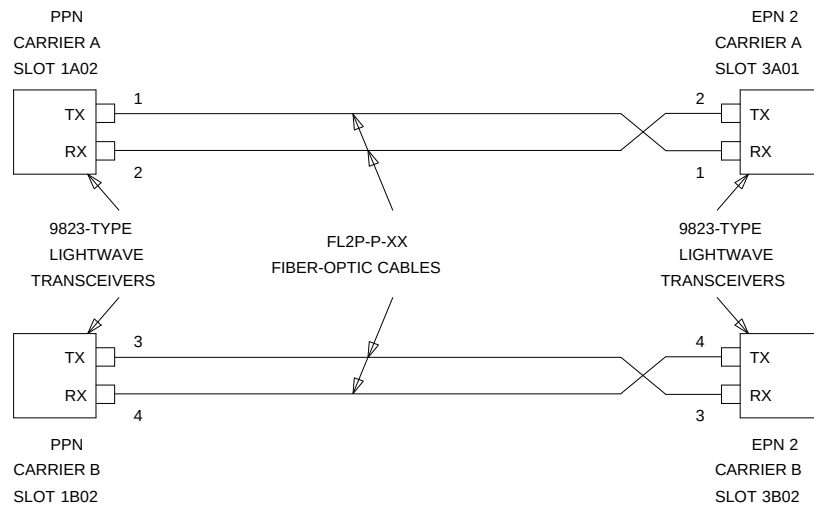


Figure 7-44. Fiber-Optic Connections PPN to EPN2

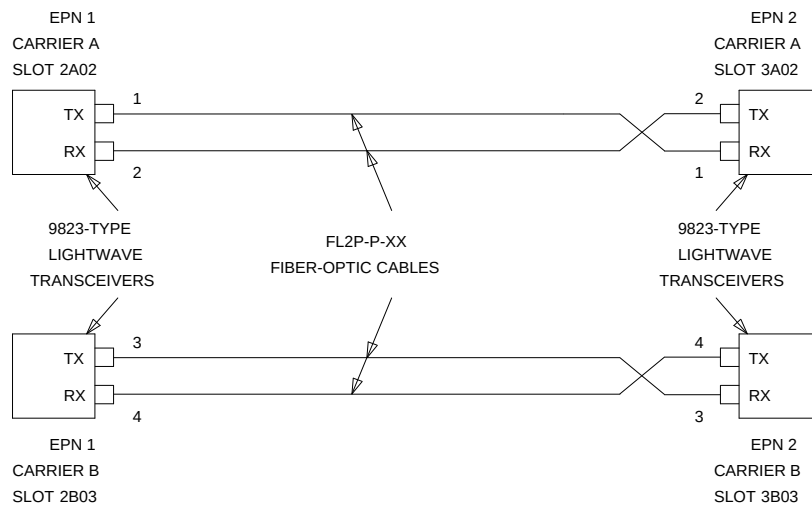


Figure 7-45. Fiber-Optic Connections EPN1 to EPN2

For Either One or Two Fiber-Remoted Expansion Port Networks

1. Behind control carrier A of PPN cabinet 1 (see Figure 7-46 on page 7-100, Figure 7-47, Figure 7-48, and Figure 7-49):
 - Install a 9823-type lightwave transceiver on cable connector at slot 1A01.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A01.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control carrier A of EPN cabinet 2:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2A01.
 - Connect the fiber-optic cable to the lightwave transceiver slot 2A01.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.
3. Behind control carrier B of PPN cabinet 1:
 - Install a 9823-type lightwave transceiver on cable connector at slot 1B01.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1B01.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

4. Behind port carrier B of EPN cabinet 2:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2B02.
- Connect the fiber-optic cable to the lightwave transceiver slot 2B02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

For Two Fiber-Remoted Expansion Port Networks

1. Behind control carrier A of PPN cabinet 1:

- Install a 9823-type lightwave transceiver on cable connector at slot 1A02.
- Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

2. Behind control carrier A of EPN cabinet 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A01.
- Connect the fiber-optic cable to the lightwave transceiver slot 3A01.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

3. Behind control carrier B of PPN cabinet 1:

- Install a 9823-type lightwave transceiver on cable connector at slot 1B02.
- Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1B02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

4. Behind port carrier B of EPN cabinet 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3B02.
- Connect the fiber-optic cable to the lightwave transceiver slot 3B02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

5. Behind control carrier A of EPN cabinet 2:

- Install a 9823-type lightwave transceiver on cable connector at slot 2A02.
- Connect one end of the fiber-optic cable to the lightwave transceiver at slot 2A02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

6. Behind control carrier A of EPN cabinet 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A02.
- Connect the fiber-optic cable to the lightwave transceiver at slot 3A02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

7. Behind port carrier B of EPN cabinet 2:

- Install a 9823-type lightwave transceiver on cable connector at slot 2B03.
- Connect one end of the fiber-optic cable to the lightwave transceiver at slot 2B03.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

8. Behind port carrier B of EPN cabinet 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3B03.
- Connect the fiber-optic cable to the lightwave transceiver at slot 3B03.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet's cable tray and downward out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

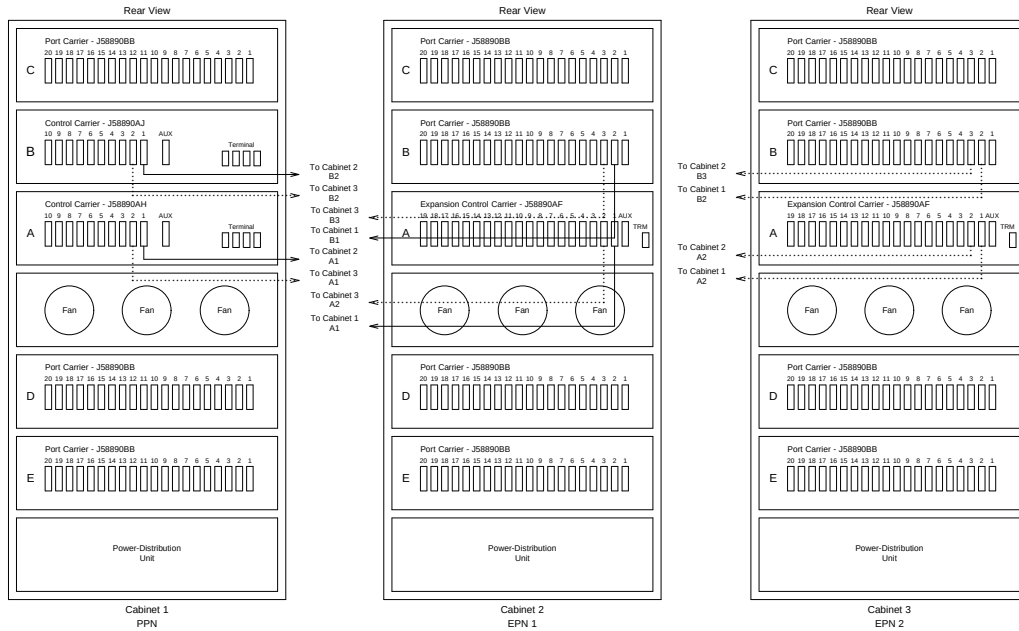


Figure 7-46. Critical-Reliability DEFINITY ECS Release 5 with Two or Three Port Networks

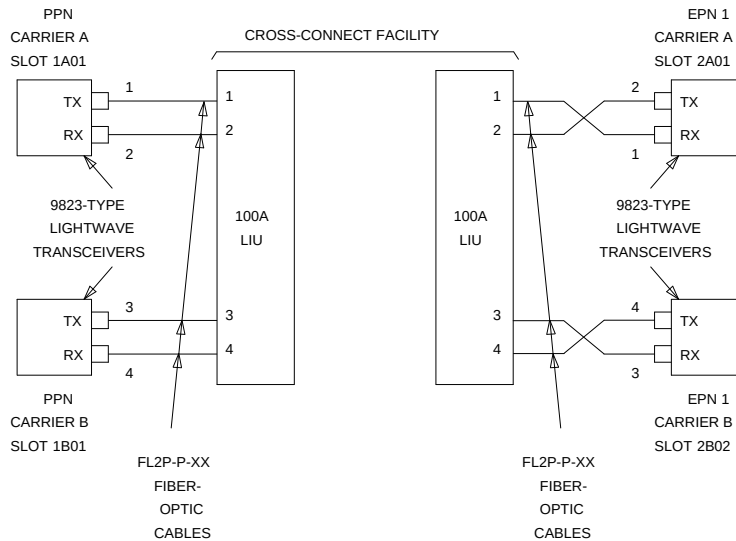


Figure 7-47. Fiber-Optic Connections PPN to EPN1

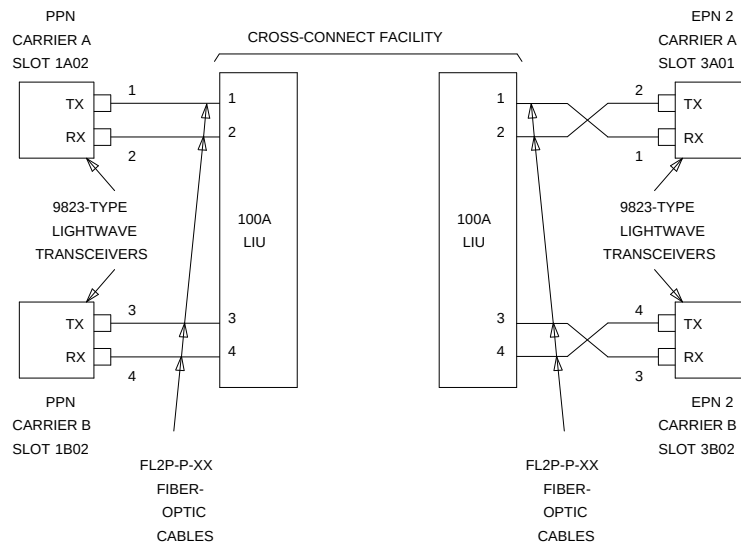


Figure 7-48. Fiber-Optic Connections PPN to EPN2

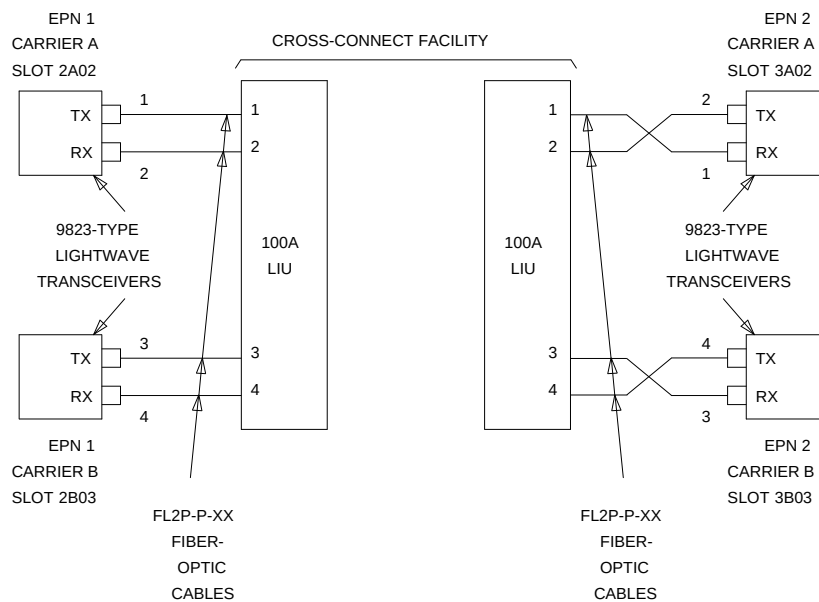


Figure 7-49. Fiber-Optic Connections EPN1 to EPN2

Verify Usable Circuit-Pack Vintages

Verify that every G2 circuit pack reused in the upgrade conforms to the usable vintage requirements for a DEFINITY ECS Release 5 system (see Reference Guide for Circuit-Pack Vintages and Change Notices).

Remove Power-Failure Ground Strap

Remove the ground strap from the power-failure transfer unit.

Boot the DEFINITY ECS Release 5 System

1. Connect the G3-MT to the connector labeled "TERMINAL" behind PPN control carrier "A," or install the G3-MA according to the "Set Up G3-MA" chapter of *DEFINITY Communications System Generic 3 Management Applications — Operations*, 585-229-202.
2. See NOTE. Verify that the translation memory cards are inserted in the TN777B faceplates.



NOTE:

The memory cards are keyed to assure proper installation. Insert each card with the white "DEFINITY Memory Card" label facing left with the insert arrow (on the same side) pointing forward.

3. At each EPN power-distribution unit, set the main circuit breaker to ON.
4. At the PPN power-distribution unit, set the main circuit breaker to ON.
5. The system now goes through the reset level 4 rebooting process, loading the default system translations from the memory cards. Rebooting takes 8 to 11 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

6. Get the order number of the upgrade, and call the regional CSA to request an "init" login so that the G3 V4 option and other right-to-use options can be enabled on the upgraded system.
7. Enter **set time**, and press RETURN to set the time and ensure that the system is booted properly.
8. Enter **list configuration software-version long**, and press RETURN to compare the version number of the DEFINITY ECS Release 5 software program (displayed on the G3-MT or G3-MA) with the TN786B version number (written on a label on the TN786B's faceplate). If the version numbers are not the same, change the version number on the TN786B label so that they agree.

9. Enter **change system-parameters customer-options**. Press RETURN. Use this form to enable the G3 V4 option and to assign the customer's other right-to-use options on the G2-to-DEFINITY ECS Release 5 upgrade order. See *DEFINITY Enterprise Communications Server Release 5 Implementation*, for details on enabling these options.
10. Enter **change site-data**. Press RETURN. Use this form to assign system-specific information (such as building, floor, stations, etc.)
11. Enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
12. Enter **save translation**. Press RETURN. This command instructs the system to write all translation information from memory to the memory cards.



WARNING:

If the terminal screen displays "translation corruption detected; call Lucent Technologies distributor immediately", an error was detected in the translations. Call your Lucent Technologies representative.

Close Upgraded EPN Cabinet and Reconnect Cables

1. At the power-distribution unit of the upgraded EPN, set the main circuit breaker to OFF.



NOTE:

Powering down an EPN without powering down the PPN will set off alarms. However, these alarms should clear after power is restored to each EPN.

2. Temporarily disconnect the lightwave transceivers and fiber-optic cables, already labeled, from the appropriate carriers.
3. Replace the back doors or back panels previously removed.
4. At the EPN cabinet, reconnect the lightwave transceivers, fiber-optic cables, and the connector cables associated with the carrier being replaced.
5. Install the front door on the EPN cabinet if previously removed.

Power Up the EPN Cabinets

1. At each EPN power-distribution unit, set the main circuit breaker to ON.
After about 40 seconds, EPN power and PPN/EPN communications return.
2. After power returns to each EPN and all trouble is cleared, verify that the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Retranslate Port Circuits

If port circuit packs in the G2 module control carrier were relocated in order to put:

- A critical port circuit pack, requiring longer nominal battery holdover (e.g., a DS1 or an Announcement circuit pack), in a port slot
- A TN736, TN752, or TN755 power supply in port slots "18" and "19"
- A TN776 or TN570 Expansion Interface in port slot "1"
- A TN776 or TN570 in port slot "2" (for a second directly connected EPN)

of the new expansion control carrier, verify that they were retranslated during the off-site software upgrade. If not, they must be retranslated now. Refer to *DEFINITY Enterprise Communications Server Release 5 Implementation*, for instructions on performing the retranslations.

Run Acceptance Tests

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, and perform the appropriate tests.

Resolve Alarms

Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.

NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS Release 5

Get the serial number of the new DEFINITY ECS Release 5 PPN, and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), or the number provided by your Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS Release 5.

Return Replaced G2 Equipment

The G2 equipment replaced, during the upgrade to DEFINITY ECS Release 5, should be returned to Lucent Technologies according to the requirements outlined in:

BCS/Material Logistics, MSL/Attended Stocking Locations

Methods and Procedures for Basic Material Returns

The replaced G2 equipment includes:

- G2 common control (CC) cabinet, carriers, and circuit packs and G2 time-multiplexed switch (TMS) cabinet, carriers, and circuit packs
- or
- G2 CC/TMS cabinet, carriers, and circuit packs
- G2 traditional module cabinets, carriers, and circuit packs
- G2 universal module control carriers (J58890AK) and control circuit packs
- G2 ICC cables (ED-1E434-11)
- G2 tape cartridges
- 4-series lightwave transceivers

Single-Carrier Cabinet G2 Universal Module to DEFINITY ECS Release 5 si+m EPN

8

This chapter provides the information necessary to upgrade a DEFINITY® G2 universal module with single-carrier cabinets to a DEFINITY ECS Release 5si+m EPN. The hardware and software involved in the upgrades and the upgrade procedures are also provided.



CAUTION:

Be careful to find the right chapter for your upgrade. Using the software- and sometimes the hardware-upgrade PEC on the customer's order, refer to Table 1 in "About This Document for the correct chapter.



NOTE:

To ensure that the upgrade completes successfully, perform all steps in the order provided.

DEFINITY ECS Release 5 features and functions are listed in the *DEFINITY Enterprise Communications Server Release 5 Feature Description*. *DEFINITY Enterprise Communications Server Release 5 Implementation*, provides the commands, procedures, and forms required to initialize and administer the DEFINITY ECS Release 5.

Task Tables

Table 8-1 provides the high-level tasks to perform the upgrades detailed in this chapter. Refer to the appropriate page for detailed instructions for each step.

Table 8-1. Tasks to Upgrade from G2 Universal Module to Release 5si+m EPN

✓	Task Description	Page
	Contact Network Technicians	4
	Save Translations	12
	Make Source Tape for TRACS Report	12
	Upgrade Single-Carrier Cabinet Stack	14
	Follow Routine Preventive Maintenance	17
	Verify System Status	17
	Label Cables	17
	Power Down System	17
	Disconnect Power and Grounding	17
	Install Power-Failure Transfer Ground Strap	17
	Remove Door and Panels and Disconnect Cables	18
	Remove Circuit Packs	18
	Disconnect TDM/LAN Cables	18
	Remove the Existing Module Control Cabinet	19
	Unpack and Inspect Expansion Control Cabinet for Damage	19
	Remove Front Door	20
	Install Expansion Control Cabinet	21
	Add Earthquake Protection	21
	Install Port Cabinets	23
	Install Circuit Packs	24
	Change Cabinet Address Plugs	26
	Install TDM/LAN Bus Terminators	27
	Connect TDM/LAN Cables and ICC Cables	28
	Interconnect Port Networks — Standard-Reliability DEFINITY ECS Release 5 System	31

Continued on next page

**Table 8-1. Tasks to Upgrade from G2 Universal Module to Release 5si+m EPN —
Continued**

✓	Task Description	Page
	Interconnect Port Networks — High-Reliability DEFINITY ECS Release 5 System	41
	Interconnect Port Networks — Critical-Reliability DEFINITY ECS Release 5 System	51
	Install Ground Plate(s)	64
	Install Cabinet Clip(s)	67
	Connect Power and Grounding	67
	Verify Usable Circuit-Pack Vintages	67
	Remove Power-Failure Ground Strap	67
	Boot the DEFINITY ECS Release 5 System	68
	Close Upgraded EPN Stack without Earthquake Protection and Reconnect Cables	69
	Close Upgraded EPN Stack with Earthquake Mounting and Reconnect Cables	69
	Install Cable Clamps	72
	Power Up the EPN Cabinets	72
	Retranslate Port Circuits	72
	Register System as DEFINITY ECS Release 5	73
	Return Replaced G2 Equipment	73

Considerations

Service Interruption

The upgrade process requires a service interruption. This service interruption must be closely coordinated with the customer and the local account team.

Communication between Equipment Rooms

For an upgrade where some of the equipment resides at a remote location, the upgrade activity will be much easier if temporary communications are established between the equipment rooms.

Contact Network Technicians

The technician for each public and private network accessed by the system must be contacted before the upgrade begins. Otherwise, if these technicians are not aware of the service interruption caused by the upgrade, it is possible that network-access trunk facilities will be busied out at the far end.

Relocation of Port Circuit Packs

A G2 universal-module upgrade to DEFINITY ECS Release 5 *does not* cause port circuit packs, from the G2 universal module, to be moved and manually retranslated. This is because a G2 universal module is always upgraded to an EPN. So, during the universal-module upgrade to a DEFINITY ECS Release 5 EPN, a DEFINITY ECS Release 5 expansion control cabinet (with 14 to 16 available port slots) always replaces the G2 module-control cabinet (with no port slots), providing a net gain of from 14 to 16 port slots.

Usable Circuit Packs

Every circuit pack used in the upgraded DEFINITY ECS Release 5 system must conform to the minimum usable vintage requirements for DEFINITY ECS Release 5. Those circuit packs shipped in the new DEFINITY ECS Release 5 PPN or shipped loose with the new EPN equipment should always meet the usable vintage specifications. In addition, at a presale site inspection, the Quality Protection Plan Change Notice (QPPCN) process must check the vintages of every G2 circuit pack that will be reused in the upgraded DEFINITY ECS Release 5 and, if necessary, replace those circuit packs that have unusable vintages. Refer to *Technical Quarterly*, Reference Guide for Circuit-Pack Vintages and Change Notices, for current information about usable vintages in a DEFINITY ECS Release 5 system.

In most configurations, the two- or three-board combination of a tone generator pack, tone detector pack, and/or call classifier pack can be replaced with the TN2182 circuit pack, freeing up one or two port slots.

Since DEFINITY ECS Release 5 supports international call-processing applications, a wide variety of non-US circuit packs can also be used in this system. For a listing of these circuit packs, refer to Chapter 13, "Circuit Packs and Equipment".

Site Inspections

For the purposes of a DEFINITY ECS Release 5 upgrade, most G2 systems are already equipped with the correct lightwave transceivers (9823-A or -B). However, some G2 systems contain earlier versions of these components, and (based on a site inspection) these older components must be replaced.

See NOTE. The earlier versions of lightwave transceivers included the 4-series transceivers (that is, 4A through 4F). These transceivers supported fiber connections up to 7,000 feet apart; whereas the 9823-A supports connections up to 5,000 feet, and the 9823-B supports connections up to 25,000 feet. If the site inspection reveals that the older transceivers reside in the system, the correct transceivers are ordered and shipped according to a separate PEC.

NOTE:

The 9823-A transceiver is *not* a direct replacement for the 4-series transceiver (since a pair of 9823-A transceivers *cannot* replace a pair of 4-series transceivers supporting a connection of between 5,000 and 7,000 feet).

Power and Grounding

The new multicarrier PPN cabinet or any EPN cabinet added for the upgrade can be either AC- or DC-powered. If an added cabinet is powered differently from the existing cabinets, the existing cabinets do not have to be converted since mixed power configurations are allowed. However, the system's power and grounding must be modified so that the AC-powered cabinets are grounded to the same single-point ground bar as the DC-powered cabinets (see Figure 8-1).

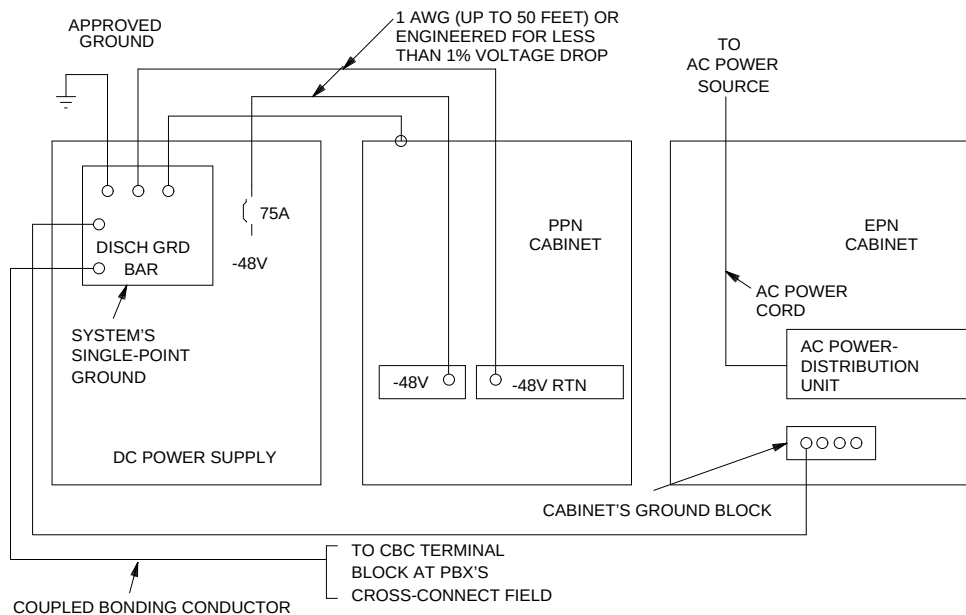


Figure 8-1. Typical Power and Grounding Arrangement for a Mixed AC/DC-Powered Multicabinet Configuration

See NOTE. If a new AC-powered cabinet is to be added, a separate AC receptacle is provided to support the new cabinet. This AC receptacle must not be shared with any other equipment and must not be controlled by a wall switch. For the convenience and safety of equipment-room personnel, the receptacle should not be located under the cross-connect field.

NOTE:

In contrast to the AC power likely to be currently available in a G2 equipment room, the new AC-powered PPN added for a DEFINITY ECS Release 5 upgrade uses 3-wire, 50A, 115 VAC power. Whereas:

- G2 traditional cabinets used 4-wire, 20A, 208 VAC power
- G2 universal cabinets used 3-wire, 30A, 208 VAC power
- Each cabinet in a G2 EPN stack used 3-wire, 15- or 20A, 115 VAC power

If a new DC-powered cabinet is to be added, refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for DC power and grounding requirements.

Isolator

Each G3-MT connected to a DC-powered cabinet, via the asynchronous Electronic Industries Association (EIA) RS-232 interface (behind a PPN control carrier or behind an EPN expansion control carrier), requires a 116A isolator. The isolator is inserted at the RS-232 interface between the G3-MT and the interface connector to isolate grounding between the system and external adjuncts.

Power-Failure Stations

During routine system operation, the ground for the power-failure stations is derived from the system's auxiliary cable. This ground will be disconnected during the upgrade, thus disabling the power-failure stations. Therefore, a ground strap will have to be run to the power-failure transfer panel. This strap should be connected shortly after power is removed and then disconnected just before power is restored to the upgraded system.

To minimize downtime during the DEFINITY ECS Release 5 upgrade, power-failure transfer equipment should be tested and, if need be, repaired before the hardware upgrade begins.

Software

The DEFINITY ECS Release 5 translations will be saved on a memory card installed in the new TN777B Netcon circuit pack. The format of this translation memory card is not compatible with the format of the G2 disk/tape system (DTS).

If the customer plans to emulate existing G2 translations in the upgraded DEFINITY ECS Release 5, then these translations must be copied to a spare tape and sent to Software Technical Support (STS) so reports of the current G2 translations and a G3-MA diskette with basic station translations can be generated. After STS receives the spare tape, this process takes one week. STS must return the G2 reports and the diskette to the Project Manager before the upgrade can begin. For each G2 processor, two tapes (one system tape and one backup tape) must always be retained on site with the G2 system.

After the reports arrive, many features will require special attention because of feature differences, form changes, and potential naming conflicts in the upgrade process.

During the upgrade, the Software Specialist should implement DEFINITY ECS Release 5 translations that are appropriate for the customer's needs. For information to make the required changes, refer to:

- *DEFINITY Communications System Generic 3r Transition Reference*, 555-230-620
- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*, 555-230-636

- *DEFINITY Communications System Generic 3 Feature Description*,
555-230-204
- *DEFINITY Communications System Generic 2 Feature Description*,
555-105-301
- *DEFINITY Enterprise Communications Server Release 5 Implementation*,
555-230-655

Alarm Connection

See NOTE. The D6 connector on G2 systems had 31 alarm-monitor appearances (Unit 1 to Unit 31) for external equipment. Whereas, the AUXILIARY connector on a DEFINITY ECS Release 5si+m PPN only has appearances for 1M (major alarm) and 1m (minor alarm). If the G2 system being upgraded used more than one major or more than one minor alarm-monitor appearance, these extra appearances, they can either be distributed to the AUXILIARY connector on a DEFINITY ECS Release 5 EPN, or "ganged" so that several external devices share the same appearance. The alarms can also be accommodated by paralleling them to the above connections.

NOTE:

When several external devices are ganged to the same appearance, each device loses its individual identity. An alarm on a shared appearance only denotes that one of several devices reported a problem. Subsequent maintenance effort is needed to determine which device reported the problem and the nature of the problem.

The control circuit pack behind the AUXILIARY connector detects external alarms with a ground-detector chip. Therefore, to gang several external devices, every device must be able to return a true relay ground closure to the AUXILIARY connector. Alternatives, such as a TTL low driver, are inadequate.

Table 8-2 and Table 8-3 correlate wall-field terminal numbers, connector pin numbers, lead colors, and lead designations for the G2 D6 and DEFINITY ECS Release 5 AUXILIARY connectors.

Table 8-2. Pinouts for D6 Connector on G2 System

Terminal #	Pin #	Color	Desig.	Terminal #	Pin #	Color	Desig.
1	26	W-BL	UNIT20	2	01	BL-W	UNIT19
3	27	W-O	UNIT22	4	02	O-W	UNIT21
5	28	W-G	UNIT24	6	03	G-W	UNIT23
7	29	W-BR		8	04	BR-W	UNIT25
9	30	W-S	UNIT27	10	05	S-W	UNIT26
11	31	R-BL	UNIT29	12	06	BL-R	UNIT28
13	32	R-O	UNIT31	14	07	O-R	UNIT30
15	33	R-G	AUXCTMP	16	08	G-R	UNIT32
17	34	R-BR	EXTEQMN	18	09	BR-R	EXTEQMJ
19	35	R-S	AUXCRCT	20	10	S-R	AUXCHO
21	36	BK-BL	AUXCCB	22	11	BL-BK	AUXCFRQ
23	37	BK-O	AUXCFAN	24	12	O-BK	
25	38	BK-G	EXTPRMJ	26	13	G-BK	EXTPRMN
27	39	BK-BR	UNIT2	28	14	BR-BK	UNIT1
29	40	BK-S	UNIT4	30	15	S-BK	UNIT3
31	41	Y-BL	UNIT6	32	16	BL-Y	UNIT5
33	42	Y-O	UNIT8	34	17	O-Y	UNIT7
35	43	Y-G	UNIT10	36	18	G-Y	UNIT9
37	44	Y-BR		38	19	BR-Y	UNIT11
39	45	Y-S	UNIT13	40	20	S-Y	UNIT12
41	46	V-BL	UNIT15	42	21	BL-V	UNIT14
43	47	V-O	UNIT17	44	22	O-V	UNIT16
45	48	V-G		46	23	G-V	UNIT18
47	49	V-BR	RING0	48	24	BR-V	TIP0
49	50	V-S	RING1	50	25	S-V	TIP1

Table 8-3. Pinouts for Auxiliary Connector on DEFINITY ECS Release 5 System

Terminal #	Pin #	Color	Desig.	Terminal #	Pin #	Color	Desig.
1	26	W-BL	AUXMJ	2	01	BL-W	GRD
3	27	W-O	AUXMN	4	02	O-W	GRD
5	28	W-G		6	03	G-W	GRD
7	29	W-BR		8	04	BR-W	GRD
9	30	W-S		10	05	S-W	GRD
11	31	R-BL		12	06	BL-R	GRD
13	32	R-O		14	07	O-R	GRD
15	33	R-G		16	08	G-R	
17	34	R-BR		18	09	BR-R	
19	35	R-S		20	10	S-R	
21	36	BK-BL	XFER48	22	11	BL-BK	GRD
23	37	BK-O	XFER48	24	12	O-BK	GRD
25	38	BK-G	XFER48	26	13	G-BK	GRD
27	39	BK-BR	XFER48	28	14	BR-BK	GRD
29	40	BK-S	XFER48	30	15	S-BK	GRD
31	41	Y-BL	XFER48	32	16	BL-Y	GRD
33	42	Y-O	XFER48	34	17	O-Y	GRD
35	43	Y-G		36	18	G-Y	
37	44	Y-BR	GRD	38	19	BR-Y	ACC48A
39	45	Y-S	GRD	40	20	S-Y	ACC48B
41	46	V-BL	GRD	42	21	BL-V	ACC48C
43	47	V-O		44	22	O-V	
45	48	V-G	EXT_ALM	46	23	G-V	EXT_ALM_RT
47	49	V-BR		48	24	BR-V	
49	50	V-S	INADS TIP	50	25	S-V	INADS RING

Port-Network Configurations

Every DEFINITY ECS Release 5 port-network configuration contains one PPN which, for this DEFINITY ECS Release 5 upgrade, is always a new multicarrier cabinet. Larger configurations can contain either one or two EPNs. Figure 8-2 shows the three main port-network configurations including:

- Basic system, containing only a PPN
- Directly connected systems, containing:
 - Two port networks (PPN and EPN) connected directly together
 - Three port networks (PPN and two EPNs) connected directly together

The following sections describe various upgrades to a DEFINITY ECS Release 5 with either two or three port networks.

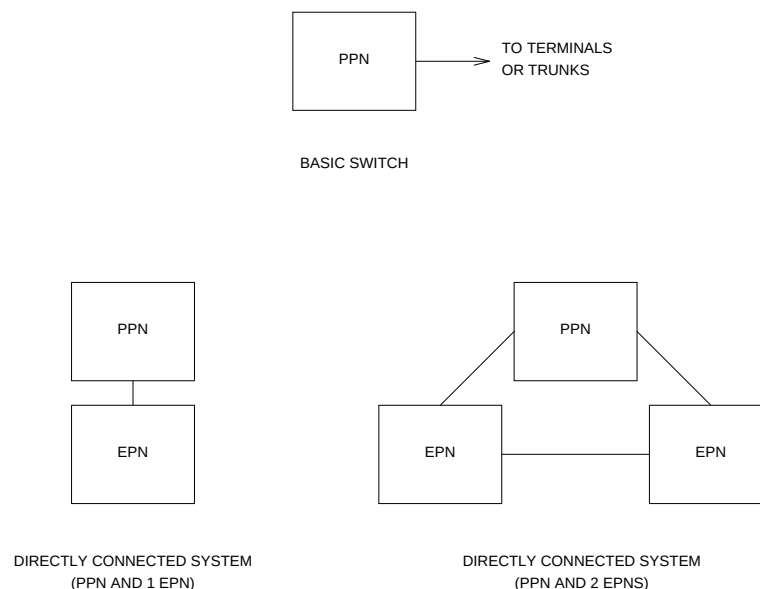


Figure 8-2. DEFINITY ECS Release 5 Port-Network Configurations

Software-Translation Upgrade

The DEFINITY ECS Release 5 translations will be saved on a memory card installed in the new TN777B Netcon circuit pack. The format of this translation memory card is not compatible with the format of the G2 disk/tape system (DTS).

During an upgrade from a G2 to a DEFINITY ECS Release 5, STS generates TRACS reports (shows the current software translations) and G3-MA diskettes

(basic station translations) in the G2 system and sends the reports to the Project Manager. To enable these activities, replace the system tape with a spare G2 tape. (Spare G2 tape cartridges can be acquired from the QPPCN before the upgrade.) Copy the current G2 translations to the spare tape and overnight mail to STS. Put the original system tape back into the system.

If possible, the customer should put a freeze on any new translations while the spare tape is being converted. If not, be sure the customer's switch administrator keeps detailed records of any translation changes made during that interval. These records will supplement the TRACS reports to facilitate the transition from G2 to DEFINITY ECS Release 5 software translations.

The TRACS reports with the current G2 translations must be on-site before the upgrade begins.

Save Translations

1. Log in at the Manager II on the G2.
2. Enter **rtx** (run tape, execute). Press RETURN. This command instructs the system to write all translation information from memory to the tape.
3. Remove the system tape, install the backup tape, and wait for the tape to retention.
4. Enter **rtx** (run tape, execute). Press RETURN.

Make Source Tape for TRACS Report

A spare G2 tape must be acquired from the QPPCN before performing the following steps. For each processor, there must always be two tapes on site with the G2 system. Do not send a system or backup tape to STS.

After performing the previous procedures, copy the G2 translations to the spare tape used to make the TRACS report. Perform the following procedures:

1. Remove the backup tape, install the spare tape, and wait for the tape to retention.
2. Enter **rtx** (run tape, execute). Press RETURN. This command instructs the system to write all translation information from memory to the tape.
3. Remove the source tape.
4. Insert the system tape.

The tape removed in Step 3 should be mailed (with next-day delivery) to STS for use in making the G2 TRACS report.

System Upgrades

There are many configurations of DEFINITY G2s in the field. In terms of both hardware and software, each system can have a unique configuration. However, to simplify DEFINITY ECS Release 5 upgrades:

- The existing common control is always replaced by a multicarrier PPN
- Existing traditional modules are replaced by EPNs ¹
- Existing universal modules are upgraded to EPNs

A new multicarrier cabinet would then always serve as the PPN.

If a G2 universal module is upgraded to a DEFINITY ECS Release 5 EPN, hardware changes (including carrier replacement) are required.

This section gives a sequential list of the steps required to upgrade the system.

1. There is not necessarily a one-to-one correspondence between DEFINITY ECS Release 5 EPNs and G2 modules. With careful hardware and traffic engineering, an upgraded DEFINITY ECS Release 5 can have fewer EPNs than the G2 had modules.

G2 to DEFINITY ECS Release 5

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, to install the new PPN cabinet.

If traditional modules are being replaced by EPNs, refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, to install the new EPNs.

Upgrade Single-Carrier Cabinet Stack

An existing universal-module cabinet stack is always upgraded to an EPN. Upgrade the modules using the following procedures.

A G2 universal module is upgraded to a DEFINITY ECS Release 5 EPN by:

- Removing the module control cabinet occupying position "A" or logical positions "A" and "B"
- Installing the J58890N expansion control cabinet in position "A"
- Replacing the module control in logical position "B" with a J58890H-1 port cabinet (if desired) or changing the port cabinets' address plugs
- Adding the DEFINITY ECS Release 5 circuit packs
- Restructuring the port circuits as required
- Adding DEFINITY ECS Release 5 circuit packs to the "B" port cabinet for critical reliability if required

Upgrading a G2 universal module with single-carrier cabinets requires, at a minimum, that the module control cabinet be replaced. Since the module control cabinet is the bottom cabinet in the stack, the stack will have to be completely dismantled. Properly label every cable to be disconnected so that reconnecting them is easier.

Prerequisite Hardware

The equipment in Table 8-4 *must* be on-site before the upgrade begins. Ensure that the translation memory cards are current and, if necessary, contain enough memory for recorded announcements.

To place a claim for missing equipment, as part of the Streamlined Implementation process, call 1-800-772-5409, or the number provided by your Lucent Technologies representative, and respond to the call prompter.

Table 8-4. Required Hardware

Equipment	Description	Quantity
PEC 6300-05X	Processor Port Network	1
J58890N-1	Expansion Control Cabinet	1
106647985	TN775B Maintenance	1
103557294 or 103281788	TN776 Expansion Interface TN570 Expansion Interface	2, 4, 6, or 12 ¹ 2, 4, 6, or 12 ^{1,2}
63300A	FL2P-P-XX Fiber Cable	1 to 12 ³
106455348 or 106455363	9823-A Lightwave Transceiver 9823-B Lightwave Transceiver	2 to 12 ⁴ 2 to 12 ⁴
406809889	J58890TG L10 4-MByte Translation Memory Card	1 or 2 ^{5,6}
106689516	TN771D Maintenance Test	1 or 2 ⁷
846307817	Lower Rear Cover	1 ⁸
846307809	Ground Plate	1 ⁹
H600-248 G1	ICC Cables	2 ⁹
846408268	Earthquake Front Panel	1 ¹⁰
846408386	Earthquake Ground Plate	1 ¹⁰
846408250	Stiffener	1 ¹⁰
846408243	Earthquake Front Mounting Angle	1 ¹⁰

1. Depending on the reliability type and on the number of DEFINITY ECS Release 5 port networks. Two Expansion Interfaces (EIs) are required for a standard- or high-reliability system with two port networks; six with three port networks. Four are required for a critical-reliability system with two port networks; twelve with three port networks. The factory has installed the necessary EIs in the new PPN. The rest are shipped loose with the EPN equipment.
2. Required port-network interfaces in a DEFINITY ECS Release 5 system with the optional packet bus.
3. Depending on the reliability type, on the number of DEFINITY ECS Release 5 port networks, and on whether the networks are remotely separated. One fiber cable is required for a standard- or high-reliability system with two collocated port networks; three with three collocated port networks. Two are required for a critical-reliability system with two collocated port networks; six with three collocated port networks. (When the port networks are remotely separated, each value doubles.)
Assuming acceptable lengths, the fiber(s) that previously connected an upgraded G2 universal module (not a traditional module) to the G2 TMS have the correct transceiver connectors and, therefore, can be reused.

4. Depending on the reliability type and on the number of DEFINITY ECS Release 5 port networks. Two transceivers are required for a standard- or high-reliability system with two port networks; six with three port networks. Four are required for a critical-reliability system with two port networks; twelve with three port networks.
For each fiber connection, one 9823-type lightwave transceiver is installed in one port network, and another 9823-type transceiver in the adjacent port network. A 9823-type transceiver can be reused from each upgraded G2 universal module. Additional 9823-type transceivers, ordered separately, are also shipped loose with the EPN equipment.
 5. Depending on the reliability type of the DEFINITY ECS Release 5 system. One memory card is required for a standard-reliability system; two for a high-reliability system.
 6. 4-Mbyte translation memory cards are required for a system that uses recorded announcements.
 7. Depending on the number of EPNs in a critical-reliability DEFINITY ECS Release 5 system.
 8. Required for the "B" port cabinet of a critical-reliability DEFINITY ECS Release 5 EPN. (May not have been installed during R1V3 System 75-to-G2 universal module upgrade.)
 9. Required for a critical-reliability DEFINITY ECS Release 5 EPN.
 10. Required if earthquake protection is provided.
-

Required Tools

The following tools and items may be required during the upgrade:

- Flashlight or high-intensity AC drop light
- Power screwdriver (optional)
- 1/4-inch flat-blade screwdriver
- 1/4-inch socket with ratchet (optional)
- Long-nose pliers to straighten backplane pins
- Static-proof or original circuit-pack packaging for transporting circuit packs
- Labels for identifying the port circuit packs and cables attached to the rear of cabinets
- Receptacle for holding screws
- One dozen #8 self-tapping screws
- Repair kit for backplane pins (KS-22876 L2 or equivalent)
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

Follow Routine Preventive Maintenance

During the DEFINITY ECS Release 5 upgrade, follow routine preventive maintenance procedures on the system to be upgraded. For information about the procedures and necessary equipment, refer to the "Preventive Maintenance" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Label Cables

To make reconnecting the cables simpler and more reliable, label every connector cable associated with the system (if not already labeled).

Power Down System

1. At each PPN cabinet's power supply, set the main circuit breaker to OFF.
2. At each EPN cabinet's power supply, set the main circuit breaker to OFF.

Disconnect Power and Grounding

1. Disconnect the cabinet power cords from the rear of each cabinet.
2. Disconnect the coupled bonding conductor.
3. Disconnect the 6-AWG cabinet ground wire from the ground bar in the cabinet.



NOTE:

A screwdriver is required to loosen and tighten the bolts that secure the ground wire to the ground bar.

Install Power-Failure Transfer Ground Strap



CAUTION:

To avoid contaminating single-point ground, do not connect the ground strap while the system is powered up.

1. Connect a strap's lead either to pin 49 of the connecting block or to pin 49 of the CAP (cable access panel) associated with the power-failure transfer panel.
2. Route the other lead to an approved ground source.
3. Connect the lead to the approved ground source.

Remove Door and Panels and Disconnect Cables

1. Remove the front door from all of the universal module's cabinets.
2. Disconnect the previously labeled connector cables attached to the universal module.
3. Remove the ground plate(s) from between all of the universal module's cabinets.
4. Remove the top and bottom rear covers from all of the universal module's cabinets.

Remove Circuit Packs

See WARNING. Remove all circuit packs and power units from the module control cabinet. Store the circuit packs in the static-proof packaging.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Disconnect TDM/LAN Cables

See NOTES. Remove and retain all of the TDM/LAN cables. They will be reused.



NOTE:

Before disconnecting each cable, note the position of the cable.



NOTE:

Since duplicated G2 module control carriers reside in the same single-carrier cabinet, ICC cables are not required to interconnect these carriers. However, new ICC cables (H600-248 G1) will be installed to interconnect the "A" and "B" carriers residing in separate cabinets of the upgraded DEFINITY ECS Release 5 EPN.

Remove the Existing Module Control Cabinet

Since the module control cabinet is located at the bottom of the universal module, the stack will have to be completely dismantled. At this point in the upgrade, all the power, grounding, TDM, ICC, and connector cables should be disconnected. Before proceeding, ensure there is adequate space available to place each cabinet in an out-of-the-way location as the stack is dismantled.

1. Remove the cabinet clip between each cabinet or front earthquake plate as provided.
2. Remove rear ground plate.
3. See DANGER. Remove the port cabinets from the stack, and put them in a safe place.



DANGER:

A port cabinet may weigh as much as 125 pounds and requires two handlers to unstack the cabinet. If a third or fourth cabinet is to be removed, remove the front door, power supply, and circuit packs from the cabinet to lighten the load. Make sure the two handlers are capable (size and strength) of lifting the cabinet from its position.

4. If the module control cabinet in position "A" is earthquake mounted, remove the hardware securing the cabinet to the floor.
5. See NOTE. Move the existing module control cabinet out of its present location. It will not be reused, so it can be removed at this time.



NOTE:

If the universal module being upgraded is part of a critical-reliability G2 system, both the "A" and "B" logical carriers reside in this cabinet. In this case, two sets of module control circuit packs occupy both sides of the cabinet.

Unpack and Inspect Expansion Control Cabinet for Damage

1. See DANGER. Unpack cabinet.



DANGER:

Take care to avoid injury while cutting and removing bands.

2. Visually inspect cabinet for any physical damage caused during shipping. Report any damage for appropriate action per local procedures.

Remove Front Door

Remove the front door of expansion control cabinet.

1. Use a screwdriver, and turn door-latch screw counterclockwise one quarter turn to release door (see Figure 8-3).
2. Lift door from lower slots and remove from cabinet.

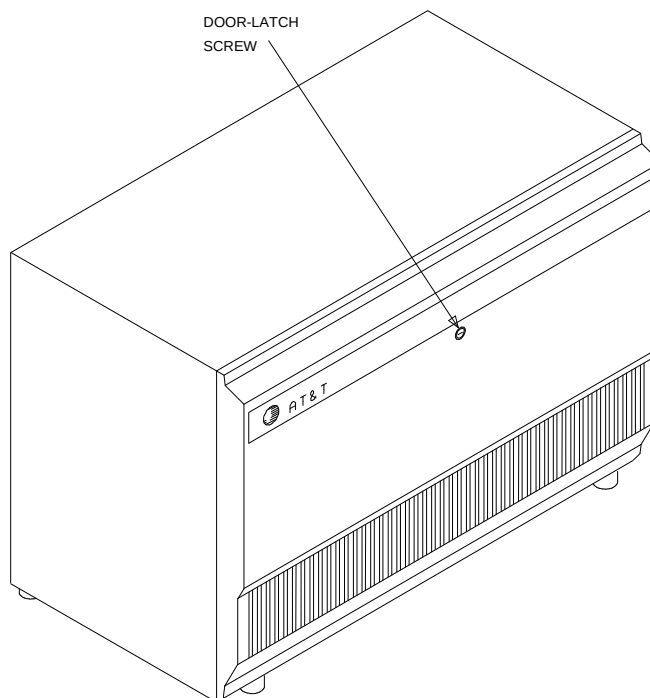


Figure 8-3. Location of Door-Latch Screw for DEFINITY ECS Release 5 Cabinet

Install Expansion Control Cabinet

1. See DANGER. Position the J58890N-1 expansion control cabinet "A" at the desired location.



DANGER:

The cabinet may weigh as much as 130 pounds and requires two handlers. Use caution to avoid injury.

2. If earthquake protection is not required, install hole plugs (provided with cabinet) in the holes previously occupied by the two carriage bolts at the bottom rear of the cabinet.

Add Earthquake Protection

If earthquake protection is required:

1. Place the front mounting angle at the location selected for the front of the expansion control cabinet.
2. Using the angle as a template, mark the locations of the two mounting bolts.
3. Drill two holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 2.
4. Mount the front mounting angle to the floor (Figure 8-4).
5. Move the cabinet back into place, and temporarily stabilize the cabinet by attaching the cabinet to the angle with two No. 12-24 by 1/2-inch thread-forming screws.
6. Insert a pencil or marker through the two holes (previously occupied with carriage bolts) in the bottom rear of the cabinet, and mark the floor directly beneath each hole.
7. Remove the two screws installed in Step 5, and move the cabinet out of the way.
8. Drill two holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 6.
9. Move the cabinet back into place.
10. Attach the cabinet to the front mounting angle using four No. 12-24 by 1/2-inch thread-forming screws.

11. In the rear of the cabinet, lay the stiffener on the bottom of the cabinet, aligning the stiffener with the holes in the bottom of the cabinet.
12. Fasten the cabinet to the floor (Figure 8-5).

NOTE:

This procedure is only a portion of the complete earthquake protection package. According to the logical installation sequence, instructions for adding the earthquake front plate and earthquake ground plate will be given at the appropriate location in this chapter.

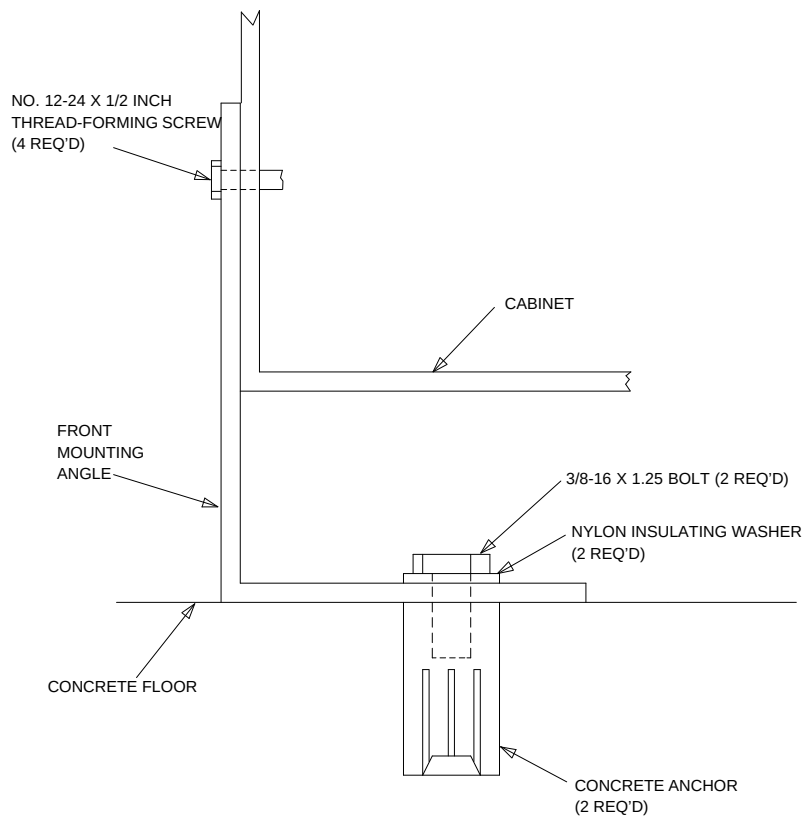
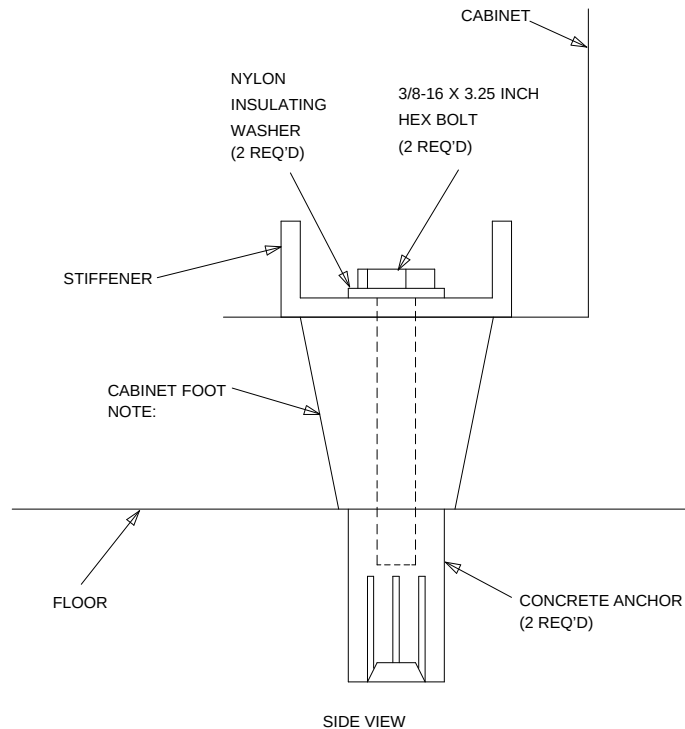


Figure 8-4. Front Mounting Angle — Concrete Floor



NOTE: BOLT DOES NOT RUN THROUGH CABINET FOOT

Figure 8-5. Cabinet Earthquake Mounting — Concrete Floor

Install Port Cabinets

See DANGER and NOTE. Place the port cabinets into the positions from which they were previously removed (see Figure 8-6).



DANGER:

The cabinet may weigh as much as 130 pounds and requires two handlers. Use caution to avoid injury.



NOTE:

If a critical-reliability G2 universal module is being upgraded to a DEFINITY ECS Release 5 EPN, the second logical carrier in the G2 module control cabinet (J58890P) can be replaced by a new J58890H port cabinet in position "B."

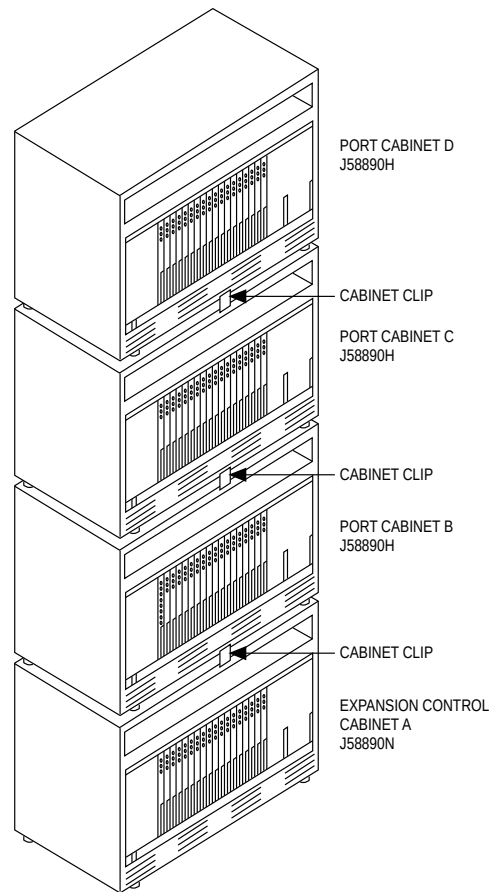


Figure 8-6. 4-Cabinet DEFINITY ECS Release 5 EPN — Front View, Doors Removed

Install Circuit Packs

1. See WARNINGS. Replace the circuit packs and power supplies in port cabinets "D" and "E" if they were previously removed. See Figure 8-7.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

**WARNING:**

These replaced port circuit packs must conform to the usable vintage requirements for a DEFINITY ECS Release 5 system (see Reference Guide for Circuit-Pack Vintages and Change Notices).

- See preceding WARNINGS and following NOTE. Using the following figure, the label, and the annotated "list configuration all" (provided with the DEFINITY ECS Release 5 translation memory cards), install the DEFINITY ECS Release 5 control circuit packs into the new expansion control cabinet.

**NOTE:**

Currently, both TN768 Tone Clock circuit packs reside in port slots of the universal module being upgraded. As part of this step, relocate one of these circuit packs to the "TONE CLOCK" slot of carrier "A." Lucent Technologies recommends that you upgrade to the TN2182 Tone-Clock.'

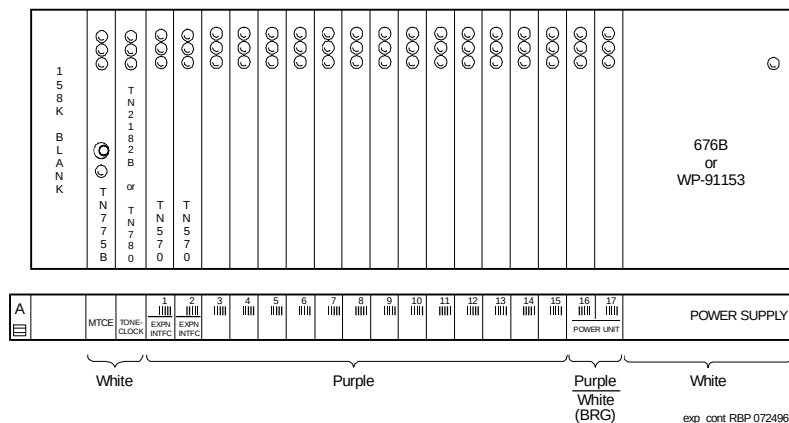


Figure 8-7. Circuit-Pack Locations in DEFINITY ECS Release 5 Expansion Control Cabinet

3. See preceding WARNINGS and following NOTE. For an EPN in a critical reliability DEFINITY ECS Release 5 system, install the other TN768 Tone-Clock and either a TN776 or TN570 EI (see Table 8-5) in slots "1" and "2" of port cabinet "B."



NOTE:

Installing these circuit packs may require a port circuit pack (in slot 3B02) to be moved. If not done before the upgrade, move this circuit pack to an available slot now. Its port circuits will have to be retranslated after the system is rebooted with the DEFINITY ECS Release 5 translation memory card.

Table 8-5. TN776 or TN570 Requirements

Cabinet	2 Port Networks w/o Critical Reliability	2 Port Networks w/Critical Reliability	3 Port Networks w/o Critical Reliability	3 Port Networks w/Critical Reliability
PPN	1	2	2	4
EPN 1	1	2	2	4
EPN 2	N/A	N/A	2	4

Change Cabinet Address Plugs

If the G2 universal module was not duplicated or if a duplicated module control cabinet was removed from position "B" and was not replaced with a new port cabinet, the upgraded EPN's port cabinets occupy incorrect positions in the cabinet stack. If so, the location of each port cabinet's address plug must be changed to reflect the cabinet's current position (see Figure 8-8).

Behind each port cabinet, find either one or two address plugs attached to either two or four of the six backplane pins to the right of the pin-field block for slot 00.

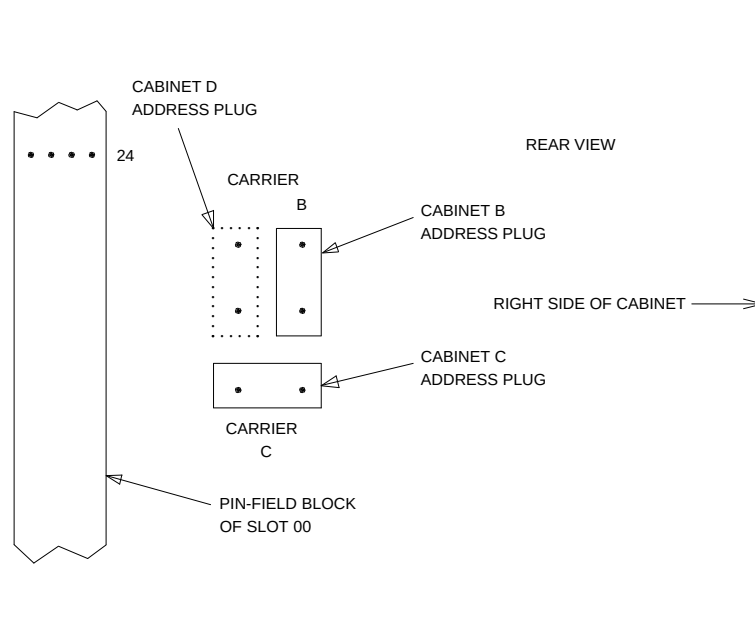


Figure 8-8. Cabinet Address-Plug Location

Install TDM/LAN Bus Terminators

1. Verify that the AHF110 TDM/LAN bus terminator is installed on the right side of the control cabinet looking from the back of the cabinet as shown in Figure 8-9.
2. Verify the AHF110 TDM/LAN bus terminator is installed on the top port cabinet.

Connect TDM/LAN Cables and ICC Cables

1. Route and connect the TDM/LAN cables (see Figure 8-9). If any of the G2 port cabinets (being upgraded to DEFINITY ECS Release 5 cabinets) were originally R1V3 System 75 port cabinets, use the following steps to route a cable between an R1V3 upper cabinet and cabinet beneath it. Do not run a new cable through the existing slot in the rear shelf of the upper cabinet.
 - a. Loosen two left (as viewed from the rear) connector-panel screws, then remove the other two connector-panel screws.
 - b. Attach the TDM/LAN cable to the backplane, and slide the cable between the connector panel and the rear shelf (not through the existing slot in the shelf). Route the cable along the bottom of the cabinet.
 - c. Replace and tighten the connector-panel screws.
2. Connect the new ICC cables (H600-248 G1) as shown in Figure 8-5 on page 8-23 and Figure 8-10 on page 8-30 and Figure 8-11.
3. On the "A" carrier, verify that the CFY1 current limiter (CURL) is properly connected to pin-field block "00" (see Figure 8-10). The CURL's components should be on the left side as viewed from the rear.

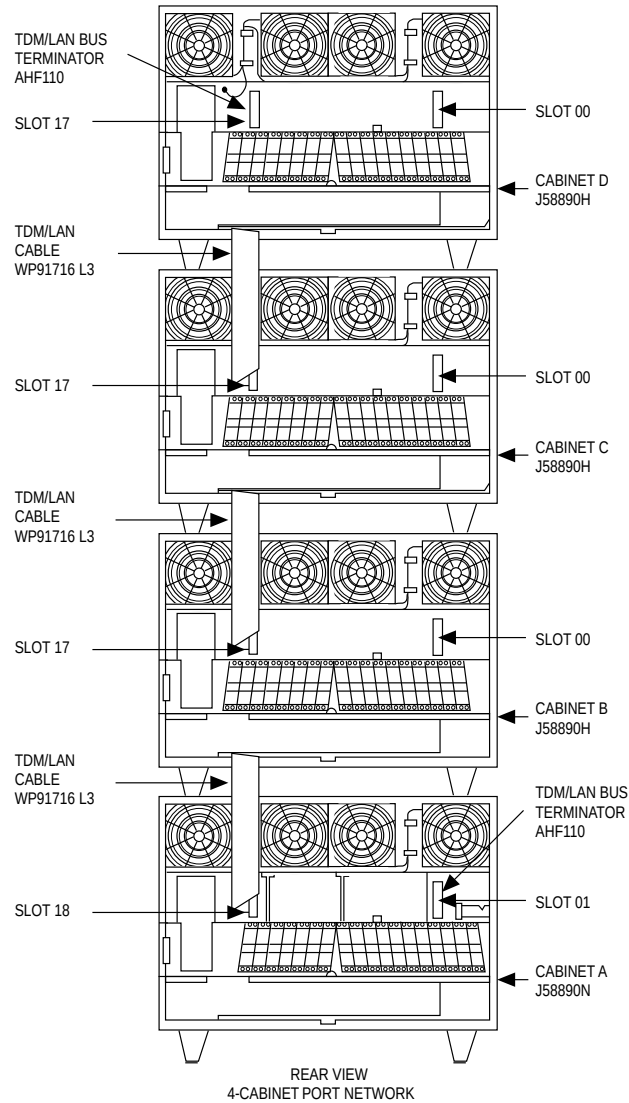


Figure 8-9. TDM/LAN Connections for DEFINITY ECS Release 5 EPN

Table 8-6. Intercabinet Cable Connections

Connect ICC Cables				
	From		To	
	Carrier	Pin-Field Block	Carrier	Pin-Field Block
EPN	J58890N	ICCA	J58890H-1	ICCA
		ICCB		ICCB

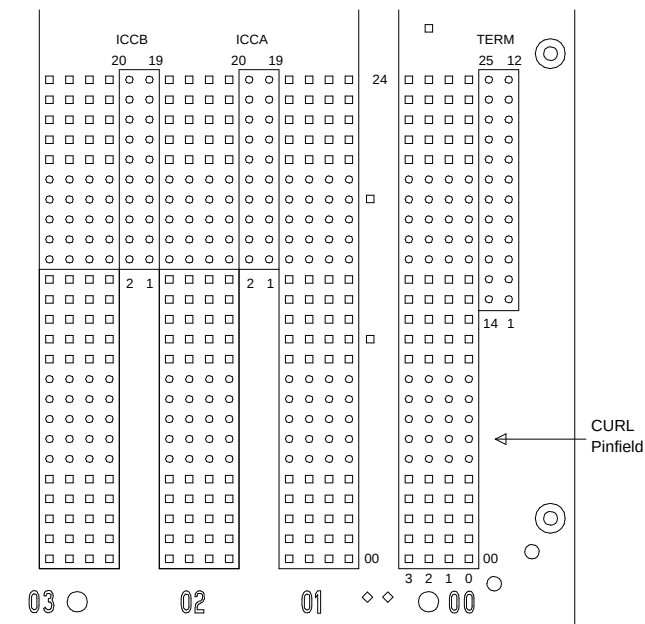


Figure 8-10. ICC Pin-Field Blocks on J58890N Expansion Control Cabinet

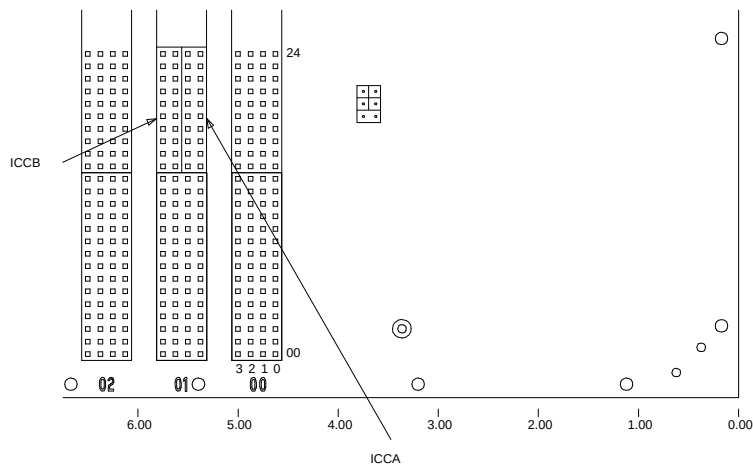


Figure 8-11. ICC Pin-Field Blocks on J58890H Port Cabinet

Interconnect Port Networks — Standard-Reliability DEFINITY ECS Release 5 System

See NOTES. Fiber-optic cabling terminated to 9823A lightwave transceivers can interconnect port networks (PNs) located up to 4,900 feet (about 9/10 mile) apart. Whereas, fiber-optic cabling terminated to 9823B lightwave transceivers can interconnect port networks located up to 25,000 feet (about 4.7 miles) apart.

⇒ NOTE:

These distance limitations are approximate measurements of the *actual* fiber right-of-way (not the shortest linear distance) between the two endpoints.

⇒ NOTE:

It is important to label every cable installed. For details, refer to the section, *Labels for Fiber-Optic Cables*, in Appendix E of the installation manual.

⇒ NOTE:

Throughout these procedures, keep track of which fiber is attached to which connector on each lightwave transceiver. This section provides figures offering the suggested way of making these connections.

The connectors on the lightwave transceivers are labeled either "TX" (transmit) or "RX" (receive), while the fibers attached to each connector are numbered either "1" or "2." A viable fiber connection is only made when both fibers in each cable ("1" and "2") route from the "TX" connector of a port

network to the "RX" connector of its adjacent port network. For an example, refer to Figure 8-13 on page 8-35.

 NOTE:

For implementation details, refer to the "Fiber Link Administration" sections of *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Collocated Port Networks

For a standard-reliability system with one collocated expansion port network, one fiber-optic cable (FL2P-P-XX) and two lightwave transceivers (9823-type) are required to directly connect the networks.

For a standard-reliability system with two collocated expansion port networks, three fiber-optic cables (FL2P-P-XX) and six lightwave transceivers (9823-type) are required to directly connect the networks.

 NOTE:

For the FL2P-P-XX fiber-optic cable, the -XX suffix represents the cable length in feet. Based on floor-plan considerations, the length of cables may vary. Twenty foot cables are normally adequate for a DEFINITY ECS Release 5 with two port networks.

See NOTE. For collocated cabinets, the fiber-optic cables should be routed directly from the PPN to each EPN cabinet. Since, for this upgrade, a "DEFINITY style" PPN cabinet is collocated with a single-carrier cabinet stack, the preferred routing is to run the cables *down* the cable tray and out the bottom of the PPN cabinet. The cables are then run to the EPN cabinet and up the outside of the rear panels to the desired carrier level.

If a "DEFINITY style" PPN cabinet is also collocated with another "DEFINITY style" multicarrier EPN cabinet, the preferred routing is to run the cables *up* the cable tray and out the top of the PPN cabinet. The cables are then run to the other cabinet, through the top of the cabinet, and down the cable tray to the desired carrier level.

 NOTE:

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for additional guidelines about fiber routing.

Fiber-Remoted Port Networks

For a standard-reliability system with one fiber-remoted expansion port network, two fiber-optic cables (FL2P-P-XX), two lightwave transceivers (9823-type), and two lightwave-interface units (provided by the PSC) are required.

For a standard-reliability system with two fiber-remoted expansion port networks, six fiber-optic cables (FL2P-P-XX), six lightwave transceivers (9823-type), and six lightwave-interface units (provided by the PSC) are required.

For One or Two Collocated Expansion Port Networks

1. Behind control carrier A of the multicarrier PPN (see Figure 8-12 through , Figure 8-15):
 - Install a 9823-type lightwave transceiver on the connector at slot 1A01.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A01.
 - Route the fiber-optic cable from the 9823-type lightwave transceiver to the cabinet's cable tray and downward out of the cabinet to the EPN stack.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control cabinet A of EPN stack 2:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on the connector at slot 2A01.
 - Connect the other end of the fiber-optic cable coming from the PPN to the lightwave transceiver at slot 2A01.
 - Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
 - Coil up the surplus length of fiber-optic cable, and place the coil either in the cable manager or on the bottom shelf (holding the power supply) of the PPN cabinet.

For Two Collocated Expansion Port Networks

1. Behind control carrier A of the multicarrier PPN:
 - Install a 9823-type lightwave transceiver on the connector at slot 1A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A02.
 - Route the fiber-optic cable from the 9823-type lightwave transceiver to the cabinet's cable tray and downward out of the cabinet to the EPN stack.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control cabinet A of EPN stack 3:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on the connector at slot 3A01.
 - Connect the other end of the fiber-optic cable coming from the PPN to the lightwave transceiver at slot 3A01.

- Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
 - Coil up the surplus length of fiber-optic cable, and place the coil either in the cable manager or on the bottom shelf (holding the power supply) of the PPN cabinet.
3. Behind control cabinet A of EPN stack 2:
- Install a 9823-type lightwave transceiver on the connector at slot 2A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 2A02.
 - Route the fiber-optic cable from the lightwave transceiver down the outside of the rear covers to the other EPN stack.
 - Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
4. Behind control cabinet A of EPN stack 3:
- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on the connector at slot 3A02.
 - Connect the other end of the fiber-optic cable coming from the other EPN to the lightwave transceiver at slot 3A02.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - Coil up the surplus length of fiber-optic cable, and delicately attach the coil (with a cable tie) to a leg of an EPN cable clamp.

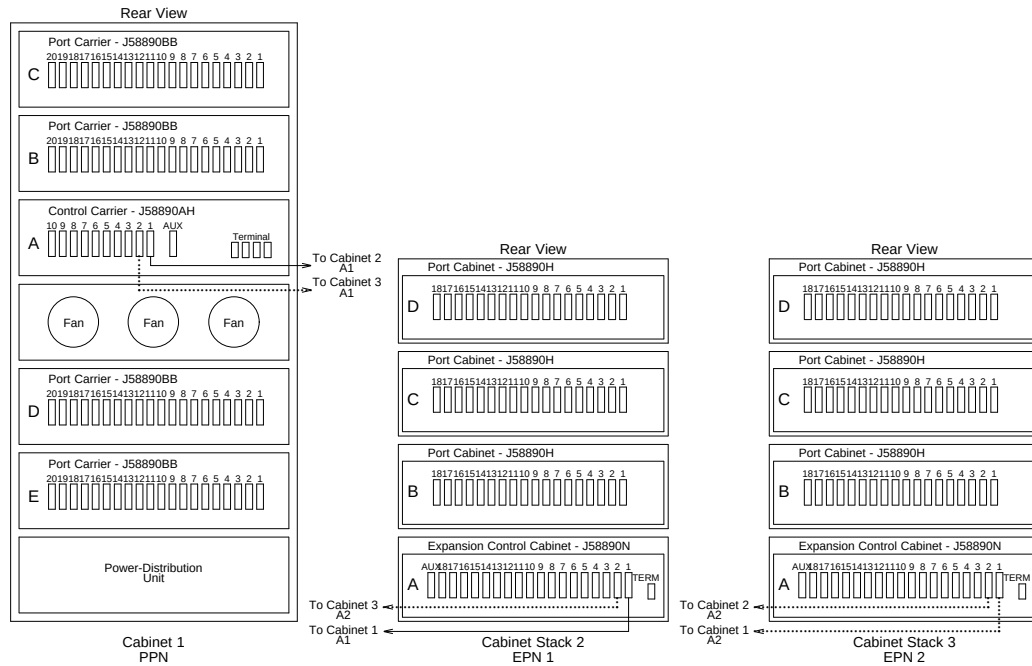


Figure 8-12. Standard-Reliability DEFINITY ECS Release 5 with Two or Three Port Networks

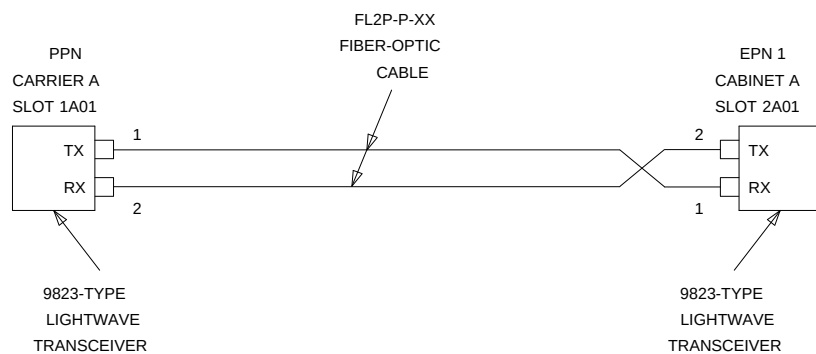


Figure 8-13. Fiber-Optic Connections PPN to EPN1

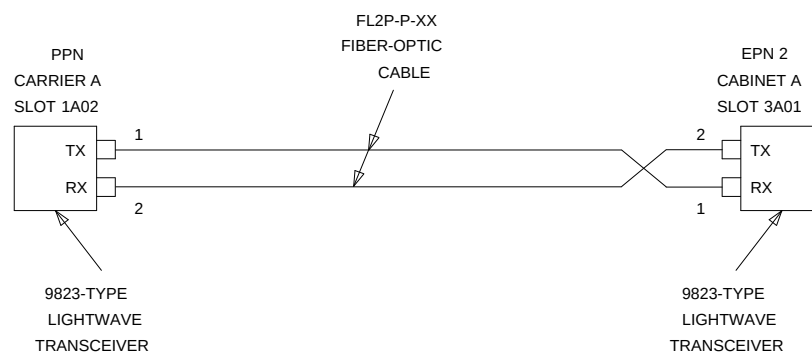


Figure 8-14. Fiber-Optic Connections PPN to EPN2

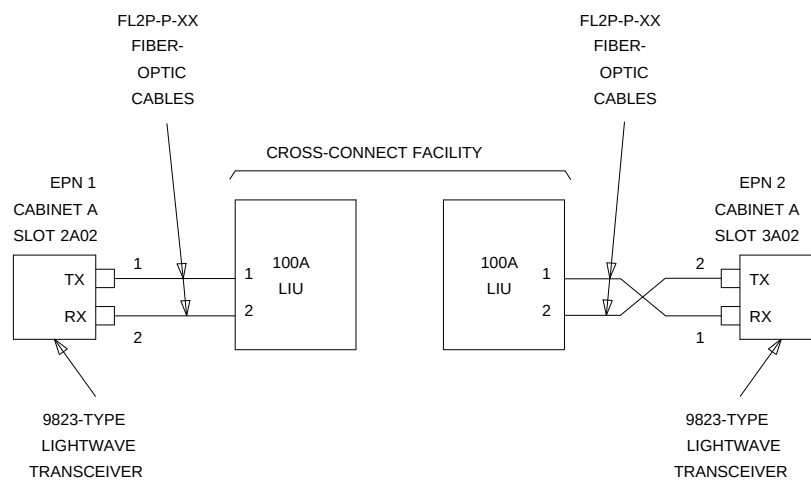


Figure 8-15. Fiber-Optic Connections EPN1 to EPN2

For One or Two Fiber-Remoted Expansion Port Networks

1. Behind control carrier A of the multicarrier PPN (Figure 8-16 on page 8-39, Figure 8-17, Figure 8-18, and Figure 8-19):
 - Install a 9823-type lightwave transceiver on the connector at slot 1A01.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A01.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control cabinet A of EPN stack 2:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on the connector at slot 2A01.
 - Connect the fiber-optic cable to the lightwave transceiver at slot 2A01.
 - Route the fiber-optic cable from the lightwave transceiver down the outside of the rear covers and through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
 - Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

For Two Fiber-Remoted Expansion Port Networks

1. Behind control carrier A of the multicarrier PPN:
 - Install a 9823-type lightwave transceiver on the connector at slot 1A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A02.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control cabinet A of EPN stack 3:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on the connector at slot 3A01.
 - Connect the fiber-optic cable to the lightwave transceiver at slot 3A01.
 - Route the fiber-optic cable from the lightwave transceiver down the outside of the rear covers and through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
 - Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.
3. Behind control carrier A of EPN stack 2:
 - Install a 9823-type lightwave transceiver on the connector at slot 2A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 2A02.
 - Route the fiber-optic cable from the lightwave transceiver down the outside of the rear covers and through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.

4. Behind control cabinet A of EPN stack 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on the connector at slot 3A02.
- Connect the fiber-optic cable to the lightwave transceiver at slot 3A02.
- Route the fiber-optic cable from the lightwave transceiver down the outside of the rear covers and through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

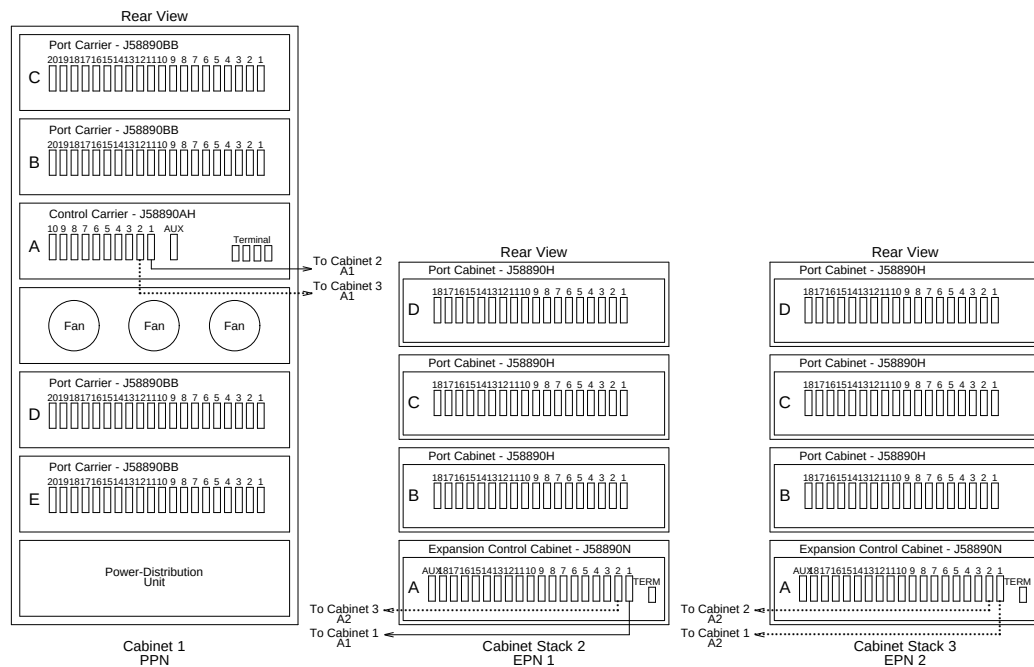


Figure 8-16. Standard-Reliability DEFINITY ECS Release 5 with Two or Three Port Networks

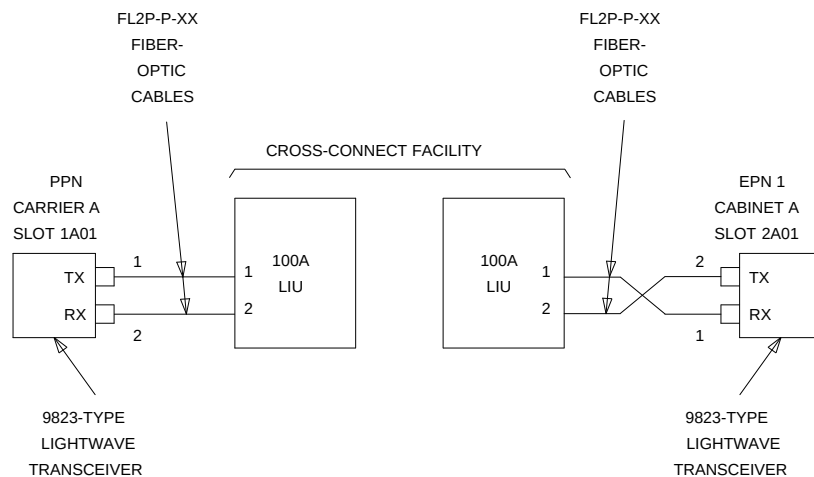


Figure 8-17. Fiber-Optic Connections PPN to EPN1

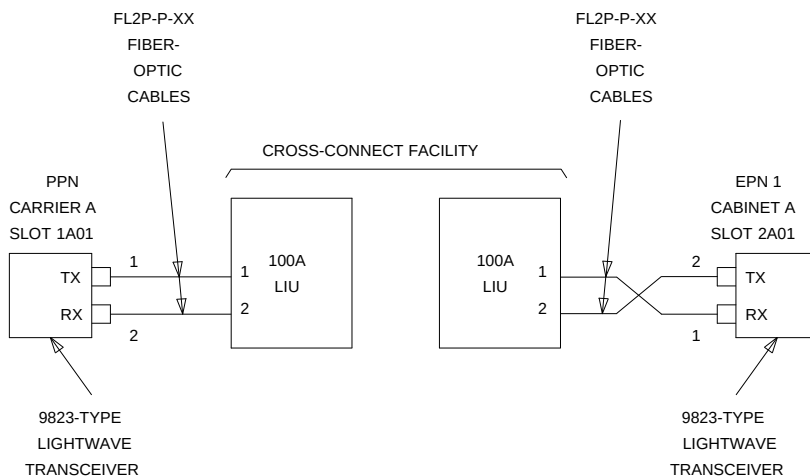


Figure 8-18. Fiber-Optic Connections PPN to EPN2

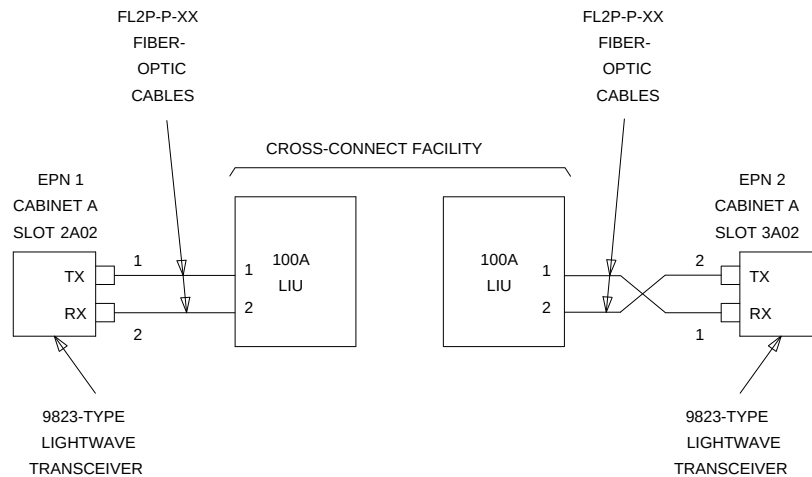


Figure 8-19. Fiber-Optic Connections EPN1 to EPN2

Interconnect Port Networks — High-Reliability DEFINITY ECS Release 5 System

See NOTES. Fiber-optic cabling terminated to 9823A lightwave transceivers can interconnect port networks (PNs) located up to 4,900 feet (about 9/10 mile) apart. Whereas, fiber-optic cabling terminated to 9823B lightwave transceivers can interconnect port networks located up to 25,000 feet (about 4.7 miles) apart.

⇒ NOTE:

These distance limitations are approximate measurements of *actual* fiber right-of-way (not of the shortest linear distance) between the two endpoints.

⇒ NOTE:

It is important to label every cable installed. For details, refer to the section, *Labels for Fiber-Optic Cables*, in Appendix E of the installation manual.

⇒ NOTE:

Throughout these procedures, remember to keep track of which fiber is attached to which connector on each lightwave transceiver. This section provides figures offering the suggested way of making these connections.

The connectors on the lightwave transceivers are labeled either "TX" (transmit) or "RX" (receive), while the fibers attached to each connector are numbered either "1" or "2." A viable fiber connection is only made when both fibers in each cable (that is, "1" and "2") route from the "TX" connector of a port network to the "RX" connector of its adjacent port network. For an example, refer to Figure 8-21.

 NOTE:

For implementation details, refer to the "Fiber Link Administration" sections of *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Collocated Port Networks

For a high-reliability system with one collocated expansion port network, one fiber-optic cable (FL2P-P-XX) and two lightwave transceivers (9823-type) are required to directly connect the networks.

For a high-reliability system with two collocated expansion port networks, three fiber-optic cables (FL2P-P-XX) and six lightwave transceivers (9823-type) are required to directly connect the networks.

 NOTE:

For the FL2P-P-XX fiber-optic cable, the -XX suffix represents the length of the cable in feet. Based on floor-plan considerations, the length of these cables may vary. However, 20-foot cables are normally adequate for a DEFINITY ECS Release 5 with two port networks.

See NOTE. For collocated cabinets, the fiber-optic cables should be routed directly from the PPN to each EPN cabinet. Since, for this upgrade, a "DEFINITY style" PPN cabinet is collocated with a single-carrier cabinet stack, the preferred routing is to run the cables *down* the cable tray and out the bottom of the PPN cabinet. The cables are then run to the EPN cabinet and up the outside of the rear panels to the desired carrier level.

If, for this upgrade, a "DEFINITY style" PPN cabinet is also collocated with another "DEFINITY style" multicarrier EPN cabinet, the preferred routing is to run the cables *up* the cable tray and out the top of the PPN cabinet. The cables are then run to the other cabinet, through the top of the cabinet, and down the cable tray to the desired carrier level.

 NOTE:

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for additional guidelines about fiber routing.

Fiber-Remoted Port Networks

For a high-reliability system with one fiber-remoted expansion port network, two fiber-optic cables (FL2P-P-XX), two lightwave transceivers (9823-type), and two lightwave-interface units (provided by the PSC) are required.

For a high-reliability system with two fiber-remoted expansion port networks, six fiber-optic cables (FL2P-P-XX), six lightwave transceivers (9823-type), and six lightwave-interface units (provided by the PSC) are required.

For One or Two Collocated Expansion Port Networks

1. Behind control carrier A of the multicarrier PPN (see Figure 8-20 on page 8-45, Figure 8-21, Figure 8-22, and Figure 8-23):
 - Install a 9823-type lightwave transceiver on the connector at slot 1A01.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A01.
 - Route the fiber-optic cable from the 9823-type lightwave transceiver to the cabinet's cable tray and downward out of the cabinet to the EPN stack.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control cabinet A of EPN stack 2:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on the connector at slot 2A01.
 - Connect the other end of the fiber-optic cable coming from the PPN to the lightwave transceiver at slot 2A01.
 - Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
 - Coil up the surplus length of fiber-optic cable, and place the coil either in the cable manager or on the bottom shelf (holding the power supply) of the PPN cabinet.

For Two Collocated Expansion Port Networks

1. Behind control carrier A of the multicarrier PPN:
 - Install a 9823-type lightwave transceiver on the connector at slot 1A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A02.
 - Route the fiber-optic cable from the 9823-type lightwave transceiver to the cabinet's cable tray and downward out of the cabinet to the EPN stack.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control cabinet A of EPN stack 3:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on the connector at slot 3A01.
 - Connect the other end of the fiber-optic cable coming from the PPN to the lightwave transceiver at slot 3A01.
 - Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
 - Coil up the surplus length of fiber-optic cable, and place the coil either in the cable manager or on the bottom shelf (holding the power supply) of the PPN cabinet.
3. Behind control cabinet A of EPN stack 2:
 - Install a 9823-type lightwave transceiver on the connector at slot 2A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 2A02.
 - Route the fiber-optic cable from the lightwave transceiver down the outside of the rear covers to the other EPN stack.
 - Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
4. Behind control cabinet A of EPN stack 3:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on the connector at slot 3A02.
 - Connect the other end of the fiber-optic cable coming from the PPN to the lightwave transceiver at slot 3A02.
 - Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
 - Coil up the surplus length of fiber-optic cable, and delicately attach the coil (with a cable tie) to a leg of an EPN cable clamp.

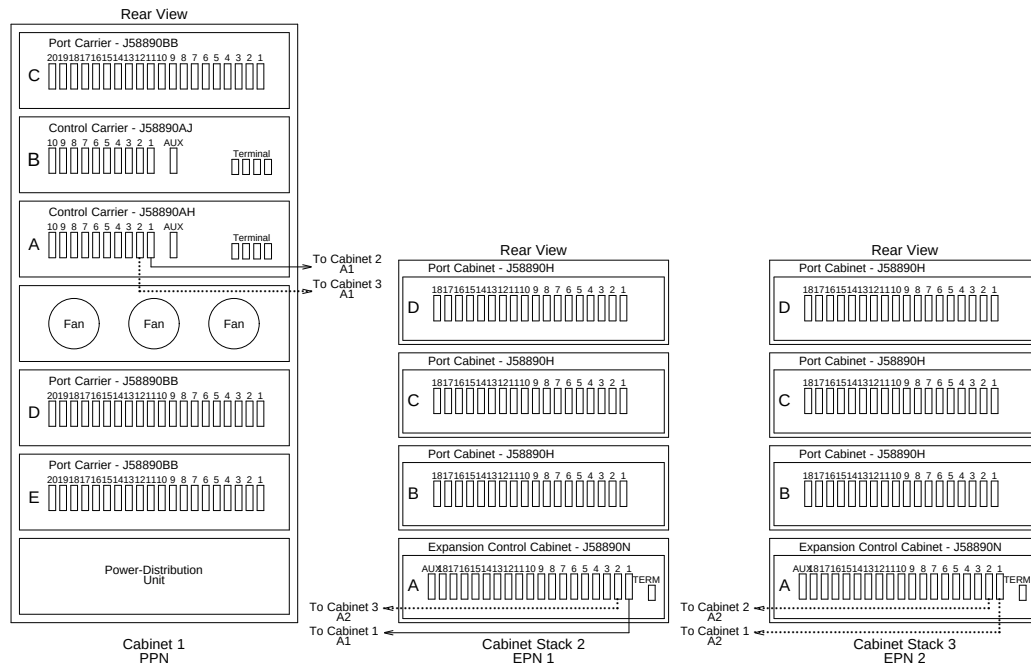


Figure 8-20. High-Reliability DEFINITY ECS Release 5 with Two or Three Port Networks

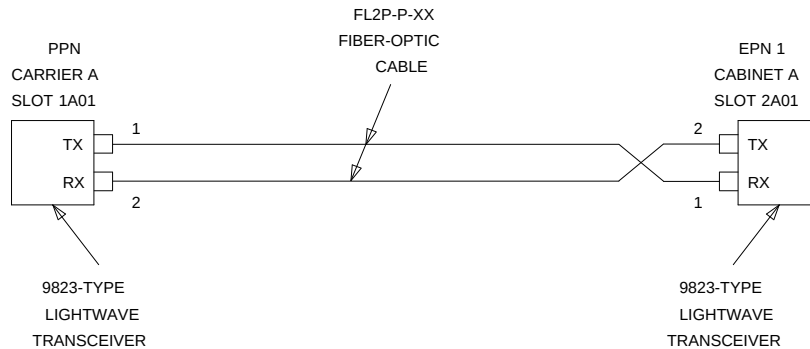


Figure 8-21. Fiber-Optic Connections PPN to EPN1

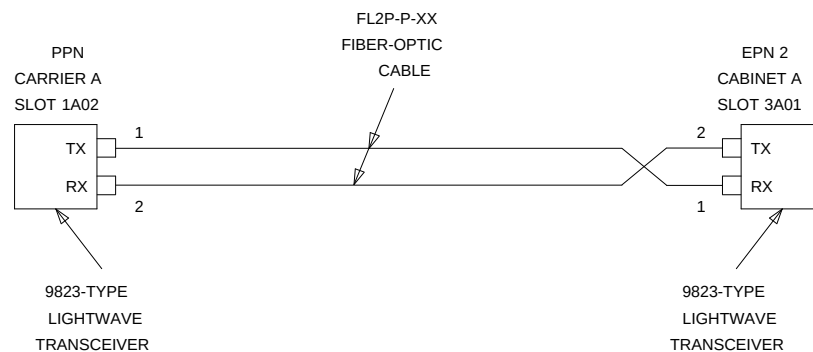


Figure 8-22. Fiber-Optic Connections PPN to EPN2

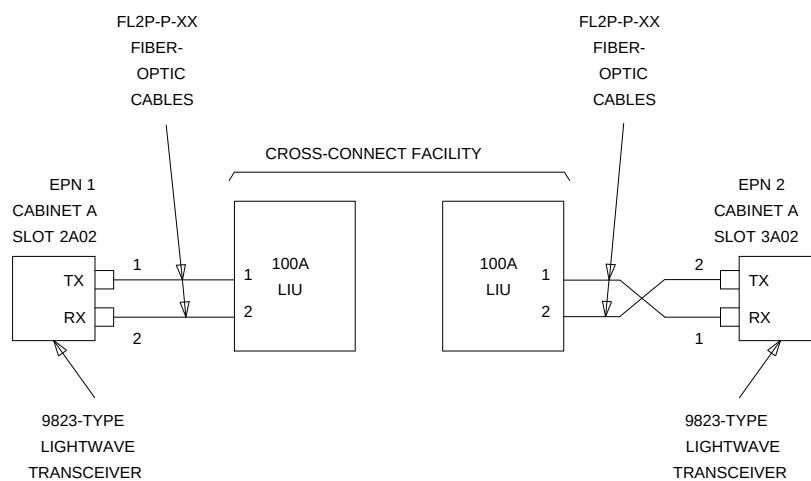


Figure 8-23. Fiber-Optic Connections EPN1 to EPN2

For One or Two Fiber-Remoted Expansion Port Networks

1. Behind control carrier A of the multicarrier PPN (Figure 8-24 on page 8-49, Figure 8-25, Figure 8-26, and Figure 8-27):
 - Install a 9823-type lightwave transceiver on the connector at slot 1A01.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A02.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control cabinet A of EPN stack 2:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on the connector at slot 2A01.
 - Connect the fiber-optic cable to the lightwave transceiver at slot 2A01.
 - Route the fiber-optic cable from the lightwave transceiver down the outside of the rear covers and through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
 - Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

For Two Fiber-Remoted Expansion Port Networks

1. Behind control carrier A of the multicarrier PPN:
 - Install a 9823-type lightwave transceiver on the connector at slot 1A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A02.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind control cabinet A of EPN stack 3:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on the connector at slot 3A01.
 - Connect the fiber-optic cable to the lightwave transceiver at slot 3A01.
 - Route the fiber-optic cable from the lightwave transceiver down the outside of the rear covers and through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
 - Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.
3. Behind control cabinet A of EPN stack 2:
 - Install a 9823-type lightwave transceiver on the connector at slot 2A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 2A02.
 - Route the fiber-optic cable from the lightwave transceiver down the outside of the rear covers and through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.

4. Behind control cabinet A of EPN stack 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on the connector at slot 3A02.
- Connect the fiber-optic cable to the lightwave transceiver at slot 3A02.
- Route the fiber-optic cable from the lightwave transceiver down the outside of the rear covers and through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

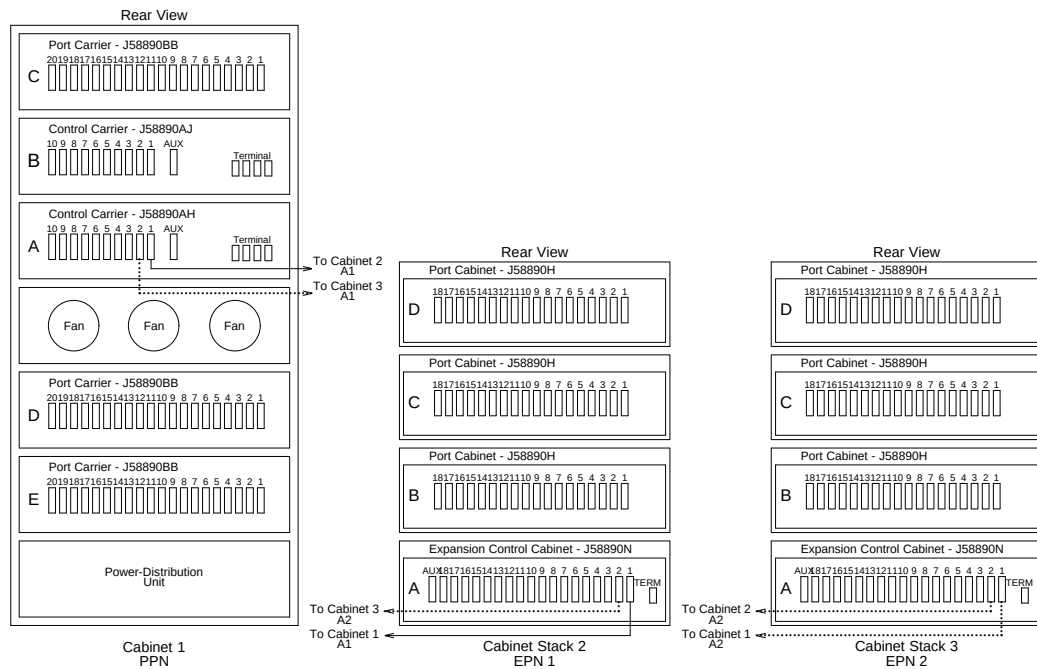


Figure 8-24. High-Reliability DEFINITY ECS Release 5 with Two or Three Port Networks

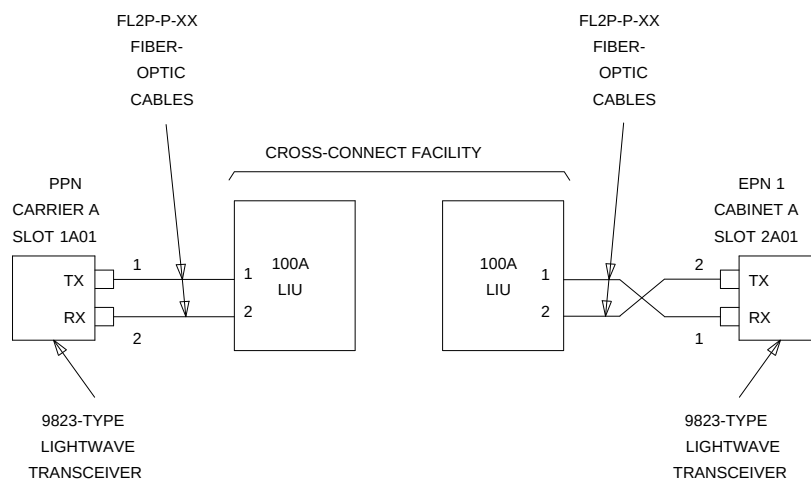


Figure 8-25. Fiber-Optic Connections PPN to EPN1

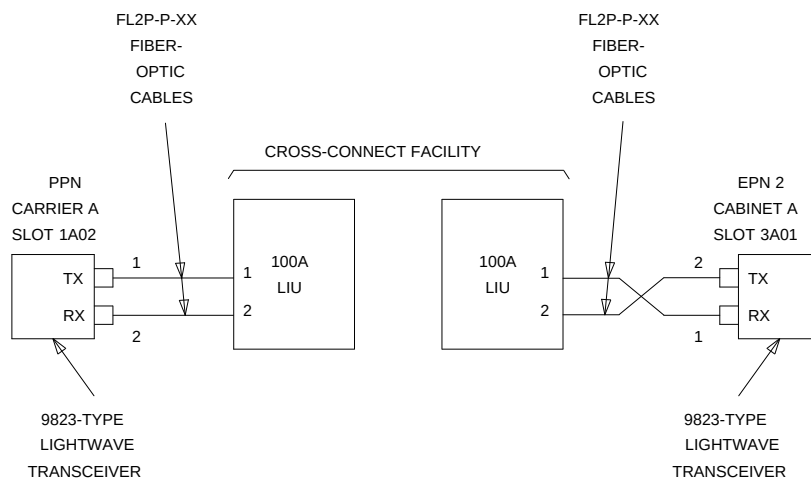


Figure 8-26. Fiber-Optic Connections PPN to EPN2

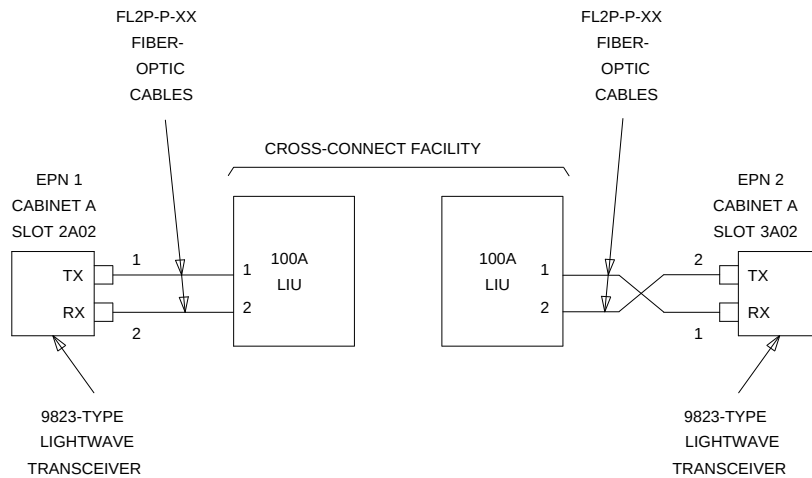


Figure 8-27. Fiber-Optic Connections EPN1 to EPN2

Interconnect Port Networks — Critical-Reliability DEFINITY ECS Release 5 System

See NOTES. Fiber-optic cabling terminated to 9823A lightwave transceivers can interconnect port networks (PNs) located up to 4,900 feet (about 9/10 mile) apart. Whereas, fiber-optic cabling terminated to 9823B lightwave transceivers can interconnect port networks located up to 25,000 feet (about 4.7 miles) apart.

➤ NOTE:

As always, these distance limitations are approximate measurements of the *actual* fiber right-of-way (not of the shortest linear distance) between the two endpoints.

➤ NOTE:

It is important to label every cable that you install. For details, refer to the section, *Labels for Fiber-Optic Cables*, in Appendix E of the installation manual.

➤ NOTE:

Throughout these procedures, remember to keep track of which fiber is attached to which connector on each lightwave transceiver. This section provides figures offering the suggested way of making these connections.

The connectors on the lightwave transceivers are labeled either "TX" (transmit) or "RX" (receive), while the fibers attached to each connector are numbered either "1" or "2." A viable fiber connection is only made when both fibers in each cable (that is, "1" and "2") route from the "TX" connector

of a port network to the "RX" connector of its adjacent port network. For an example, refer to Figure 8-29.)



NOTE:

For implementation details, refer to the "Fiber Link Administration" sections of *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Collocated Port Networks

For a critical-reliability system with one collocated expansion port network, two fiber-optic cables (FL2P-P-XX) and four lightwave transceivers (9823-type) are required to directly connect the networks.

For a critical-reliability system with two collocated expansion port networks, six fiber-optic cables (FL2P-P-XX) and twelve lightwave transceivers (9823-type) are required to directly connect the networks.



NOTE:

For the FL2P-P-XX fiber-optic cable, the -XX suffix represents the length of the cable in feet. Based on floor-plan considerations, the length of these cables may vary. However, 20-foot cables are normally adequate for a DEFINITY ECS Release 5 with two port networks.

See NOTE. For collocated cabinets, the fiber-optic cables should be routed directly from the PPN to each EPN cabinet. Since, for this upgrade, a "DEFINITY style" PPN cabinet is collocated with a single-carrier cabinet stack, the preferred routing is to run the cables *down* the cable tray and out the bottom of the PPN cabinet. The cables are then run to the EPN cabinet and up the outside of the rear panels to the desired carrier level.

If, for this upgrade, a "DEFINITY style" PPN cabinet is also collocated with another "DEFINITY style" multicarrier EPN cabinet, the preferred routing is to run the cables *up* the cable tray and out the top of the PPN cabinet. The cables are then run to the other cabinet, through the top of the cabinet, and down the cable tray to the desired carrier level.



NOTE:

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for additional guidelines about fiber routing.

Fiber-Remoted Port Networks

For a critical-reliability system with one fiber-remoted expansion port network, four fiber-optic cables (FL2P-P-XX), four lightwave transceivers (9823-type), and four lightwave-interface units (provided by the PSC) are required.

For a critical-reliability system with two fiber-remoted expansion port networks, twelve fiber-optic cables (FL2P-P-XX), twelve lightwave transceivers (9823-type), and twelve lightwave-interface units (provided by the PSC) are required.

For One or Two Collocated Expansion Port Networks

1. Behind control carrier A of the multicarrier PPN (see Figure 8-28 on page 8-56, Figure 8-29, Figure 8-30, and Figure 8-31):
 - Install a 9823-type lightwave transceiver on the connector at slot 1A01.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A01.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet. Then route the cable into the cable tray of the EPN cabinet.
2. Behind control cabinet A of EPN stack 2:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2A01.
 - Connect the other end of the fiber-optic cable coming from the PPN to the lightwave transceiver at slot 2A01.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At top of cabinet, coil up the surplus length of fiber-optic cable. Delicately attach the coil to the cable-tray wall with cable ties.
3. Behind control carrier B of the multicarrier PPN:
 - Install a 9823-type lightwave transceiver on the connector at slot 1B01.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1B01.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet. Then route the cable into the cable tray of the EPN cabinet.
4. Behind port cabinet B of EPN stack 2:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2B02.
 - Connect the other end of the fiber-optic cable coming from the PPN to the lightwave transceiver at slot 2B02.

- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- At top of cabinet, coil up the surplus length of fiber-optic cable. Delicately attach the coil to the cable-tray wall with cable ties.

For Two Collocated Expansion Port Networks

1. Behind control carrier A of the multicarrier PPN:
 - Install a 9823-type lightwave transceiver on the connector at slot 1A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1A02.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet. Then route the cable into the cable tray of the EPN cabinet.
2. Behind control cabinet A of EPN stack 3:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A01.
 - Connect the other end of the fiber-optic cable coming from the PPN to the lightwave transceiver at slot 3A01.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At top of cabinet, coil up the surplus length of fiber-optic cable. Delicately attach the coil to the cable-tray wall with cable ties.
3. Behind control carrier B of the multicarrier PPN:
 - Install a 9823-type lightwave transceiver on the connector at slot 1B02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1B02.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet. Then route the cable into the cable tray of the EPN cabinet.
4. Behind port cabinet B of EPN stack 3:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3B02.
 - Connect the other end of the fiber-optic cable coming from the PPN to the lightwave transceiver at slot 3B02.

- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At top of cabinet, coil up the surplus length of fiber-optic cable. Delicately attach the coil to the cable-tray wall with cable ties.
5. Behind control cabinet A of EPN stack 2:
- Install a 9823-type lightwave transceiver on the connector at slot 2A02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 2A02.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet. Then route the cable into the cable tray of the EPN cabinet.
6. Behind control cabinet A of EPN stack 3:
- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A02.
 - Connect the other end of the fiber-optic cable coming from the PPN to the lightwave transceiver at slot 3A02.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At top of cabinet, coil up the surplus length of fiber-optic cable. Delicately attach the coil to the cable-tray wall with cable ties.
7. Behind port cabinet B of EPN stack 2:
- Install a 9823-type lightwave transceiver on the connector at slot 2B03.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 2B03.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet. Then route the cable into the cable tray of the EPN cabinet.
8. Behind port cabinet B of EPN stack 3:
- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3B03.
 - Connect the other end of the fiber-optic cable coming from the PPN to the lightwave transceiver at slot 3B03.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
 - At top of cabinet, coil up the surplus length of fiber-optic cable. Delicately attach the coil to the cable-tray wall with cable ties.

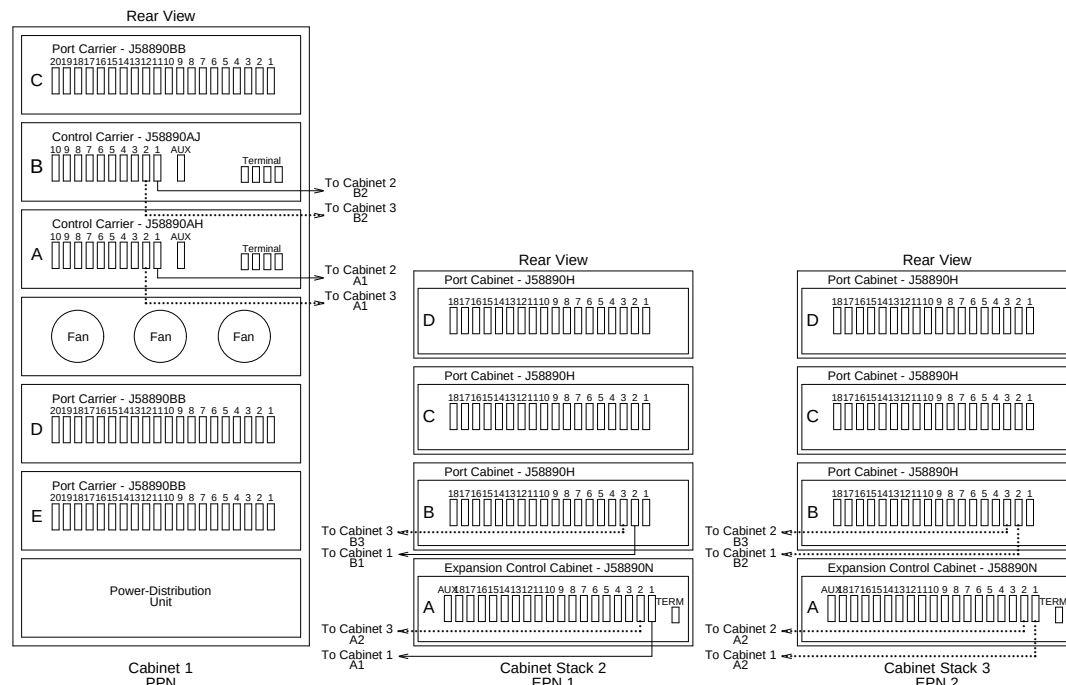


Figure 8-28. Critical-Reliability DEFINITY ECS Release 5 with Two or Three Port Networks

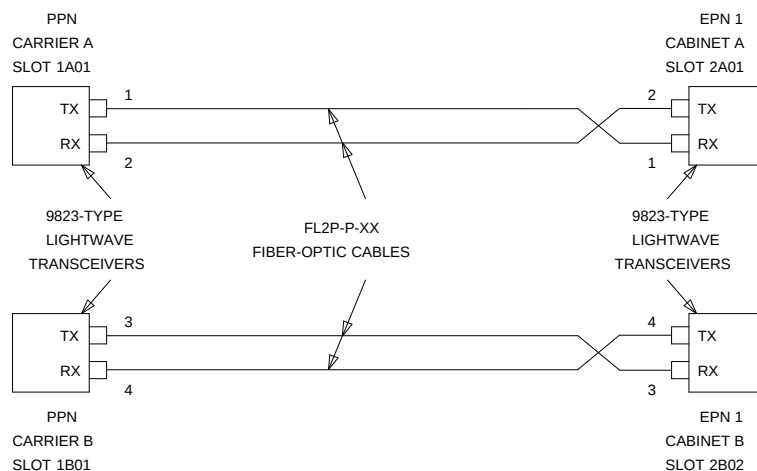
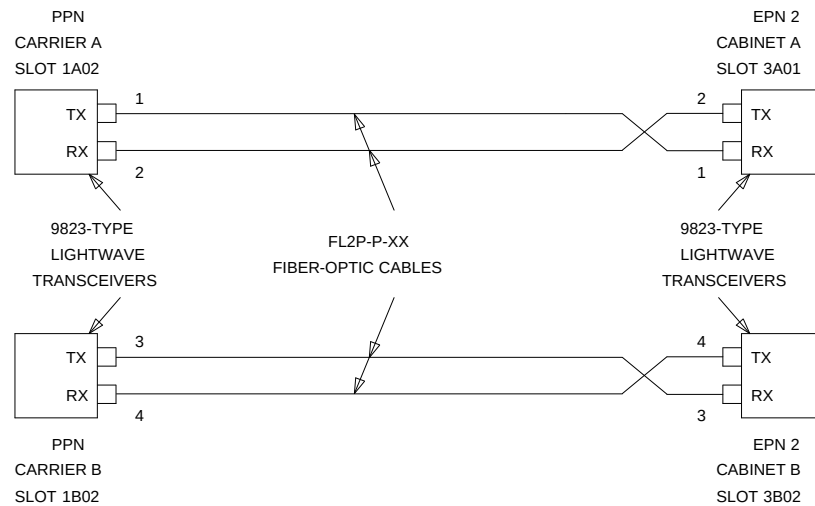
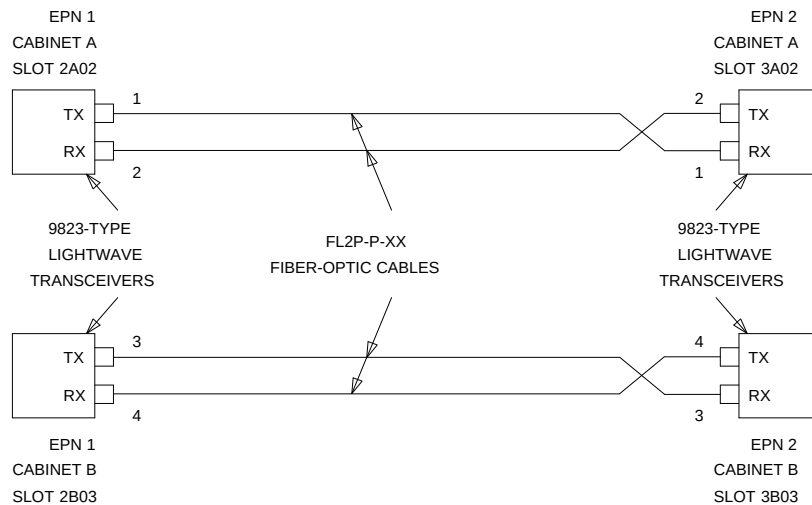


Figure 8-29. Fiber-Optic Connections PPN to EPN1

**Figure 8-30. Fiber-Optic Connections PPN to EPN2****Figure 8-31. Fiber-Optic Connections EPN1 to EPN2**

For One or Two Fiber-Remoted Expansion Port Networks

1. Behind port carrier C of the multicarrier PPN (Figure 8-32 on page 8-62, Figure 8-33, Figure 8-34, and Figure 8-35):
 - Install a 9823-type lightwave transceiver on the connector at slot 1C02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1C02.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
2. Behind port cabinet B of EPN stack 2:
 - Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2B02.
 - Connect the fiber-optic cable to the lightwave transceiver at slot 2B02.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
3. Behind port carrier D of the multicarrier PPN:
 - Install a 9823-type lightwave transceiver on the connector at slot 1D02.
 - Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1D02.
 - Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
 - At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
 - Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

4. Behind control cabinet A of EPN stack 2:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2A01.
- Connect the fiber-optic cable to the lightwave transceiver at slot 2A01.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

For Two Fiber-Remoted Expansion Port Networks

1. Behind port carrier C of the multicarrier PPN:

- Install a 9823-type lightwave transceiver on the connector at slot 1C03.
- Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1C03.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

2. Behind port cabinet B of EPN stack 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3B02.
- Connect the fiber-optic cable to the lightwave transceiver at slot 3B02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

3. Behind port carrier D of the multicarrier PPN:

- Install a 9823-type lightwave transceiver on the connector at slot 1D03.
- Connect one end of the fiber-optic cable to the lightwave transceiver at slot 1D03.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

4. Behind control cabinet A of EPN stack 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A01.
- Connect the fiber-optic cable to the lightwave transceiver at slot 3A01.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

5. Behind control cabinet A of EPN stack 2:

- Install a 9823-type lightwave transceiver on the connector at slot 2A02.
- Connect one end of the fiber-optic cable to the lightwave transceiver at slot 2A02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

6. Behind control cabinet A of EPN stack 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3A02.
- Connect the fiber-optic cable to the lightwave transceiver at slot 3A02.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

7. Behind port cabinet B of EPN stack 2:

- Install a 9823-type lightwave transceiver on the connector at slot 2B03.
- Connect one end of the fiber-optic cable to the lightwave transceiver at slot 2B03.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

8. Behind port cabinet B of EPN stack 3:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 3B03.
- Connect the fiber-optic cable to the lightwave transceiver at slot 3B03.
- Route the fiber-optic cable from the lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

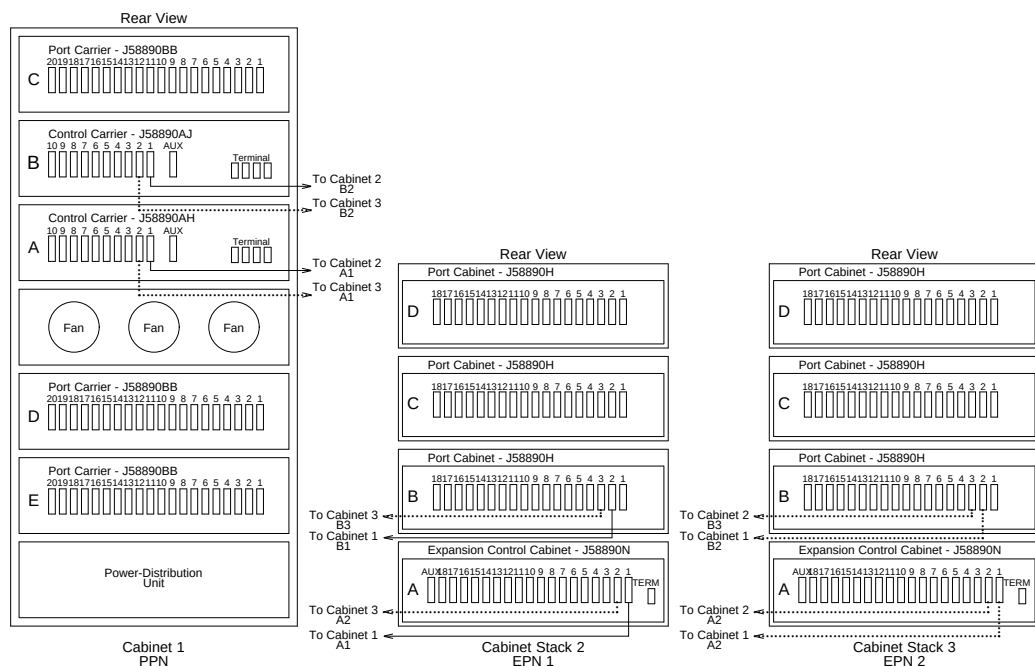
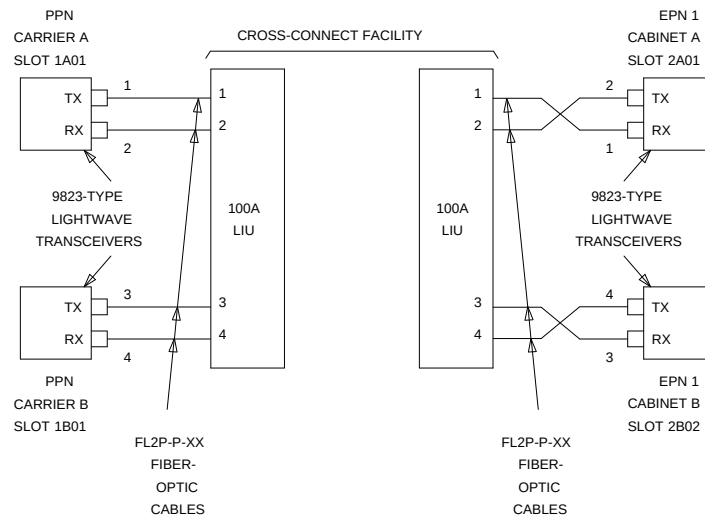
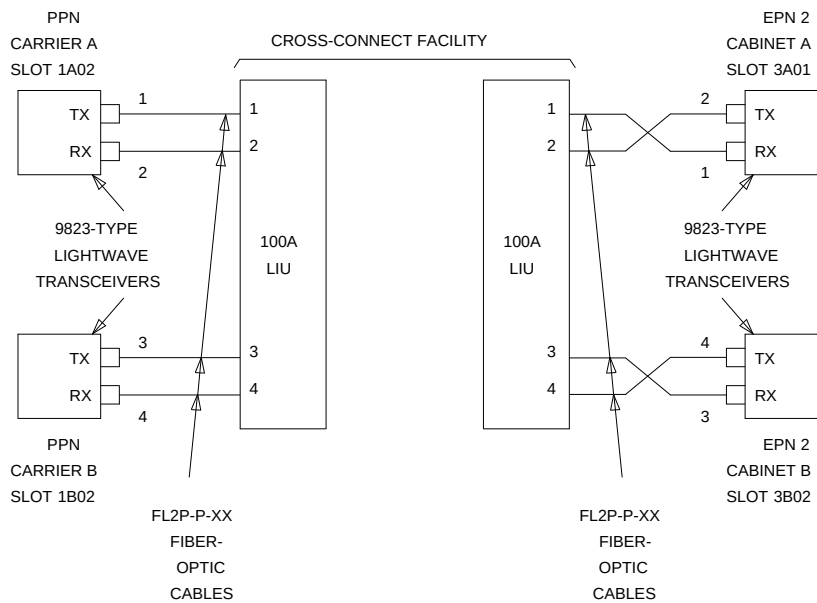


Figure 8-32. Critical-Reliability DEFINITY ECS Release 5 with Two or Three Port Networks

**Figure 8-33. Fiber-Optic Connections PPN to EPN1****Figure 8-34. Fiber-Optic Connections PPN to EPN2**

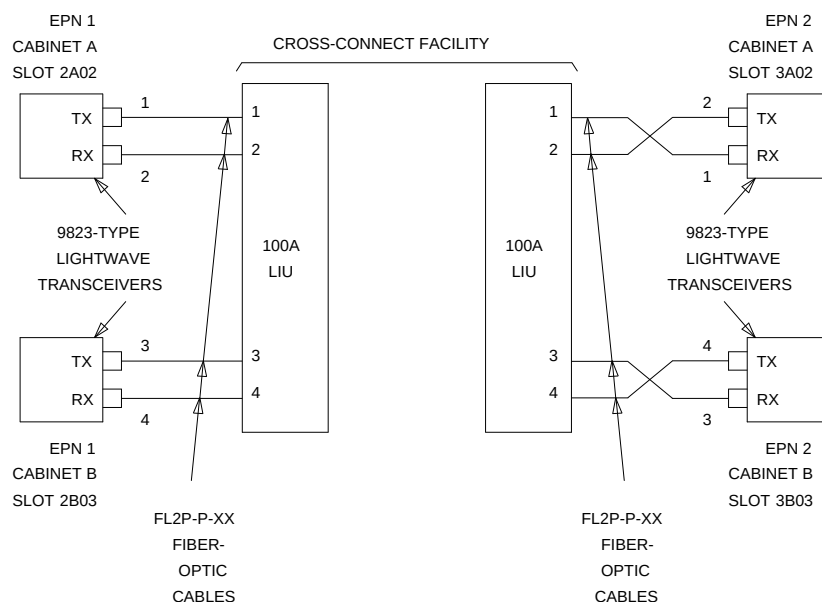


Figure 8-35. Fiber-Optic Connections EPN1 to EPN2

Install Ground Plate(s)

NOTE:

If the system being upgraded is mounted with earthquake protection, do not install the ground plates at this time.

A ground plate is required between each cabinet (see Figure 8-36). The ground plate not only provides the ground connection between cabinets, it also stabilizes the cabinets.

1. See NOTE. Behind the cabinets, replace the upper and lower covers (leave the screws loose).

NOTE:

The rear covers for DEFINITY ECS Release 5 control carriers may need two detents (one for the TDM/LAN cable and another for the ICC cables). Therefore, if the G2 universal module being upgraded to a critical-reliability DEFINITY ECS Release 5's EPN was originally an R1V3 System 75, verify that the lower rear cover of the port cabinet in position "B" (serving as the duplicate expansion control cabinet) has been replaced with a new cover (846307817) so that the ICC cables and the new ground plate can be properly installed between cabinets "A" and "B." If not, replace this cover with the new cover.

2. Place the ground plate over the lower rear cover of the upper cabinet so that the four screws that attach the lower rear cover go through the four ground plate keyhole slots.
3. Slide the ground plate down over the upper rear cover of the lower cabinet so that the four screws that attach the upper rear cover go through the four lower ground plate slots.
4. Assure that the exposed portion of the TDM/LAN cable that is between the cabinets does not get pinched.
5. Tighten all screws.

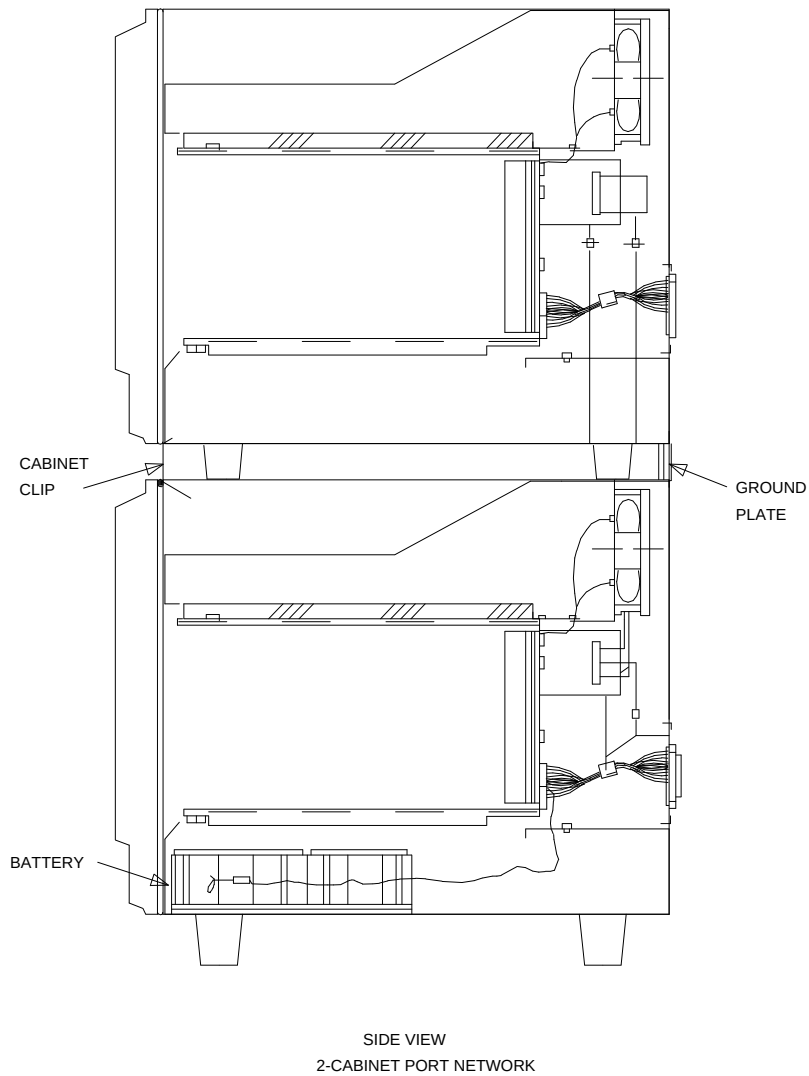


Figure 8-36. Locations of Ground Plate, Cabinet Clip, and Battery

Install Cabinet Clip(s)



NOTE:

This procedure is only used on systems without earthquake protection.

A cabinet clip, used to ground and stabilize the cabinets, is required between each cabinet.

At the front of the cabinets, install cabinet clip between the cabinets by hooking the clip into the slot of the upper cabinet and snapping the straight leg of the clip into the slot on the lower cabinet (see Figure 8-36).

Connect Power and Grounding

1. Reconnect the 6-AWG cabinet ground wire from the ground bar in the cabinet.



NOTE:

A screwdriver is required to loosen and tighten the bolts that secure the ground wire to the ground bar.

2. Reconnect the coupled bonding conductor.
3. Reconnect the cabinet power cords at the rear of each cabinet.

Verify Usable Circuit-Pack Vintages

Verify that every G2 circuit pack reused in the upgrade conforms to the usable vintage requirements for a DEFINITY ECS Release 5 system (see *Reference Guide for Circuit-Pack Vintages and Change Notices*).

Remove Power-Failure Ground Strap

Remove the previously installed ground strap from the power-failure transfer unit.

Boot the DEFINITY ECS Release 5 System

1. Connect the G3-MT to the connector labeled "TERMINAL" behind PPN control carrier "A," or install the G3-MA according to the "Set Up G3-MA" chapter of *DEFINITY Communications System Generic 3 Management Applications — Operations*, 585-229-202.
2. See NOTE. Verify that the translation memory cards are inserted in the TN777B faceplates.



NOTE:

The memory cards are keyed to assure proper installation. Insert each card with the white "DEFINITY Memory Card" label facing left with the insert arrow (on the same side) pointing forward.

3. At each EPN power-distribution unit, set the main circuit breaker to ON.
4. At the PPN power-distribution unit, set the main circuit breaker to ON.
5. The system now goes through the reset level 4 rebooting process, loading the default system translations from the memory cards. Rebooting takes 8 to 11 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

6. Get the order number of the upgrade, and call the regional CSA to request an "init" login so that the G3 V4 option and other right-to-use options can be enabled on the upgraded system.
7. Enter **set time**, and press RETURN to set the time and ensure that the system is booted properly.
8. Enter **list configuration software-version long**, and press RETURN to compare the version number of the DEFINITY ECS Release 5 software program (displayed on the G3-MT or G3-MA) with the TN786B version number (written on a label on the TN786B's faceplate). If the version numbers are not the same, change the version number on the TN786B label so that they agree.
9. Enter **change system-parameters customer-options**. Press RETURN. Use this form to enable the G3 V4 option and to assign the customer's other right-to-use options on the G2-to-DEFINITY ECS Release 5 upgrade order. See *DEFINITY Enterprise Communications Server Release 5 Implementation*, for details on enabling these options.
10. Enter **change site-data**. Press RETURN. Use this form to assign system-specific information (such as building, floor, stations, etc.)

11. Enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
12. Enter **save translation**. Press RETURN. This command instructs the system to write all translation information from memory to the memory cards.



WARNING:

If the terminal screen displays "translation corruption detected; call Lucent Technologies distributor immediately", an error was detected in the translations. Call your Lucent Technologies representative.

Close Upgraded EPN Stack without Earthquake Protection and Reconnect Cables

1. Behind each EPN cabinet's power supply, set the circuit breaker to OFF.



NOTE:

Powering down an EPN cabinet without powering down the PPN will set off alarms. However, these alarms should clear after power is restored to the EPN.

2. Replace all cables that were labeled and removed.
3. Install the front door on each cabinet.
4. Install the top and bottom rear covers. Be sure that the correct rear covers are installed on the new J58890N expansion control cabinet. Do not use these rear covers on the port cabinets.

Close Upgraded EPN Stack with Earthquake Mounting and Reconnect Cables

1. Behind each EPN cabinet's power supply, set the circuit breaker to OFF.



NOTE:

Powering down an EPN cabinet without powering down the PPN will set off alarms. However, these alarms should clear after power is restored to the EPN.

2. Replace all cables that were labeled and removed.

3. Install the upper and lower rear covers with all of the screws except for the screws that run along the top and bottom of the cabinet. Do not tighten the screws.

 NOTE:

The rear covers for DEFINITY ECS Release 5 control carriers may need two detents (one for the TDM/LAN cable and another for the ICC cables). Therefore, if the G2 universal module being upgraded to a critical-reliability DEFINITY ECS Release 5's EPN was originally an R1V3 System 75, verify that the lower rear cover of the port cabinet in position "B" (serving as the duplicate expansion control cabinet) has been replaced with a new cover (846307817) so that the ICC cables and the new ground plate can be properly installed between cabinets "A" and "B." If not, replace this cover with the new cover.

4. Line up the four holes in the ground plate with the four holes and install the screws, but do not tighten.
5. Line up the ground plate with the top holes of the upper rear cover of the lower cabinet. Install the four screws, but do not tighten.
6. At the front of the cabinet, line up the earthquake front plate with the holes at the top and bottom of the cabinet (see Figure 8-37). Install the eight screws, but do not tighten.
7. Tighten all screws.
8. Repeat Steps 3 through 7 for the remaining cabinets.
9. Install the front door on each cabinet.

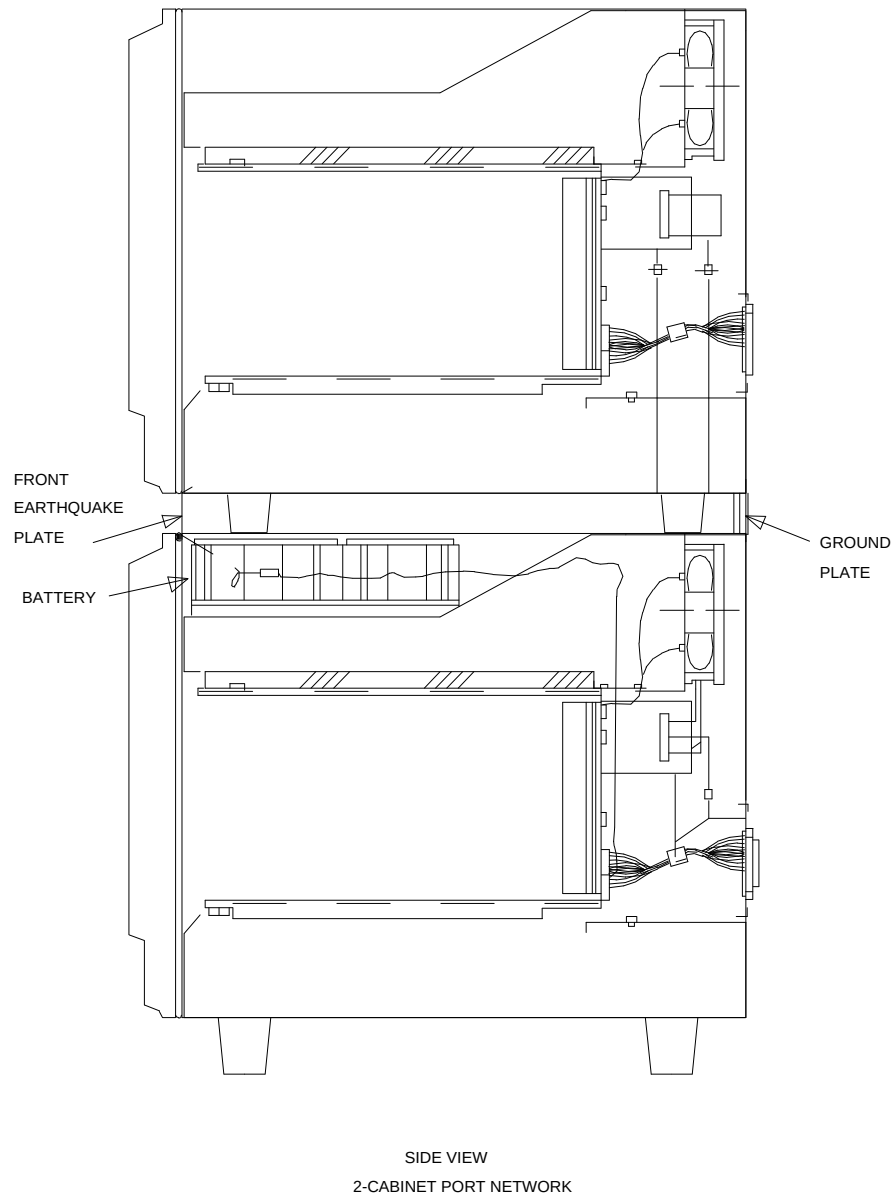


Figure 8-37. Locations of Ground Plate, Earthquake Front Plate, and Battery

Install Cable Clamps

Behind the cabinets, using screws provided, install two cable clamps on each ground plate (see Figure 8-38). These clamps are used to hold the port cables.

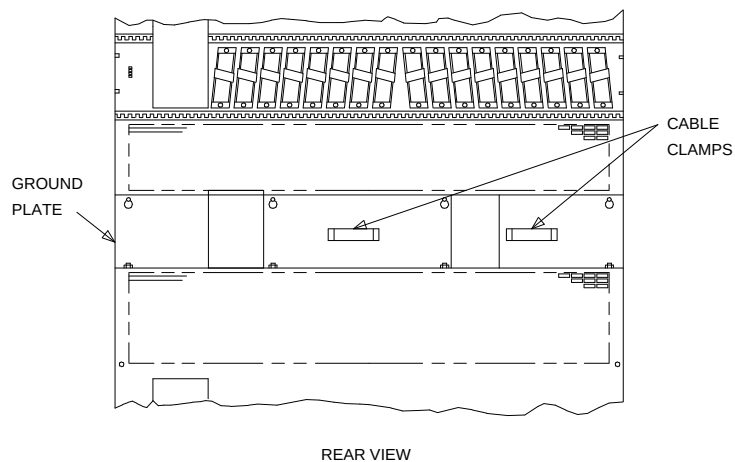


Figure 8-38. Locations of Ground Plate and Cable Clamps on Single-Carrier Cabinet

Power Up the EPN Cabinets

1. Behind each EPN cabinet's power supply, set the circuit breaker to ON.
After about 40 seconds, EPN power and PPN/EPN communications return.
2. After power returns to the EPN and all trouble is cleared, verify that the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Retranslate Port Circuits

If port circuit packs in the G2 module control cabinet were relocated in order to put one of the following into one of the slots of the expansion control cabinet:

- A critical port circuit pack, requiring longer nominal battery holdover (e.g., a DS1 or an Announcement circuit pack), in a port slot
- A TN755 power supply in port slots "16" and "17"

- A TN776 or TN570 Expansion Interface in port slot "1"
- A TN776 or TN570 in port slot "2" (for a second directly connected EPN)

Then, verify that they were retranslated during the off-site software upgrade. If not, they must be retranslated now. Refer to *DEFINITY Enterprise Communications Server Release 5 Implementation*, for instructions on performing the retranslations.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.



NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS Release 5

Get the serial number of the new DEFINITY ECS Release 5 PPN, and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), or the number provided by your Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS Release 5.

Return Replaced G2 Equipment

The G2 equipment replaced, during the upgrade to DEFINITY ECS Release 5, should be returned to Lucent Technologies according to the requirements outlined in:

BCS/Material Logistics, MSL/Attended Stocking Locations

Methods and Procedures for Basic Material Returns

The replaced G2 equipment includes:

- G2 common control (CC) cabinet, carriers, and circuit packs and G2 time-multiplexed switch (TMS) cabinet, carriers, and circuit packs
- or
- G2 CC/TMS cabinet, carriers, and circuit packs
- G2 traditional module cabinets, carriers, and circuit packs
- G2 module control cabinets (J58890P) and control circuit packs
- G2 tape cartridges

- Lower rear cover for expansion control cabinet
- 4-series lightwave transceivers

DEFINITY ECS R5vs to DEFINITY ECS R5si

9

This chapter provides the information necessary to upgrade a wall-mounted DEFINITY ECS R5vs system to a DEFINITY DEFINITY ECS R5si system. The hardware and software involved in the upgrades and the upgrade procedures are also provided.

**CAUTION:**

Be careful to find the right chapter for your upgrade. Using the software- and sometimes the hardware-upgrade PEC on the customer's order, refer to Table 1 in "About This Document" for the correct chapter.

**NOTE:**

This chapter assumes that the switch being upgraded is a DEFINITY ECS R5vs. If not, refer to Chapter 1, "G3vs (I386) to DEFINITY ECS Release 5vs" of this manual for information about upgrading a G3vs V4 system to a DEFINITY ECS R5vs. After that portion of the upgrade is finished, return to this chapter for information about upgrading the wall-mounted DEFINITY ECS R5vs system to a DEFINITY ECS R5si.

**NOTE:**

To ensure that the upgrade completes successfully, perform all steps in the order provided.

DEFINITY ECS R5si features and functions are listed in the *DEFINITY Enterprise Communications Server Release 5 Feature Description*. *DEFINITY Enterprise Communications Server Release 5 Implementation*, provides the commands, procedures, and forms required to initialize and administer the DEFINITY ECS R5si.

Task Tables

Table 9-1 provide the high-level tasks to perform the upgrades detailed in this chapter. Refer to the appropriate page for detailed instructions for each step.

Table 9-1. Tasks to Upgrade from DEFINITY ECS R5vs to R5si

✓	Task Description	Page
	Unpack and Inspect DEFINITY ECS R5si Enhanced Control Cabinet for Damage	8
	Remove Front Door	8
	Install Enhanced Control Cabinet	10
	Add Earthquake Protection	10
	Install TDM/LAN Bus Terminators	12
	Label DEFINITY ECS R5vs Cables	13
	Swing Out DEFINITY ECS R5vs System to Maintenance Position	13
	Remove Front Cover from DEFINITY ECS R5vs	13
	Verify System Status	14
	Save Current Translations to DEFINITY ECS R5vs Translation Memory Card	14
	Disable Alarm Origination	15
	Save Translations	15
	Shut Down DEFINITY LAN Gateway System	15
	Shut Down DEFINITY AUDIX System	16
	Power Down DEFINITY ECS R5vs System	17
	Remove Circuit Packs from DEFINITY ECS R5vs	17
	Install Circuit Packs in DEFINITY ECS R5si	18
	Connect Power and Grounding	19
	Reseat DEFINITY LAN Gateway System	20
	Boot the DEFINITY ECS R5si System	20
	Restart DEFINITY LAN Gateway System	21
	Close Door of Enhanced Control Cabinet	21
	Run Acceptance Tests	21
	Resolve Alarms	21
	Register System as DEFINITY ECS R5si	21
	Disassemble Wall-Mounted DEFINITY ECS R5vs System	22
	Return Replaced DEFINITY ECS R5vs Equipment	23

Considerations

Service Interruption

The upgrade process requires a service interruption. This service interruption must be closely coordinated with the customer and the local account team.

Contact Network Technicians

The technician for each public and private network accessed by the switch must be contacted before the upgrade begins. Otherwise, if these technicians are not aware of the service interruption caused by the upgrade, it is possible that network-access trunk facilities will be busied out at the far end.

Isolator

Each peripheral connected to a DC-powered system, via the asynchronous Electronic Industries Association (EIA) RS-232 interface (behind a PPN control cabinet), requires a 116A isolator. The isolator is inserted at the RS-232 interface between the peripheral and the interface connector to isolate grounding between the system and external adjuncts.

Software

Like the previous translations, the DEFINITY ECS R5si translations are saved on the DEFINITY translation memory card. Although the DEFINITY ECS R5vs translations upgrade automatically to DEFINITY ECS R5si, several features require special attention because of form changes or potential naming conflicts in the upgrade procedure.

After the upgrade, the Software Associate should check these forms to ensure that the upgraded translations are appropriate for the customer's needs. For information to make the required changes, refer to:

- *DEFINITY Communications System Generic 2 to DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Communications System Generic 3 V4 Implementation*

Usable Circuit Packs

The upgraded DEFINITY ECS R5si system accepts the same set of Tone-Clock circuit packs as the DEFINITY ECS R5vs system. However, to meet the requirements of a specific application, the existing Tone-Clock may need to be replaced.

The various Tone-Clock circuit packs include the TN756, TN768, TN419B, TN780, and TN2182.

Due to limited synchronization capabilities, the TN756 cannot be used in systems with:

- A DS1/E1 Interface
- An Outbound Call Management (OCM) application

In most configurations, the two- or three-board combination of a tone generator pack, tone detector pack, and/or call classifier pack can be replaced with the TN2182 circuit pack, freeing up one or two port slots.

Port-Network Configurations

Every DEFINITY ECS R5si configuration contains a single port network which consists of single-carrier cabinets.

Since every DEFINITY ECS R5vs contains a single wall-mounted control cabinet, the following sections describe upgrades to a DEFINITY ECS R5si with one port network consisting of single-carrier cabinets.

Port Networks

From the perspective of a DEFINITY ECS R5vs upgrade, the DEFINITY ECS R5si offers a single port network (a PPN) with a larger control cabinet and up to three port cabinets.

Software-Translation Upgrade

The current DEFINITY ECS R5vs translations are first saved to the DEFINITY ECS R5vs translation memory card. Then, once the DEFINITY ECS R5si enhanced control cabinet is installed and the DEFINITY ECS R5vs circuit packs are moved to this control cabinet, the saved translations are loaded from the same DEFINITY ECS R5vs translation memory card which now serves as DEFINITY ECS R5si translation memory card.

Specific instructions about when to and how to upgrade translations are included in the following section, "System Upgrades."

System Upgrades

There are many configurations of DEFINITY DEFINITY ECS R5vs in the field. In terms of both hardware and software, each system can have a unique configuration. The manner in which a system is upgraded depends on its present configuration.

However, every DEFINITY ECS R5vs consists of a single wall-mounted control cabinet. Therefore, upgrading a DEFINITY ECS R5vs to a DEFINITY ECS R5si always requires installing a new DEFINITY ECS R5si enhanced control cabinet.

If the upgrade involves adding a new port cabinet, refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for the installation procedures.

DEFINITY ECS R5vs to DEFINITY ECS R5si

A DEFINITY ECS R5vs is upgraded to a DEFINITY ECS R5si by:

- Installing the new DEFINITY ECS R5si enhanced control cabinet
- Saving the current DEFINITY ECS R5vs translations to the existing translation memory card
- Powering down the DEFINITY ECS R5vs control cabinet
- Removing the circuit packs from the DEFINITY ECS R5vs control cabinet
- Installing these circuit packs into the new DEFINITY ECS R5si control cabinet
- Rebooting the upgraded DEFINITY ECS R5si system
- Verifying that the system boots properly
- Disassembling the wall-mounted DEFINITY ECS R5vs system

Prerequisite Hardware

The equipment in Table 9-2 *must* be on-site before the upgrade begins. Ensure that the translation memory card is current and, if necessary, contains 4 Mbytes of memory.

To place a claim for missing equipment, as part of the Streamlined Implementation process, call "1-800-772-5409," and respond to the call prompter.

Table 9-2. Required Hardware

Equipment	Description	Quantity
J58890L-1 L5	Enhanced Control Cabinet	1
405970229	WP-91153 Power Unit	1
105631527	AHF110 TDM/LAN Bus Terminator	2
601451503 or 406809889	J58890TG L9 2-MByte Translation Memory Card J58890TG L10 4-MByte Translation Memory Card	1 1 ¹
846408250	Stiffener	1 ²
846408243	Earthquake Front Mounting Angle	1 ²

1. Reused from DEFINITY ECS R5vs system to be upgraded. A 4-Mbyte translation memory card is required for a system that uses recorded announcements.
2. Required if earthquake protection is provided.

Required Tools

The following tools and items may be required during the upgrade:

- Flash maintenance kit (MTCE 00037), acquired from Material Stocking Location (MSL)
- Flashlight or high-intensity AC drop light
- Power screwdriver (optional)
- 1/4-inch flat-blade screwdriver
- 1/4-inch socket with ratchet (optional)
- Long-nose pliers to straighten backplane pins
- Static-proof or original circuit-pack packaging for transporting circuit packs
- Labels for identifying the port circuit packs and cables attached to the rear of cabinets
- Receptacle for holding screws
- One dozen #8 self-tapping screws
- Repair kit for backplane pins (KS-22876 L2 or equivalent)

- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Communications System Generic 3 V4 Implementation*

Unpack and Inspect DEFINITY ECS R5si Enhanced Control Cabinet for Damage

1. See DANGER. Unpack cabinet.



DANGER:

Take care to avoid injury while cutting and removing bands.

2. Visually inspect cabinet for any physical damage caused during shipping. Report any damage for appropriate action per local procedures.

Remove Front Door

Remove the front door of new enhanced control cabinet.

1. Use a screwdriver, and turn door-latch screw counterclockwise one quarter turn to release door (see Figure 9-1).
2. Lift door from lower slots and remove from cabinet.

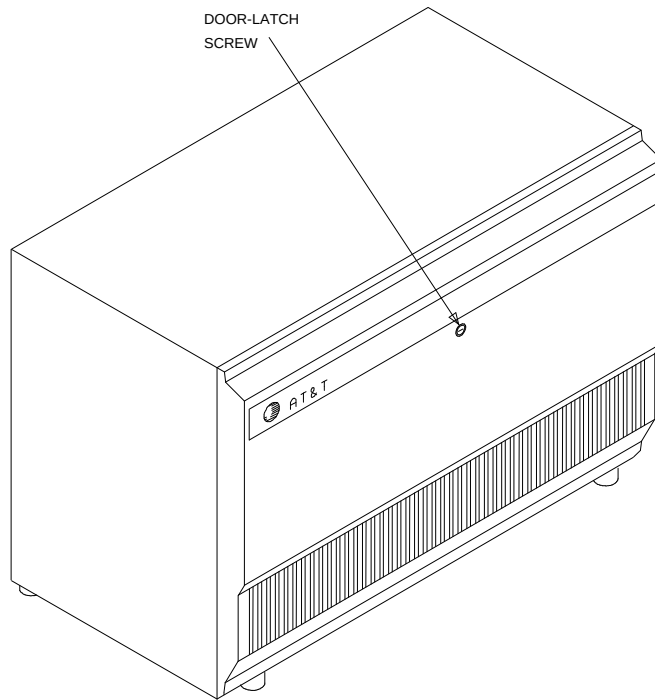


Figure 9-1. Location of Door-Latch Screw for DEFINITY ECS R5si Cabinet

Install Enhanced Control Cabinet

1. See DANGER. Position the J58890L control cabinet "A" at the desired location.



DANGER:

The cabinet may weigh as much as 130 pounds and requires two handlers. Use caution to avoid injury.

2. If earthquake protection is not required, install hole plugs (provided with cabinet) in the holes previously occupied by the two carriage bolts at the bottom rear of the cabinet.

Add Earthquake Protection

If earthquake protection is required:

1. Place the front mounting angle at the location selected for the front of the enhanced control cabinet.
2. Using the angle as a template, mark the locations of the two mounting bolts.
3. Drill two holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 2.
4. Mount the front mounting angle to the floor (Figure 9-2).
5. Move the cabinet back into place, and temporarily stabilize the cabinet by attaching the cabinet to the angle with two No. 12-24 by 1/2-inch thread-forming screws.
6. Insert a pencil or marker through the two holes (previously occupied with carriage bolts) in the bottom rear of the cabinet, and mark the floor directly beneath each hole.
7. Remove the two screws installed in Step 5, and move the cabinet out of the way.
8. Drill two holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 6.
9. Move the cabinet back into place.
10. Attach the cabinet to the front mounting angle using four No. 12-24 by 1/2-inch thread-forming screws.

11. In the rear of the cabinet, lay the stiffener on the bottom of the cabinet, aligning the stiffener with the holes in the bottom of the cabinet.
 12. Fasten the cabinet to the floor (Figure 9-3).
-

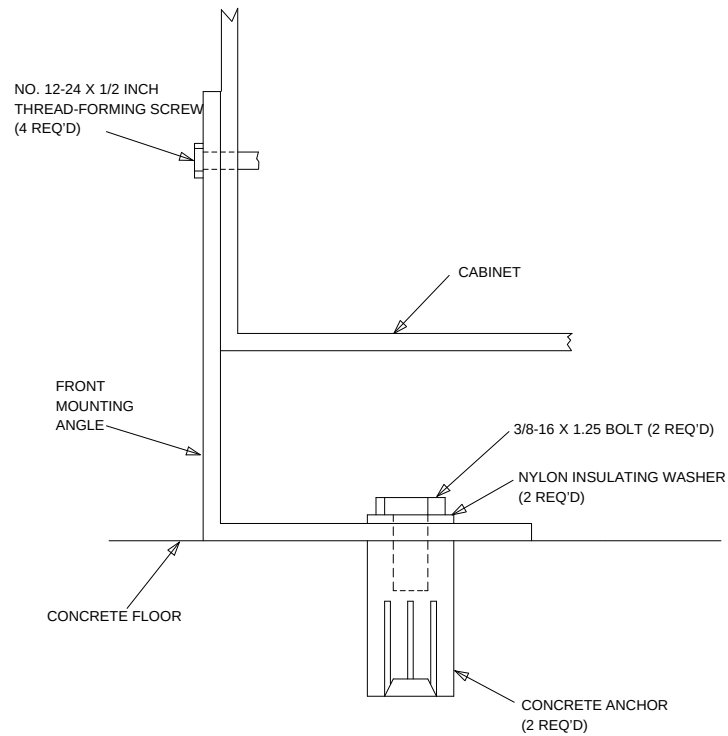
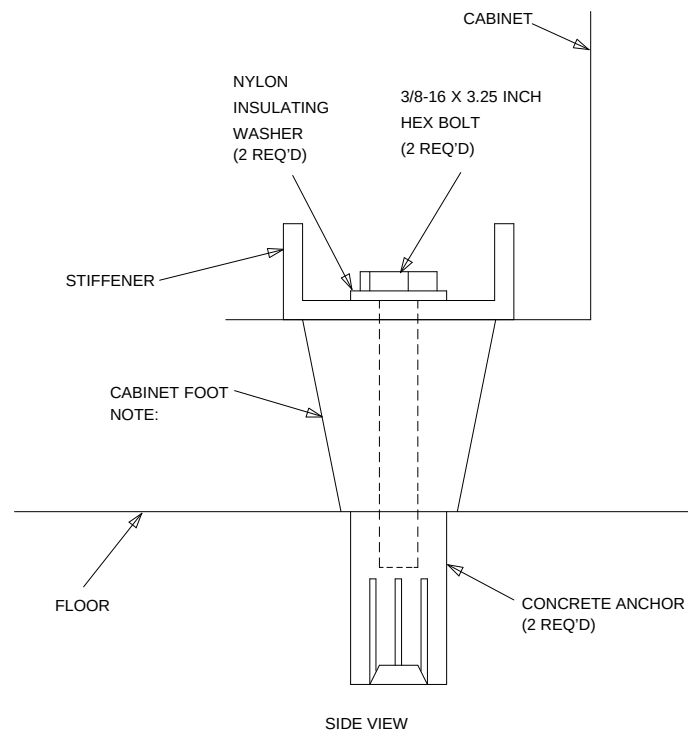


Figure 9-2. Front Mounting Angle — Concrete Floor



NOTE: BOLT DOES NOT RUN THROUGH CABINET FOOT

Figure 9-3. Cabinet Earthquake Mounting — Concrete Floor

Install TDM/LAN Bus Terminators

Verify the two AHF110 TDM/LAN bus terminators are located per Figure 9-4.

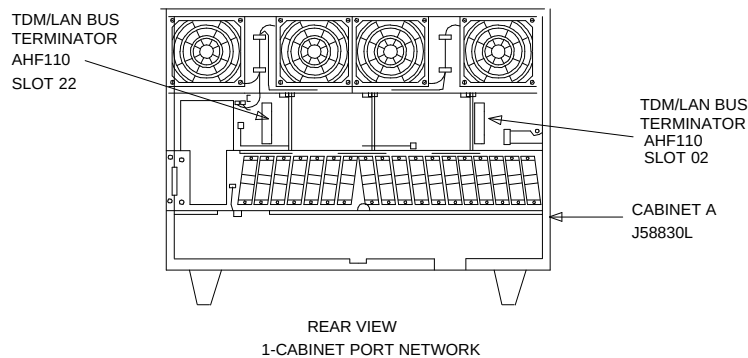


Figure 9-4. Locations of TDM/LAN Bus Terminators for Single-Cabinet PPN

Label DEFINITY ECS R5vs Cables

See NOTE. To make reconnecting the cables simpler and more reliable, label every connector cable associated with the system (if not already labeled).

⇒ NOTE:

The I/O cables connected to the wall-mounted DEFINITY ECS R5vs system are likely to be fairly short. Therefore, either the new DEFINITY ECS R5si enhanced control cabinet should be installed near the wall field or the existing I/O cables may need to be replaced with longer ones.

Swing Out DEFINITY ECS R5vs System to Maintenance Position

See NOTE. While lifting on the left side of the wall-mounted G3vs cabinet, allow the cabinet's left side to swing outward and to the right.

⇒ NOTE:

During the remainder of these upgrade instructions, the left side of this cabinet will be referred to as the front of the cabinet.

Remove Front Cover from DEFINITY ECS R5vs

⇒ NOTE:

The cover should already be removed in a system that was just upgraded to a DEFINITY ECS R5vs as the first stage of a DEFINITY ECS R5si upgrade.

Use a screwdriver, and turn the door latch counter-clockwise one-fourth turn to remove the cover.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Save Current Translations to DEFINITY ECS R5vs Translation Memory Card

The current DEFINITY ECS R5vs translations are first saved to the translation memory card which will later serve as the DEFINITY ECS R5si translation memory card.

NOTE:

DEFINITY ECS R5vs translations need not be saved for a system that was just upgraded to a G3vs V4 as the first stage of a DEFINITY ECS R5si upgrade.

1. Log in at the G3-MT terminal.
2. Verify that the switch on the outside edge of the memory card is in the downward position to record (see Figure 9-5).

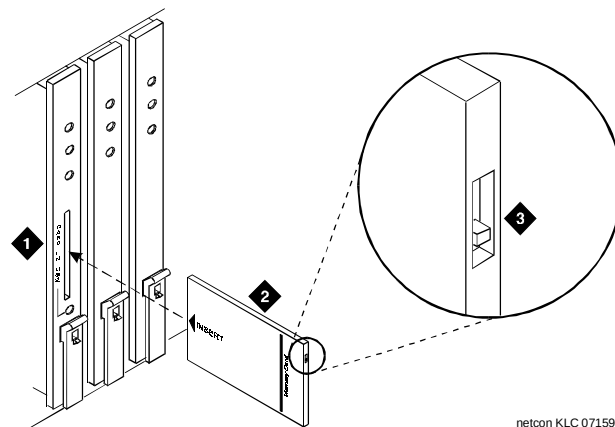


Figure 9-5. Record Switch on DEFINITY Memory Card

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Enter **n** in the *Alarm Origination Activated* field and press RETURN to disable Alarm Origination.

See NOTE. The INADS Database Administrator at the TSC will enable Alarm Origination as part of the registration process.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the switch software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Enter **save translation**. Press RETURN. This command instructs the system to write all translation information from memory to the DEFINITY ECS R5si translation memory card.
2. If the system is equipped with a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Shut Down DEFINITY LAN Gateway System

If a DEFINITY LAN Gateway system resides in the control cabinet to be upgraded, prepare to shut down the DEFINITY LAN Gateway assembly and allow the disk to completely spin down. See Caution. See WARNING.



CAUTION:

Before using this procedure to shut down the DEFINITY LAN Gateway, make sure that you save the system parameters if you plan to reuse the current system.



WARNING:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet where it resides can damage the LAN Gateway disk.

1. See WARNING. To avoid an unexpected LAN Gateway reboot after an unplanned switch reboot, unseat the LAN Gateway assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
3. When the main menu appears, select *Maintenance*.
4. Select *Reset System* from the *Maintenance* menu.
5. Select *Shutdown* from the *Reset System* menu.

Shut Down DEFINITY AUDIX System

1. See WARNING. If a DEFINITY AUDIX System resides in the system to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. See WARNING. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Down DEFINITY ECS R5vs System

See CAUTION. Behind the DEFINITY ECS R5vs cabinet, set the circuit breaker to OFF.



CAUTION:

Powering down the control cabinet will cause important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup requests, and Do Not Disturb requests to be lost. Refer to DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si for information about preparing the system for a power down. BCMS data cannot be stored to or retrieved from tape.

Remove Circuit Packs from DEFINITY ECS R5vs

1. Label each port circuit pack in the DEFINITY ECS R5vs with its slot number. See Figure 9-6.
2. See WARNING and NOTE. Remove all circuit packs from the DEFINITY ECS R5vs system. Store the circuit packs in the static-proof packaging.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.



NOTE:

If a TN756 tone-detector/generator was removed from the DEFINITY G3vs control cabinet, a new DEFINITY ECS R5r tone clock (TN2182) should replace this circuit pack. The TN2182 Tone-Clock serves to replace the tone detector circuits on the old TN756. If a TN2182 is used, no TN748B is required.

3. Remove circuit-pack blanks from the slots that do not contain circuit packs.

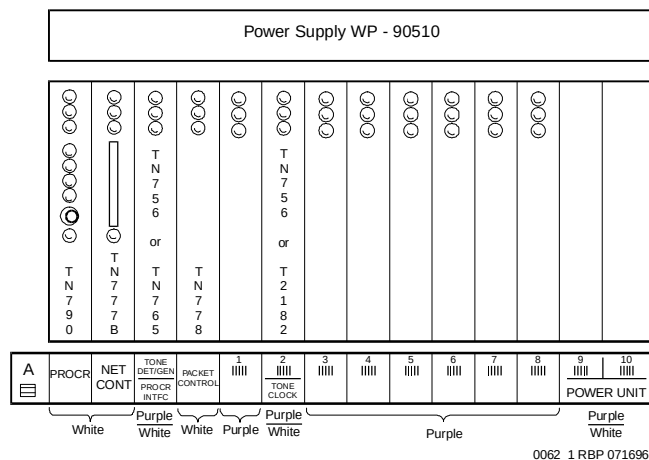


Figure 9-6. Circuit-Pack Locations in DEFINITY ECS R5vs Wall-Mounted Cabinet

Install Circuit Packs in DEFINITY ECS R5si

1. See WARNING and NOTE. Using the Figure 9-7 and the label, install the power unit and DEFINITY ECS R5si control circuit packs into the new enhanced control cabinet.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.



NOTE:

If a TN756 tone-detector/generator was removed from the DEFINITY G3vs control cabinet, a new DEFINITY ECS R5r tone clock (TN2182) should replace this circuit pack. The TN2182 Tone-Clock serves to replace the tone detector circuits on the old TN756. If a TN2182 is used, no TN748B is required.

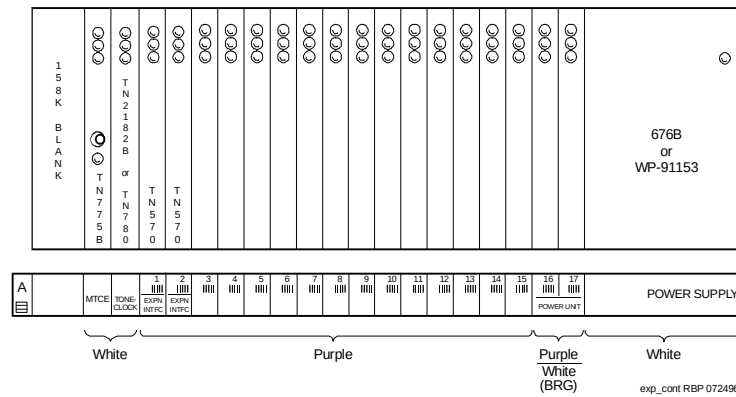


Figure 9-7. Circuit-Pack Locations in DEFINITY ECS R5si Expansion Control Cabinet

2. See preceding WARNINGS and following NOTE. Install the port circuit packs, previously removed, into the "A" cabinet using Figure 9-7 and the label as a guide.



NOTE:

Since the new DEFINITY ECS R5si enhanced control cabinet has 6 more port slots than the DEFINITY ECS R5vs cabinet, there should not be a need to move and retranslate these circuit packs.

3. Install circuit-pack blanks in slots not equipped with circuit packs.

Connect Power and Grounding

1. Reconnect the 6-AWG cabinet ground wire to the ground bar in the enhanced control cabinet.



NOTE:

A screwdriver is required to loosen and tighten the bolts that secure the ground wire to the ground bar.

2. Reconnect the coupled bonding conductor.
3. Connect the cabinet power cord behind the enhanced control cabinet.

Reseat DEFINITY LAN Gateway System

1. See WARNING. Reseat the LAN Gateway assembly into its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Boot the DEFINITY ECS R5si System

1. Behind the enhanced control cabinet's power supply, set the circuit breaker to ON.
2. The system now goes through the reset level 4 rebooting process, loading translations from the translation memory card. Rebooting requires 8 to 11 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

3. Login at the `login:` prompt on the G3-MT or G3-MA, and set the time to ensure that the system is booted properly.
4. Enter **list configuration software-version**, and press RETURN to compare the version number of the DEFINITY ECS R5si software program (displayed on the G3-MT or G3-MA) with the TN786B version number (written on a label on the TN786B's faceplate). If the version numbers are not the same, change the version number on the TN786B label so that they agree.



NOTE:

Certain forms have changed for DEFINITY ECS R5si. Upgraded DEFINITY ECS R5vs translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to *DEFINITY Communications System Generic 2 to DEFINITY Enterprise Communications Server Release 5 Transition Reference*, and *DEFINITY Enterprise Communications Server Release 5 Implementation*, and make the necessary changes.

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

Close Door of Enhanced Control Cabinet

Close the front door of the DEFINITY ECS R5si and secure with the latch.

Run Acceptance Tests

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, and perform the appropriate tests.

Resolve Alarms

Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.



NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS R5si

Get the serial number of the DEFINITY ECS R5si, and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), or the number provided by your Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS R5si.

Disassemble Wall-Mounted DEFINITY ECS R5vs System

1. Loosen the four shoulder screws (approximately one complete turn) holding the DEFINITY ECS R5vs cabinet to the mounting panel (see Figure 9-8).
2. Remove the locking screw holding the DEFINITY ECS R5vs cabinet to the center of the mounting panel.
3. Return the DEFINITY ECS R5vs cabinet to its locked operating position, by lifting on the front of the cabinet and allowing the cabinet to swing left and back toward the wall.
4. To remove the cabinet from the mounting panel, lift and slide the right side of the cabinet (now facing forward) upward and toward the right until the four shoulder screws are aligned with the wide parts of the keyhole slots. Once aligned, lift the cabinet away from the mounting panel.
5. To access the wood screws connecting the wall panel to the wall, lift and swing the mounting panel back out to its maintenance position.
6. Remove the five lower wood screws from the wall panel, and loosen the top two wood screws. Then, lift the mounting assembly up and away from the wall.
7. Remove the top two wood screws.

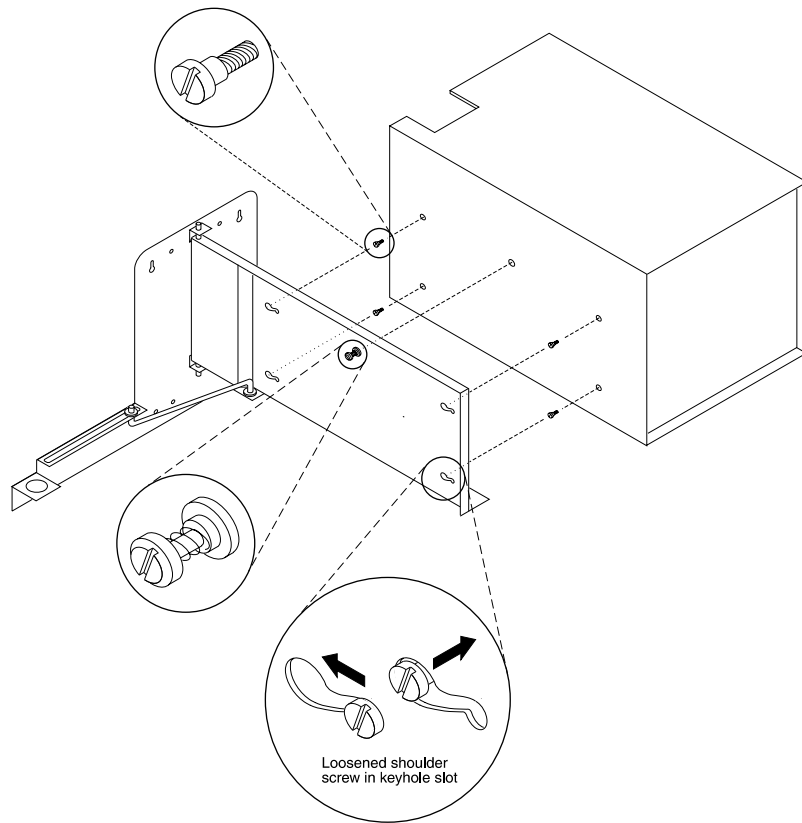


Figure 9-8. Exploded View of Wall-Mounted DEFINITY ECS R5vs System

Return Replaced DEFINITY ECS R5vs Equipment

The DEFINITY ECS R5vs equipment replaced during the upgrade to DEFINITY ECS R5si, should be returned to Lucent Technologies according to the requirements outlined in:

BCS/Material Logistics, MSL/Attended Stocking Locations
Methods and Procedures for Basic Material Returns

The replaced DEFINITY ECS R5vs equipment includes:

- DEFINITY ECS R5vs cabinet and front cover
- DEFINITY ECS R5vs wall mounting assembly

This chapter provides the information necessary to upgrade a wall-mounted DEFINITY ECS R5vs system to a single-carrier DEFINITY DEFINITY ECS R5si+m system with an Intel¹ 80386 processor. The hardware and software involved in the upgrades and the upgrade procedures are also provided.



CAUTION:

Be careful to find the right chapter for your upgrade. Using the software- and sometimes the hardware-upgrade PEC on the customer's order, refer to Table 1 in "About This Document" for the correct chapter.



NOTE:

This chapter assumes that the switch being upgraded is a DEFINITY ECS R5vs. If not, refer to Chapter 1, "G3vs (I386) to DEFINITY ECS Release 5vs" of this manual for information about upgrading a G3vs V4 system to a DEFINITY ECS R5vs. After that portion of the upgrade is finished, return to this chapter for information about upgrading the wall-mounted DEFINITY ECS R5vs system to a DEFINITY ECS R5si+m single-carrier cabinet PPN.



NOTE:

To ensure that the upgrade completes successfully, perform all steps in the order provided.

DEFINITY ECS R5si+m features and functions are listed in the *DEFINITY Enterprise Communications System Release 5 Feature Description*. *DEFINITY Enterprise Communications System Release 5 Implementation*, provides the commands, procedures, and forms required to initialize and administer the DEFINITY ECS R5si+m.

1. Registered trademark of the Intel Corporation.

Task Tables

Table 10-1 provides the high-level tasks to perform the upgrades detailed in this chapter. Refer to the appropriate page for detailed instructions for each step.

Table 10-1. Tasks to Upgrade from DEFINITY ECS Release 5vs to Release 5si+m

√	Task Description	Page
	Contact Network Technicians	3
	Unpack and Inspect DEFINITY ECS R5si+m Enhanced Control Cabinet for Damage	8
	Remove Front Door	8
	Install Enhanced Control Cabinet	9
	Add Earthquake Protection	10
	Install TDM/LAN Bus Terminators	12
	Label DEFINITY ECS R5vs Cables	13
	Swing Out DEFINITY ECS R5vs System to Maintenance Position	13
	Remove Front Cover from DEFINITY ECS R5vs	14
	Verify System Status	14
	Save Current Translations to DEFINITY ECS R5vs Translation Memory Card	14
	Disable Alarm Origination	15
	Save Translations	15
	Install the SIMM on the TN790 Processor Circuit Pack	15
	Shut Down DEFINITY LAN Gateway System	19
	Shut Down DEFINITY AUDIX System	20
	Power Down DEFINITY ECS R5vs System	20
	Remove Circuit Packs from DEFINITY ECS R5vs	21
	Install Circuit Packs in DEFINITY ECS R5si+m	22
	Connect Power and Grounding	23
	Reseat DEFINITY LAN Gateway System	23
	Reseat DEFINITY AUDIX System	23
	Boot the DEFINITY ECS R5si+m System	23
	Restart DEFINITY LAN Gateway System	24

Continued on next page

Table 10-1. Tasks to Upgrade from DEFINITY ECS Release 5vs to Release 5si+m —
Continued

✓	Task Description	Page
	Close Door of Enhanced Control Cabinet	24
	Run Acceptance Tests	24
	Resolve Alarms	24
	Register System as DEFINITY ECS R5si+m	25
	Disassemble Wall-Mounted DEFINITY ECS R5vs System	25
	Return Replaced DEFINITY ECS R5vs Equipment	26

Considerations

Service Interruption

The upgrade process requires a service interruption. This service interruption must be closely coordinated with the customer and the local account team.

Contact Network Technicians

The technician for each public and private network accessed by the switch must be contacted before the upgrade begins. Otherwise, if these technicians are not aware of the service interruption caused by the upgrade, it is possible that network-access trunk facilities will be busied out at the far end.

Isolator

Each peripheral connected to a DC-powered system, via the asynchronous Electronic Industries Association (EIA) RS-232 interface (behind a PPN control cabinet), requires a 116A isolator. The isolator is inserted at the RS-232 interface between the peripheral and the interface connector to isolate grounding between the system and external adjuncts.

Usable Circuit Packs

Refer to *Technical Monthly, Reference Guide for Circuit-Pack Vintages and Change Notices*, for current information about usable vintages in a DEFINITY ECS R5 system.

Software

Like the DEFINITY ECS R5vs translations, the DEFINITY ECS R5si+m translations are saved on the DEFINITY translation memory card. Although the DEFINITY ECS R5vs translations upgrade automatically to DEFINITY ECS R5si+m, several features require special attention because of form changes or potential naming conflicts in the upgrade procedure.

After the upgrade, the Software Associate should check these forms to ensure that the upgraded translations are appropriate for the customer's needs. For information to make the required changes, refer to:

- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

Port-Network Configurations

Every DEFINITY ECS R5si+m port-network configuration contains one PPN which can be either a multicarrier or single-carrier cabinet. Larger configurations can contain either one or two EPNs. Figure 10-1 shows the three main port-network configurations including:

- Basic system, containing only a PPN
- Directly connected systems, containing:
 - Two port networks (PPN and EPN) connected directly together
 - Three port networks (PPN and two EPNs) connected directly together

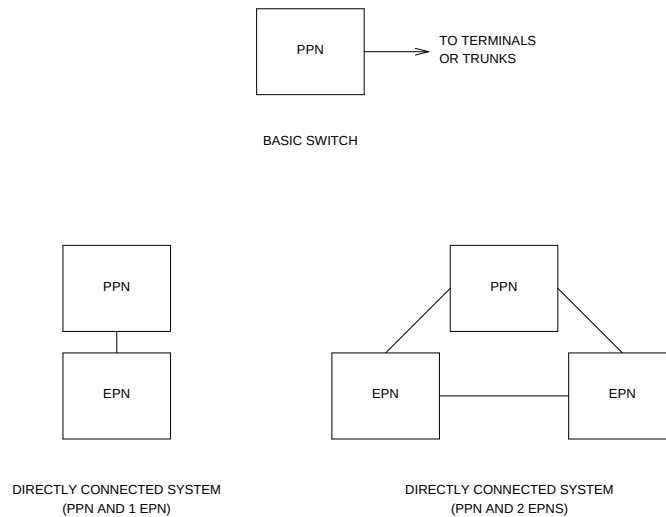


Figure 10-1. DEFINITY ECS R5si+m Port-Network Configurations

Since every DEFINITY ECS R5vs contains a single wall-mounted control cabinet, the following sections describe upgrades to a DEFINITY ECS R5si+m PPN consisting of single-carrier cabinets.

Port Networks

From the perspective of a DEFINITY ECS R5vs upgrade, the DEFINITY ECS R5si+m offers a PPN with a larger control cabinet and up to three port cabinets, as well as two additional port networks. Each of these additional port networks, a first and second EPN, allows the system to grow by one expansion control cabinet and up to three more port cabinets.

Software-Translation Upgrade

The current DEFINITY ECS R5vs translations are first saved to the DEFINITY ECS R5vs translation memory card. Then, once the DEFINITY ECS R5si+m enhanced control cabinet is installed and the DEFINITY ECS R5vs circuit packs are moved to this control cabinet, the saved translations are loaded from the same DEFINITY ECS R5vs translation memory card which now serves as DEFINITY ECS R5si+m translation memory card.

Specific instructions about when to and how to upgrade translations are included in the following section, "System Upgrades."

System Upgrades

There are many configurations of DEFINITY ECS R5vs in the field. In terms of both hardware and software, each system can have a unique configuration. The manner in which a system is upgraded depends on its present configuration.

However, every DEFINITY ECS R5vs consists of a single wall-mounted control cabinet. Therefore, upgrading a DEFINITY ECS R5vs to a DEFINITY ECS R5si+m always requires installing a new DEFINITY ECS R5si+m enhanced control cabinet.

If the upgrade involves adding a new port cabinet, refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for the installation procedures.

DEFINITY ECS R5vs to Standard-Reliability DEFINITY ECS R5si+m PPN

A DEFINITY ECS R5vs is upgraded to a standard-reliability DEFINITY ECS R5si+m PPN by:

- Installing the new DEFINITY ECS R5si+m enhanced control cabinet
- Saving the current DEFINITY ECS R5vs translations to the existing translation memory card
- Powering down the DEFINITY ECS R5vs control cabinet
- Removing the circuit packs from the DEFINITY ECS R5vs control cabinet
- Attaching the new CPP1 circuit pack to the TN786B
- Installing these circuit packs into the new DEFINITY ECS R5si+m control cabinet
- Rebooting the upgraded DEFINITY ECS R5si+m system
- Verifying that the system boots properly
- Disassembling the wall-mounted DEFINITY ECS R5vs system

Prerequisite Hardware

The equipment in Table 10-2 *must* be on-site before the upgrade begins. Ensure that the translation memory card is current and, if necessary, contains 4 Mbytes of memory.

To place a claim for missing equipment, as part of the Streamlined Implementation process, call 1-800-772-5409, or the number provided by your Lucent Technologies representative.

Table 10-2. Required Hardware

Equipment	Description	Quantity
J58890L-1 L10	Enhanced Control Cabinet	1
63610	4 Mb SIMM strip	1 ¹
106718521	TN790 Processor Circuit Pack	1 ²
405970229	WP-91153 Power Unit	1
105631527	AHF110 TDM/LAN Bus Terminator	2
406809889	J58890TG L10 4-MByte Translation Memory Card	1 ³
846408250	Stiffener	1 ⁴
846408243	Earthquake Front Mounting Angle	1 ⁴

1. During the hardware upgrade, attach the SIMM to the TN790 before inserting the combined assembly into the enhanced control cabinet.
2. TN790 Processor circuit pack is required for all system upgrades to DEFINITY ECS Release 5.
3. A 4-Mbyte translation memory card is required for a system that uses recorded announcements.
4. Required if earthquake protection is provided.

Required Tools

The following tools and items may be required during the upgrade:

- Flash maintenance kit (MTCE 00037), acquired from Material Stocking Location (MSL)
- Flashlight or high-intensity AC drop light
- Power screwdriver (optional)
- 1/4-inch flat-blade screwdriver
- 1/4-inch socket with ratchet (optional)
- Long-nose pliers to straighten backplane pins
- Static-proof or original circuit-pack packaging for transporting circuit packs
- Labels for identifying the port circuit packs and cables attached to the rear of cabinets
- Receptacle for holding screws
- One dozen #8 self-tapping screws
- Repair kit for backplane pins (KS-22876 L2 or equivalent)
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

Unpack and Inspect DEFINITY ECS R5si+m Enhanced Control Cabinet for Damage

1. See DANGER. Unpack cabinet.



DANGER:

Take care to avoid injury while cutting and removing bands.

2. Visually inspect cabinet for any physical damage caused during shipping. Report any damage for appropriate action per local procedures.

Remove Front Door

Remove the front door of new enhanced control cabinet.

1. Use a screwdriver, and turn door-latch screw counterclockwise one quarter turn to release door (see Figure 10-2).

2. Lift door from lower slots and remove from cabinet.
-

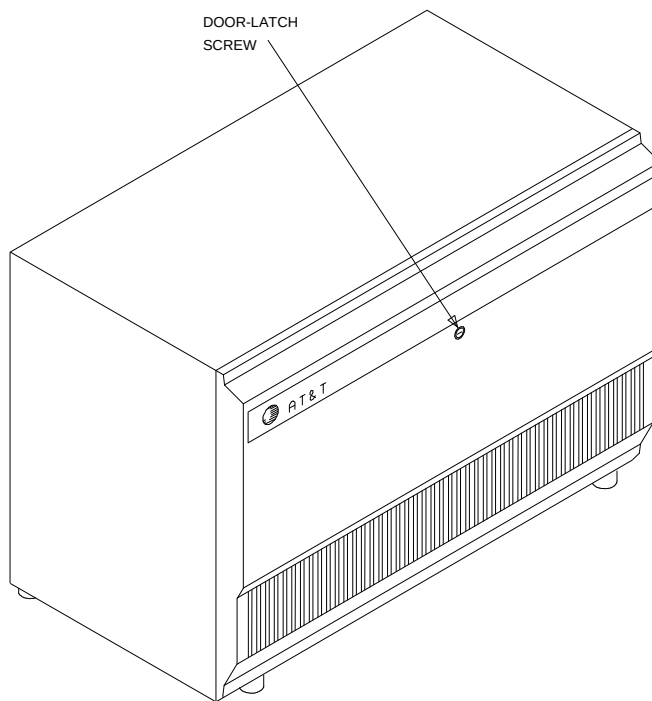


Figure 10-2. Location of Door-Latch Screw for DEFINITY ECS R5si+m Cabinet

Install Enhanced Control Cabinet

1. See DANGER. Position the J58890L-1 L5 control cabinet "A" at the desired location.



DANGER:

The cabinet may weigh as much as 130 pounds and requires two handlers. Use caution to avoid injury.

2. If earthquake protection is not required, install hole plugs (provided with cabinet) in the holes previously occupied by the two carriage bolts at the bottom rear of the cabinet.

Add Earthquake Protection

If earthquake protection is required:

1. Place the front mounting angle at the location selected for the front of the enhanced control cabinet.
2. Using the angle as a template, mark the locations of the two mounting bolts.
3. Drill two holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 2.
4. Mount the front mounting angle to the floor (Figure 10-3).
5. Move the cabinet back into place, and temporarily stabilize the cabinet by attaching the cabinet to the angle with two No. 12-24 by 1/2-inch thread-forming screws.
6. Insert a pencil or marker through the two holes (previously occupied with carriage bolts) in the bottom rear of the cabinet, and mark the floor directly beneath each hole.
7. Remove the two screws installed in Step 5, and move the cabinet out of the way.
8. Drill two holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 6.
9. Move the cabinet back into place.
10. Attach the cabinet to the front mounting angle using four No. 12-24 by 1/2-inch thread-forming screws.
11. In the rear of the cabinet, lay the stiffener on the bottom of the cabinet, aligning the stiffener with the holes in the bottom of the cabinet.
12. Fasten the cabinet to the floor (Figure 10-4).

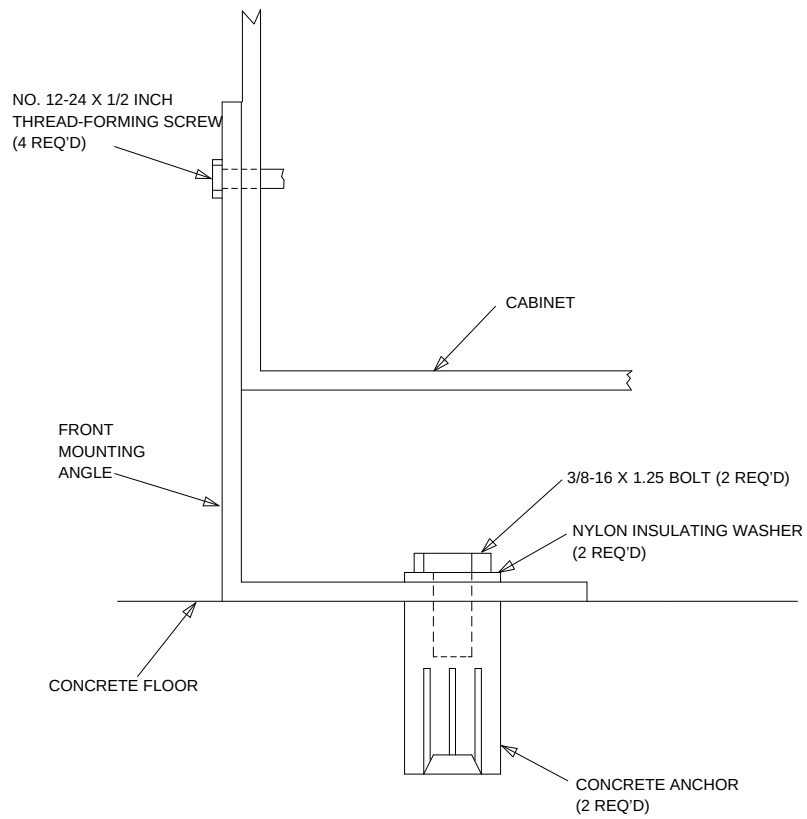
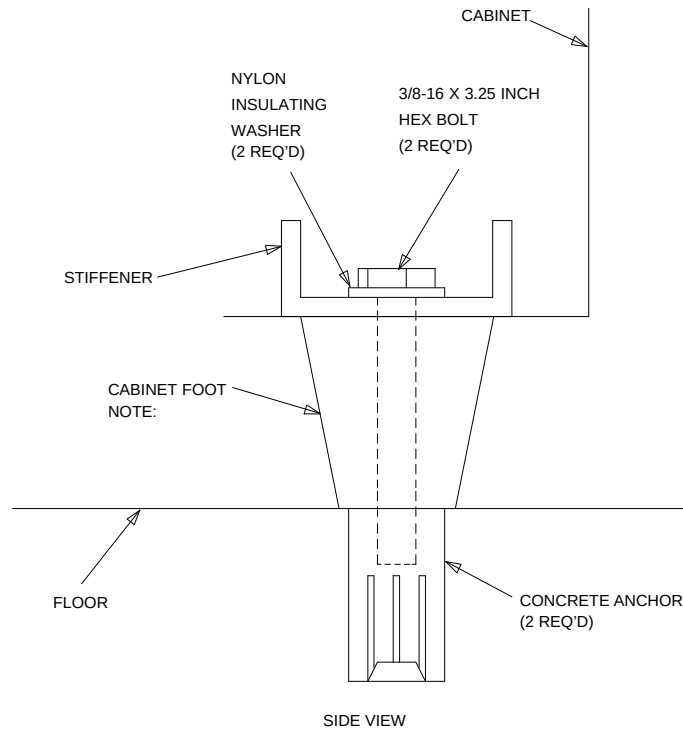


Figure 10-3. Front Mounting Angle — Concrete Floor



NOTE: BOLT DOES NOT RUN THROUGH CABINET FOOT

Figure 10-4. Cabinet Earthquake Mounting — Concrete Floor

Install TDM/LAN Bus Terminators

Verify that the two AHF110 TDM/LAN bus terminators are located per Figure 10-5.

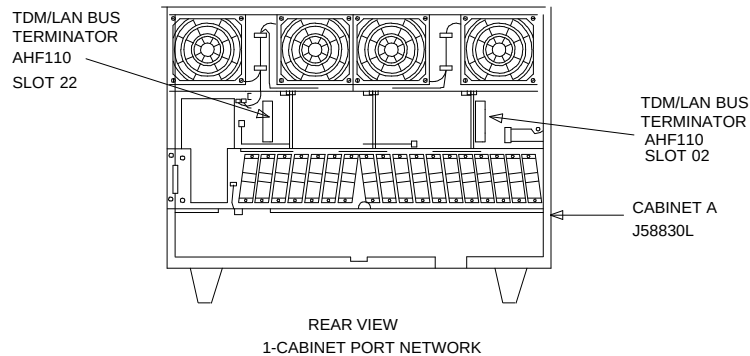


Figure 10-5. Locations of TDM/LAN Bus Terminators for Single-Cabinet PPN

Label DEFINITY ECS R5vs Cables

See NOTE. To make reconnecting the cables simpler and more reliable, label every connector cable associated with the system (if not already labeled).

⇒ NOTE:

The I/O cables connected to the wall-mounted DEFINITY ECS R5vs system are likely to be fairly short. Therefore, either the new DEFINITY ECS R5si+m enhanced control cabinet should be installed near the wall field or the existing I/O cables may need to be replaced with longer ones.

Swing Out DEFINITY ECS R5vs System to Maintenance Position

See NOTE. While lifting on the left side of the wall-mounted G3vs cabinet, allow the cabinet's left side to swing outward and to the right.

⇒ NOTE:

During the remainder of these upgrade instructions, the left side of this cabinet will be referred to as the front of the cabinet.

Remove Front Cover from DEFINITY ECS R5vs

⇒ NOTE:

The cover should already be removed in a system that was just upgraded to a DEFINITY ECS R5vs as the first stage of a DEFINITY ECS R5si+m upgrade.

Use a screwdriver, and turn the door latch counter-clockwise one-fourth turn to remove the cover.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Save Current Translations to DEFINITY ECS R5vs Translation Memory Card

The current DEFINITY ECS R5vs translations are first saved to the translation memory card which will later serve as the DEFINITY ECS R5si+m translation memory card.

⇒ NOTE:

DEFINITY ECS R5vs translations need not be saved for a system that was just upgraded to a DEFINITY ECS R5vs as the first stage of a DEFINITY ECS R5si+m upgrade.

1. Log in at the G3-MT terminal.
2. Verify that the switch on the outside edge of the memory card is in the downward position to record (see Figure 10-6).

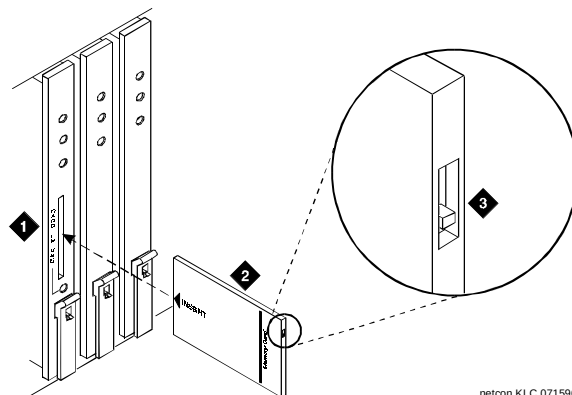


Figure 10-6. Record Switch on DEFINITY Memory Card

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Enter **n** in the *Alarm Origination Activated* field and press RETURN to disable Alarm Origination.

See NOTE. The INADS Database Administrator at the TSC will enable Alarm Origination as part of the registration process.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the switch software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Enter **save translation**. Press RETURN. This command instructs the system to write all translation information from memory to the DEFINITY ECS R5vs translation memory card.
2. If the system is equipped with a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Install the SIMM on the TN790 Processor Circuit Pack

This section describes the procedure of adding additional memory to the TN790 Processor Circuit pack.

Required Tools

The following tools and items may be required during the upgrade:

- Authorized wrist grounding strap
- Static-proof or original circuit-pack packaging for transporting circuit packs
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

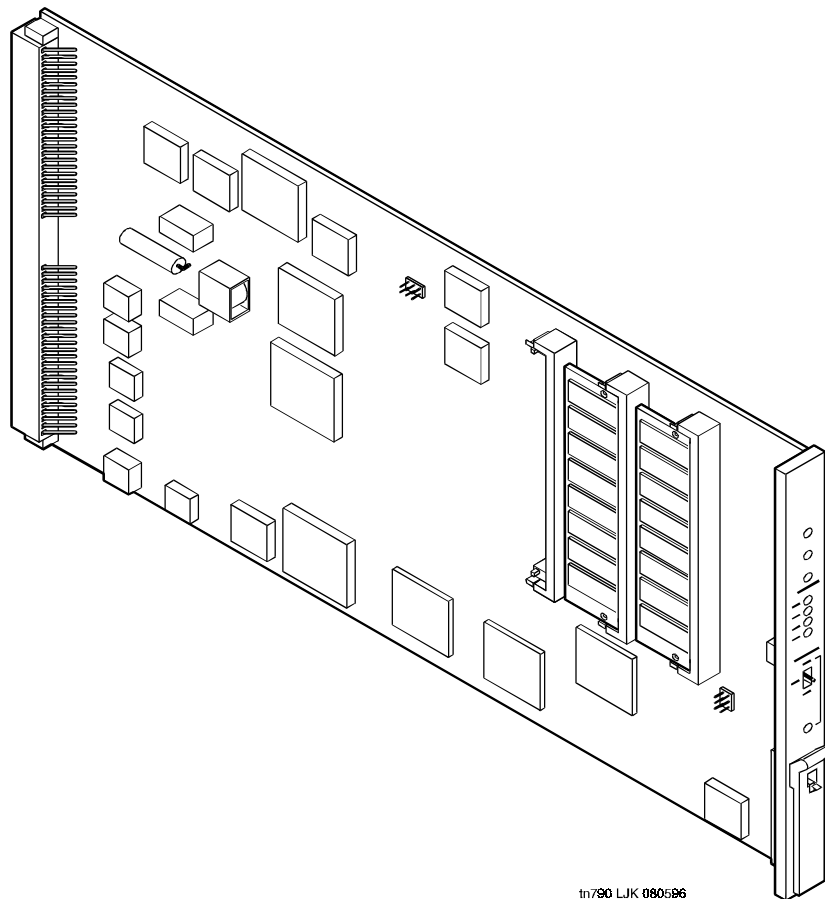
See WARNING.



WARNING:

Before handling the circuit pack or the SIMM, put on a wrist strap and attach its plug or clip to the cabinet's frame.

See Figure 10-7 to locate the SIMM sockets on the TN790 processor circuit pack.



tn790 LJK 080596

Figure 10-7. TN790 Processor Circuit Pack

Use the following procedure to install a SIMM:

1. Remove the TN790 Processor circuit pack from the control carrier.
2. Place the TN790 Processor circuit pack on an ESD-approved work station, such as the anti-static circuit pack packaging or anti-static mat, with the SIMM socket facing up and to the left, as shown in Figure 10-7.
3. Locate the Notch cutout area on one corner of the SIMM. See Figure 10-8. See WARNING.



WARNING:

Do not touch the SIMM's edge connector. Oils from your fingers can cause corrosion and/or oxidation to the contacts.

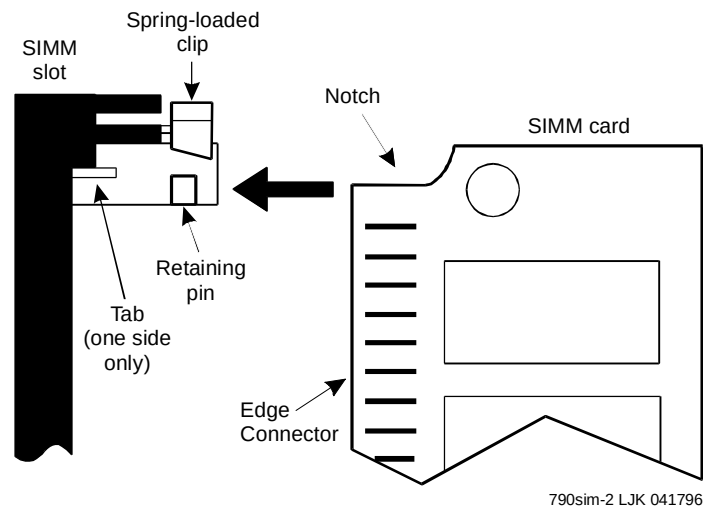


Figure 10-8. Align the SIMM with the SIMM Socket

4. Align the SIMM with the slot in the center of the SIMM socket.

(See Figure 10-8).

Hold the SIMM at a 45-degree angle, with the notch pointing towards the front face plate of the circuit pack. Align the SIMM's edge connector with the slot in the center of the SIMM socket. See WARNING.



WARNING:

*Do not use force when inserting the SIMM into the SIMM socket.
When the SIMM is installed correctly, it will snap easily into place.*

5. Press the SIMM's edge connector firmly into the SIMM socket.

Pivot the SIMM down and towards the circuit pack until it clicks into place (as shown in Figure 10-9).

The metal tabs at each end of the socket snap into place around the SIMM and the small retaining pins snap into the holes at each end of the SIMM.

If you have misaligned or only partially seated the SIMM, you will not hear a sharp click, and the retaining pins will not snap cleanly into the holes. You can easily remove the SIMM (see the next section, "Removing a SIMM,") and reinstall it.

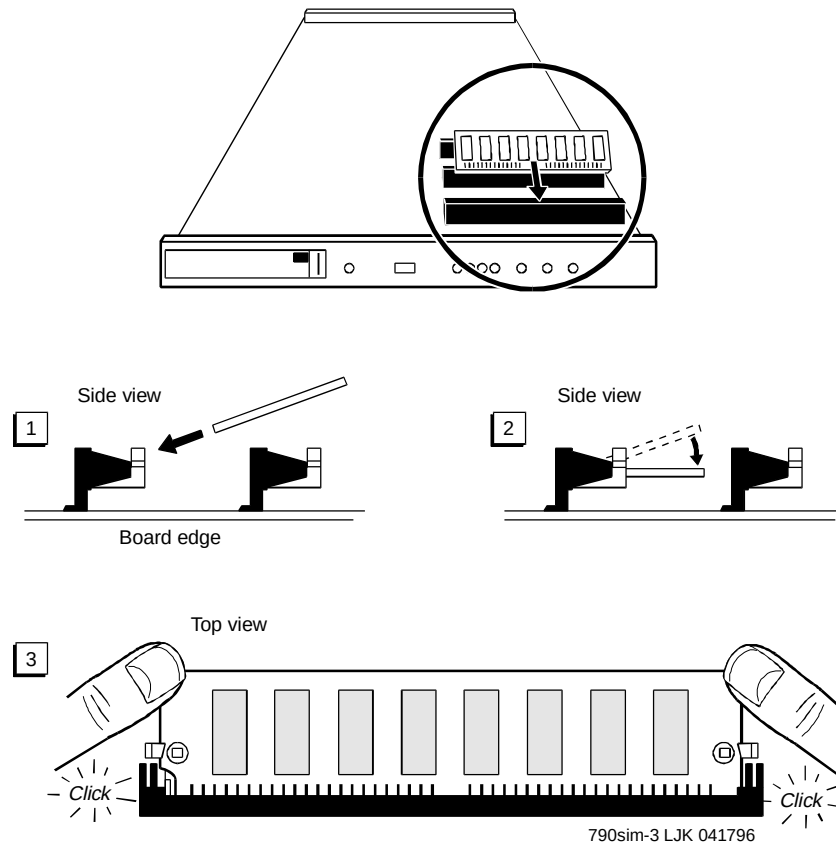


Figure 10-9. SIMM Insertion Procedure

Shut Down DEFINITY LAN Gateway System

If a DEFINITY LAN Gateway system resides in the control cabinet to be upgraded, prepare to shut down the DEFINITY LAN Gateway assembly and allow the disk to completely spin down. See Caution. See WARNING.



CAUTION:

Before using this procedure to shut down the DEFINITY LAN Gateway, make sure that you save the system parameters if you plan to reuse the current system.



WARNING:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet where it resides can damage the LAN Gateway disk.

1. See WARNING. To avoid an unexpected LAN Gateway reboot after an unplanned switch reboot, unseat the LAN Gateway assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
3. When the main menu appears, select *Maintenance*.
4. Select *Reset System* from the *Maintenance* menu.
5. Select *Shutdown* from the *Reset System* menu.

Shut Down DEFINITY AUDIX System

1. See WARNING. If a DEFINITY AUDIX System resides in the system to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. See WARNING. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Down DEFINITY ECS R5vs System

See CAUTION. Behind the DEFINITY ECS R5vs cabinet, set the circuit breaker to OFF.



CAUTION:

Powering down the control cabinet will cause important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup requests, and Do Not Disturb requests to be lost. Refer to DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si for

information about preparing the system for a power down. BCMS data cannot be stored to or retrieved from tape.

Remove Circuit Packs from DEFINITY ECS R5vs

- 1. Label each port circuit pack in the DEFINITY ECS R5vs with its slot number.
- 2. See WARNING and NOTE. Remove all circuit packs from the DEFINITY ECS R5vs system. Store the circuit packs in the static-proof packaging.

⚠ WARNING:
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

➡ NOTE:
If a TN756 tone-detector/generator was removed from the DEFINITY G3vs control cabinet, a new DEFINITY ECS R5r tone clock (TN2182) should replace this circuit pack. The TN2182 Tone-Clock serves to replace the tone detector circuits on the old TN756. If a TN2182 is used, no TN748B is required.

- 3. Remove circuit-pack blanks from the slots that do not contain circuit packs.

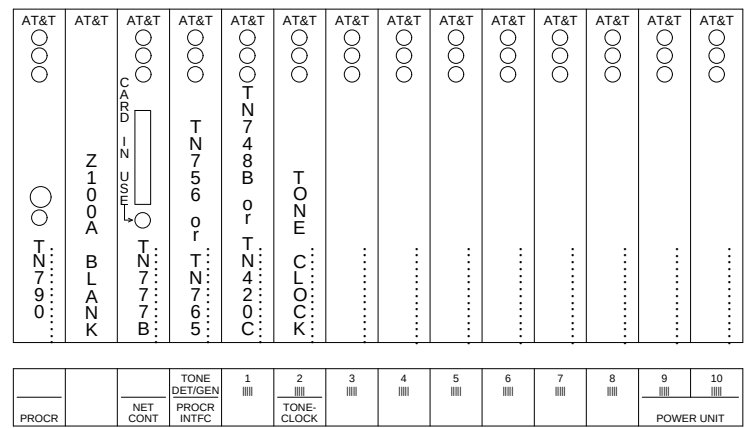


Figure 10-10. Circuit-Pack Locations in DEFINITY ECS R5vs Wall-Mounted Cabinet

Install Circuit Packs in DEFINITY ECS R5si+m

1. See WARNING and NOTE. Using Figure 10-11 and the label, install the power unit and DEFINITY ECS R5si+m control circuit packs into the new enhanced control cabinet.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.



NOTE:

If a TN756 tone-detector/generator was removed from the DEFINITY G3si control cabinet, a new DEFINITY ECS R5r tone clock (TN2182) should replace this circuit pack. The TN2182 Tone-Clock serves to replace the tone detector circuits on the old TN756. If a TN2182 is used, no TN748B is required.

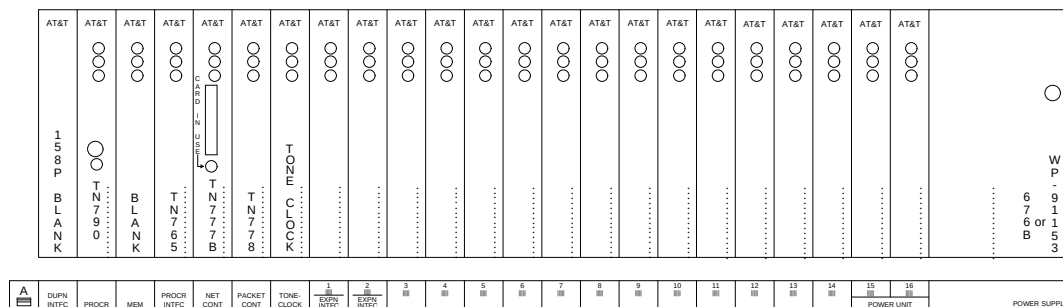


Figure 10-11. Circuit-Pack Locations in Standard-Reliability DEFINITY ECS R5si+m Enhanced Control Cabinet

2. See preceding WARNINGS and following NOTE. Install the port circuit packs, previously removed, into the "A" cabinet using the figure and the label as a guide.



NOTE:

Since the new DEFINITY ECS R5si+m enhanced control cabinet has more port slots than the DEFINITY ECS R5vs cabinet, there should not be a need to move and retranslate these circuit packs.

3. Install circuit-pack blanks in slots not equipped with circuit packs.

Connect Power and Grounding

1. Reconnect the 6-AWG cabinet ground wire to the ground bar in the enhanced control cabinet.



NOTE:

A screwdriver is required to loosen and tighten the bolts that secure the ground wire to the ground bar.

2. Reconnect the coupled bonding conductor.
3. Connect the cabinet power cord behind the enhanced control cabinet.

Reseat DEFINITY LAN Gateway System

1. See WARNING. Reseat the LAN Gateway assembly into its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reseat DEFINITY AUDIX System

If a DEFINITY AUDIX System resides in the control cabinet, reseat the AUDIX assembly to its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Boot the DEFINITY ECS R5si+m System

1. Behind the enhanced control cabinet's power supply, set the circuit breaker to ON.
2. The system now goes through the reset level 4 rebooting process, loading translations from the translation memory card. Rebooting requires 8 to 11 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

3. Login at the login: prompt on the G3-MT or G3-MA, and set the time to ensure that the system is booted properly.

4. Enter **list configuration software-version**, and press RETURN to compare the version number of the DEFINITY ECS R5si+m software program (displayed on the G3-MT or G3-MA) with the TN786B version number (written on a label on the TN786B's faceplate). If the version numbers are not the same, change the version number on the TN786B label so that they agree.

⇒ NOTE:

Certain forms have changed for DEFINITY ECS R5si+m. Upgraded DEFINITY ECS R5vs translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to *DEFINITY Enterprise Communications Server Release 5 Transition Reference*, and *DEFINITY Enterprise Communications Server Release 5 Implementation*, and make the necessary changes.

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

Close Door of Enhanced Control Cabinet

Close the front door of the DEFINITY ECS R5si+m and secure with the latch.

Run Acceptance Tests

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, and perform the appropriate tests.

Resolve Alarms

Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.



NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS R5si+m

Get the serial number of the DEFINITY ECS R5si+m, and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), or the number provided by your Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS R5si+m.

Disassemble Wall-Mounted DEFINITY ECS R5vs System

1. Loosen the four shoulder screws (approximately one complete turn) holding the DEFINITY ECS R5vs cabinet to the mounting panel (see Figure 10-12).
2. Remove the locking screw holding the DEFINITY ECS R5vs cabinet to the center of the mounting panel.
3. Return the DEFINITY ECS R5vs cabinet to its locked operating position, by lifting on the front of the cabinet and allowing the cabinet to swing left and back toward the wall.
4. To remove the cabinet from the mounting panel, lift and slide the right side of the cabinet (now facing forward) upward and toward the right until the four shoulder screws are aligned with the wide parts of the keyhole slots. Once aligned, lift the cabinet away the mounting panel.
5. To access the wood screws connecting the wall panel to the wall, lift and swing the mounting panel back out to its maintenance position.
6. Remove the five lower wood screws from the wall panel, and loosen the top two wood screws. Then, lift the mounting assembly up and away from the wall.
7. Remove the top two wood screws.

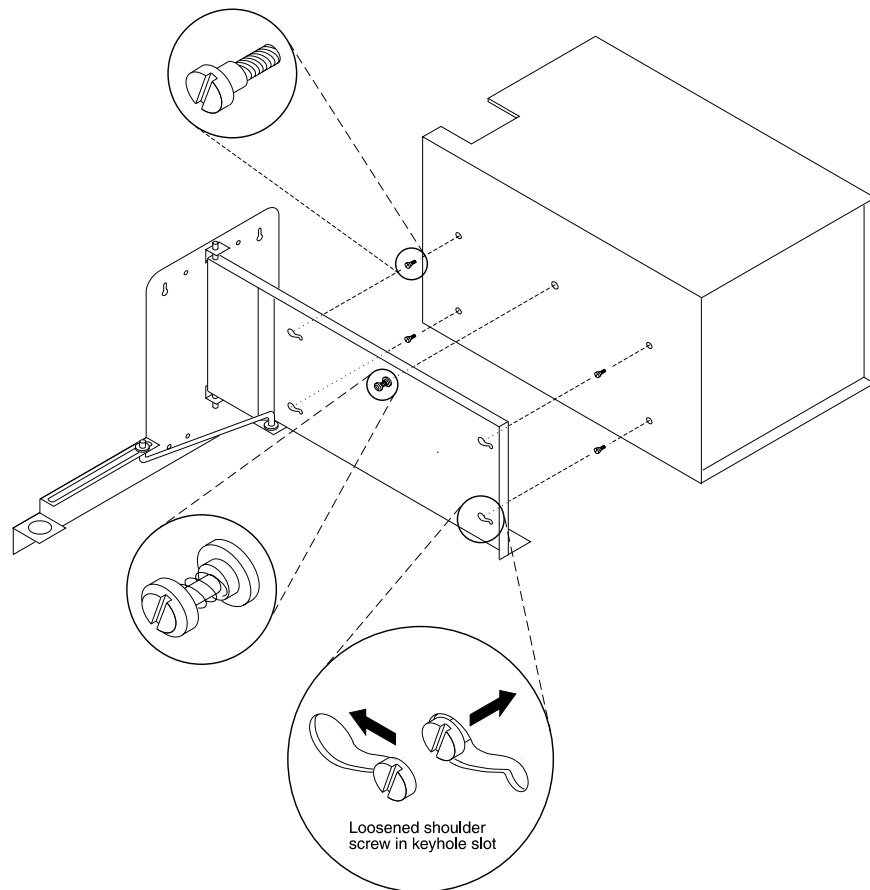


Figure 10-12. Exploded View of Wall-Mounted DEFINITY ECS R5vs System

Return Replaced DEFINITY ECS R5vs Equipment

The DEFINITY ECS R5vs equipment replaced, during the upgrade to DEFINITY ECS R5si+m, should be returned to Lucent Technologies according to the requirements outlined in:

BCS/Material Logistics, MSL/Attended Stocking Locations

Methods and Procedures for Basic Material Returns

The replaced DEFINITY ECS R5vs equipment includes:

- DEFINITY ECS R5vs cabinet and front cover
- DEFINITY ECS R5vs wall mounting assembly

This chapter provides the information necessary to upgrade a DEFINITY ECS R5si system with a PPN consisting of single-carrier cabinets to a DEFINITY ECS R5si+m system (with additional memory). The hardware and software involved in the upgrades and the upgrade procedures are also provided.



CAUTION:

Be careful to find the right chapter for your upgrade. Using the software- and sometimes the hardware-upgrade PEC on the customer's order, refer to Table 1 in "About This Document" for the correct chapter.



NOTE:

This chapter assumes that the switch being upgraded is a DEFINITY ECS R5si. If not, refer to *DEFINITY Communications System Generic 3 Version 4 Upgrades and Additions*, 555-230-108, for information about upgrading a G3s V1 system to a DEFINITY ECS R5si. After that portion of the upgrade is finished, return to this chapter for information about upgrading the DEFINITY ECS R5si control carrier to a DEFINITY ECS R5si+m control carrier.



NOTE:

To ensure that the upgrade completes successfully, perform all steps in the order provided.

DEFINITY ECS R5si+m features and functions are listed in the *DEFINITY Enterprise Communications Server Release 5 Feature Description*. *DEFINITY Enterprise Communications Server Release 5 Implementation*, provides the commands, procedures, and forms required to initialize and administer the DEFINITY ECS R5si+m.

Task Tables

Table 11-1 and Table 11-2 provide the high-level tasks to perform the upgrades detailed in this chapter. Refer to the appropriate page for detailed instructions for each step.

**Table 11-1. Tasks to Upgrade from DEFINITY ECS Release 5si to Release 5si+m —
Standard Reliability**

✓	Task Description	Page
	Contact Network Technicians	4
	Open Control Cabinet Door	8
	Verify System Status	8
	Prepare for Upgrade	8
	Disable Alarm Origination	9
	Save Translations	10
	Shut Down DEFINITY LAN Gateway System	11
	Shut Down DEFINITY AUDIX System	11
	Install the SIMM on the TN790 Processor Circuit Pack	12
	Power Down Control Cabinet	15
	Replace Circuit Packs	16
	Reseat DEFINITY LAN Gateway System	18
	Reseat DEFINITY AUDIX System	18
	Reboot the System	18
	Restart DEFINITY LAN Gateway System	22
	Close Cabinet Door	22
	Run Acceptance Tests	22
	Resolve Alarms	22
	Load Upgraded Translations onto V5 Translation Memory Card	22
	Register System as DEFINITY ECS R5	23
	Return Equipment	24

Table 11-2. Tasks to Upgrade from DEFINITY ECS Release 5si to Release 5si+m — High or Critical Reliability

✓	Task Description	Page
	Open Control Cabinet Door	25
	Verify System Status	25
	Load Current Translations onto Translation Memory Cards	26
	Disable Alarm Origination	27
	Save Translations	27
	Shut Down DEFINITY LAN Gateway System	28
	Shut Down DEFINITY AUDIX System	29
	Install the SIMM on the TN790 Processor Circuit Pack	30
	Power Down Control Cabinet	33
	Replace Circuit Packs	34
	Reseat DEFINITY LAN Gateway System	35
	Reseat DEFINITY AUDIX System	35
	Reboot the System	35
	Restart DEFINITY LAN Gateway System	39
	Close Cabinet Door	39
	Run Acceptance Tests	39
	Resolve Alarms	39
	Load Upgraded Translations onto R5 Translation Memory Card	39
	Register System as DEFINITY ECS Release 5	40
	Return Equipment	40

Considerations

Service Interruption

The upgrade process requires a service interruption. This service interruption must be closely coordinated with the customer and the local account team.

Contact Network Technicians

The technician for each public and private network accessed by the switch must be contacted before the upgrade begins. Otherwise, if these technicians are not aware of the service interruption caused by the upgrade, it is possible that network-access trunk facilities will be busied out at the far end.

Isolator

Each peripheral connected to a DC-powered system, via the asynchronous Electronic Industries Association (EIA) RS-232 interface (behind a PPN control cabinet), requires a 116A isolator. The isolator is inserted at the RS-232 interface between the peripheral and the interface connector to isolate grounding between the system and external adjuncts.

Software

Like the DEFINITY ECS R5si translations, the DEFINITY ECS R5si+m translations are saved on the DEFINITY translation memory card. Although the DEFINITY ECS R5si translations upgrade automatically to DEFINITY ECS R5si+m, several features require special attention because of form changes or potential naming conflicts in the upgrade procedure.

After the upgrade, the Software Associate should check these forms to ensure that the upgraded translations are appropriate for the customer's needs. For information to make the required changes, refer to:

- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

Usable Circuit Packs

Every port or control circuit pack used in the upgraded G3i V2 or V3 system must conform to the minimum usable vintage requirements for DEFINITY ECS R5.

Those circuit packs shipped for the update or upgrade should always meet the usable vintage specifications. In addition, at a presale site inspection, the QPPCN process must check the vintages of every circuit pack that will be reused in the upgraded system and, if necessary, replace those circuit packs that have unusable vintages.

Refer to *Technical Monthly, Reference Guide for Circuit-Pack Vintages and Change Notices*, for current information about usable vintages in a DEFINITY ECS Release 5si+m system. For information about usable vintages of international circuit packs, refer to the ITAC's Tech Alert via your regional distributor.

Since DEFINITY ECS R5si+m supports international call-processing applications, a wide variety of non-US circuit packs can also be used in this system. For a listing of these circuit packs, refer to Chapter 13, "Circuit Packs and Equipment".

Software-Translation Upgrade

As a fall-back precaution, the current translations should first be saved to the existing translation memory card. Then, the update or upgrade process will download the translations to the new DEFINITY ECS R5 memory card.

Specific instructions about when to and how to update or upgrade translations are included in the following section, "System Upgrades."

System Upgrades

There are many configurations of DEFINITY ECS in the field. In terms of both hardware and software, each system can have a unique configuration. The manner in which a system is updated or upgraded depends on its present configuration.

Upgrading to a DEFINITY ECS R5 requires hardware changes. Upgrading a system also always requires downloading the current translations to a new memory card and rebooting the system.

If the update or upgrade involves adding a new cabinet, refer to *DEFINITY Enterprise Communications Server Installation and Test for Single-Carrier Cabinets*, for the installation procedures.

Software Upgrade

The software upgrade feature permits a DEFINITY ECS R5 system to upgrade its software to include new features and to fix software problems.



WARNING:

No administration changes should be entered during the following software upgrade procedure. There can be substantial time gaps between steps and, since the system cannot prevent administration changes, it is up to the system technician to make sure that none are attempted during the entire software upgrade process.

Upgrading to Standard-Reliability DEFINITY ECS R5

The software upgrade for a standard reliability system takes up to 130 minutes, during which time service is interrupted for about 10 minutes. Upgrade software cannot be done remotely, and it must be performed on the local G3-MT.

Ensure that the following items are available before proceeding:

- Software memory card with the software release running currently in the system
- Software memory card containing the new software release for the system
- Translation memory card on which the system translations are to be saved (the card should already be in the system)
- Software patch (if it exists) that is currently applied to the system (this patch is downloaded if a software backout is required)
- Software release label to be applied to the TN790 processor circuit pack after a successful upgrade

The following table indicates the processes and their corresponding time allotment for the upgrade procedure.

Process	Time (minutes)
Save translation	10
Save announcements	45
Upgrade software	10
Save translation	10
Save announcements	45
Miscellaneous	10
Total Time	130

A standard-reliability DEFINITY s/si is upgraded to a standard-reliability DEFINITY ECS R5 s/si by completing the following steps:

- Save the current translations to the existing translation memory card
- Save the current announcements stored on a TN750/B circuit pack, if any, to the translation memory card
- Power down the PPN's control cabinet
- Add the SIMM memory strip to the TN790 Processor circuit pack
- Install the TN790 Processor circuit pack into the control cabinet

- Reboot the upgraded DEFINITY ECS R5 system
- Verify that the system boots properly
- Insert blank R5 formatted memory card with the current translations into the Netcon circuit pack
- Save the upgraded R5 translations and announcements stored on the TN750/B circuit pack, if any, to the new translation memory card

Prerequisite Hardware

The equipment in Table 11-3 *must* be on site before the upgrade begins. Ensure that the translation memory card is current and, if the system has a TN750/B Announcement circuit pack, contains 4 Mbytes of memory

To place a claim for missing equipment, as part of the Streamlined Implementation process, call 1-800-772-5409, or the number provided by your Lucent Technologies representative.

Table 11-3. Required Hardware

Equipment	Description	Quantity
63610	4 Mb SIMM memory strip	1 ¹
406809889	J58890TGTG-1, L14, DEFINITY ECS R5 Formatted 4-MByte Translation Memory Card	1 ²
847008463	Control-Cabinet Label	1

1. Attach the SIMM strip to the TN790 before installing the TN790 in the control cabinet.
2. A 4-MByte translation memory card is required for a system that uses recorded announcements. DEFINITY ECS R5 format is required for all systems.

Required Tools

The following tools and items may be required during the update or upgrade:

- Authorized wrist grounding strap
- 1/4-inch flat-blade screwdriver
- Static-proof or original circuit-pack packaging for transporting circuit packs
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*

— *DEFINITY Enterprise Communications Server Release 5
Implementation*

Open Control Cabinet Door

Use a screwdriver and turn the door-latch screw counterclockwise one-fourth turn to open the door.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Prepare for Upgrade

The current G3i translations should first be saved to the existing translation card.

1. Login at the G3-MT or G3-MA terminal.

If translation corruption is detected, the following message is displayed on the copyright screen:

WARNING: translation corruption detected; call Lucent
Technologies distributor immediately

⇒ NOTE:

The **save translations** command cannot be executed if the translation corruption message appears.

2. Disable Terminal Translation Initialization (TTI) during the upgrade using the **change system parameters feature** command (note that it must be restored after the upgrade).
3. Issue the **list configuration software-versions** command to determine whether any patches have been applied.

⇒ NOTE:

If the switch must be restored to the old software, the correct patches must be re-downloaded.

4. Verify a software memory card containing the current system software is at hand. This card is needed in case the new software must be backed out.
5. Enter **change system-parameters maintenance**, and press RETURN. Use this form to prevent scheduled daily maintenance from interfering with the update or upgrade. (If scheduled maintenance *has* begun, set the value of the "Stop Time" field to one minute after the current time. If scheduled maintenance *has not* yet begun, change the value of the "Start Time" field to a time after the update or upgrade will be finished.)

6. Verify the switch on the outside edge of the memory card is in the down position to record (see Figure 11-1).

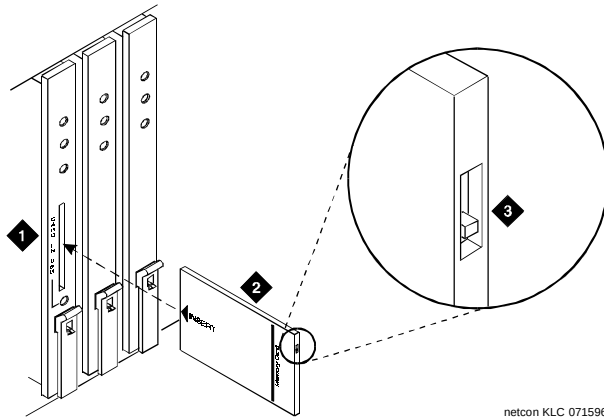


Figure 11-1. Record Switch on DEFINITY Translation Card

7. Insert the original translation card into the slot on the TN777B faceplate. (See Figure 11-1.)



NOTE:

The translation card is keyed to assure proper installation. Insert the card with the white label facing left and with the insert arrow (on the same side) pointing forward toward the circuit pack.

Disable Alarm Origination

1. Enter **change system-parameters maintenance**, and press RETURN.
2. Enter **n** in the *Alarm Origination Activated* field and press RETURN to disable Alarm Origination.

The INADS Database Administrator at the TSC will enable Alarm Origination as part of the registration process.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets.

 NOTE:

For earlier releases of the switch software, you also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Save translations to the translation memory card in the switch by issuing the **save translation card-mem** command. Press RETURN. This process takes approximately 10 minutes to complete.

This command instructs the system to take all the translation information in memory and write it onto the memory card. Move the slide on the memory card to the write protect position to ensure the safety of the preserved translations.

2. If the system is equipped with a TN750/B Announcement circuit pack, enter display announcements, and press RETURN.

If administered recorded announcements are listed, these announcements can be saved by entering the following command:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

 NOTE:

Make sure that the carrier containing the TN750/B Announcement circuit pack is not powered down before the **save announcements** command successfully completes. Otherwise, all recorded announcements will be lost!

 NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack (TN750B or TN750C), the system defaults to the proper location.

3. Enter **change system-parameters features**, and press RETURN. Use Page 2 of this form to prevent unexpected activation of the Terminal Translation Initialization (TTI) feature during the update or upgrade by changing the value in the "TTI Security Code" field.

Shut Down DEFINITY LAN Gateway System

If a DEFINITY LAN Gateway system resides in the control cabinet to be upgraded, prepare to shut down the DEFINITY LAN Gateway assembly and allow the disk to completely spin down. See Caution. See WARNING.



CAUTION:

Before using this procedure to shut down the DEFINITY LAN Gateway, make sure that you save the system parameters if you plan to reuse the current system.



WARNING:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet where it resides can damage the LAN Gateway disk.

1. See WARNING. To avoid an unexpected LAN Gateway reboot after an unplanned switch reboot, unseat the LAN Gateway assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
3. When the main menu appears, select *Maintenance*.
4. Select *Reset System* from the *Maintenance* menu.
5. Select *Shutdown* from the *Reset System* menu.

Shut Down DEFINITY AUDIX System



NOTE:

The DEFINITY AUDIX, if present in the control cabinet, should have already been shut down if the Netcon circuit pack was just updated.

1. See WARNING. If a DEFINITY AUDIX System resides in the control cabinet to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down and AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. See WARNING. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Install the SIMM on the TN790 Processor Circuit Pack

This section describes the procedure of adding additional memory to the TN790 Processor Circuit pack.

Required Tools

The following tools and items may be required during the upgrade:

- Authorized wrist grounding strap
- Static-proof or original circuit-pack packaging for transporting circuit packs
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

See WARNING.



WARNING:

Before handling the circuit pack or the SIMM, put on a wrist strap and attach its plug or clip to the cabinet's frame.

See Figure 11-2 to locate the SIMM sockets on the TN790 processor circuit pack.

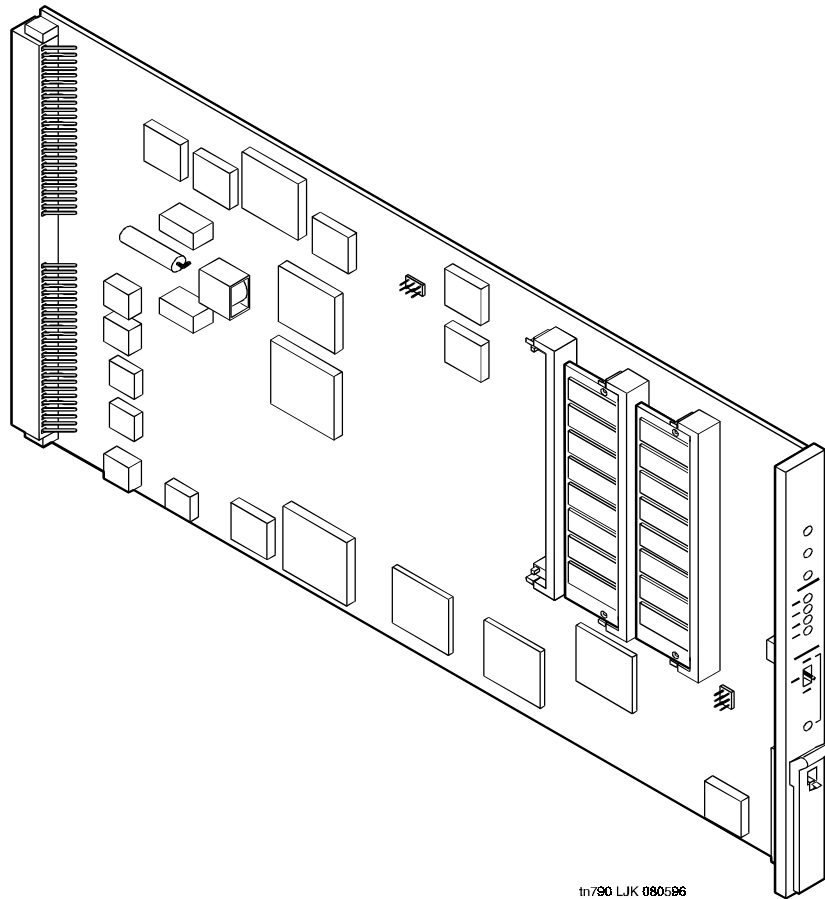


Figure 11-2. TN790 Processor Circuit Pack

Use the following procedure to install a SIMM:

1. Remove the TN790 Processor circuit pack from the control carrier.
2. Place the TN790 Processor circuit pack on an ESD-approved work station, such as the anti-static circuit pack packaging or anti-static mat, with the SIMM sockets facing up and to the left.
3. Locate the Notch cutout area on one corner of the SIMM. See Figure 11-3. See WARNING.



WARNING:

Do not touch the SIMM's edge connector. Oils from your fingers can cause corrosion and/or oxidation to the contacts.

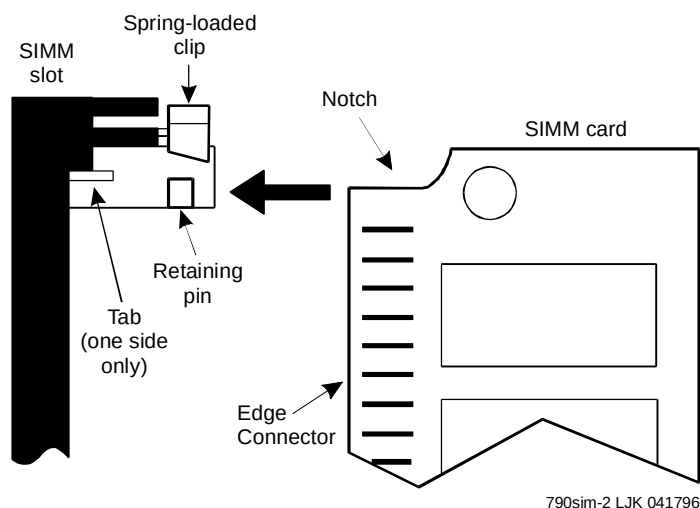


Figure 11-3. Align the SIMM with the SIMM Socket

4. Align the SIMM with the slot in the center of the SIMM socket.

(See Figure 11-3).

Hold the SIMM at a 45-degree angle, with the notch pointing towards the front face plate of the circuit pack. Align the SIMM's edge connector with the slot in the center of the SIMM socket. See WARNING.



WARNING:

*Do not use force when inserting the SIMM into the SIMM socket.
When the SIMM is installed correctly, it will snap easily into place.*

5. Press the SIMM's edge connector firmly into the SIMM socket.

Pivot the SIMM down and towards the circuit pack until it clicks into place (as shown in Figure 11-4).

The metal tabs at each end of the socket snap into place around the SIMM and the small retaining pins snap into the holes at each end of the SIMM.

If you have misaligned or only partially seated the SIMM, you will not hear a sharp click, and the retaining pins will not snap cleanly into the holes. You can easily remove the SIMM (see the section, "Removing a SIMM," in Chapter 12, "Changes to R5vs, R5si, and R5si +m Systems") and reinstall it.

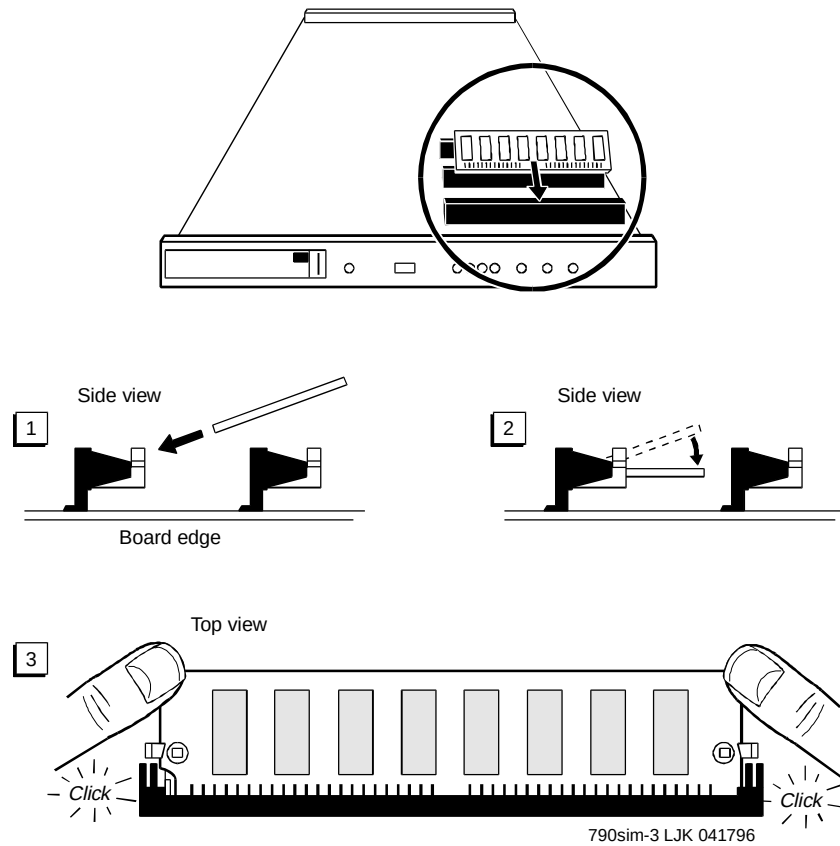


Figure 11-4. SIMM Insertion Procedure

Power Down Control Cabinet

Behind the PPN control cabinet's power supply, set the circuit breaker to OFF.

Replace Circuit Packs

 NOTE:

If new adjuncts or features are being added that require additional circuit packs, refer to Chapter 12, "Changes to R5vs, R5si, and R5si +m Systems" of this manual for installation instructions.

1. See WARNING. At the J58890L control cabinet, remove the combined TN786B/CPP1 processor/memory circuit pack).



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. See NOTE. Install the new TN790 processor circuit-pack position label (designation strip) in its place on the control cabinet.



NOTE:

Since the new label has an adhesive backing, it can be placed over the existing label.

3. See previous WARNING. Install the TN790 processor circuit pack into the control-cabinet slots labeled "PROCR" and "MEM". See Figure 11-5 for an illustration of the TN790 processor circuit pack.
4. Install circuit-pack blanks in slots not equipped with circuit packs.

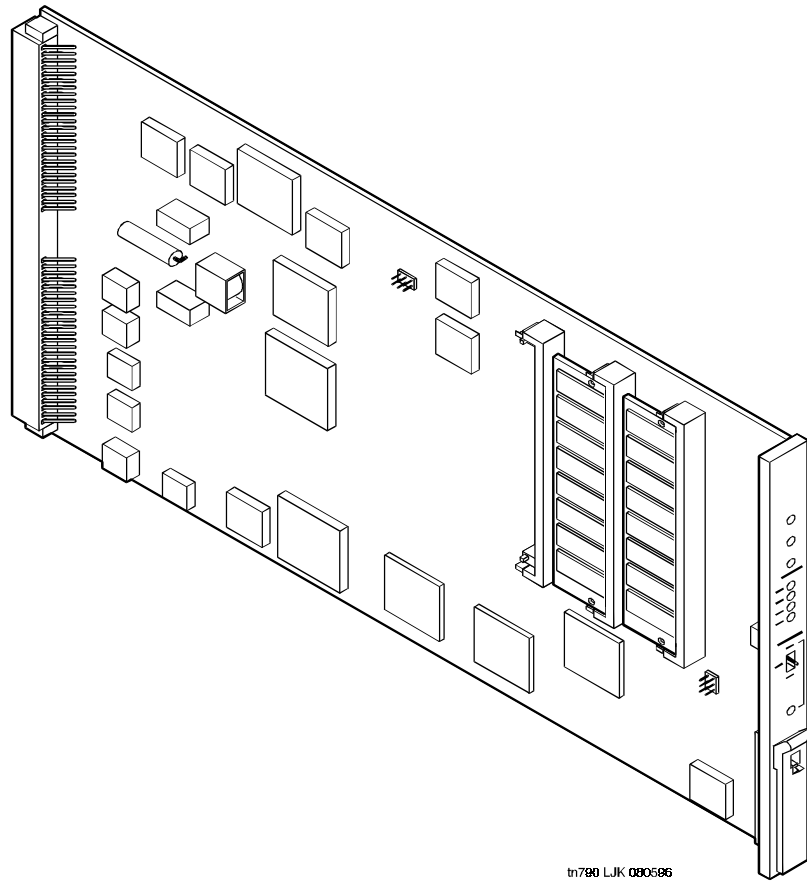


Figure 11-5. TN790 Processor Circuit Pack

Reseat DEFINITY LAN Gateway System

See WARNING. Reseat the LAN Gateway assembly into its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reseat DEFINITY AUDIX System

See WARNING. If a DEFINITY AUDIX System resides in the control cabinet, reseat the AUDIX assembly to its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reboot the System

1. Behind the PPN control cabinet's power supply, set the circuit breaker to ON.
2. The system now performs the reset level 4 rebooting process by loading translations from the memory card. Loading the translations takes 8 to 11 minutes.

Refer to Screen 11-1, Screen 11-2, Screen 11-3, and Screen 11-4 for sample G3-MT or G3-MA screens. Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit pack LED indications and screen displays that occur during system reboot.

3. Log in as "craft" at the login: prompt on the G3-MT or G3-MA.
4. Enter **set time**, and press RETURN to set the time and ensure that the system is booted properly.
5. Enter list configuration software-version, and press RETURN to compare the version number of the DEFINITY ECS Release 5 software program (displayed on the G3-MT or G3-MA) with the TN790 version number (written on a label on the TN790's faceplate). If the version numbers are not the same, change the version number on the TN790 label so that they agree.

6. Perform a sanity check on the system running the new software by executing the following commands in this order:
 - a. **status system 1** (to check out unusual status in the system)
 - b. **list station** (to ensure that the translation is read in properly)
 - c. **display alarm** (to ensure no alarm is raised in the system)
 - d. **list trunk-group** (to ensure the translation is read in properly)
 - e. **list hunt-group** (to ensure the translation is read in properly)

This ensures there is no translation corruption and the translations can be saved with the new software.

⇒ NOTE:

Backout Procedure: If the system is not running properly or the translations seem to be incorrect, follow the technical escalation procedure. If the new load must be backed out (i.e., returned to the previous software load), re-install the TN786B/CPP1 circuit packs and reboot with the previous version's translation card.

7. Get the DOSS order number of the upgrade, and call the regional CSA to request an "init" login. Once logged in as "init," the CSA should assign the DEFINITY ECS R5 option, which also automatically sets the 24-hour password aging for the upgraded system's customer logins.

The CSA should enter change system-parameters customer-options, and press RETURN to enable the DEFINITY ECS R5 option. For details on enabling this option, see the following figures and *DEFINITY Enterprise Communications Server Release 5 Implementation*.

⇒ NOTE:

Certain forms have changed for DEFINITY ECS R5. Upgraded translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to the following books to make the necessary changes:

- *DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

The default values are shown in the following System Parameter screens.

```
change system-parameters customer-options                               Page 1 of 3
                                OPTIONAL FEATURES

                                G3 Version: V4
                                Maximum Ports: 2800
                                Logged-In ACD Agents: 500

Abbreviated Dialing Enhanced List? n                               Call Work Codes? n
                                ACD? n                               CAS Branch? n
                                AT&T Adjunct Links? n               CAS Main? n
Answer Supervision by Call Classifier? n                           CPN/BN Adjunct? n
                                ARS? n                               DCS (Basic)? n
                                ARS/AAR Partitioning? y
                                ASAI Interface? y                   Emergency Access to Attendant? y
                                ATMS? n                               Expert Agent Selection (EAS)? n
Audible Message Waiting? n                                         Forced ACD Calls? n
Authorization Codes? n                                             Forced Entry of Account Codes? n
                                BCMS (Basic)? n
                                BCMS/VuStats LoginIDs? n
                                BCMS/VuStats Service Level? n

(NOTE: You must logoff & login to effect the permission changes.)
```

Screen 11-1. Sample Display of System-Parameters Customer-Options Form -- Page 1

```
change system-parameters customer-options                               Page 2 of 3
                                OPTIONAL FEATURES

                                Hospitality (Basic)? y
                                G3V3 Hospitality Enhancements? n   Service Observing (Basic)? y
                                Hospitality Parameter Reduction? n   Service Observing (Remote/By FAC)? n
                                ISDN-PRI? n                           Service Observing (VDNs)? n
                                ISDN-PRI over PACCON? n             Station and Trunk MSP? n
                                Lookahead Interflow? n             Terminal Trans. Init. (TTI)? n
                                Malicious Call Trace? n             Time of Day Routing? n
                                Multifrequency Signaling? n         Uniform Dialing Plan? n
                                Multiple Call Handling? n           Vectoring (Basic)? n
                                Processor and System MSP? n         Vectoring (Prompting)? n
                                Private Networking? n             VDN of Origin Announcement? n
                                Restrict Call Forward Off Net? n   VDN Return Destination? n
                                Secondary Data Module? n           VuStats? n
                                                                Wideband Switching? n

(NOTE: You must logoff & login to effect the permission changes.)
```

Screen 11-2. Sample Display of System-Parameters Customer-Options Form -- Page 2

```

change system-parameters customer-options
                                ASAI CAPABILITY GROUPS

                                Adjunct Call Control Group? y
                                Adjunct Routing Group? y
                                Answering Machine Detection? y
                                AT&T-ASAI Links? n
                                Domain Control Group? y
                                Event Notification Group? y
                                Request Feature Group? y
                                Set Value Group? y
                                Switch Classified Calls/Predictive Dialing? y

                                (NOTE: You must logoff & login to effect the permission changes.)

```

Screen 11-3. Sample Display of System-Parameters Customer-Options Form -- Page 3

8. Explain to the switch administrator that any previous login names and passwords still exist, but that the passwords will expire in 24 hours. When changed, the new login names and passwords must conform to the requirement shown in the following note.



NOTE:

A password must have from 4 to 11 symbols including at least 1 alphabetic character and 1 numeric character. As before, a login name must have from 3 to 6 alphanumeric characters.

Also explain that, since an R1V3.0 G3-MA cannot notify users about expiring passwords, password aging should be disabled for any login name used with an R1V3.0 G3-MA.

```

change password craft
                                PASSWORD ADMINISTRATION

                                Password of Login Making Change:

                                LOGIN BEING CHANGED
                                Login Name: craft

                                LOGIN'S PASSWORD INFORMATION
                                Login's Password:
                                Reenter Login's Password:

```

Screen 11-4. Sample Change-Password Form

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

Close Cabinet Door

Close the front door and secure with the latch.

Run Acceptance Tests

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, to perform the appropriate tests.

Resolve Alarms

Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.

Load Upgraded Translations onto V5 Translation Memory Card

1. Enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. If the system is equipped with a TN750/B Announcement circuit pack, check for completion of an automatic restore of announcements before removing the original translation card. If the system has been running for at least 45 minutes since power on, this operation should be complete. Monitor the yellow light on the TN750/B which is lit while the download is in progress. If this automatic restore did not start within 15 minutes of power on, enter **restore announcements**, and press RETURN.
3. Insert the new R5 formatted translation card. Verify that the switch on the outside edge of the R5 translation memory card is in the downward position to record (see Figure 14-3).
4. Enter **save translation**, and press RETURN. This command instructs the system to write all translation information from memory onto the DEFINITY ECS R5 translation memory card.

5. If the system is equipped with a TN750/B Announcement circuit pack and announcements were restored in above step, save these announcements by entering the following command:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

 NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack (TN750B or TN750C), the system defaults to the proper location.

Although not required, customers may choose to back up announcements stored on TN750C circuit packs. These must be stored on individual translation memory cards labeled with the TN750C location when more than one TN750C exists in the system. While the R5 software can read such memory cards, these cards must be reformatted before R5 can save announcements on the cards. These cards must be ordered in advance from the factory, with pec code #J58890TG-1, L14.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.

 NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS R5

Get the serial number of the DEFINITY ECS R5, and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111) to register the upgraded system as a DEFINITY ECS Release 5.

Return Equipment

Return any equipment replaced, during the update or upgrade, should be returned to Lucent Technologies according to the requirements outlined in the following documents:

BCS/Material Logistics, MSL/Attended Stocking Locations

Methods and Procedures for Basic Material Returns

High- or Critical-Reliability DEFINITY ECS Release 5si to High- or Critical-Reliability DEFINITY ECS Release 5 si+m

A high- or critical-reliability DEFINITY ECS Release 5si is upgraded to a high- or critical-reliability DEFINITY ECS Release 5si+m by completing the following steps:

- Save the current translations to the existing translation memory cards
- Save the current announcements stored on a TN750/B circuit pack, if any, to the translation memory card
- Power down the PPN's control cabinet
- Attach the SIMM memory strip to the TN790 Processor circuit pack
- Install the TN790 Processor circuit pack into each control cabinet
- Reboot the upgraded DEFINITY ECS R5 system
- Verify that the system boots properly
- Insert blank R5 formatted memory cards with the current translations into the Netcon circuit packs
- Save the upgraded DEFINITY ECS R5 translations and announcements stored on a TN750/B circuit pack, if any, to the new R5 translation memory card

Prerequisite Hardware

The equipment in the following table *must* be on-site before the upgrade begins. Ensure that the translation memory cards are current and, if the system has a TN750B Announcement circuit pack, contain 4 Mbytes of memory.

To place a claim for missing equipment, as part of the Streamlined Implementation process, call 1-800-772-5409, or the number provided by your Lucent Technologies representative, and respond to the call prompter.

Table 11-4. Required Hardware

Equipment	Description	Quantity
63610	4 Mb SIMM memory strip	2 ¹
406809889	J58890TG-1, L14, 4-MByte Translation Memory Card	2 ²
847008463	Control-Cabinet Label	1
and		
847008851	Duplex Control-Cabinet Label	1

1. Attach the SIMM memory strips to the TN790 processor circuit packs before installing them in the control cabinets.
 2. A 4-Mbyte translation memory card is required for a system that uses recorded announcements.
-

Required Tools

The following tools and items may be required during the update or upgrade:

- Authorized wrist grounding strap
- 1/4-inch flat-blade screwdriver
- Static-proof or original circuit-pack packaging for transporting circuit packs
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

Open Control Cabinet Door

Use a screwdriver, and turn the door-latch screw counter-clockwise one-fourth turn to open the door.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Load Current Translations onto Translation Memory Cards

1. See NOTE. For each control cabinet, insert the translation memory card into the slot on the TN777B faceplate (see Figure 0-2).



NOTE:

The memory cards are keyed to assure proper installation. Insert each card with the white “DEFINITY Memory Card” label facing left and with the insert arrow (on the same side) pointing forward towards the circuit pack.

2. Verify the switch on the outside edge of each memory card is in the down position to record.

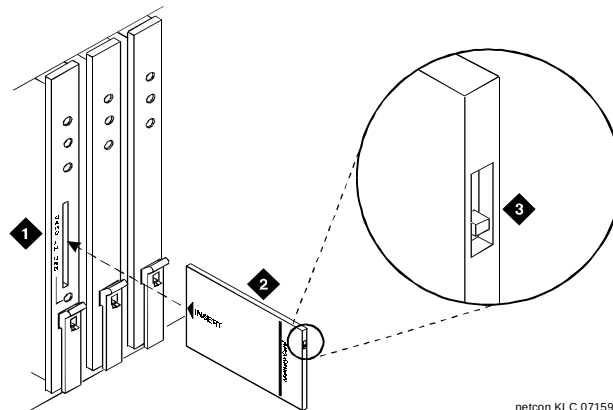


Figure 11-6. Translation Memory Card

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Enter **n** in the *Alarm Origination Activated* field and press RETURN to disable Alarm Origination.

See NOTE. The INADS Database Administrator at the TSC will enable Alarm Origination as part of the registration process.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the switch software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Enter **status system 1**, and press RETURN to verify the system is in the "active/standby" mode.
2. Enter **save translation card-mem**. Press RETURN. This command instructs the system to take all the translation information in memory and write it onto the memory cards.
3. If the system is equipped with a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, these announcements can be saved by entering the following command:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).



NOTE:

Make sure that the carrier containing the TN750/B Announcement circuit pack is not powered down before the **save announcements** command successfully completes. Otherwise, all recorded announcements will be lost!



NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack (TN750B or TN750C), the system defaults to the proper location.

Shut Down DEFINITY LAN Gateway System

If a DEFINITY LAN Gateway system resides in the control cabinet to be upgraded, prepare to shut down the DEFINITY LAN Gateway assembly and allow the disk to completely spin down. See Caution. See WARNING.



CAUTION:

Before using this procedure to shut down the DEFINITY LAN Gateway, make sure that you save the system parameters if you plan to reuse the current system.



WARNING:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet where it resides can damage the LAN Gateway disk.

1. See WARNING. To avoid an unexpected LAN Gateway reboot after an unplanned switch reboot, unseat the LAN Gateway assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Log onto the DEFINITY LAN Gateway if you have not previously logged on. *See the DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway, 555-230-223, for the procedure to log in.*
3. When the main menu appears, select *Maintenance*.
4. Select *Reset System* from the *Maintenance* menu.
5. Select *Shutdown* from the *Reset System* menu.

Shut Down DEFINITY AUDIX System

1. See WARNING. If a DEFINITY AUDIX System resides in the control cabinet to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down and AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. See WARNING. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Install the SIMM on the TN790 Processor Circuit Pack

This section describes the procedure of adding additional memory to the TN790 Processor Circuit pack.

Required Tools

The following tools and items may be required during the upgrade:

- Authorized wrist grounding strap
- Static-proof or original circuit-pack packaging for transporting circuit packs
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 Implementation*

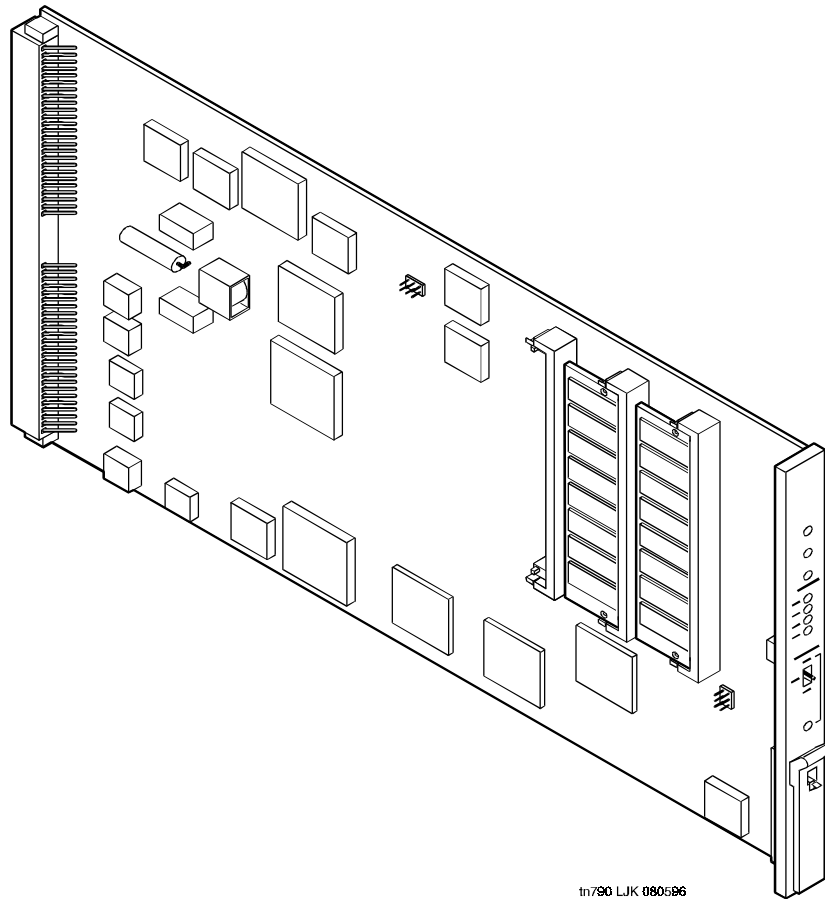
See WARNING.



WARNING:

Before handling the circuit pack or the SIMM, put on a wrist strap and attach its plug or clip to the cabinet's frame.

See Figure 11-7 to locate the SIMM sockets on the TN790 processor circuit pack.



tn790 LJK 080596

Figure 11-7. TN790 Processor Circuit Pack

Use the following procedure to install a SIMM:

1. Remove the TN790 Processor circuit pack from the control carrier.
2. Place the TN790 Processor circuit pack on an ESD-approved work station, such as the anti-static circuit pack packaging or anti-static mat, with the SIMM sockets facing up and to the left, as shown in Figure 11-7.
3. Locate the Notch cutout area on one corner of the SIMM. See Figure 11-8. See WARNING.



WARNING:

Do not touch the SIMM's edge connector. Oils from your fingers can cause corrosion and/or oxidation to the contacts.

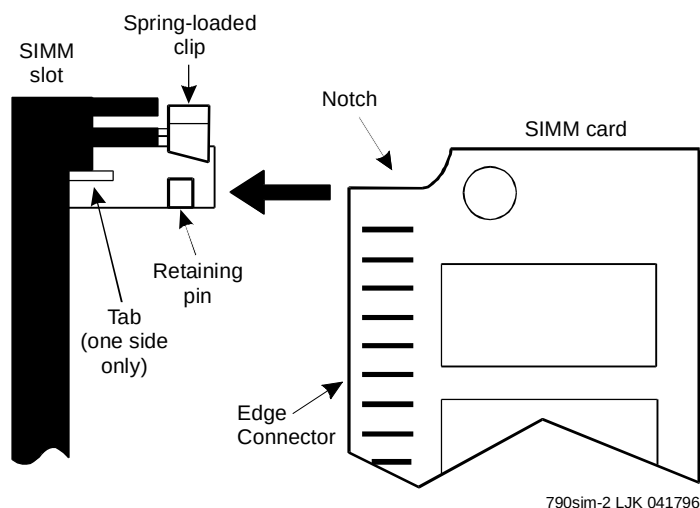


Figure 11-8. Align the SIMM with the SIMM Socket

4. Align the SIMM with the slot in the center of the SIMM socket.

(See Figure 11-8).

Hold the SIMM at a 45-degree angle, with the notch pointing towards the front face plate of the circuit pack. Align the SIMM's edge connector with the slot in the center of the SIMM socket. See WARNING.



WARNING:

*Do not use force when inserting the SIMM into the SIMM socket.
When the SIMM is installed correctly, it will snap easily into place.*

5. Press the SIMM's edge connector firmly into the SIMM socket.

Pivot the SIMM down and towards the circuit pack until it clicks into place (as shown in Figure 11-9).

The metal tabs at each end of the socket snap into place around the SIMM and the small retaining pins snap into the holes at each end of the SIMM.

If you have misaligned or only partially seated the SIMM, you will not hear a sharp click, and the retaining pins will not snap cleanly into the holes. You can easily remove the SIMM (see the next section, "Removing a SIMM,") and reinstall it.

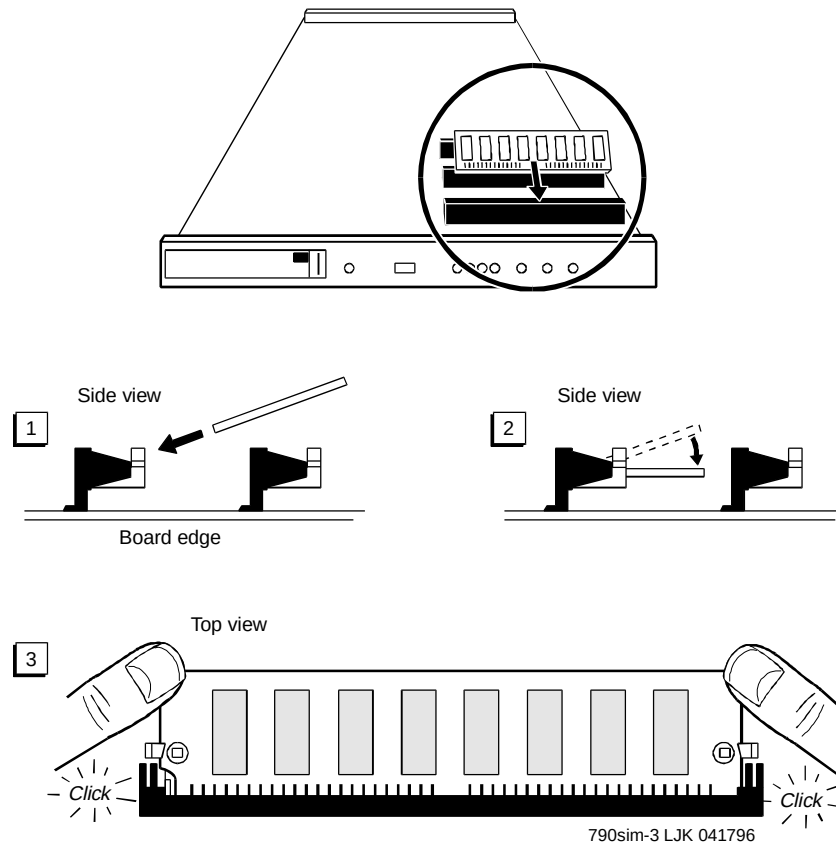


Figure 11-9. SIMM Insertion Procedure

Power Down Control Cabinet

See CAUTION. Behind the PPN control cabinet's power supply, set the circuit breaker to OFF.



CAUTION:

Powering down the PPN's control cabinet will cause important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup request, and Do Not Disturb requests to be lost. Refer to DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si for information about preparing the system for a power down.

Replace Circuit Packs

⇒ NOTE:

If new adjuncts or features are being added that require additional circuit packs, refer to Chapter 12, "Changes to R5vs, R5si, and R5si +m Systems" of this manual for installation instructions.

1. At each control cabinet, remove the combined TN786B/CPP1 processor/memory circuit packt (see Figure 11-10).



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. See NOTE. Install the new circuit pack position label (designation strip) in its place on each control cabinet.



NOTE:

Since the new labels have an adhesive backing, they can be placed over the existing labels.

3. See previous WARNING. At each control cabinet, install the TN790 processor circuit pack into the control cabinet slot labeled "PROCR" (see Figure 11-10).
4. Install circuit-pack blanks in slots not equipped with circuit packs.

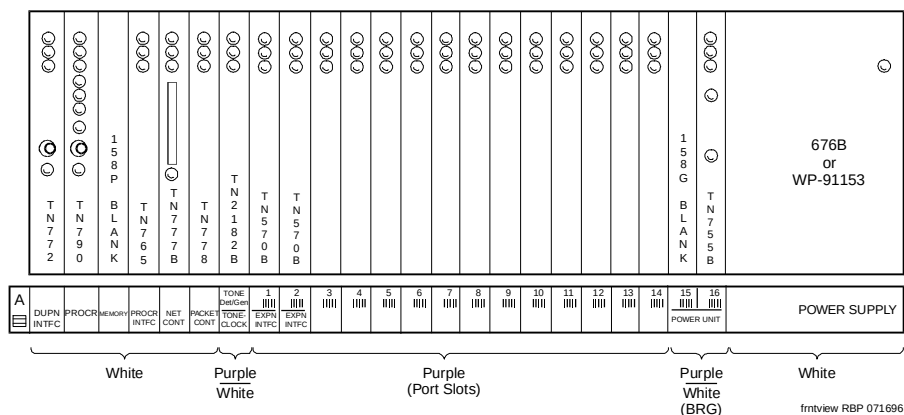


Figure 11-10. Circuit Pack Locations in Duplicated DEFINITY ECS R5si Control Cabinet

Reseat DEFINITY LAN Gateway System

See WARNING. Reseat the LAN Gateway assembly into its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reseat DEFINITY AUDIX System

See WARNING. If a DEFINITY AUDIX System resides in the control cabinet, reseat the AUDIX assembly to its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reboot the System

1. Behind the PPN control cabinet's power supply, set the circuit breaker to ON.
2. The system now performs the reset level 4 rebooting process by loading translations from the memory card. Loading the translations takes 10 to 15 minutes.

Refer to the "System Reboot Indications" section in *DDEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit pack LED indications and screen displays that occur during system reboot.

3. Log in as "craft" at the login: prompt on the G3-MT or G3-MA.
4. Enter **set time**, and press RETURN to set the time and ensure that the system is booted properly.



NOTE:

Refer to Screen 11-5, Screen 11-6, Screen 11-7, and Screen 11-8 for sample G3-MT and G3-MA screens.

5. Enter list configuration software-version, and press RETURN to compare the version number of the DEFINITY ECS R5 software program (displayed on the G3-MT or G3-MA) with the TN790 version number (written on a label on the TN790's faceplate). If the version numbers are not the same, change the version number on the TN790 label so that they agree.

6. Perform a sanity check on the system running the new software by executing the following commands in this order:
 - a. **status system 1** (to check out unusual status in the system)
 - b. **list station** (to ensure that the translation is read in properly)
 - c. **display alarm** (to ensure no alarm is raised in the system)
 - d. **list trunk-group** (to ensure the translation is read in properly)
 - e. **list hunt-group** (to ensure the translation is read in properly)

This ensures there is no translation corruption and the translations can be saved with the new software.

⇒ NOTE:

Backout Procedure: If the system is not running properly or the translations seem to be incorrect, follow the technical escalation procedure. If the new load must be backed out (i.e., returned to the previous software load), re-install the TN786B/CPP1 circuit packs and reboot with the previous version's translation card.

7. Get the DOSS order number of the upgrade, and call the regional CSA to request an "init" login. Once logged in as "init," the CSA should assign the DEFINITY ECS R5 option, which also automatically sets the 24-hour password aging for the upgraded system's customer logins.

The CSA should enter change system-parameters customer-options, and press RETURN to enable the DEFINITY ECS R5 option. For details on enabling this option, see the following figures and *DEFINITY Enterprise Communications Server Release 5 Implementation*.

⇒ NOTE:

Certain forms have changed for DEFINITY ECS R5. Upgraded translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to the following books to make the necessary changes:

- *DEFINITY Communications System Generic 3 V3 to DEFINITY Enterprise Communications Server Release 5 Transition Reference*
- *DEFINITY Enterprise Communications Server Release 5 Implementation*

The default values are shown in System Parameter Screen 11-5, Screen 11-6 and Screen 11-7.

```
change system-parameters customer-options                                Page 1 of 3
                                OPTIONAL FEATURES

                                G3 Version: V4
                                Maximum Ports: 2800
                                Logged-In ACD Agents: 500

Abbreviated Dialing Enhanced List? n                                Call Work Codes? n
                                ACD? n                                CAS Branch? n
                                AT&T Adjunct Links? n                    CAS Main? n
Answer Supervision by Call Classifier? n                            CPN/BN Adjunct? n
                                ARS? n                                DCS (Basic)? n
                                ARS/AAR Partitioning? y
                                ASAI Interface? y                    Emergency Access to Attendant? y
                                ATMS? n                                Expert Agent Selection (EAS)? n
Audible Message Waiting? n                                Forced ACD Calls? n
Authorization Codes? n                                Forced Entry of Account Codes? n
                                BCMS (Basic)? n
                                BCMS/VuStats LoginIDs? n
                                BCMS/VuStats Service Level? n

(NOTE: You must logoff & login to effect the permission changes.)
```

Screen 11-5. Sample Display of System-Parameters Customer-Options Form -- Page 1

```
change system-parameters customer-options                                Page 2 of 3
                                OPTIONAL FEATURES

                                Hospitality (Basic)? y                Service Observing (Basic)? y
G3V3 Hospitality Enhancements? n    Service Observing (Remote/By FAC)? n
Hospitality Parameter Reduction? n    Service Observing (VDNs)? n
                                ISDN-PRI? n                            Station and Trunk MSP? n
                                ISDN-PRI over PACCON? n                Terminal Trans. Init. (TTI)? n
                                Lookahead Interflow? n                Time of Day Routing? n
                                Malicious Call Trace? n                Uniform Dialing Plan? n
Multifrequency Signaling? n            Vectoring (Basic)? n
                                Vectoring (Prompting)? n
                                Multiple Call Handling? n
                                VDN of Origin Announcement? n
                                VDN Return Destination? n
                                Processor and System MSP? n
                                Private Networking? n
                                VuStats? n
Restrict Call Forward Off Net? n        Wideband Switching? n
                                Secondary Data Module? n

(NOTE: You must logoff & login to effect the permission changes.)
```

Screen 11-6. Sample Display of System-Parameters Customer-Options Form -- Page 2

```
change system-parameters customer-options          Page 3 of 3
                      ASAI CAPABILITY GROUPS

Adjunct Call Control Group? y
Adjunct Routing Group? y
Answering Machine Detection? y
    AT&T-ASAI Links? n
    Domain Control Group? y
    Event Notification Group? y
    Request Feature Group? y
    Set Value Group? y
Switch Classified Calls/Predictive Dialing? y

(NOTE: You must logoff & login to effect the permission changes.)
```

Screen 11-7. Sample Display of System-Parameters Customer-Options Form -- Page 3

8. Explain to the switch administrator that any previous login names and passwords still exist, but that the passwords will expire in 24 hours. When changed, the new login names and passwords must conform to the requirement shown in the following note.

⇒ NOTE:

A password must have from 4 to 11 symbols including at least 1 alphabetic character and 1 numeric character. As before, a login name must have from 3 to 6 alphanumeric characters.

Also explain that, since an R1V3.0 G3-MA cannot notify users about expiring passwords, password aging should be disabled for any login name used with an R1V3.0 G3-MA.

```
change password craft          Page 1 of 1
                      PASSWORD ADMINISTRATION

Password of Login Making Change:

LOGIN BEING CHANGED          Login Name: craft

LOGIN'S PASSWORD INFORMATION
    Login's Password:
    Reenter Login's Password:
```

Screen 11-8. Sample Change-Password Form

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

Close Cabinet Door

Close the front door and secure with the latch.

Run Acceptance Tests

Refer to *DEFINITY Enterprise Communications Server Installation and Test for Single-Carrier Cabinets*, and perform the appropriate tests.

Resolve Alarms

Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.

Load Upgraded Translations onto R5 Translation Memory Card

1. Enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. Insert the new R5 formatted translation card. Verify that the switch on the outside edge of each R5 translation memory card is in the downward position to record (see Figure 11-1).
3. Verify that the automatic restore of any TN750/B Announcement circuit pack completes. The yellow LED will be off.
4. Enter **save translation**, and press RETURN. This command instructs the system to write all translation information from memory onto both G3i V5 translation memory cards.

5. If the system is equipped with a TN750/B Announcement circuit pack and announcements were saved above, enter **restore announcements**, and press RETURN.

Once the administered recorded announcements are restored, these announcements should be saved using the following command.

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

⇒ NOTE:

If multiple TN750 Announcement circuit packs are in the system, you *must* specify the slot location for the save announcements command. If there is only a single announcement circuit pack (TN750B or TN750C), the system defaults to the proper location.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.

⇒ NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS Release 5

Get the system's serial number and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111), or the number provided by your Lucent Technologies representative, to register the upgraded system as a DEFINITY ECS Release 5.

Return Equipment

The G3i equipment replaced during the upgrade should be returned to Lucent Technologies according to the requirements outlined in the following documents:

BCS/Material Logistics, MSL/Attended Stocking Locations Methods and Procedures for Basic Material Returns

This chapter describes the procedures required to install additional features or equipment to an existing DEFINITY ECS Release 5vs/si/si+m system.

All testing and trouble clearing must be done as specified in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*.

The commands and procedures required to administer the system are provided in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

1. Add Single-Carrier Cabinet EPN

Refer to "Install Expansion Port Network for Single-Carrier Cabinet" in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for instructions on installing the EPN.

2. Add Multicarrier Cabinet EPN

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for instructions on installing the EPN.

3. Add Auxiliary Cabinet

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for instructions on installing the auxiliary cabinet.

4. Add DEFINITY ECS Release 5si SCC Port Cabinets

Up to three port cabinets may be stacked on a DEFINITY ECS Release 5si PPN's control cabinet or on a R5si+m EPN's expansion control cabinet when additional features or equipment exceed the capacity of the present system.

Each cabinet is shipped in a polyethylene bag, packed in a cardboard container, with wood/Styrofoam pallets. The cardboard container is strapped to the pallet with a metal band.



DANGER:

A port cabinet may weigh as much as 125 pounds and requires two handlers. Use caution to avoid injury.

Unpack and Inspect for Damage

1. Unpack cabinet(s).



DANGER:

Take care to avoid injury while cutting and removing bands.

2. Visually inspect cabinet(s) for any physical damage caused during shipping. Report any damage for appropriate action per local procedures.

Service Interruption

Since the addition of port cabinets requires a service interruption, notify the customer in advance as to when the addition will be carried out.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Log in at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the DEFINITY translation memory card(s) or the tape(s).
4. If the SCC port network contains a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the **save announcements** command. Enter **save announcements**, and press RETURN.

Shut Down DEFINITY AUDIX System

1. See WARNING. If a DEFINITY AUDIX System resides in the SCC port network to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. See WARNING. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Down Single-Carrier Cabinet Port Network

1. At the port network to be upgraded, behind the power supply of each cabinet, set the circuit breaker to OFF (see Figure 12-1).
2. Unplug the power cord from the receptacle for each on-line cabinet. (See Figure 12-1, Figure 12-2, and Figure 12-3.)

4. Add DEFINITY ECS Release 5si SCC Port Cabinets

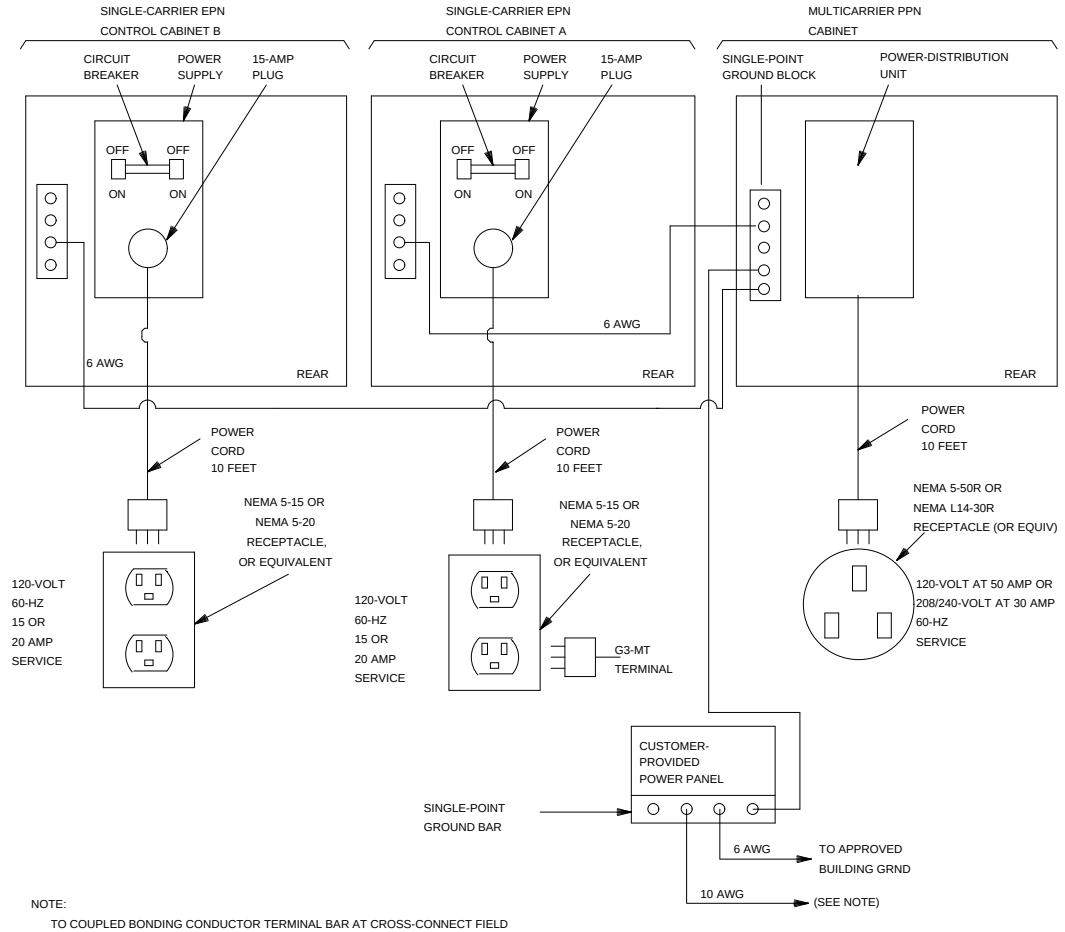


Figure 12-1. Typical Power and Grounding Layout

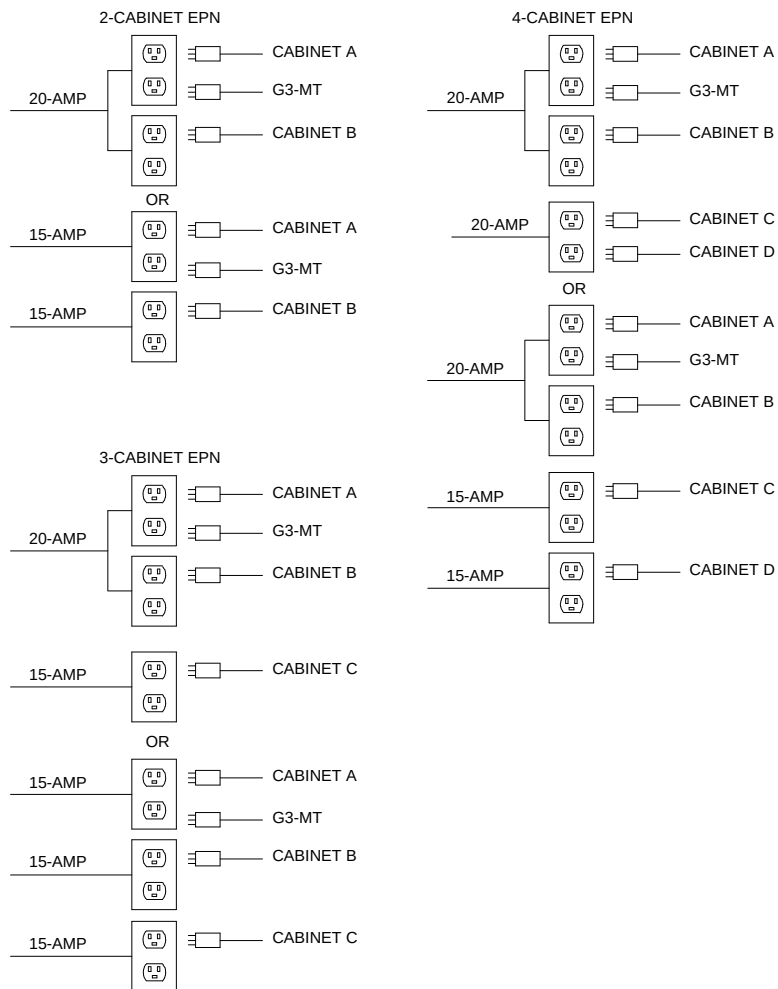


Figure 12-2. AC-Power Requirements for Port Networks with Single-Carrier Cabinets

4. Add DEFINITY ECS Release 5si SCC Port Cabinets

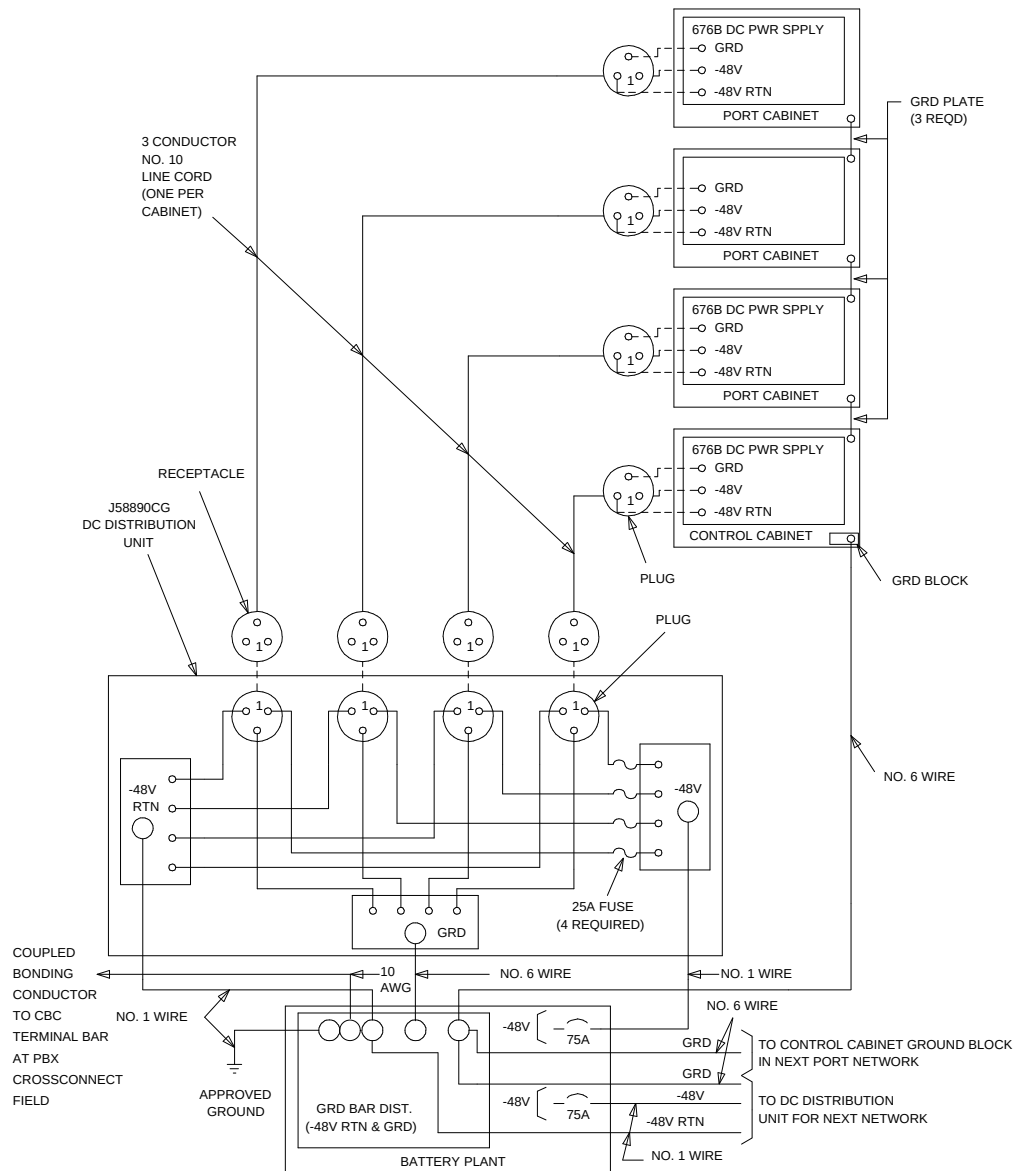


Figure 12-3. DC-Power and Grounding Wiring for Typical SCC Port Network

Position Port Cabinets

1. Remove the front door of each cabinet.
 - a. Use a screwdriver, and turn door-latch screw counter clockwise one-fourth turn to open door (see Figure 12-4).
 - b. Lift door from lower slots and remove from cabinet.
2. See DANGER. Stack port cabinet(s) on top of control cabinet or expansion control cabinet A (or B if present) (see Figure 12-5).



WARNING:

A port cabinet may weigh as much as 125 pounds and requires two handlers to stack the cabinets. If the third or fourth cabinet is being installed, remove the front door, power supply, and circuit packs to lighten the load. Also, be sure that the two handlers are capable (size and strength) of lifting the cabinet into position.

3. Install cabinet label(s) on the front and back of cabinet(s) to the left of the circuit-pack labels. The second cabinet should be labeled B, the third cabinet should be labeled C, and the fourth cabinet should be labeled D.

Connect TDM or TDM/LAN Cables

1. Remove upper and lower rear covers.
2. Disconnect TDM or TDM/LAN bus terminator (Figure 12-6, Figure 12-7, Figure 12-8, Figure 12-9, or Figure 12-10) either from:
 - Slot "22" of the control cabinet
 - Slot "18" of an expansion control cabinet
 - Slot "17" of a port cabinetand move to slot "17" of the top port cabinet.
3. Connect TDM/LAN cables (see Figure 12-7, Figure 12-8, Figure 12-9, or Figure 12-10). The TDM/LAN cable is located behind the lower rear cover.

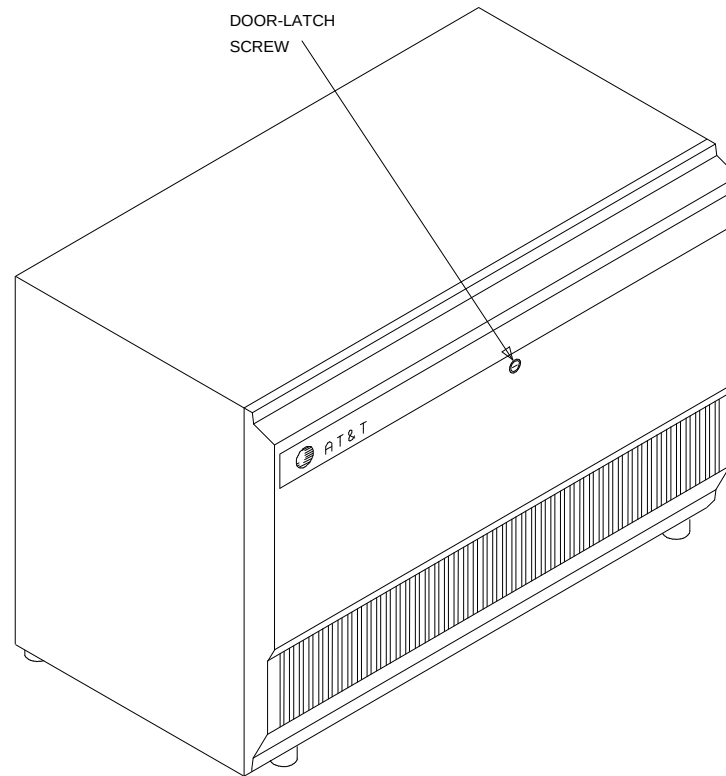


Figure 12-4. Location of Cabinet's Door-Latch Screw

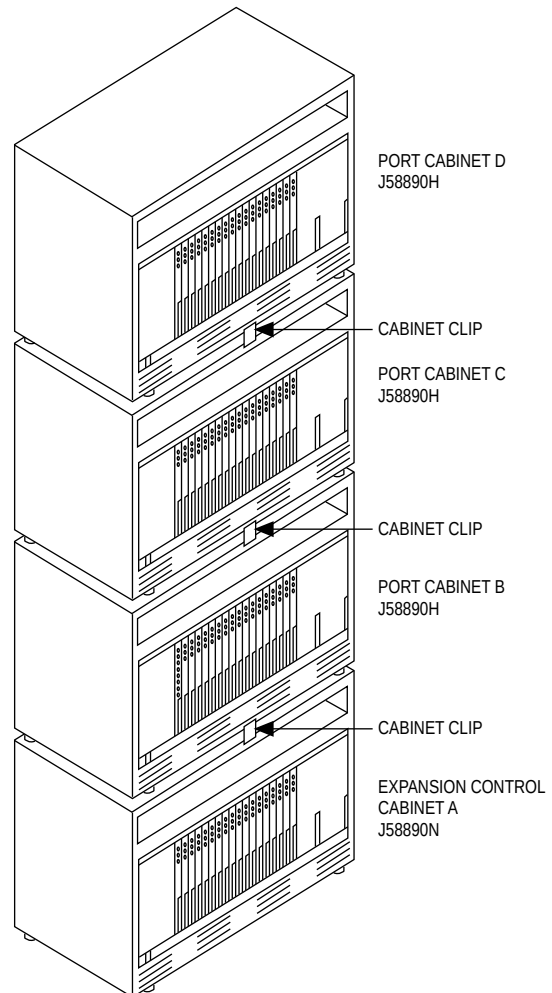


Figure 12-5. 4-Cabinet Port Network — Front View, Doors Removed

4. Add DEFINITY ECS Release 5si SCC Port Cabinets

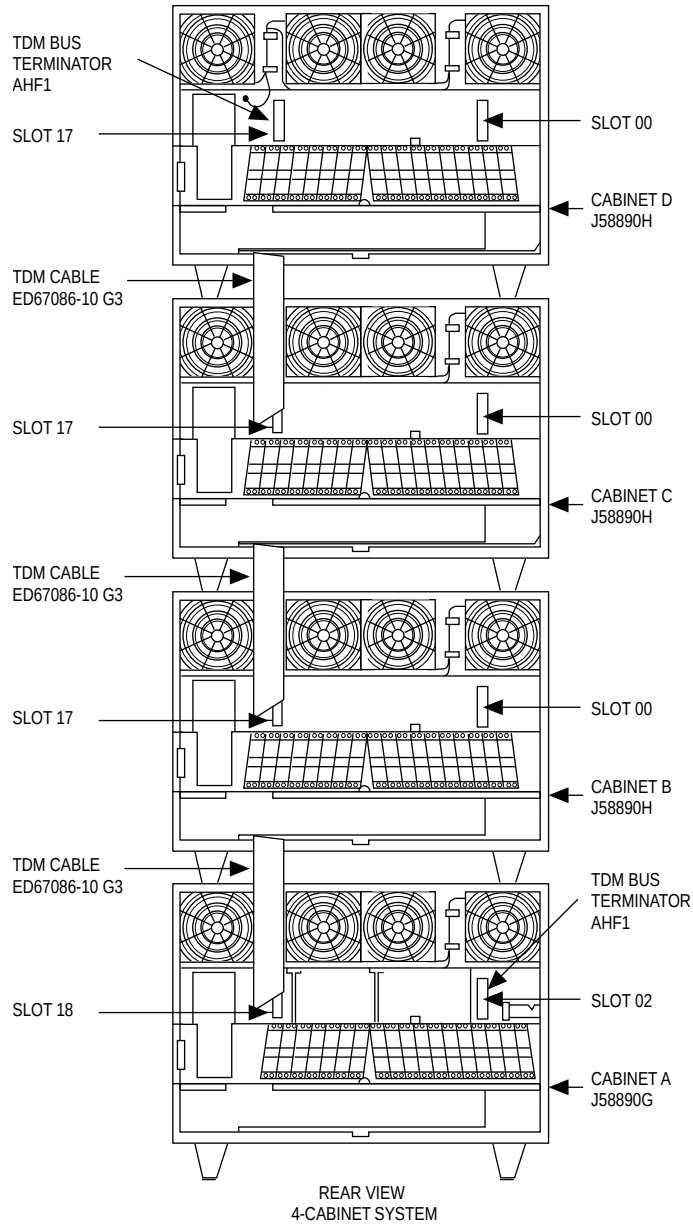


Figure 12-6. TDM Connections for DEFINITY ECS R5si (XE) System

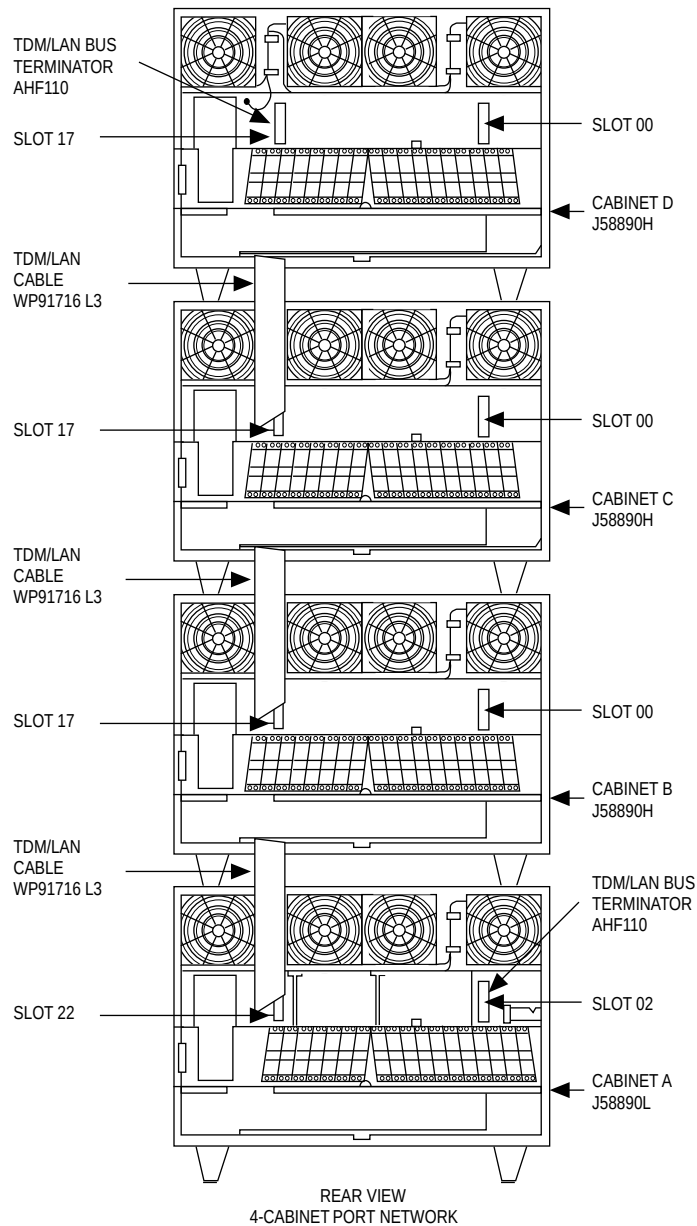


Figure 12-7. TDM/LAN Connections for Standard-Reliability PPN

4. Add DEFINITY ECS Release 5si SCC Port Cabinets

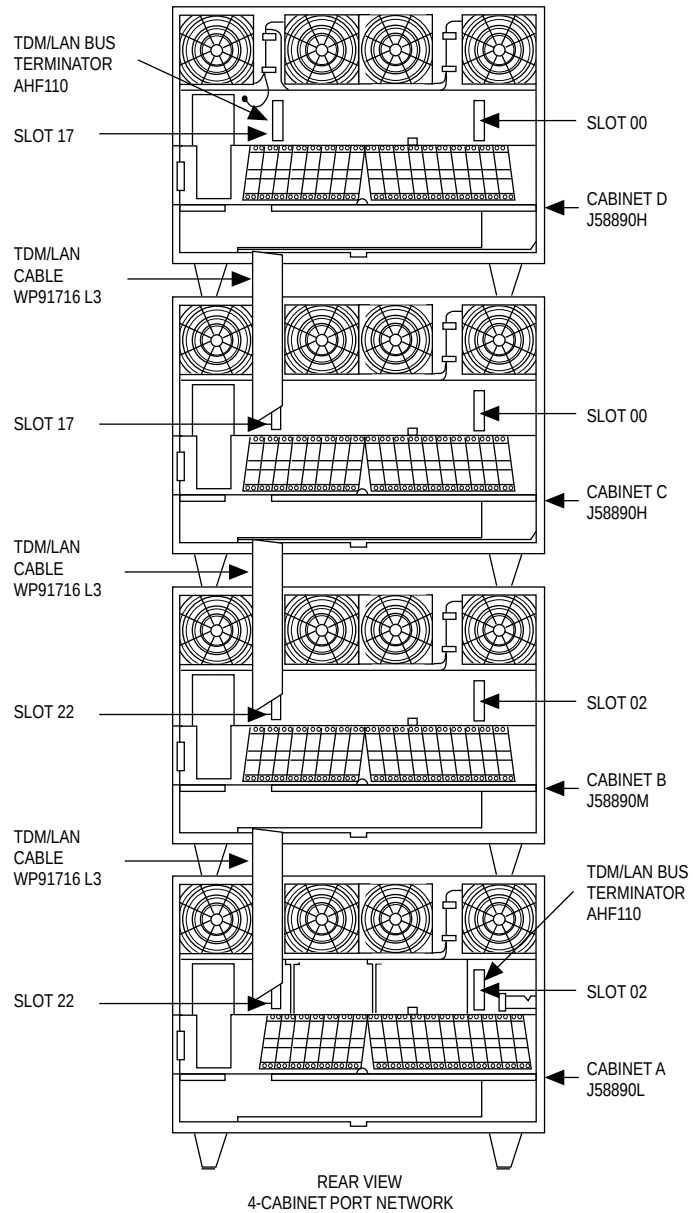


Figure 12-8. TDM/LAN Connections High- or Critical-Reliability PPN

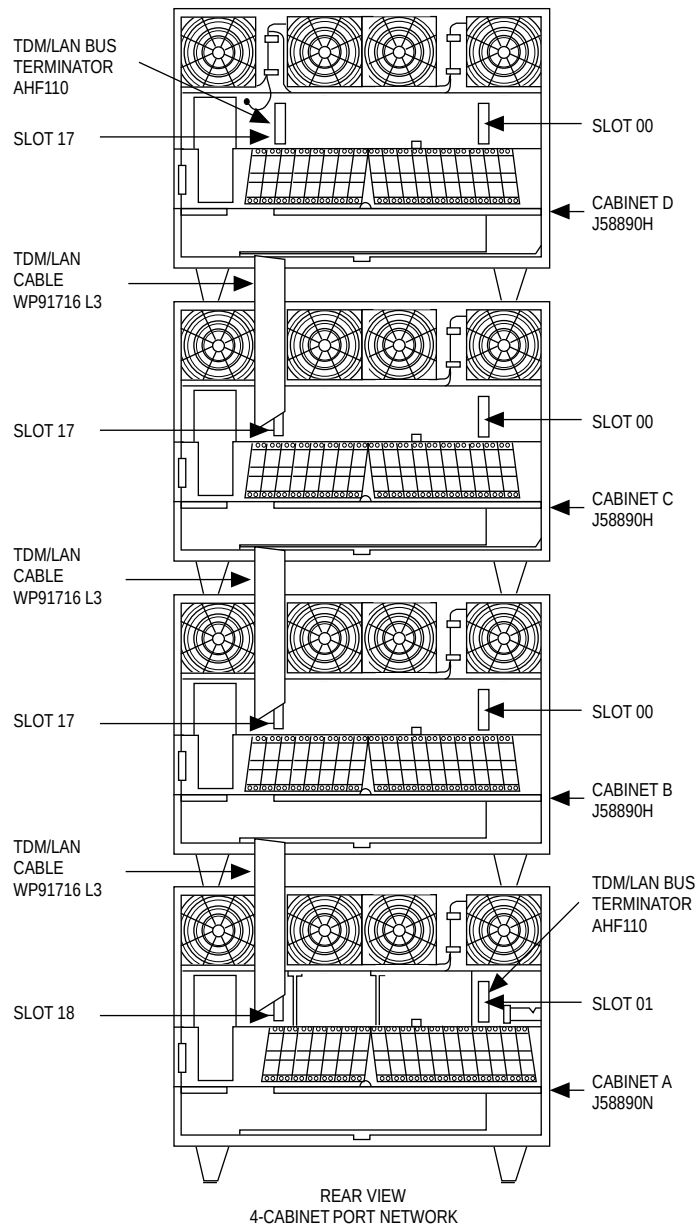


Figure 12-9. TDM/LAN Connections for Standard- or High-Reliability EPN

4. Add DEFINITY ECS Release 5si SCC Port Cabinets

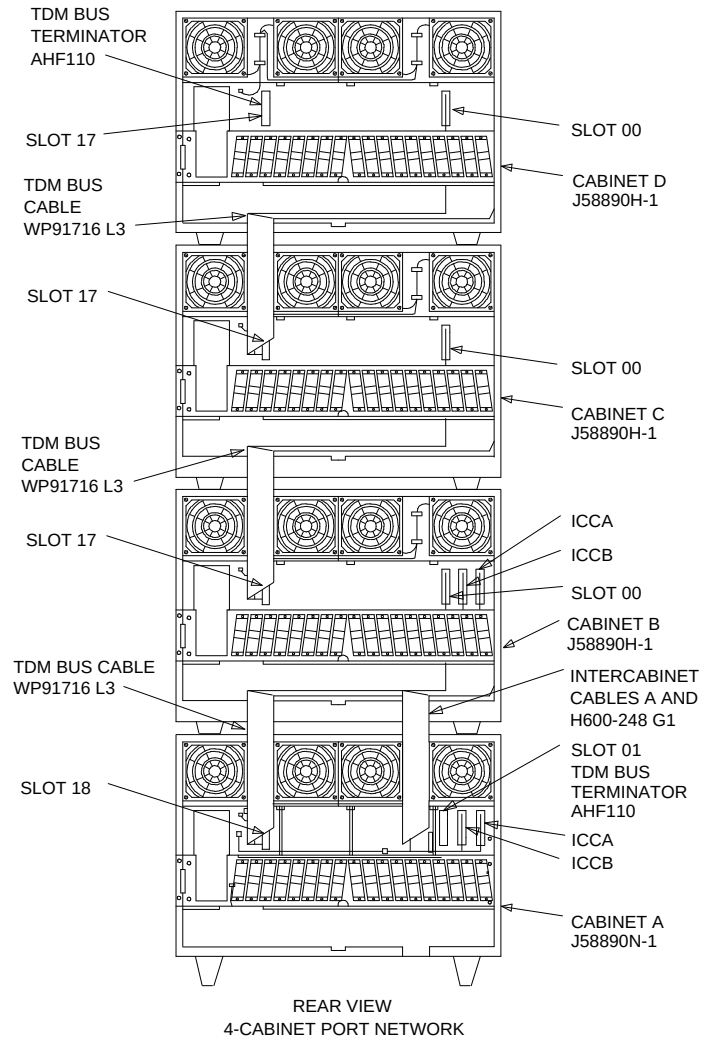


Figure 12-10. TDM/LAN Connections for Critical-Reliability EPN

Connect ICC Cables

If the port cabinet being installed is cabinet "B" of a critical-reliability EPN, ICC cables must be connected. Install both ICC cables (ICCA and ICCB). They are connected to the "ICC" block on the expansion control cabinet A and port cabinet B. Each cable is installed so the dark stripe on the cable is on the bottom (see Table 12-1 and Figure 12-11 and Figure 12-12).

Table 12-1. Intercabinet Cable Connections

Connect ICC Cables				
	From		To	
	Carrier	Pin-Field Block	Carrier	Pin-Field Block
EPN	J58890N	ICCA	J58890H	ICCA
		ICCB		ICCB

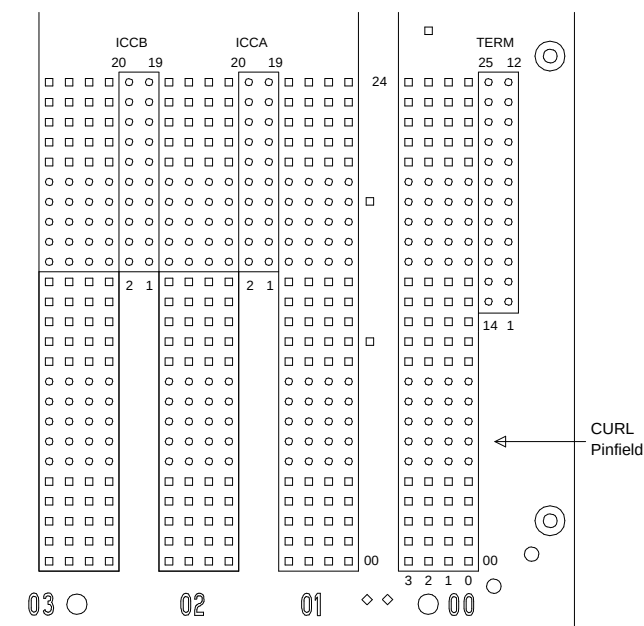
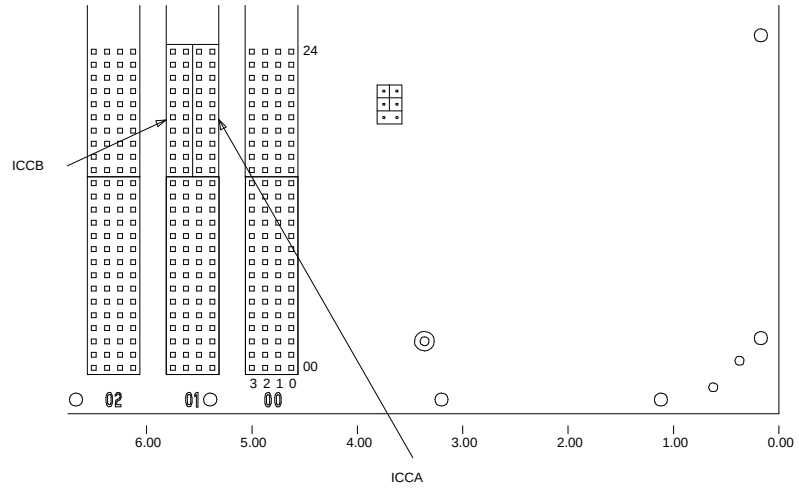


Figure 12-11. ICC Pin-Field Blocks on J58890N Expansion Control Cabinet

4. Add DEFINITY ECS Release 5si SCC Port Cabinets



Install Cabinet-Address Plug(s)

On the backplane of the port cabinets to the right of slot "00," a group of six pins are marked for the single-carrier cabinet address-plug connections. Install one plug in each port cabinet as shown in Figure 12-13.

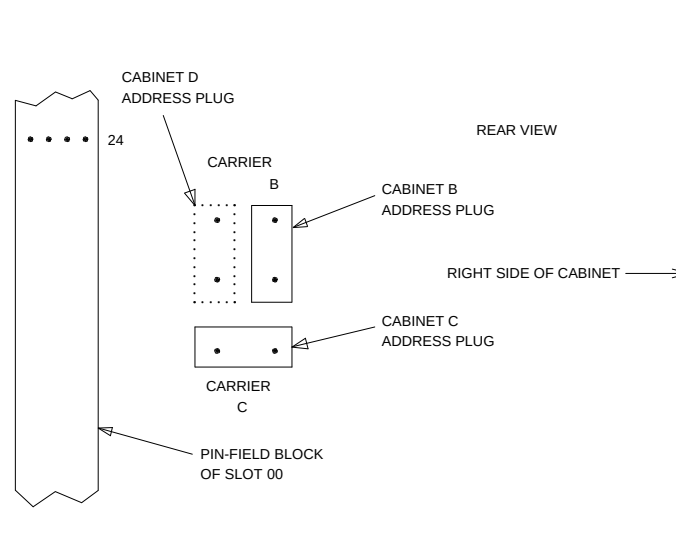


Figure 12-13. Location of Cabinet-Address Plugs

Install Ground Plates

The ground plate provides the ground connection between cabinets and also stabilizes the cabinets.

A ground plate is required between each cabinet (Figure 12-14 and Figure 12-15).

1. At the rear of the cabinets, replace the upper and lower covers with all the screws except for the screws that run along the top and bottom of each cabinet.
2. At the upper cabinet, place the top of the ground plate over the bottom of the lower rear cover. Line up the four holes in the ground plate with the four holes at the bottom of the lower rear cover of the cabinet, and install the screws. Do not tighten the screws.
3. At the top of the cabinet below the cabinet referred to in Step 2, line up the bottom of the ground plate with the top four holes in the upper rear cover of the lower cabinet. Install the four screws. Do not tighten at this time.

4. Add DEFINITY ECS Release 5si SCC Port Cabinets

4. Repeat Steps 2 and 3 until the earthquake ground plates are installed between all cabinets.
 5. Tighten all screws.
-

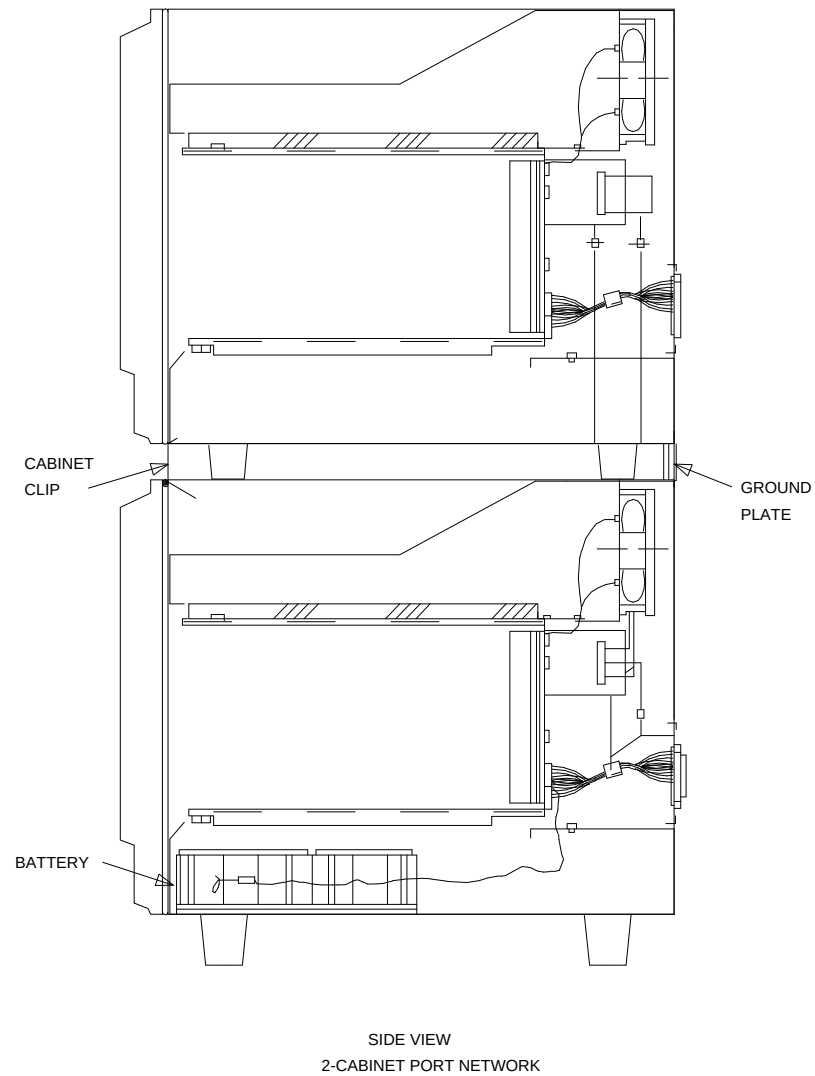


Figure 12-14. Location of Ground Plate and Cabinet Clips

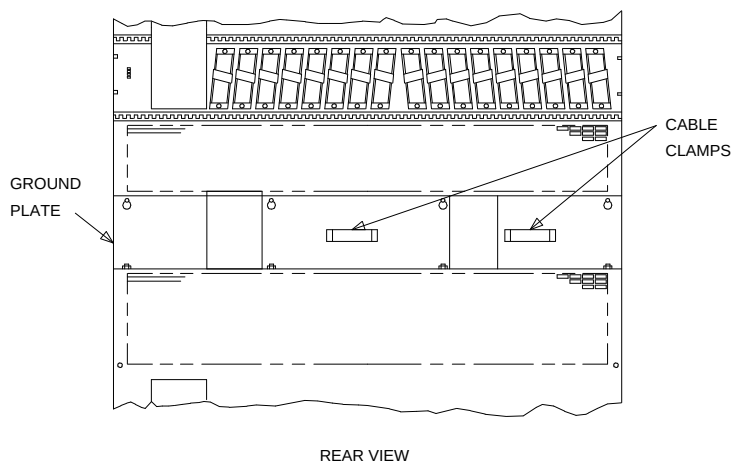


Figure 12-15. Location of Ground Plate and Cable Clamps on Single-Carrier Cabinet

Install Cabinet Clip(s) on Systems without Earthquake Protection

A cabinet clip, used to ground and stabilize the cabinets, is required between each cabinet.

At the front of the cabinets, install the cabinet clip between the cabinets by hooking the clip into the slot on the upper cabinet and snapping the straight leg of the clip into the slot on the lower cabinet (see Figure 12-14).

Install Earthquake Front Plates

The earthquake front plate replaces the cabinet clip for systems equipped with earthquake protection. An earthquake front plate is required between each cabinet (Figure 12-16).

1. At the front of the cabinets, line up the holes in the top of the earthquake front plate with the holes at the bottom of the upper cabinet, and insert the four screws. Do not tighten at this time.
2. At the front of the cabinets, line up the holes in the bottom of the earthquake front plate with the holes at the top of the lower cabinet and insert the four No. 12-24 by 1/2-inch thread-forming screws. Do not tighten at this time.
3. Repeat Steps 1 and 2 until all the cabinets are fastened together with the earthquake front plate.
4. Tighten all screws.

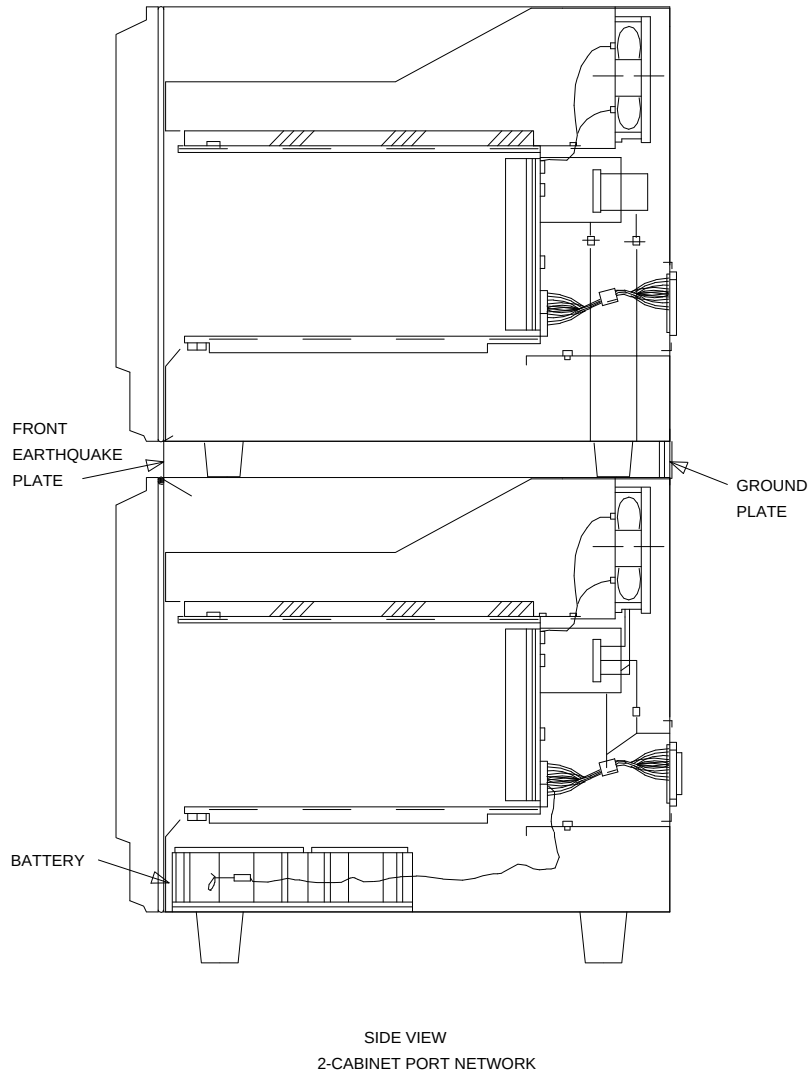


Figure 12-16. Location of Earthquake Front Plate and Battery

Install Cable Clamps

At the rear of the cabinets, install two cable clamps on each ground plate (see Figure 12-15). These clamps are used to hold the port cables.

Install Port Circuit Packs

See WARNING. Install circuit packs in the slots specified by the Customer-Service Document and Port-Assignment Worksheet. Also, see “8. Add Circuit Packs” later in this chapter.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Install Cables

Install cables from port cabinet(s) to cross-connect field, as required.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

Connect AC Power

Each cabinet contains its own power supply, and an AC power cable must be connected to each cabinet. The customer-provided AC receptacle options are shown in Figure 12-2.

1. Connect an AC power cord to each added cabinet.
2. Connect the AC power cable from each cabinet to power receptacles (see Figure 12-1 and Figure 12-2).

Connect DC Power

Each network must have a DC power-distribution unit associated with it. Each DC power-distribution unit can furnish DC power for four single-carrier cabinets. The DC power-distribution unit comes equipped with four power cords. Each cord comes equipped with the appropriate male and female connectors. Use the following instructions to connect each cabinet to the DC power-distribution unit.

- At the J58890CG DC power-distribution unit, connect the power cord to the cabinet connector associated with the cabinet being added. Route the cable to the rear of the cabinet. Connect the power cord to the DC connector on the rear of the cabinet being installed (see Figure 12-3).

Reseat DEFINITY LAN Gateway System

See WARNING. Reseat the LAN Gateway assembly into its backplane connectors in the carrier.

**WARNING:**

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reseat DEFINITY AUDIX System

See WARNING. If a DEFINITY AUDIX System resides in the SCC port network, reseat the AUDIX assembly to its backplane connectors.

**WARNING:**

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Up SCC Port Network

1. At the SCC port network, behind each cabinet's power supply, set the circuit breaker to ON (see Figure 12-1).
2. The system now goes through the level 4 rebooting process, loading the translations from the translation memory card(s) or tape(s). Rebooting takes 8 to 11 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and G3-MT terminal displays that occur during system reboot.

3. After the system reboot is finished and all trouble is cleared, verify that the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal operating mode.

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

Enter Added Translations

Enter added translation data as applicable using *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.
2. If the *Alarm Origination Activated* field administration that you previously noted is already set to *y*, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.



NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.



WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

Save Translations

1. Log in at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
4. If the SCC port network contains a TN750/B Announcement circuit pack, enter **list configuration software-version**, and press RETURN.

If Page 2 of this form shows that recorded announcements were saved, these announcements can be restored using the restore announcements command. Enter **restore announcements**, and press RETURN.

5. Add R5si+m MCC Port Carriers

See NOTE. A new port carrier can be installed when additional features or equipment exceed the capacity of the present system. Port carriers are identified as B, C, D, and E except for a PPN cabinet with high- or critical-reliability. The "B" carrier is the second control carrier. PEC 63155 provides the necessary equipment for adding the carrier.

 NOTE:

Add each new port carrier to a port network in the "B," "C," "D," "E" order of carrier positions.

Service Interruption

Since the addition of port carriers requires a service interruption, notify the customer in advance as to when the addition will be carried out.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Log in at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
4. If the MCC port network contains a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Shut Down DEFINITY LAN Gateway System

If a DEFINITY LAN Gateway system resides in the control cabinet to be upgraded, prepare to shut down the DEFINITY LAN Gateway assembly and allow the disk to completely spin down. See Caution. See WARNING.



CAUTION:

Before using this procedure to shut down the DEFINITY LAN Gateway, make sure that you save the system parameters if you plan to reuse the current system.



WARNING:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet where it resides can damage the LAN Gateway disk.

1. See WARNING. To avoid an unexpected LAN Gateway reboot after an unplanned switch reboot, unseat the LAN Gateway assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
3. When the main menu appears, select *Maintenance*.
4. Select *Reset System* from the *Maintenance* menu.
5. Select *Shutdown* from the *Reset System* menu.

Shut Down DEFINITY AUDIX System

1. See WARNING. If a DEFINITY AUDIX System resides in the MCC port network to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. See WARNING. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Down System

At the MCC port network, on the power-distribution unit, set the main circuit breaker to OFF.

Install Port Carrier

Behind the cabinet:

1. Open the rear doors.

At front of cabinet:

2. Remove the blank port-carrier panel by pushing outward on panel from the rear of the cabinet until the panel clears the four retaining pins on the cabinet frame (see Figure 12-17).
3. Use a screwdriver to loosen and remove the four retaining pins from the cabinet frame.

4. Align the carrier through the front of the system cabinet with four pilot holes on cabinet frame.



NOTE:

Support the carrier by the molded-in support pins above the top mounting holes.

5. Insert self-tapping screws in pilot holes and tighten.
6. Attach magnetically-held nomenclature panel to front of carrier.

Behind the cabinet:

7. Install eight grounding jumpers from the adjacent backplane to the new carrier backplane wiring (Figure 12-18 and Figure 12-19).
8. Connect a 9-pin D subminiature plug on right side of cabinet to P1 connector on carrier. If necessary, to get enough slack in the cable, cut the tie wrap holding the intercabinet cable to the upright in the area of the carrier being installed.
9. Connect the TDM/LAN cable to the newly installed port carrier (Figure 12-20, Figure 12-21, Figure 12-21, or Figure 12-23 and Table 12-2).

At front of cabinet:

10. Install a 631AR, 631WA1, 631DA1, or 644A power unit in the left-most slot and a 631BR, 631WB1, 631DB1, or 645B power unit in the right-most slot of installed port carrier as follows:
 - a. Operate circuit breaker on power unit to be added to OFF position. (See Figure 12-24.)
 - b. Move locking slide on power unit to its left-most position (see Figure 12-24) and open lever.
 - c. Align and slide power unit into slot in carrier until some resistance is felt.
 - d. Lift locking lever upward until it latches.
 - e. Move locking slide on power unit to its right-most position (see Figure 12-24).
 - f. Connect a power cord inside the cabinet to outlet on power unit.
 - g. Operate circuit breaker on power unit to ON position.
11. Install a TN736 power converter in slot next to the 631AR power converter or a TN752 power converter in slot next to the 631WA1 power converter on left side of carrier.



NOTE:

The TN736 is not required when the 631DB1 power unit is used in the J58890BB-2 or J58890BB-3 port carriers. It is required in the J58890BB-1 port carrier regardless of which 631 power unit is

provided. Use the TN752 or TN755B if the system is equipped with neon message waiting.

12. Install port packs in carrier.
13. Connect AC/DC power cords located inside cabinet to the power units.

Behind the cabinet:

14. Install rear panels around port carrier.
15. Install cables from port carrier to cross-connect field and cable access panel, as required.

Reseat DEFINITY LAN Gateway System

See WARNING. Reseat the LAN Gateway assembly into its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reseat DEFINITY AUDIX System

See WARNING. If a DEFINITY AUDIX System resides in the MCC port network, reseat the AUDIX assembly to its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Up MCC Port Network

1. At the MCC port network, on the power-distribution unit, set the main circuit breaker to ON.
2. The system now goes through the level 4 rebooting process, loading the translations from the translation memory card(s) or tape(s). Rebooting takes 8 to 11 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and G3-MT terminal displays that occur during system reboot.

3. After the system reboot is finished and all trouble cleared, verify that the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal operating mode.

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway if you have not previously logged on. *See the DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway, 555-230-223, for the procedure to log in.*
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

Enter Added Translations

Enter added translation data as applicable using *DEFINITY Enterprise Communications Server Release 5 Implementation, 555-230-655*.

Save Translations

1. Log in at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
4. If the MCC port network contains a TN750/B Announcement circuit pack, enter **list configuration software-version**, and press RETURN.

If Page 2 of this form shows that recorded announcements were saved, these announcements can be restored using the restore announcements command. Enter **restore announcements**, and press RETURN.

Update Port-Assignment Records

Update the customer's port-assignment records.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*.

2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to *y*, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.

4. Enter **save translation**, and press RETURN.

➡ NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.

⚠ WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

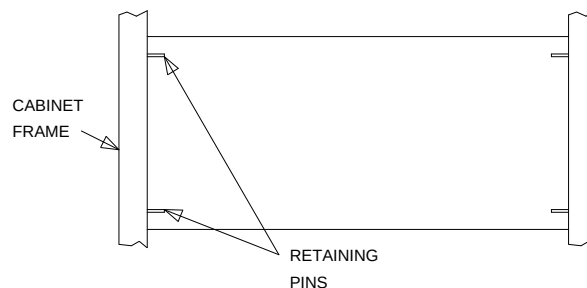


Figure 12-17. Blank Carrier Panel (Rear View)

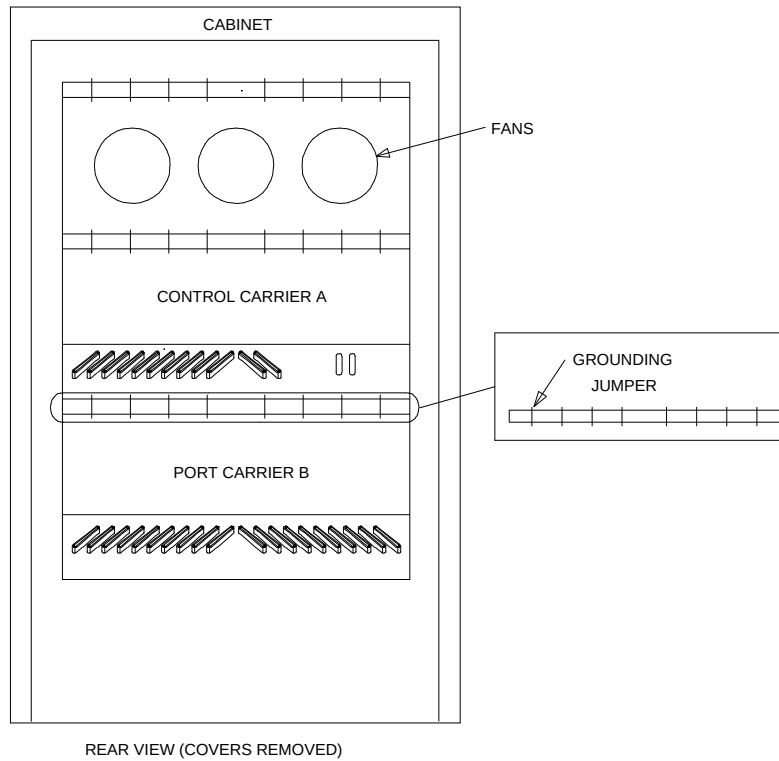


Figure 12-18. Locations of Grounding Jumpers (Small Cabinet)

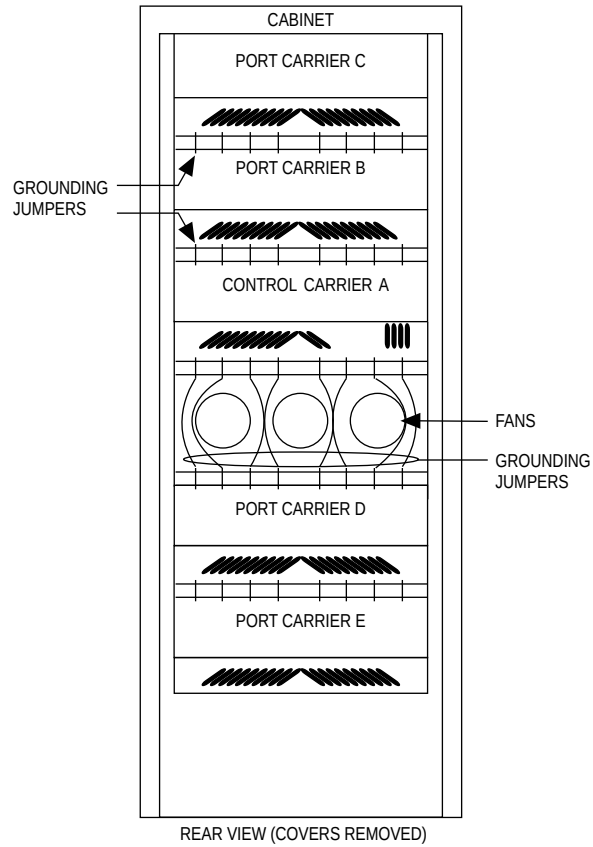
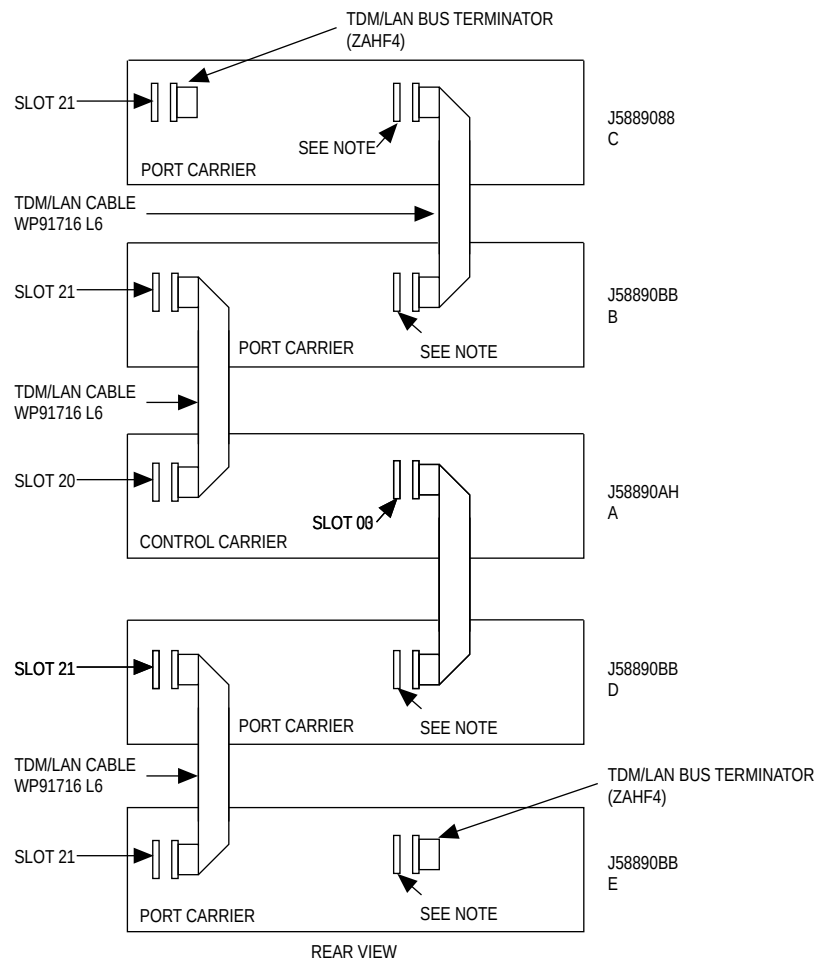


Figure 12-19. Locations of Grounding Jumpers

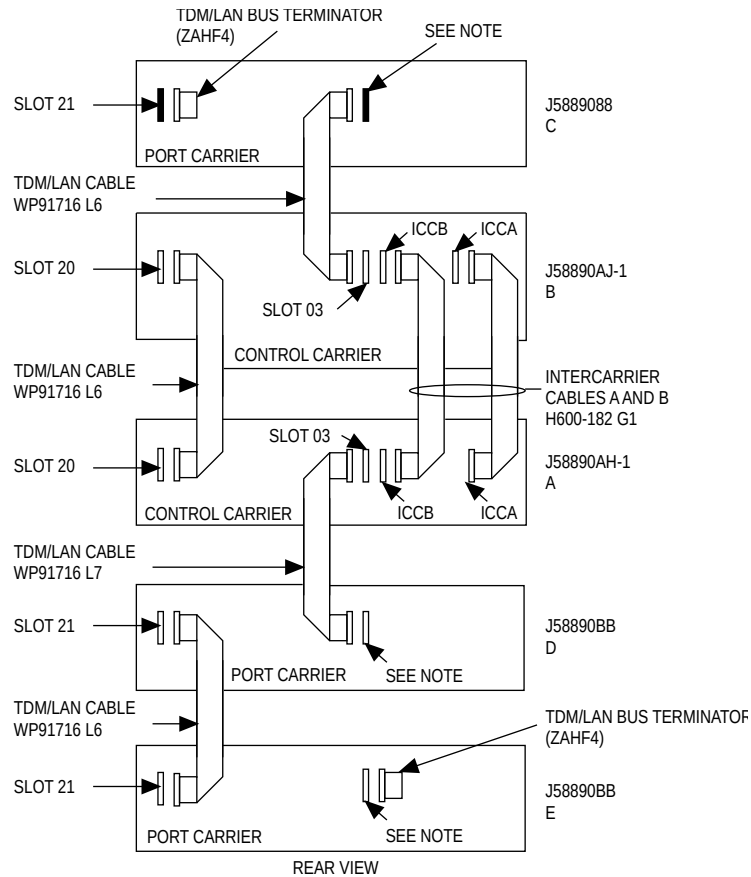


NOTE:

ON PORT CARRIER J58890BB-1, CONNECT THE TDM CABLE OR TDM TERMINATOR TO SLOT 02. ON PORT CARRIERS J58890BB-2 OR J58890BB-3, CONNECT THE TDM CABLES OR TDM TERMINATOR TO SLOT 01. IF THE PORT CARRIER HAS J58890BB-1 AND J58890BB-2 STENCILLED ON IT, TREAT IT AS A J58890BB-1.

Figure 12-20. TDM/LAN Connections for Standard-Reliability PPN

5. Add R5si+m MCC Port Carriers



NOTE:

ON PORT CARRIER J58890BB-1, CONNECT THE TDM CABLE OR TDM TERMINATOR TO SLOT 02. ON PORT CARRIERS J58890BB-2 AND J58890BB-3, CONNECT THE TDM CABLES OR TDM TERMINATOR TO SLOT 01. IF THE PORT CARRIER HAS J58890BB-1 AND J58890BB-2 STENCILED ON IT. TREAT IT AS A J58890BB-1.

Figure 12-21. TDM/LAN Connections for Critical-Reliability PPN

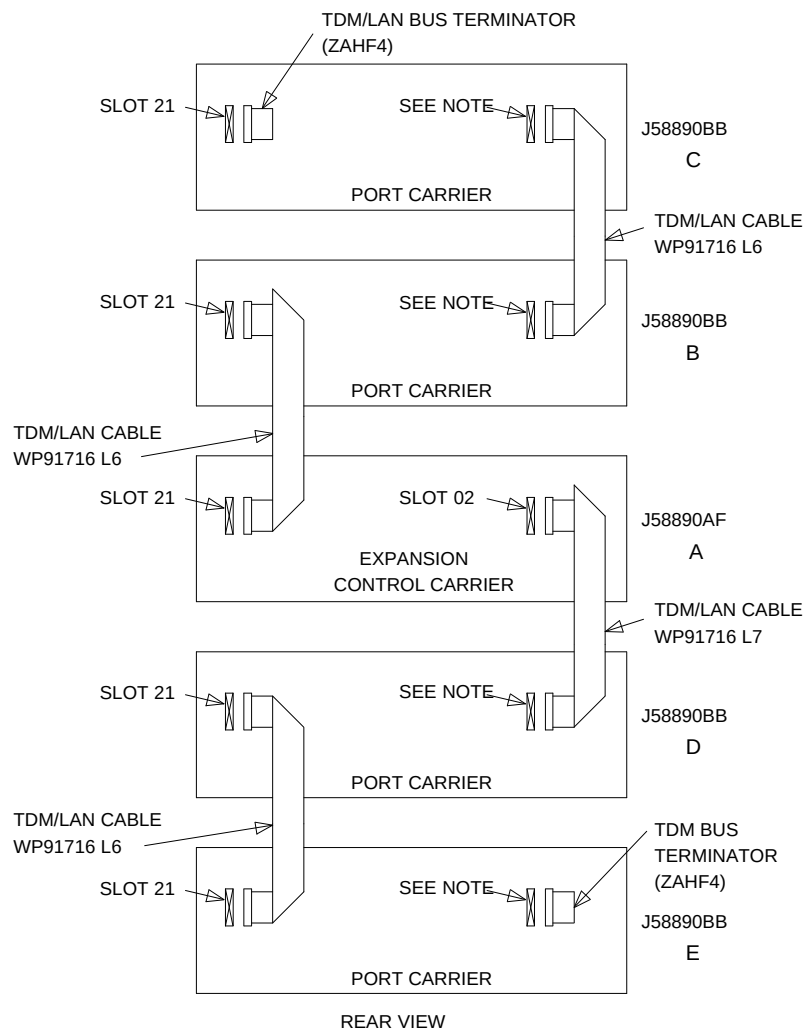
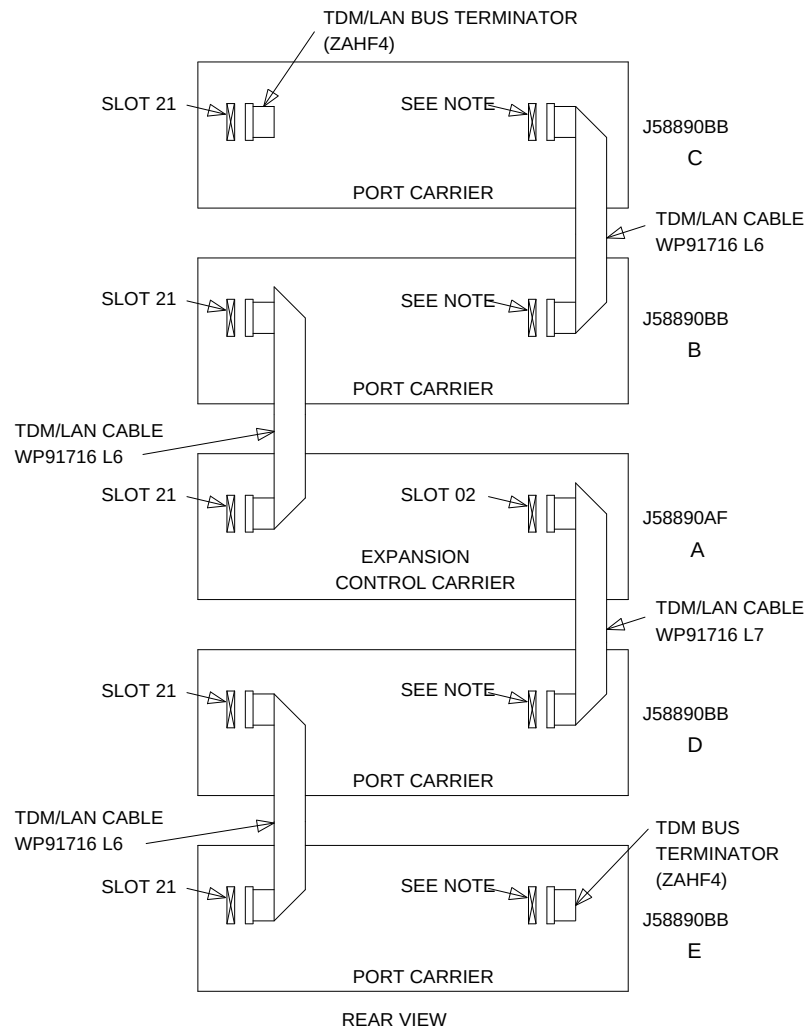


Figure 12-22. TDM/LAN Connections for Standard- or High-Reliability EPN



NOTE:

ON PORT CARRIER J58890BB-1, CONNECT THE TDM CABLE OR TDM TERMINATOR TO SLOT 02.
ON PORT CARRIERS J58890BB-2 AND -3, CONNECT THE TDM CABLES TO SLOT 01.

Figure 12-23. TDM/LAN Connections for Critical-Reliability EPN

Table 12-2. TDM/LAN Cable Connections

"J" Number	Carrier Type	LHS Slot	RHS Slot
J58890BB-1	Port	21	02
J58890BB-2	Port	21	01
J58890BB-3	Port	21	01
J58890AH	PPN Control "A"	20	03
J58890AJ	PPN Control "B"	20	03
J58890AF	AC EPN Control "A"	21	02
J58890AF	DC EPN Control "A"	21	02

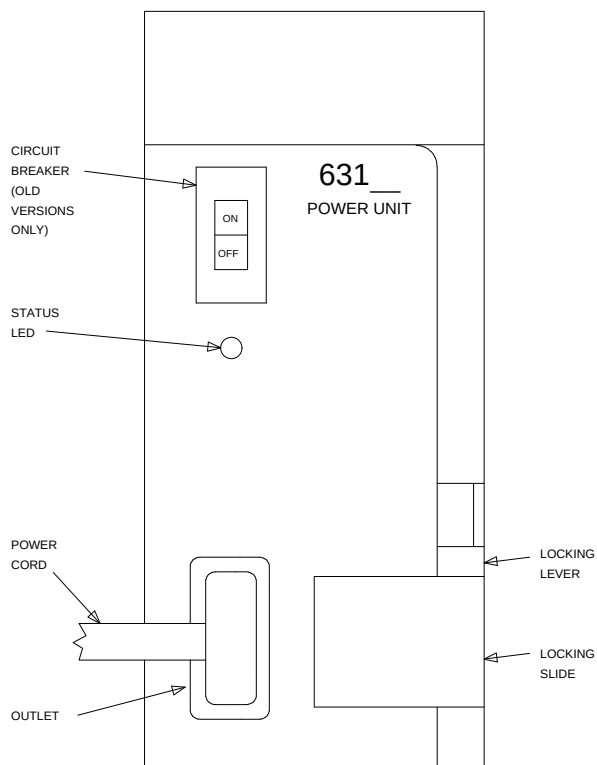


Figure 12-24. 631-Type Power Unit

6. Add Control Carrier to MCC R5si+m

To upgrade a standard-reliability system to a high- or critical-reliability R5si+m system, a second control carrier is added to carrier position "B" of the existing multicarrier PPN.

Service Interruption

Since the addition of the second control carrier requires a service interruption, notify the customer in advance as to when the addition will be carried out.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Log in at the G3-MT terminal.
2. Enter **save translation**, and press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
3. If the system contains a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

4. Update backup tape, if required.

Label Cables

To make reconnecting the cables simpler and more reliable, label both ends of the connector cables associated with the port carrier "B" to be removed.

Shut Down DEFINITY LAN Gateway System

If a DEFINITY LAN Gateway system resides in the control cabinet to be upgraded, prepare to shut down the DEFINITY LAN Gateway assembly and allow the disk to completely spin down. See Caution. See WARNING.



CAUTION:

Before shutting down the DEFINITY LAN Gateway, make sure that you save the system parameters if you plan to reuse the current system.



WARNING:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet where it resides can damage the LAN Gateway disk.

1. See WARNING. To avoid an unexpected LAN Gateway reboot after an unplanned switch reboot, unseat the LAN Gateway assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Log onto the DEFINITY LAN Gateway if you have not previously logged on. *See the DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CalVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
3. When the main menu appears, select *Maintenance*.
4. Select *Reset System* from the *Maintenance* menu.
5. Select *Shutdown* from the *Reset System* menu.

Shut Down DEFINITY AUDIX System

1. See WARNING. If a DEFINITY AUDIX System resides in the system to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. See WARNING. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Down System

1. See CAUTION. At the PPN, on the power-distribution unit, set the main circuit breaker to OFF.
2. See CAUTION. At each EPN, if present, on the power-distribution unit, set the main circuit breaker to OFF.



CAUTION:

Powering down the control cabinet will cause important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup requests, and Do Not Disturb requests to be lost. Refer to DEFINITY Enterprise Communications Server Release 5vs/si and Generic 3 vs/s/i Maintenance, 555-204-105, Issue 7, for information about preparing the system for a power down. BCMS data cannot be stored to or retrieved from tape.

Remove Door and Panels and Disconnect Cables

1. Remove the front door from the PPN cabinet (if desired).
2. With the cable retainer in front of you and the part number visible (4B or 4C), locate the slot that is almost vertical. (This slot is adjacent to the part number.) Insert a flat-blade screwdriver with a wide blade (1/4-inch recommended) into the slot, and twist the screwdriver. The retainer will snap open easily so that the cable can be removed.
3. At the cabinet, disconnect previously labeled cables associated with the carrier to be removed.
4. Remove the back doors from the cabinet.

Remove Circuit Packs from Port Carrier B

1. To ensure that circuit packs and power units in the "B" carrier are properly replaced, label each component with its slot number.
2. Disconnect the power cords from the power units in the "B" carrier.
3. See WARNING. Remove all circuit packs and power units from carrier "B." Store the circuit packs in the static-proof packaging.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

4. Remove the circuit-pack blanks from slots that do not contain circuit packs.
5. Remove the front trim plate from the "B" carrier by pulling straight off.

Remove Port Carrier B

1. Behind the PPN, disconnect and remove the ICCB cable from between carrier "B" and carrier "A." It will not be reused.
2. See NOTE. Disconnect one end of the TDM/LAN cable (between the "B" and "C" carriers) from the "B" carrier (see Figure 12-25).
3. See NOTE. Disconnect one end of the TDM/LAN cable (between the "B" and "A" carriers) from the "B" carrier (see Figure 12-25).



NOTE:

Note the position of the cable before disconnecting the TDM/LAN cables.

4. Disconnect one end of the eight ground straps (between the "B" and "C" carriers) from the "B" carrier (see Figure 12-26). These straps will be reconnected to the new "B" carrier.
5. Disconnect one end of the eight ground straps (between the "B" and "A" carriers) from the "B" carrier (see Figure 12-26). These straps will be reconnected to the new "B" carrier.
6. Disconnect the "P1" (small 9-pin) connector from the "B" carrier (see Figure 12-27). Move the cable into a position where it will not interfere with removing the carrier.
7. In front of "B" carrier, remove the four screws (top two first) holding the "B" carrier to the cabinet frame. Use a long-handle screwdriver or 5/16-inch socket with a 10-inch extension.
8. Behind the "B" carrier, remove the two screws holding the "B" carrier's rear connector panel to the cabinet frame.

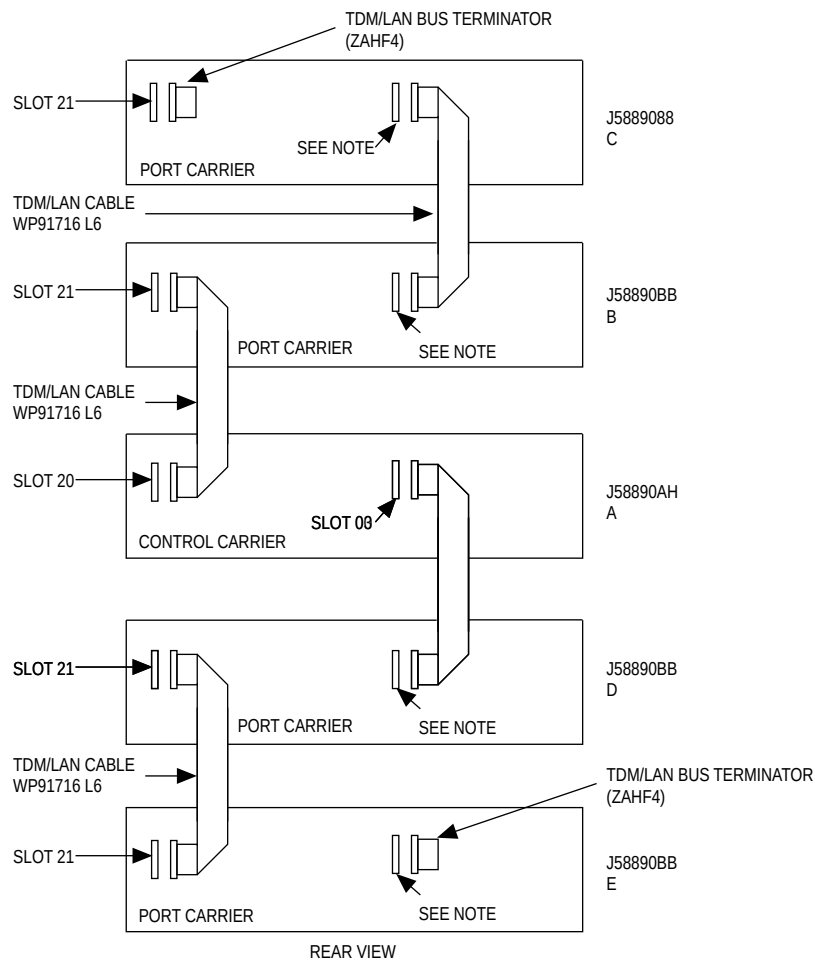
9. See CAUTION. Slide the carrier forward 1 to 2 inches; then, from the back, be sure that no cables or wiring harnesses are caught on the cabinet/carrier framework.



CAUTION:

Cables and wiring harnesses can be damaged if they catch on the framework and if too much pressure is applied in removing the carrier.

10. Remove the carrier by sliding it out the front of the cabinet.



NOTE:

ON PORT CARRIER J58890BB-1, CONNECT THE TDM CABLE OR TDM TERMINATOR TO SLOT 02. ON PORT CARRIERS J58890BB-2 OR J58890BB-3, CONNECT THE TDM CABLES OR TDM TERMINATOR TO SLOT 01. IF THE PORT CARRIER HAS J58890BB-1 AND J58890BB-2 STENCILLED ON IT, TREAT IT AS A J58890BB-1.

Figure 12-25. TDM/LAN Connections for Standard-Reliability R5si+m PPN

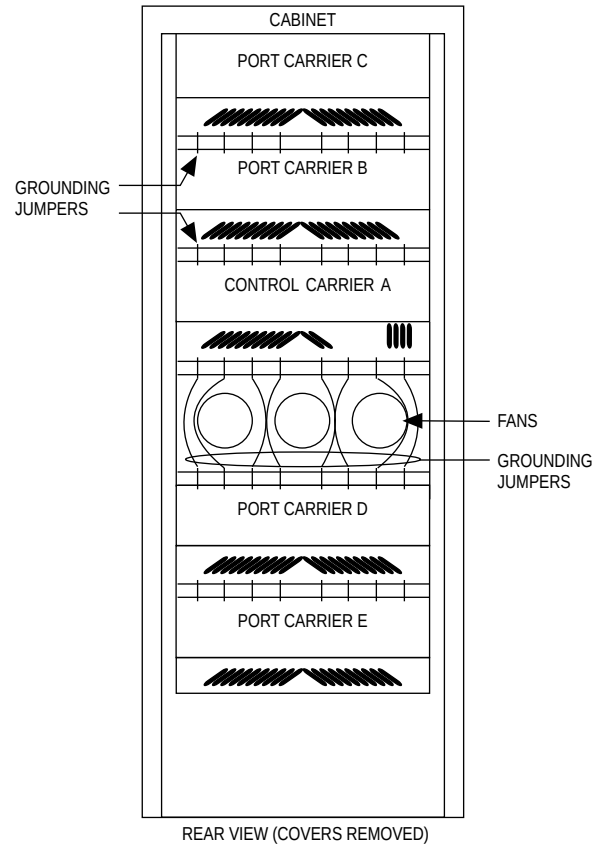


Figure 12-26. Locations of Grounding Jumpers

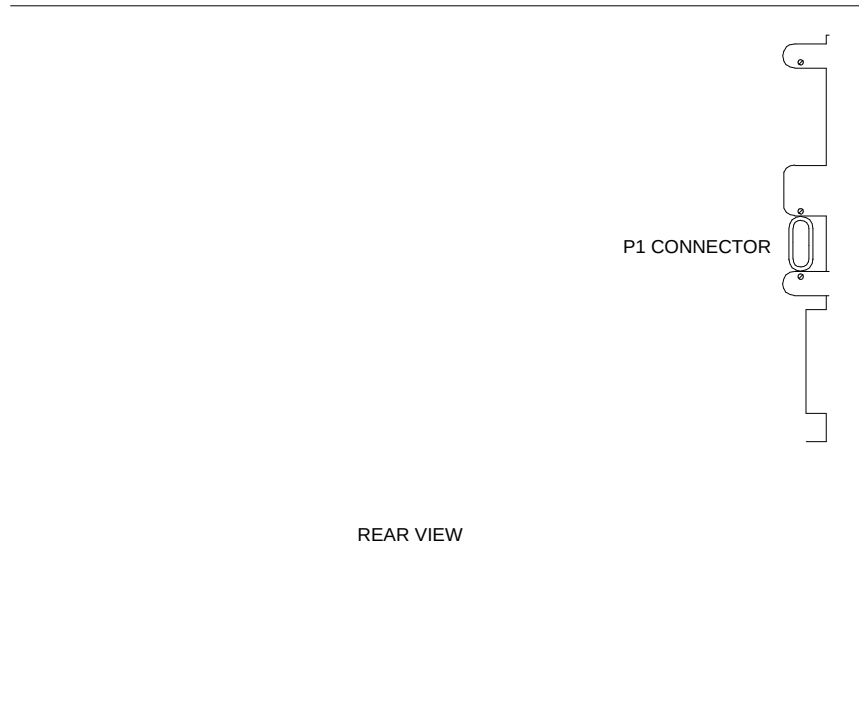


Figure 12-27. Location of P1 Connector

Prepare New Control Carrier B

1. Visually inspect the new carrier for any damage. Verify that the backplane pins are not bent.
2. Place the control carrier on the floor so that the rear of the carrier faces up.
3. Install the two AHF111 processor-bus (PX) terminators on the "B" carrier to the pin-field blocks marked 'PX' (top portion of slots "4" and "10"). The PX terminators are with attached with the components on the left side as viewed from the rear.

Install New Control Carrier B

1. Install the J58890AH control carrier in position "B" by lining up the plastic alignment tips on the top rear of the carrier with the screw holes in the cabinet. These alignment tips support the carrier while the screws are being replaced. Ensure the power cords are properly placed in the slots at the sides of the carrier.

2. See CAUTION. Fasten the carrier into position with four self-tapping screws saved from the removal of the old carrier.



CAUTION:

Carefully realign the threads on the self-tapping screws by turning them clockwise a turn or two before tightening them to avoid stripping the threads out of the framework.

3. Behind the carrier, replace the two screws saved from the removal of the old carrier.
4. Connect the "P1" (small) connector to the "B" carrier (see Figure 12-27). To get enough slack in the cables, cut the tie wrap holding the intercabinet cable from the upright in the area being installed. Snap the connector lock into place to ensure the connection is properly made.
5. Connect the eight ground straps from the "C" carrier to the new "B" carrier (see Figure 12-26). These straps were left connected to the "C" carrier when the old "B" carrier was removed.
6. Connect the eight ground straps from the "A" carrier to the new "B" carrier (see Figure 12-26). These straps were left connected to the "A" carrier when the old "B" carrier was removed.
7. See NOTE. For an AC-powered control carrier, install the two new carrier-ground straps. One strap connects ground point "1" to the B-carrier frame (on the right side), and the other connects ground point "8" to the B-carrier frame (on the left side).



NOTE:

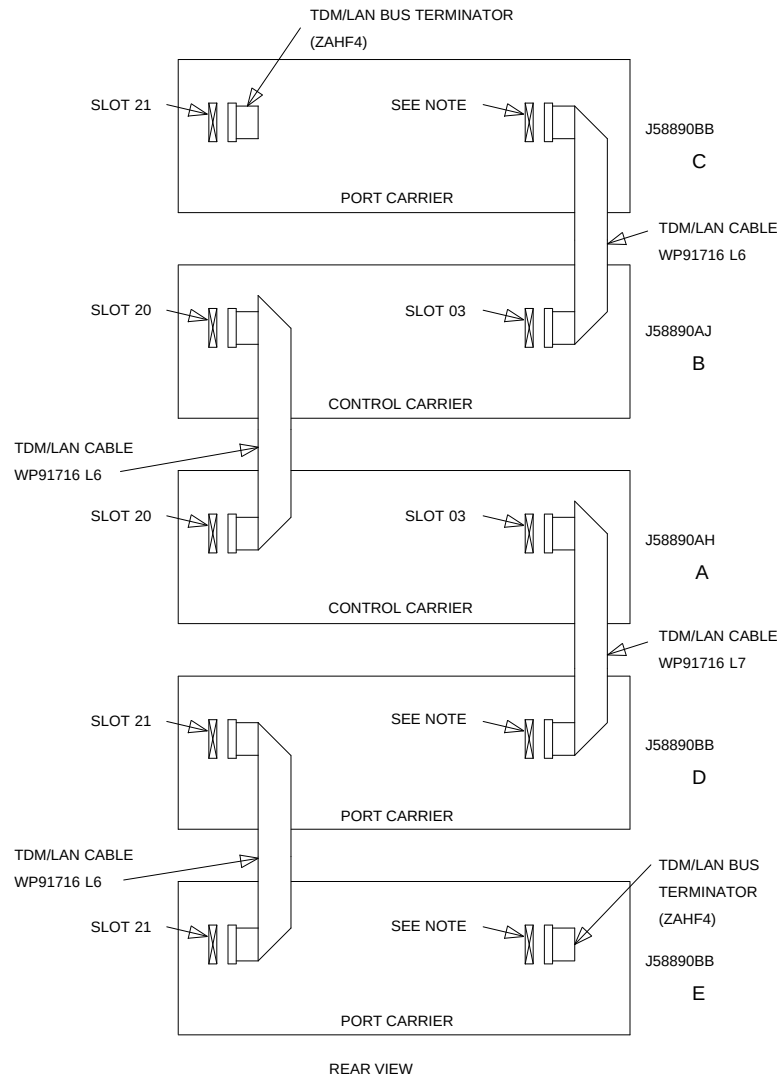
DC-powered carriers do not use these carrier-ground straps.

8. Connect the loose end of the TDM/LAN cable (between the "C" and "B" carriers) to the pin-field block marked "TDM/LAN" on the right side of the "B" carrier (see Figure 12-28 and Table 12-3). The other end remained connected to the "C" carrier when the old carrier was removed.
9. Connect the loose end of the TDM/LAN cable (between the "A" and "B" carriers) to the pin-field block marked "TDM/LAN" on the left side of the "B" carrier. The other end remained connected to the "A" carrier when the old carrier was removed.

Table 12-3. TDM/LAN Connections

"J" Number	Carrier Type	LHS Slot	RHS Slot
J58890BB-1	Port	21	02
J58890BB-2	Port	21	01
J58890BB-3	Port	21	01
J58890AH	PPN Control "A"	20	03
J58890AJ	PPN Control "B"	20	03

6. Add Control Carrier to MCC R5si+m



NOTE:

ON PORT CARRIER J58890BB-1, CONNECT THE TDM/LAN CABLE OR TDM/LAN TERMINATOR TO SLOT 02. ON PORT CARRIERS J58890BB-2 AND -3, CONNECT THE TDM/LAN CABLES TO SLOT 01.

Figure 12-28. TDM/LAN Connections for High- or Critical-Reliability R5si+m PPN

- Connect the "AJBK" (for AJ carrier) connector to carrier "B," and connect the "AHBK" (for AH carrier) connector to carrier "A."

While installing the ICC cable connectors, be careful not to bend any backplane pins. Double check each connection to verify that the pins are straight.

- Connect the "AJBK" connector to carrier "B," and connect the "AHBK" connector to carrier "A."



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13. Install the new power units into the "B" carrier. There are two different pairs of power units available. They are the 631DA1 and 631DB1 (for AC power), and the 644A and 645B (for DC power). Do not interchange the units. The 631DA1 or 644A is installed on the left side, while the 631DB1 or 645B is installed on the right side (see Figure 12-30).
14. Connect the power cords to the power units. The power cords are the white cables equipped with plugs that are run through the slots in the front of each carrier (see Figure 12-31).

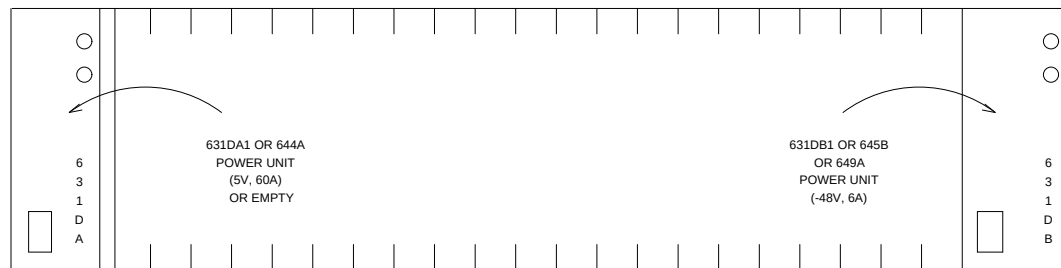


Figure 12-30. Locations of Power Units

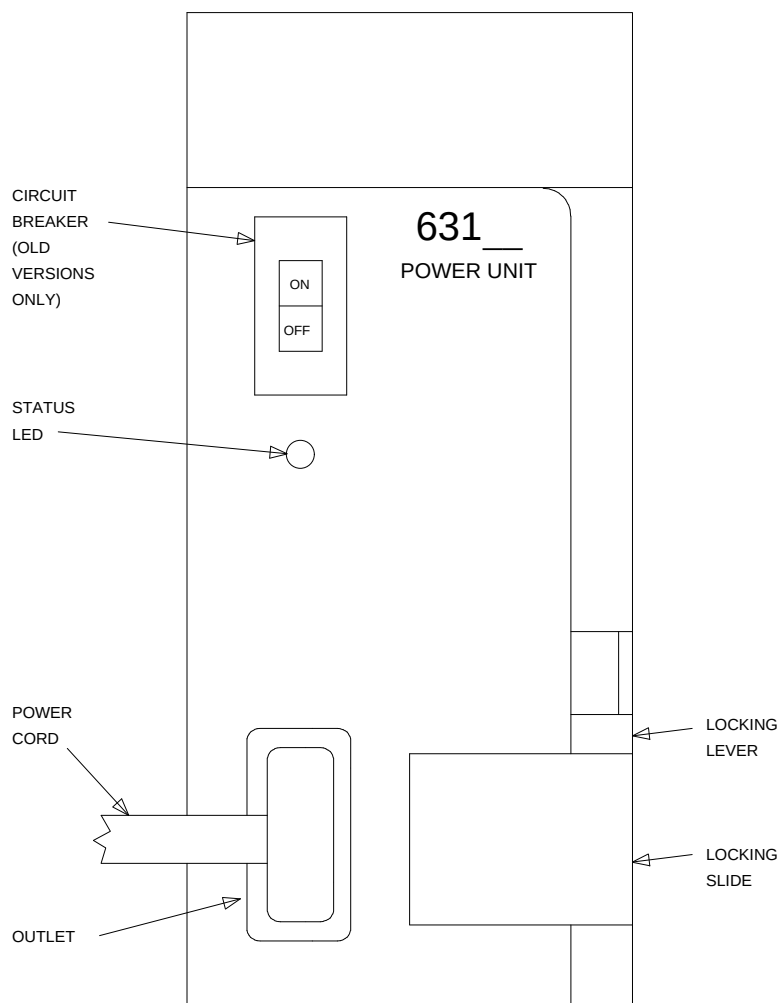


Figure 12-31. 631-Type Power Unit

Install Circuit Packs

1. See WARNING. Install a new TN772 Duplication Interface circuit pack into control carrier "A." Use the following figures and the decal as a guide.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. See previous WARNING. Install the new TN790 Processor circuit pack into control carrier "B." Use the following figures and the decal as a guide.
3. See previous WARNING. Install the new control circuit packs into control carrier "B." Use the following figures and the decal as a guide.
4. See previous WARNING. As necessary, install the new TN776 or TN570 Expansion Interface circuit packs into carriers "A" and "B" of each port network, and interconnect the port networks with the fiber-optic cables.



WARNING:

The DEFINITY ECS contains a Class 1 LASER device with the following specifications:

Power Output: -5 dBm

Wavelength: 1310 nm

Mode Field Diameter: 8.8 microns



CAUTION:

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

5. See WARNING. For a critical-reliability system with the optional packet bus, install the new TN771C Maintenance/Test circuit pack into an available port slot of each port network (if not already present).



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

6. Install circuit-pack blanks in slots not equipped with circuit packs.

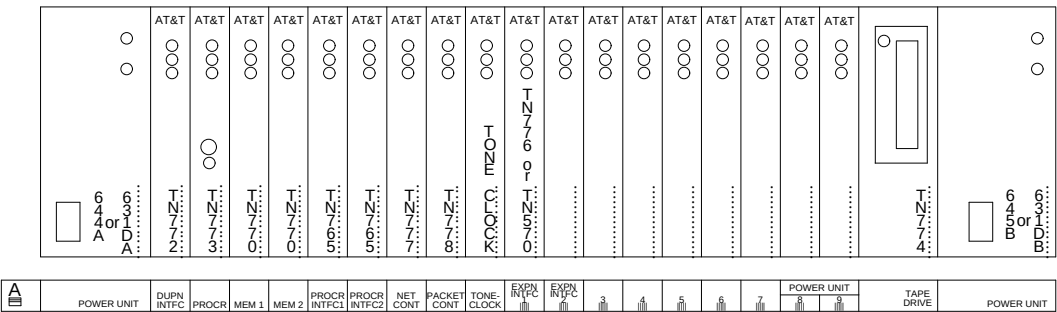


Figure 12-32. Circuit-Pack Locations in Duplex G3i V1 Control Carrier

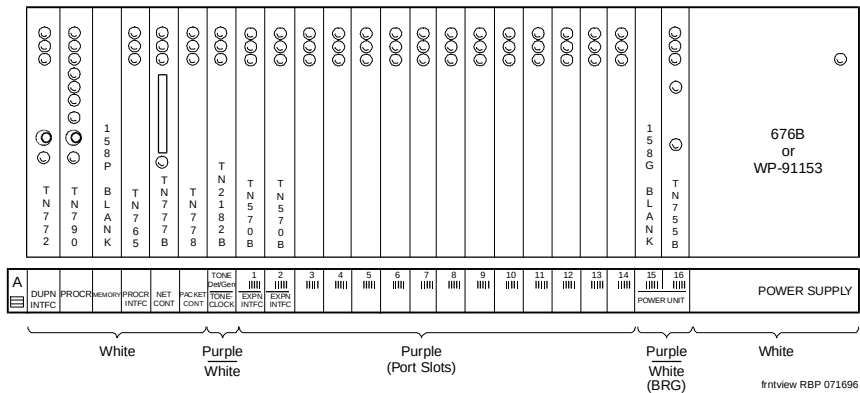


Figure 12-33. Circuit-Pack Locations in Duplicated DEFINITY ECS R5si Control Carrier

Relocate Port Carrier B

Refer to the Section 5, "Add Port Carriers," for instructions to relocate the removed port carrier.

Connect G3-MT to DOT Connector

Behind control carrier "A," disconnect the G3-MT cable from the "TERM" connector, and reconnect the cable to the "DOT" (duplication-option terminal) connector.

Reseat DEFINITY LAN Gateway System

See WARNING. Reseat the LAN Gateway assembly into its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reseat DEFINITY AUDIX System

See WARNING. If a DEFINITY AUDIX System resides in the system, reseat the AUDIX assembly to its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Up System

1. Check the labels on the TN786B circuit packs or on the G3i V1 tapes, and verify that the software versions are the same for both control carriers.
2. At each EPN, if present, on the power-distribution unit, set the main circuit breaker to ON.
3. At the PPN, on the power-distribution unit, set the main circuit breaker to ON.
4. The system now goes through the level 4 rebooting process, loading the default translations from the translation memory card(s) or the tape(s). Rebooting takes 8 to 11 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and G3-MT terminal displays that occur during system reboot.

5. After the system reboot is finished and all trouble cleared, verify that the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal operating mode.

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.

2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

Run Acceptance Tests

Refer to Chapter 11 of *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets* 555-230-104, Issue 5, and perform the appropriate tests.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to *y*, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.
4. Enter **save translation**, and press RETURN.



NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.



WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

7. Add Control Cabinet to SCC R5si+m

To upgrade a standard-reliability system to a high- or critical-reliability R5si+m system, a second control cabinet is added to cabinet position "B" of the existing single-carrier PPN stack.

Service Interruption

Since the addition of the second control cabinet requires a service interruption, notify the customer in advance as to when the addition will be carried out.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Log in at the G3-MT terminal.
2. Enter **save translation**, and press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
3. If the system contains a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

4. Update backup tape, if required.

Label Cables

To make reconnecting the cables simpler and more reliable, label every connector cable associated with the PPN stack (if not already labeled).

Shut Down DEFINITY LAN Gateway System

If a DEFINITY LAN Gateway system resides in the control cabinet to be upgraded, prepare to shut down the DEFINITY LAN Gateway assembly and allow the disk to completely spin down. See Caution. See WARNING.



CAUTION:

Before using this procedure to shut down the DEFINITY LAN Gateway, make sure that you save the system parameters if you plan to reuse the current system.



WARNING:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet where it resides can damage the LAN Gateway disk.

1. See WARNING. To avoid an unexpected LAN Gateway reboot after an unplanned switch reboot, unseat the LAN Gateway assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CalVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
3. When the main menu appears, select *Maintenance*.

4. Select *Reset System* from the *Maintenance* menu.
5. Select *Shutdown* from the *Reset System* menu.

Shut Down DEFINITY AUDIX System

1. See WARNING. If a DEFINITY AUDIX System resides in the system to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. See WARNING. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Down System

1. See CAUTION. Behind each PPN cabinet's power supply, set the circuit breaker to OFF.
2. See CAUTION. Behind each EPN cabinet's power supply, if present, set the circuit breaker to OFF.



CAUTION:

Powering down the control cabinet will cause important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup requests, and Do Not Disturb requests to be lost. Refer to DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si for information about preparing the system for a power down. BCMS data cannot be stored to or retrieved from tape.

Remove Doors and Panels and Disconnect Cables

1. Remove the front door from all of the PPN cabinets.
2. Disconnect all of the previously labeled connector cables.
3. Disconnect the G3-MT from the TERM connector.
4. Remove the ground plate(s) from between all of the PPN cabinets.
5. Remove the top and bottom rear covers from all of the PPN cabinets.

Disconnect Power and Grounding

1. Disconnect the cabinet power cords from the rear of each PPN cabinet.
2. Disconnect the coupled bonding conductor.
3. Disconnect the 6-AWG cabinet ground wire from the ground bar in the cabinet.



NOTE:

A screwdriver is required to loosen and tighten the bolts that secure the ground wire to the ground bar.

Install Power-Failure Transfer Ground Strap



CAUTION:

To avoid contaminating single-point ground, do not connect the ground strap while the system is powered up.

1. Connect a strap's lead either to pin 49 of the connecting block or to pin 49 of the CAP (cable access panel) associated with the power-failure transfer panel.
2. Route the other lead to an approved ground source.
3. Connect the lead to the approved ground source.

Remove the Existing Port Cabinets

Since the new enhanced control cabinet will reside in cabinet-position "B" of the PPN, the port cabinets will have to be removed from the stack.



NOTE:

If the PPN stack contains three port cabinets, the new control cabinet must replace the port cabinet occupying the "B" position. This cabinet can either be moved to an available position in an EPN or can be set aside for future use.

Replacing (without moving) the "B" position port cabinet (containing 18 port slots) by an enhanced control cabinet (containing 16 port slots) leads to a net loss of at least 2 available port slots.

At this point in the upgrade, all of the power, grounding, TDM/LAN, and connector cables should be disconnected. Before you proceed, ensure that there is adequate space available to place each port cabinet in an out-of-the-way location as they are removed.

1. Remove the cabinet clip from between each cabinet.
2. See DANGER. Remove the port cabinets from the stack and put them in a safe place.



DANGER:

A port cabinet may weigh as much as 125 pounds and requires two handlers to unstack the cabinets. If third or fourth cabinet is to be removed remove the front door, power supply, and circuit packs to lighten the load. Make sure the two handlers are capable (size and strength) of lifting the cabinet from its position.

Unpack and Inspect New Enhanced Control Cabinet for Damage

1. See DANGER. Unpack cabinet.



DANGER:

Take care to avoid injury while cutting and removing bands.

2. Visually inspect cabinet for any physical damage caused during shipping. Report any damage for appropriate action per local procedures.

Remove Front Door

Remove the front door of new control cabinet.

1. Use a screwdriver and turn door-latch screw counterclockwise one quarter turn to release door (see Figure 12-34).
2. Lift door from lower slots and remove from cabinet.

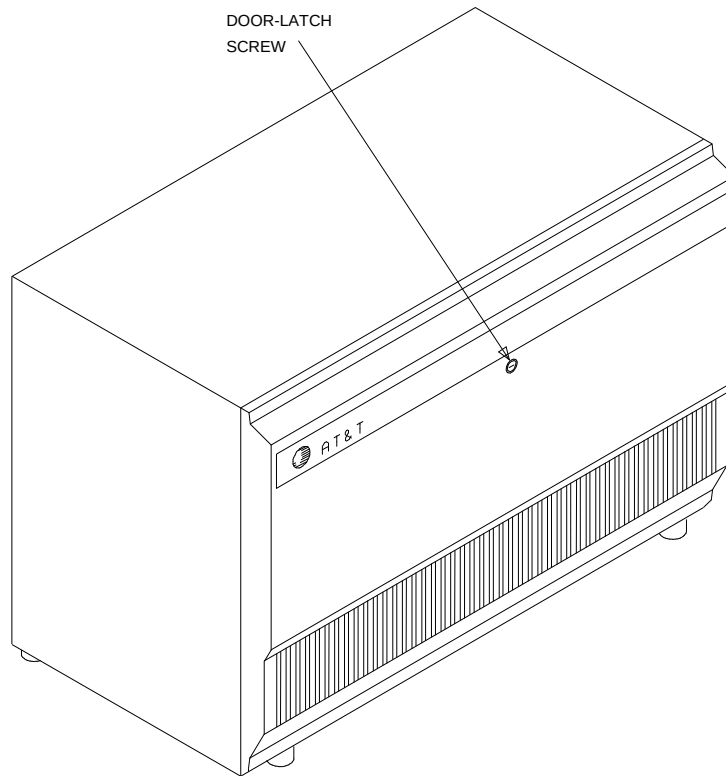


Figure 12-34. Location of Door-Latch Screw for DEFINTY ECS R5si Cabinet

Install Enhanced Control Cabinet

See DANGER. For a duplicated system position the J58890M duplicated control cabinet "B" above cabinet "A."



DANGER:

The cabinet may weigh as much as 130 pounds and requires two handlers. Use caution to avoid injury.

Install Port Cabinets

See DANGER and NOTE. Place the port cabinets into the positions from which they were previously removed (see Figure 12-35).



DANGER:

The cabinet may weigh as much as 130 pounds and requires two handlers. Use caution to avoid injury.



NOTE:

If the unduplicated PPN stack contained three port cabinets, leave out the port cabinet that occupied the "B" position.

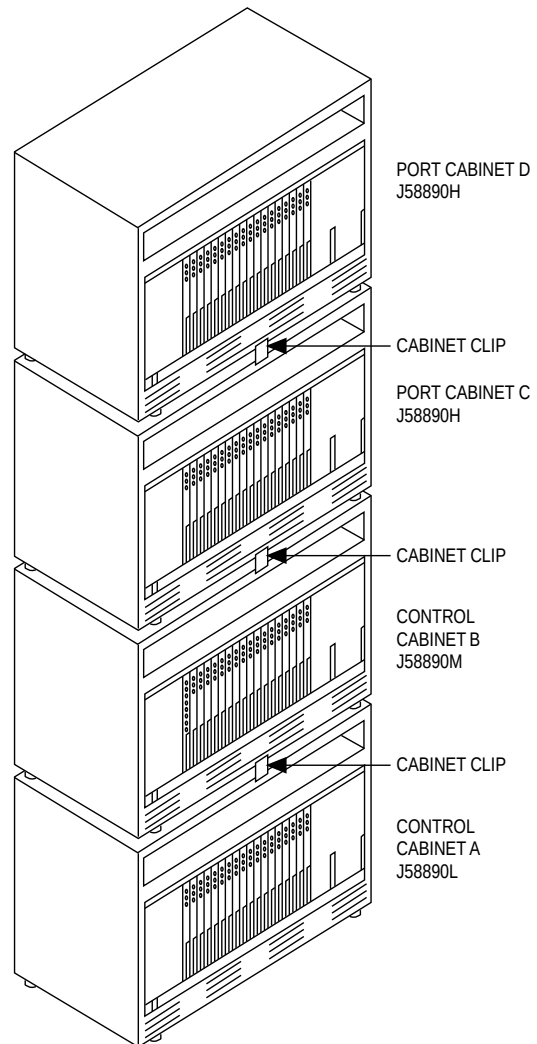


**Figure 12-35. 4-Cabinet DEFINTY ECS R5si PPN — Front View Doors
Removed**

Install Circuit Packs

1. See WARNING. Replace the circuit packs and power supplies in port cabinets "C" and "D" if they were previously removed.



WARNING:

Before inserting or removing a circuit pack from a cabinet put on a wrist strap and attach its plug or clip to the cabinet's frame.

See previous WARNING. Install a new TN772 Duplication Interface circuit pack into control cabinet "A." Use the following figure and the decal as a guide.

2. See previous WARNING. Install the new control circuit packs into control cabinet "B." Use the following figure and the decal as a guide.
3. See previous WARNING. As necessary, install the new TN776 or TN570 Expansion Interface circuit packs into cabinets "A" and "B" of each port network, and interconnect the port networks with the fiber-optic cables.



WARNING:

The DEFINITY ECS contains a Class 1 LASER device with the following specifications:

Power Output: -5 dBm

Wavelength: 1310 nm

Mode Field Diameter: 8.8 microns



CAUTION:

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

4. See WARNING. For a critical-reliability system with the optional packet bus, install the new TN771C Maintenance/Test circuit pack into an available port slot of each port network (if not already present).



WARNING:

Before inserting or removing a circuit pack from a cabinet put on a wrist strap and attach its plug or clip to the cabinet's frame.

5. Install circuit-pack blanks in slots not equipped with circuit packs.



If the unduplicated PPN stack contained one or two port cabinets, the upgraded PPN's port cabinets occupy different positions in the cabinet stack. If so the location of each port cabinet's address plug must be changed to reflect the cabinet's current position (see Figure 12-37).

Behind each port cabinet find the address plug attached to two of the six backplane pins to the right of the pin-field block for slot "00."

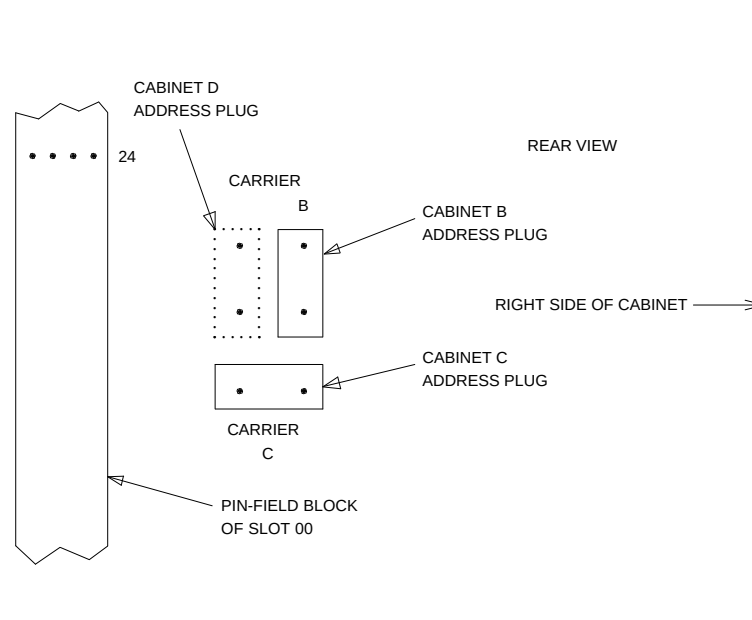


Figure 12-37. Cabinet Address-Plug Location

Relocate Port Cabinet B

If the unduplicated PPN stack contained three port cabinets, refer to Section 4, "Add Port Cabinets," for instructions to relocate the removed port cabinet.

Connect TDM/LAN Cables and ICC Cables

1. Route and connect the TDM/LAN cables (see Figure 12-38). If any of the port cabinets were originally R1V3 port cabinets, use the following steps to route a cable between an R1V3 upper cabinet and cabinet beneath it. Do not run a new cable through the existing slot in the rear shelf of the upper cabinet.
 - a. Loosen two left (as viewed from the rear) connector-panel screws then remove the other two connector-panel screws.
 - b. Attach the TDM/LAN cable to the backplane and slide the cable between the connector panel and the rear shelf (not through the existing hole in the shelf). Route the cable along the bottom of the cabinet.
 - c. Replace and tighten the connector-panel screws.
2. Connect the ICC cables as shown in Table 12-4 and Figure 12-39 and Figure 12-40.
3. On the "A" carrier, verify the 982LS current limiter (CURL) is properly connected to the pin-field block marked "CURL" (see Figure 12-39). The CURL's components should be on the left side as viewed from the rear.

7. Add Control Cabinet to SCC R5si+m

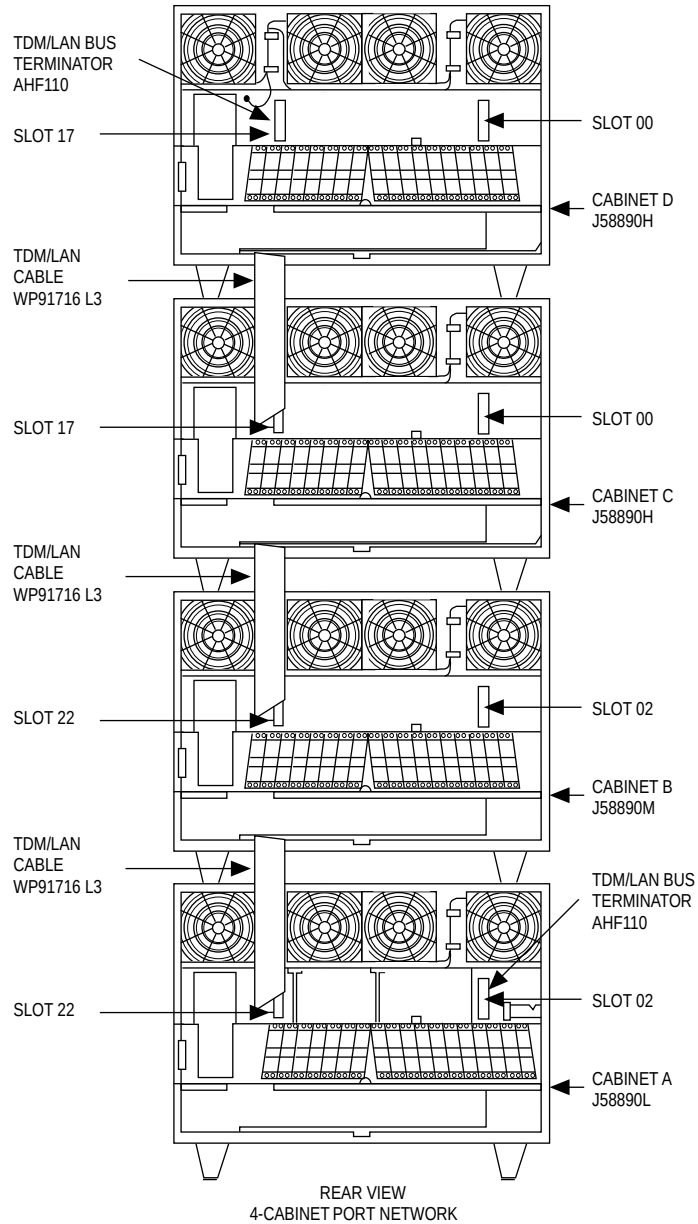
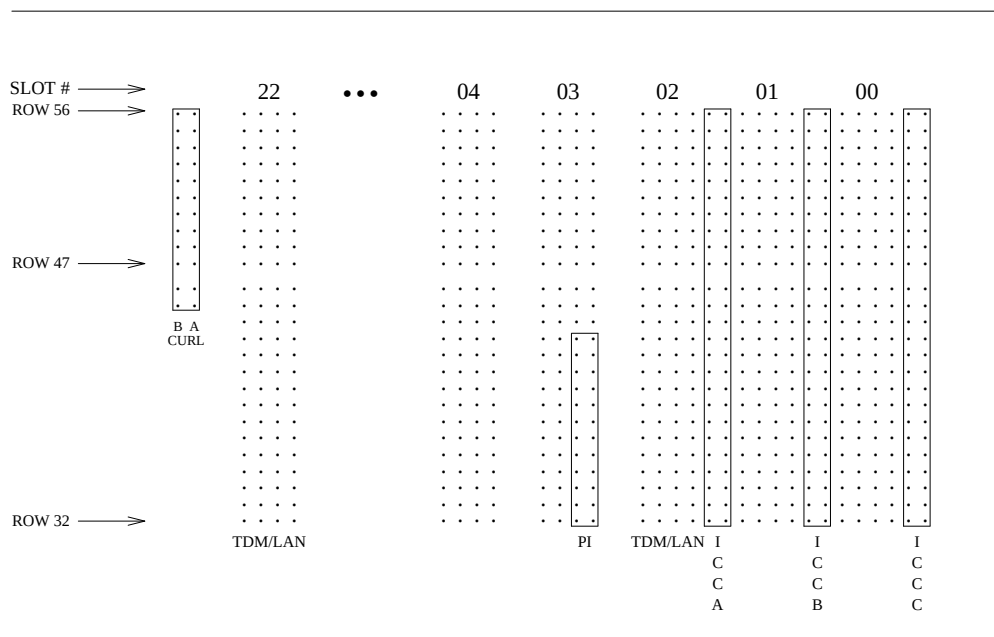


Figure 12-38. TDM/LAN Connections High- or Critical-Reliability PPN

Table 12-4. Intercabinet Cable Connections

Connect ICC Cables				
	From		To	
	Carrier	Pin-Field Block	Carrier	Pin-Field Block
PPN	J58890L	ICCA	J58890M	ICCA
		ICCB		ICCB
		ICCC		ICCC

**Figure 12-39. ICC Pin-Field Blocks on J58890L-1 L5 Enhanced Control Cabinet**

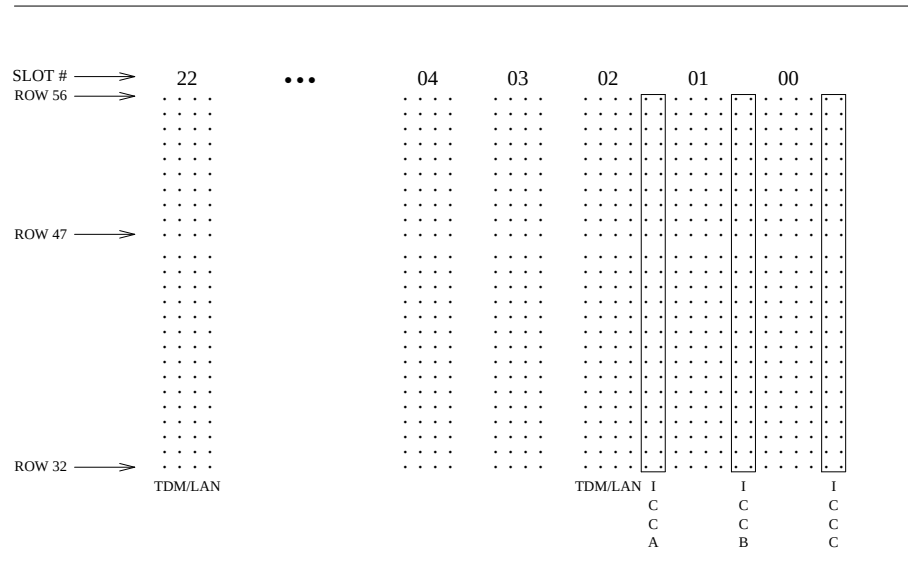


Figure 12-40. ICC Pin-Field Blocks on J58890M Enhanced Duplicated Control Cabinet

Install Ground Plate(s)

➤ NOTE:

If the system being upgraded is mounted with earthquake protection do not install the ground plates at this time.

A ground plate is required between each cabinet (see Figure 12-41). The ground plate provides the ground connection between cabinets and stabilizes the cabinets.

1. See NOTE. Behind the cabinets replace the upper and lower covers (leave the screws loose).

➤ NOTE:

The rear covers for the control cabinets need two detents (one for the TDM/LAN cable and another for the ICC cables).

2. Place the ground plate over the lower rear cover of the upper cabinet so the four screws attaching the lower rear cover go through the four ground-plate keyhole slots.
3. Slide the ground plate down over the upper rear cover of the lower cabinet so the four screws attaching the upper rear cover go through the four lower ground-plate slots.

4. Ensure the exposed portion of the TDM/LAN cable between the cabinets does not get pinched.
 5. Tighten all screws.
-

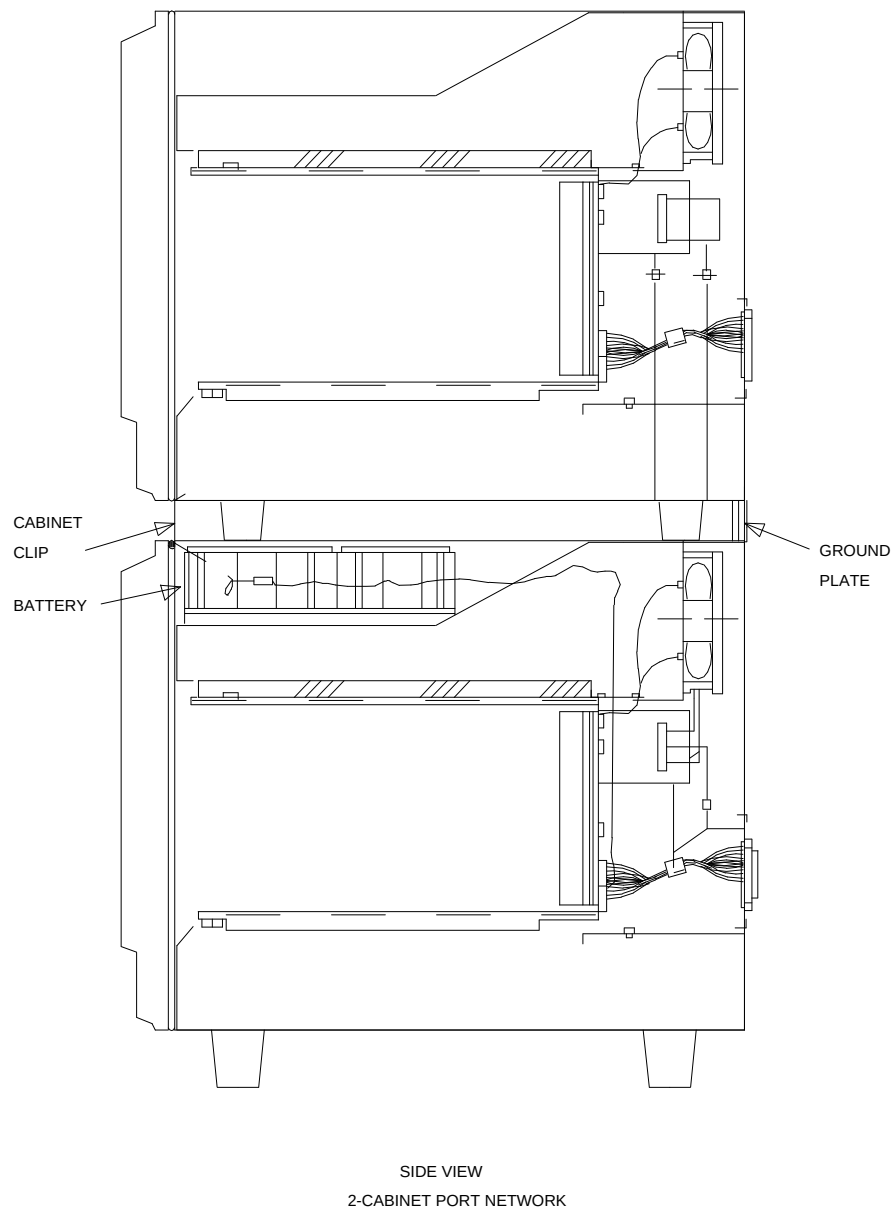


Figure 12-41. Locations of Ground Plate Cabinet Clip, and Battery

Install Cabinet Clip(s)



NOTE:

This procedure is used only on systems without earthquake protection.

A cabinet clip used to ground and stabilize the cabinets, is required between each cabinet.

At the front of the cabinets install the cabinet clip between the cabinets by hooking the clip into the slot of the upper cabinet and snapping the straight leg of the clip into the slot on the lower cabinet (see Figure 12-41).

Connect Power and Grounding

1. Reconnect the 6-AWG cabinet ground wire from the ground bar in the cabinet.



NOTE:

A screwdriver is required to loosen and tighten the bolts that secure the ground wire to the ground bar.

2. Reconnect the coupled bonding conductor.
3. Reconnect the cabinet power cords behind each cabinet.

Connect G3-MT to DOT Connector

Behind control cabinet "A," reconnect the G3-MT cable to the "DOT" (duplication-option terminal) connector.

Reseat DEFINITY LAN Gateway System

See WARNING. Reseat the LAN Gateway assembly into its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reseat DEFINITY AUDIX System

See WARNING. If a DEFINITY AUDIX System resides in the system, reseat the AUDIX assembly to its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Remove Power-Failure Ground Strap

Remove the previously installed ground strap from the power-failure transfer unit.

Power Up System

1. Check the labels on the TN786B circuit packs or on the G3i V1 tapes, and verify that the software versions are the same for both control carriers.
2. Behind each EPN cabinet's power supply, if present, set the circuit breaker to ON.
3. Behind each PPN cabinet's power supply, set the circuit breaker to ON.
4. The system now goes through the level 4 rebooting process, loading the default translations from the translation memory card(s) or the tape(s). Rebooting takes 8 to 11 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and G3-MT terminal displays that occur during system reboot.

5. After the system reboot is finished and all trouble cleared, verify that the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal operating mode.

Close PPN Stack without Earthquake Protection and Reconnect Cables

1. Behind each PPN cabinet's power supply set the circuit breaker to OFF.
2. Replace all cables that were labeled and removed.
3. Install the front door on each cabinet.
4. Install the top and bottom rear covers. Be sure that the correct rear covers are installed on the new control cabinet(s). Do not use these rear covers on the port cabinets.

Close PPN Stack with Earthquake Mounting and Reconnect Cables

1. Behind each PPN cabinet's power supply set the circuit breaker to OFF.
2. Replace all cables that were labeled and removed.
3. Install the upper and lower rear covers with all of the screws except the screws that run along the top and bottom of the cabinet. Do not tighten the screws.



NOTE:

The rear covers for the control cabinets need two detents (one for the TDM/LAN cable and another for the ICC cables).

4. Line up the four holes in the ground plate with the four holes at the bottom of the lower rear cover of the upper cabinet and install the screws but do not tighten.
5. Line up the ground plate with the top holes of the upper rear cover of the lower cabinet. Install the four screws but do not tighten.
6. At the front of the cabinet line up the earthquake front plate with the holes at the top and bottom of the cabinet (see Figure 12-42). Install the eight screws but do not tighten.
7. Tighten all screws.
8. Repeat Steps 3 through 7 for the remaining cabinets.
9. Install the front door on each cabinet.
10. Install a DEFINITY label on each existing port cabinet.

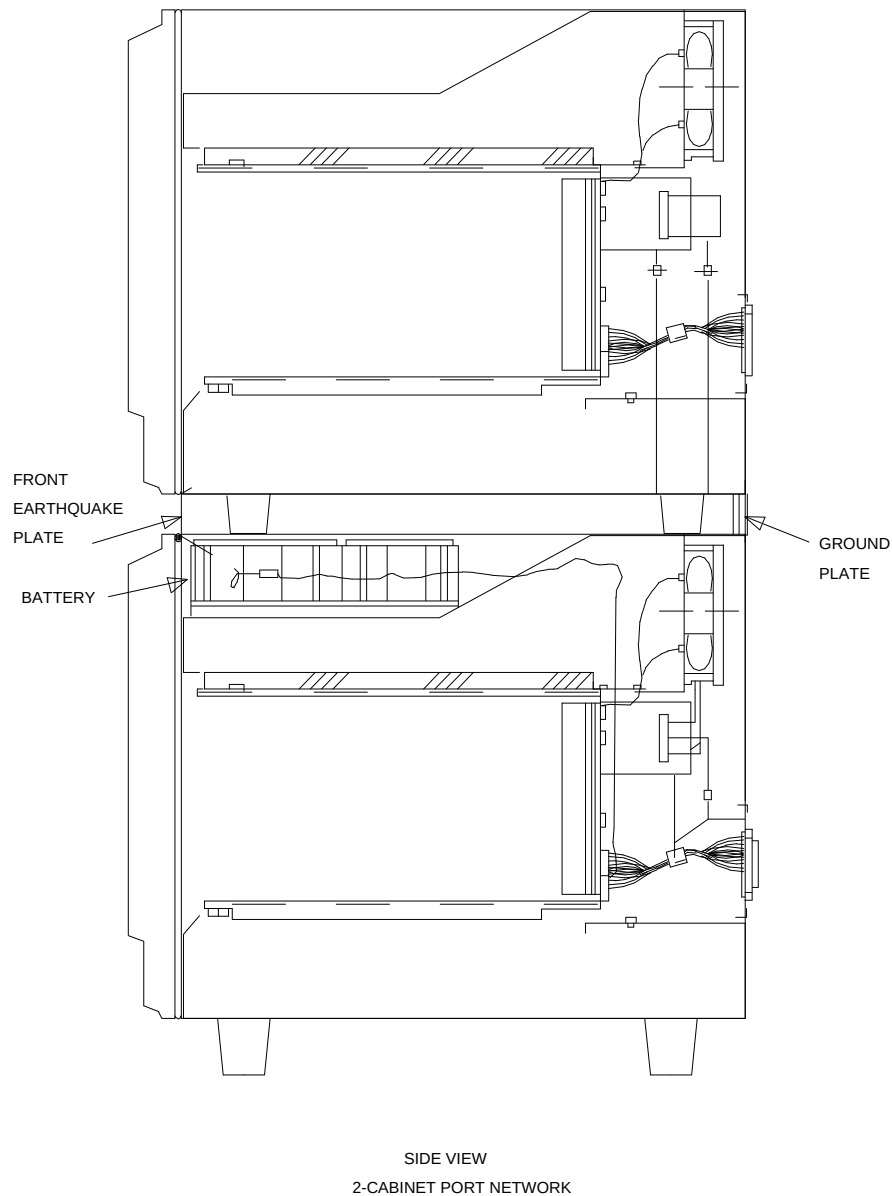


Figure 12-42. Locations of Ground Plate, Earthquake Front Plate, and Battery

Install Cable Clamps

Behind the cabinets using screws provided, install two cable clamps on each ground plate (see Figure 12-43). These clamps are used to hold the port cables.

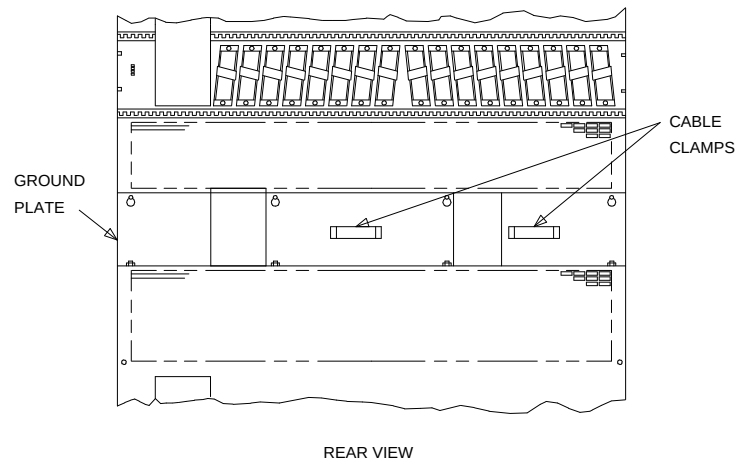


Figure 12-43. Locations of Ground Plate and Cable Clamps on Single-Carrier Cabinet

Power Up the PPN Cabinets

1. Behind each PPN cabinet's power supply set the circuit breaker to ON.
2. The system now goes through the rebooting process loading the translations from the memory card. Rebooting requires 8 to 11 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Communications System Generic 1 Generic 3i, Generic 3i-Global, and Generic 3i V4 Maintenance* 555-204-105, for circuit-pack LED indications and screen displays that occur during system reboot.

3. After the system reboot is finished and all trouble is cleared verify that the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.

2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

Run Acceptance Tests

Refer to Chapter 11 of *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets* 555-230-104, Issue 5, and perform the appropriate tests.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to *y*, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.
4. Enter **save translation**, and press RETURN.



NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.



WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

8. Add Circuit Packs

When installing additional features or equipment, it may be necessary to install additional port circuit packs. This is a general procedure that must be used when adding features or equipment that requires adding circuit packs.

1. Log onto the system, and be sure to answer **y** to the *Suppress Alarm Origination* question during login.
2. See WARNING. Lift up on bottom of circuit-pack blank and pull forward.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

3. Align and slide circuit pack with latch lever opened into slot in carrier until some resistance is felt.
4. Lift locking lever upward until latch pin engages (see Figure 12-44).
5. Resolve any alarms that may exist in the alarm log with the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*.
6. Log off the switch after the addition (and any required administration) is complete.

See NOTES. To find specific circuit-pack locations in the various carriers refer to:

- Figure 12-45 and Table 12-5 for a R5vs wall-mounted cabinet
- Figure 12-46 through Figure 12-49 and Table 12-6 through Table 12-10 for R5si+m MCC carriers
- Figure 12-51 through Figure 12-57 and Table 12-11 through Table 12-17 for R5si or R5si+m single-carrier cabinets



NOTE:

Many international circuit packs are included in these tables. If North American and international circuit packs appear in the same row of a table, those circuit-pack codes ordinarily used in North America appear in bold font to help distinguish these circuit packs from their international counterparts. If only circuit packs commonly used for international applications appear in a row of a table, the circuit-pack codes are enclosed in parentheses. If only circuit packs commonly used in North America appear in a row of a table, the circuit-pack codes are enclosed in square brackets.

For more comprehensive and detailed information about international circuit packs, refer to *DEFINITY Enterprise Communications Server Release 5 System Description and Specifications*, 555-230-206.

For detailed information about connecting and administering international circuit packs, refer to the Application Notes (Appendix B) in *DEFINITY Enterprise Communications Server Release 5 Implementation*, 555-230-655.

 NOTE:

Throughout these figures and tables, the circuit-pack codes are shown with the *minimum acceptable* alphabetic suffix (such as the “B” in “TN786B”).

Generally, an alphabetic suffix higher than the one shown is acceptable. However, not every *vintage* of either the minimum-suffix or a higher-suffix code is necessarily acceptable. Refer to *Technical Quarterly*, Reference Guide for Circuit-Pack Vintages and Change Notices, for current information about the usable vintages of specific circuit-pack codes (including the suffix) in a DEFINITY ECS system.

 NOTE:

The following tables list circuit packs used with G3V2 and later version systems. When referring to these tables, note that when a circuit pack is listed without a specific vintage, any vintage may be used. If a vintage or suffix is listed, a greater vintage or greater suffix may be used. The circuit pack codes highlighted in bold are shipped with new systems. Other circuit packs listed (non-bold) are supported from upgrades.

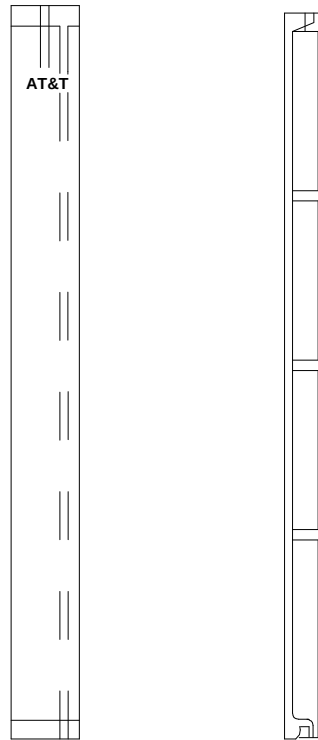


Figure 12-44. Blank Circuit-Pack Faceplate

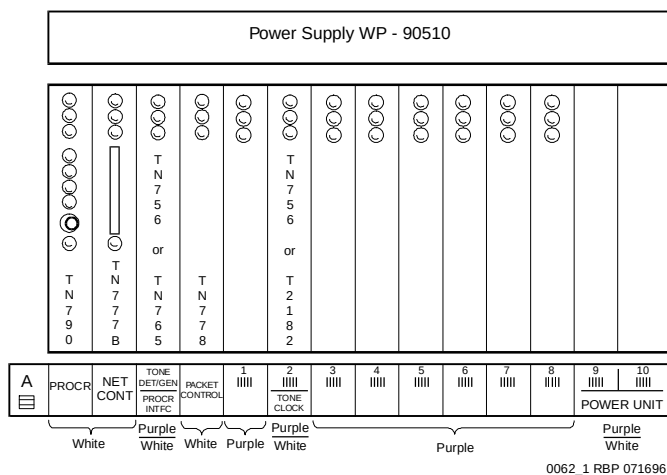


Figure 12-45. Circuit-Pack Locations in R5vs Wall-Mounted Cabinet

Table 12-5. Circuit Packs in R5vs Wall-Mounted Cabinet (J58890S)

Description	Code	Slot Position	Note
Processor	TN790	PROCR	1
Network Control	TN777B	NET CONT	1
Processor Interface	TN765	PROCR INTFC	
Tone Detector/Generator or Tone-Clock or Tone-Clock or Tone-Clock	[TN756] TN768 or TN419B TN780 TN2182	TONE DET/GEN or 1-10 TONE-CLOCK TONE-CLOCK TONE-CLOCK	2 3+4 5
Tone Detector	TN748B or TN420C	1-10	
Loop-Start CO Trunk	TN465C	1-10	
Ground-/Loop-Start CO Trunk	TN747 or TN2147	1-10	
Ground-Start CO Trunk	(TN447)	1-10	
Loop-Start CO Trunk	(TN438 or TN2138)	1-10	

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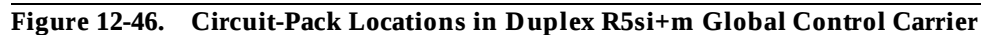
8. Add Circuit Packs

Table 12-5. Circuit Packs in R5vs Wall-Mounted Cabinet (J58890S) — Continued

Description	Code	Slot Position	Note
16-KHz PPM Loop-Start CO Trunk	(TN2147)	1-10	
DID Trunk	TN753 , TN436, TN459, TN2139, or TN2146	1-10	
DIOD Trunk	(TN2184)	1-10	
DIOD Trunk	(TN429)	1-10	
4-Wire E&M Tie Trunk	TN760 , TN437, TN458, or TN2140	1-10	
2-Wire Loop-Disconnect Tie Trunk	(TN439)	1-10	
Auxiliary Trunk	TN763 or TN417	1-10	
DS1 Interface (ISDN)	TN767C	1-10	
DS1/E1 Interface (ISDN)	TN464C	1-10	
ISDN-BRI Line (2-Wire)	TN2198	1-10	6
4-Wire Digital Line	TN754 or TN413	1-10	
DCP Interface (2-Wire, 16 Port)	TN2181	1-10	
DCP Interface (2-wire, 24 Port)	TN2224	1-10	
2-Wire Mu-Law/A-Law Digital Line	(TN2136)	1-10	
Hybrid Line	TN762B	1-10	
Analog Line (8-Port)	TN742	1-10	
Analog Line (16-Port)	TN2183	1-10	
Analog Line (16-Port)	TN746 or TN468	1-10	
Analog Line (16-Port)	(TN2135, TN2144, or TN2149)	1-10	
Analog Line (neon)	TN769	1-10	
Met Line	TN735	1-10	
Pooled Modem	TN758	1-10	
Data Line	TN726	1-10	
Speech Synthesizer	TN725B , TN433, or TN437	1-10	
Announcement	TN750C	1-10	4
Announcement	TN750	1-10	
Call-Classifer-Detector	TN744C	1-10	
Call Classifier	TN744	1-10	
DEFINITY AUDIX System	None	7-10	
Ring Generator	TN2202	9, 10	7
Power Unit	TN755B	9,10	

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Description	Code	Slot Position	Note
Duplication Interface	TN772	DUPN INTFC	1
Processor	TN790	PROCR	
Memory	TN770	MEM 1	
Memory	TN770	MEM 2	
Processor Interface	TN765	PROCR INTFC 1	
Processor Interface	TN765	PROCR INTFC 2	
Network Control	TN777	NET CONT	
Packet Control	TN778	PACKET CONT	2

Continued on next page

8. Add Circuit Packs

Table 12-6. Circuit Packs in R5si+m Global Control Carrier (J58890AH or J58890AJ) —
Continued

Description	Code	Slot Position	Note
Tone-Clock or Tone-Clock or Tone-Clock	TN768 or TN419B TN780 TN2182	TONE CLOCK TONE CLOCK TONE CLOCK	 3, 4 5
Expansion Interface	TN776	EXPN INTFC/1	6
Expansion Interface	TN776	EXPN INTFC/2	7
Expansion Interface	TN570	EXPN INTFC/1	8
Expansion Interface	TN570	EXPN INTFC/2	9
Tone Detector	TN748B or TN420B	1-9	
Call-Classified-Detector	TN744C	1-9	
Call Classifier	TN744	1-9	10
Ground-/Loop-Start CO Trunk	TN747 or TN2147	1-9	
Ground-Start CO Trunk	(TN447)	1-9	
Loop-Start CO Trunk	TN465C	1-9	
Loop-Start CO Trunk	(TN438 or TN2138)	1-9	
16-KHz PPM Loop-Start CO Trunk	(TN2147)	1-9	
DID Trunk	TN753 , TN436, TN459, TN2139, or TN2146	1-9	
DIOD Trunk	(TN2184)	1-9	
DIOD Trunk	(TN429)	1-9	
4-Wire E&M Tie Trunk	TN760 , TN437, TN458, or TN2140	1-9	
2-Wire Loop-Disconnect Tie Trunk	(TN439)	1-9	
Auxiliary Trunk	TN763 or TN417	1-9	
4-Wire Digital Line	TN754 or TN413	1-9	
DCP Interface (2-wire, 16 port)	TN2181	1-9	
DCP Interface (2-wire, 24 port)	TN2224	1-10	
2-Wire Mu-Law/A-Law Digital Line	(TN2136)	1-9	
Hybrid Line	TN762B	1-9	
Analog Line (8-Port)	TN742	1-9	
Analog Line (8-Port)	TN769	1-9	
Analog Line (16-Port)	TN2183	1-9	
Analog Line (16-Port)	TN746 or TN468	1-9	11
Analog Line (16-Port)	(TN2135, TN2144, or TN2149)	1-9	

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Table 12-6. Circuit Packs in R5si+m Global Control Carrier (J58890AH or J58890AJ) —
Continued

Description	Code	Slot Position	Note
Analog Line (neon)	TN769	1-9	
MET Line	TN735	1-9	
Pooled Modem	TN758	1-9	
Data Line	TN726	1-9	
Speech Synthesizer	TN725B , TN433, or TN437	1-9	
Announcement	TN750C	1-9	3
Announcement	TN750	1-9	
DS1 Interface (ISDN)	TN767C	1-9	
DS1/E1 Interface (ISDN)	TN464C	1-9	
ISDN-BRI Line (2-Wire)	TN2198	1-9	12
ISDN—BRI Line	TN556	1-9	13
DEFINITY LAN Gateway	TN2208	1-9	
DEFINITY AUDIX System	None	1-9	
Ring Generator	(TN2202)	8-9	2
Power Unit	TN755B	8-9	14

-
1. Required for a high- or critical-reliability system.
 2. Required to activate the optional packet bus.
 3. Required for Stratum 3 clock. (Since special connections are required, see "42. Add Stratum 3 Clock" later in this chapter.)
 4. Use TN780 as Tone-Clock for Stratum 3 timing. Also required with the TN780 are the TN748, and TN744 for tone-detection.
 5. The TN2182 Tone-Clock provides tone detection, tone generation, and tone-clock in one circuit pack, and it replaces the TN756, TN768, and TN780 circuit packs, while providing the same functionality as the TN748 and TN420 circuit packs.
 6. Required if system without packet bus is equipped with one EPN.
 7. Required if system without packet bus is equipped with two EPNs.
 8. Required if system with packet bus is equipped with one EPN.
 9. Required if system with packet bus is equipped with two EPNs.
 10. Required for Call Prompting answer detection or with OCM.
 11. A TN746B or TN468B is required to provide the complete set of analog line functions.
 12. Also requires NT1.
 13. Packet bus required when these lines are used.
 14. Required when system is equipped with neon message waiting lamps.
-

8. Add Circuit Packs

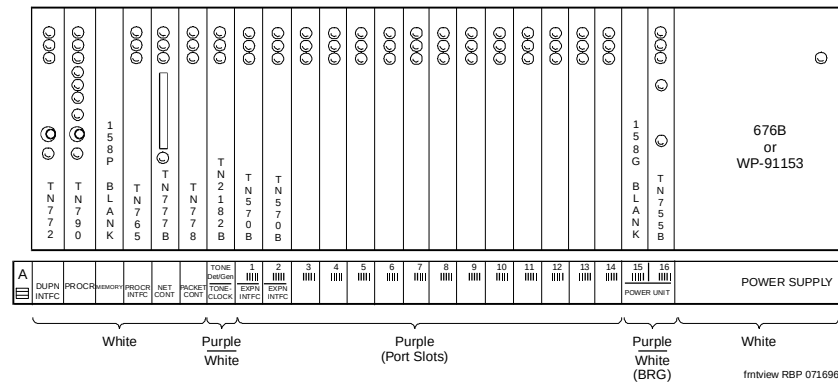


Figure 12-47. Circuit-Pack Locations in Duplicated DEFINITY ECS R5si Control Carrier

Table 12-7. Circuit Packs in DEFINITY ECS R5si Control Carrier (J58890AH or J58890AJ)

Description	Code	Slot Position	Note
Duplication Interface	TN772	DUPN INTFC	1
Processor	TN790	PROCR	
Processor Interface	TN765	PROCR INTFC 1	
Processor Interface	TN765	PROCR INTFC 2	
Network Control	TN777B	NET CONT	
Packet Control	TN778	PACKET CONT	2
Tone-Clock or Tone-Clock or Tone-Clock	TN768 or TN419B TN780 TN2182	TONE CLOCK TONE CLOCK TONE CLOCK	 3, 4 5
Expansion Interface	TN776	EXPN INTFC/1	6
Expansion Interface	TN776	EXPN INTFC/2	7
Expansion Interface	TN570	EXPN INTFC/1	8
Expansion Interface	TN570	EXPN INTFC/2	9
Call-Classifer-Detector	TN744C	1-13	
Call Classifier	TN744	1-9	10
Ground-/Loop-Start CO Trunk	TN747 or TN2147	1-9	
Ground-Start CO Trunk	(TN447)	1-9	

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Table 12-7. Circuit Packs in DEFINITY ECS R5si Control Carrier (J58890AH or J58890AJ) — Continued

Description	Code	Slot Position	Note
Loop-Start CO Trunk	TN465C	1-9	
Loop-Start CO Trunk	(TN438 or TN2138)	1-9	
16-KHz PPM Loop-Start CO Trunk	(TN2147)	1-9	
DID Trunk	TN753 , TN436, TN459, TN2139, or TN2146	1-9	
DIOD Trunk	(TN429)	1-9	
4-Wire E&M Tie Trunk	TN760 , TN437, TN458, or TN2140	1-9	
2-Wire Loop-Disconnect Tie Trunk	(TN439)	1-9	
Auxiliary Trunk	TN763 or TN417	1-9	
4-Wire Digital Line	TN754 or TN413	1-9	
DCP Interface (2-Wire, 16 Port)	TN2181	1-13	
DCP Interface (2-wire, 24 port)	TN2224	1-10	
2-Wire Mu-Law/A-Law Digital Line	(TN2136)	1-9	
Hybrid Line	TN762B	1-9	
Analog Line (8-Port)	TN742	1-9	
Analog Line (8-Port)	TN769	1-9	
Analog Line (16-Port)	TN2183	1-9	
Analog Line (16-Port)	TN746 or TN468	1-9	11
Analog Line (16-Port)	(TN2135, TN2144, or TN2149)	1-9	
MET Line	TN735	1-9	
Pooled Modem	TN758	1-9	
Data Line	TN726	1-9	
Speech Synthesizer	TN725B , TN433, or TN437	1-9	
Announcement	TN750C	1-13	12
Announcement	TN750	1-9	
Tone Detector	TN748B or TN420B	1-9	
ISDN-BRI Line (2-Wire)	TN2198	1-9	13
DS1 Interface (ISDN)	TN767C	1-9	
DS1/E1 Interface (ISDN)	TN464C	1-9	
ISDN—BRI Line	TN556	1-9	14
Maintenance/Test	TN771C	1-9	15
DEFINITY LAN Gateway	TN2208	1-9	

Continued on next page

Table 12-7. Circuit Packs in DEFINITY ECS R5si Control Carrier (J58890AH or J58890AJ) — Continued

Description	Code	Slot Position	Note
DEFINITY AUDIX System	None	1-9	
Ring Generator	(TN2202)	8-9	16
Power Unit	TN755B	8-9	17

-
1. Required for a high- or critical-reliability system.
 2. Required to activate the optional packet bus.
 3. Required for Stratum 3 clock. (Since special connections are required, see "42. Add Stratum 3 Clock" later in this chapter.)
 4. Required when system is equipped with neon message waiting lamps.
 5. Use TN780 as Tone-Clock for Stratum 3 timing. Also required with the TN780 are the TN748, and TN744 for tone-detection.
 6. Also required to provide international tones for DEFINITY ECS R5si system.
 7. Required if system without packet bus is equipped with one EPN.
 8. Required if system without packet bus is equipped with two EPNs.
 9. Required if system with packet bus is equipped with one EPN.
 10. Required if system with packet bus is equipped with two EPNs.
 11. Required for Call Prompting answer detection or with OCM.
 12. The TN2182 Tone-Clock provides tone detection, tone generation, and tone-clock in one circuit pack, and it replaces the TN756, TN768, and TN780 circuit packs, while providing the same functionality as the TN748 and TN420 circuit packs.
 13. Also requires NT1.
 14. A TN746B or TN468B is required to provide the complete set of analog line functions.
 15. Packet bus required when these lines are used.
 16. Required for ring generation in France.
 17. Optional for digital trunk testing. Required in a port slot of a critical-reliability DEFINITY ECS R5si PPN with the optional packet bus.
-

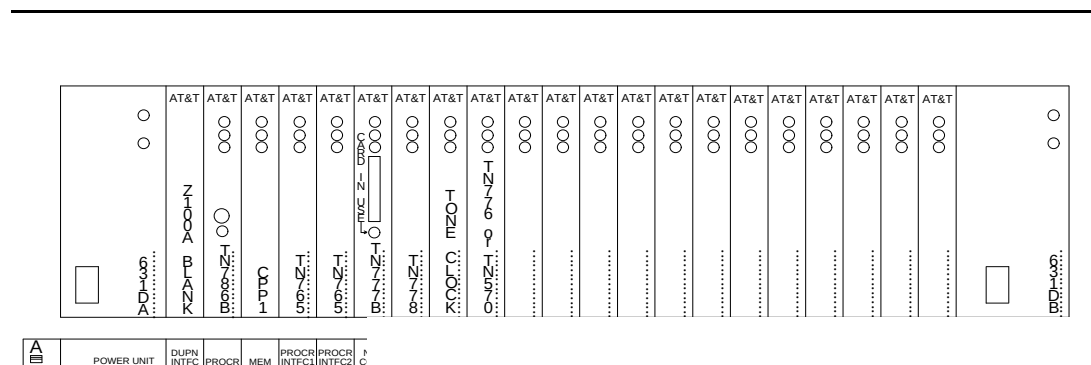


Figure 12-48. Circuit-Pack Locations in DEFINITY ECS R5si Enhanced Control Carrier

Table 12-8. Circuit Packs in DEFINITY ECS R5si Enhanced Control Carrier (J58890AH L5)

Description	Code	Slot Position	Note
Processor	TN790	PROCR	
Processor Interface	TN765	PROCR INTEFC 1	
Processor Interface	TN765	PROCR INTEFC 2	
Network Control	TN777B	NET CONT	
Packet Control	TN778	PACKET CONT	1
Tone-Clock or Tone-Clock or Tone-Clock	TN768 or TN419B TN780 TN2182	TONE CLOCK TONE CLOCK TONE-CLOCK	2 3
Expansion Interface	TN776	EXPN INTEFC/1	4
Expansion Interface	TN776	EXPN INTEFC/2	5
Expansion Interface	TN570	EXPN INTEFC/1	6
Expansion Interface	TN570	EXPN INTEFC/2	7
Call-Classifer-Detector	TN744C	1-13	
Call Classifier	TN744	1-13	8
Ground-/Loop-Start CO Trunk	TN747 or TN2147	1-13	
Ground-Start CO Trunk	(TN447)	1-13	
Loop-Start CO Trunk	TN465C	1-13	

Continued on next page

8. Add Circuit Packs

Table 12-8. Circuit Packs in DEFINITY ECS R5si Enhanced Control Carrier (J58890AH L5) — Continued

Description	Code	Slot Position	Note
Loop-Start CO Trunk	(TN438 or TN2138)	1-13	
16-KHz PPM Loop-Start CO Trunk	(TN2147)	1-13	
DID Trunk	TN753 , TN436, TN459, TN2139, or TN2146	1-13	
DIOD Trunk	(TN2184)	1-13	
DIOD Trunk	(TN429)	1-13	
4-Wire E&M Tie Trunk	TN760 , TN437, TN458, or TN2140	1-13	
2-Wire Loop-Disconnect Tie Trunk	(TN439)	1-13	
Auxiliary Trunk	TN763 or TN417	1-13	
4-Wire Digital Line	TN754 or TN413	1-13	
DCP Interface (2-Wire, 16 Port)	TN2181	1-13	
DCP Interface (2-wire, 24 port)	TN2224	1-10	
2-Wire Mu-Law/A-Law Digital Line	(TN2136)	1-13	
Hybrid Line	TN762B	1-13	
Analog Line (8-Port)	TN742	1-13	
Analog Line (8-Port)	TN769	1-13	
Analog Line (16-Port)	TN2183	1-13	
Analog Line (16-Port)	TN746 or TN468	1-13	⁹
Analog Line (16-Port)	(TN2135, TN2144, or TN2149)	1-13	
MET Line	TN735	1-13	
Pooled Modem	TN758	1-13	
Data Line	TN726	1-13	
Speech Synthesizer	TN725B , TN433, or TN437	1-13	
Announcement	TN750C	1-13	¹⁰
Announcement	TN750	1-13	
Tone Detector	TN748B or TN420B	1-13	
DS1 Interface	TN767C	1-13	
DS1/E1 Interface (ISDN)	TN464C	1-13	
ISDN-BRI Line (2-Wire)	TN2198	1-13	¹¹
ISDN—BRI Line	TN556	1-13	¹²
Maintenance/Test	TN771C	1-13	¹³
DEFINITY LAN Gateway	TN2208	1-13	

Continued on next page

Table 12-8. Circuit Packs in DEFINITY ECS R5si Enhanced Control Carrier (J58890AH L5) — Continued

Description	Code	Slot Position	Note
DEFINITY AUDIX System	None	1-13	
Ring Generator	(TN2202)	12-13	14
Power Unit	TN755B	12-13	15

-
1. Required to activate the optional packet bus.
 2. Use TN780 as Tone-Clock for Stratum 3 timing. Also required with the TN780 are the TN748, and TN744 for tone-detection.
 3. The TN2182 Tone-Clock provides tone detection, tone generation, and tone-clock in one circuit pack, and it replaces the TN756, TN768, and TN780 circuit packs, while providing the same functionality as the TN748 and TN420 circuit packs.
 4. Also required to provide international tones for DEFINITY ECS R5si system.
 5. Required if system without packet bus is equipped with one EPN.
 6. Required if system without packet bus is equipped with two EPNs.
 7. Required if system with packet bus is equipped with one EPN.
 8. Required if system with packet bus is equipped with two EPNs.
 9. Required for Call Prompting answer detection or with OCM.
 10. TN750C is required if your system will have multiple announcement boards. To use multiple announcement boards, you must have at least one TN750C (up to ten are allowed). Only one TN750/B may be present in the system when a TN750C is used. The announcements from a TN750/B can be saved and restored to a TN750C — but once the announcements are recorded onto a TN750C, do not copy announcements from a TN750C to a TN750 or TN750B, as it may corrupt the announcement data.
 11. Also requires NT1.
 12. A TN746B or TN468B is required to provide the complete set of analog line functions.
 13. Packet bus required when these lines are used.
 14. Required for ring generation in France.
 15. Optional for digital trunk testing.
-



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Table 12-9. Circuit Packs in R5si Expansion Control Carrier (J58890AF) — Continued

Description	Code	Slot Position	Note
Analog Line (16-Port)	(TN2135, TN2144, or TN2149)	2-19	
MET Line	TN735	2-19	
Pooled Modem	TN758	2-19	
Data Line	TN726	2-19	
Speech Synthesizer	TN725B , TN433, or TN437	2-19	
Announcement	TN750C	2-19	8
Announcement	TN750	2-19	
Tone Detector	TN748B or TN420B	2-19	
Call-Classifer-Detector	TN744C	2-19	
Call Classifier	TN744	2-19	9
ISDN-BRI Line (2-Wire)	TN2198	2-19	10
ISDN—BRI Line	TN556	2-19	11
DS1 Interface	TN767C	2-19	
DS1/E1 Interface (ISDN)	TN464C	2-19	
Maintenance/Test	TN771C	2-19	12
DEFINITY LAN Gateway	TN2208	2-19	
DEFINITY AUDIX System	None	2-19	
Ring Generator	(TN2202)	18-19	13
Power Unit	TN755B	18-19	14

1. Use TN780 as Tone-Clock for Stratum 3 timing. Also required with the TN780 are the TN748, and TN744 for tone-detection.
2. The TN2182 Tone-Clock provides tone detection, tone generation, and tone-clock in one circuit pack, and it replaces the TN756, TN768, and TN780 circuit packs, while providing the same functionality as the TN748 and TN420 circuit packs.
3. Required in systems without packet bus and one EPN.
4. Required in systems without packet bus and two EPNs.
5. Required in systems with packet bus and one EPN.
6. Required in systems with packet bus and two EPNs.
7. A TN746B or TN468B is required to provide the complete set of analog line functions.
8. TN750C is required if your system will have multiple announcement boards. To use multiple announcement boards, you must have at least one TN750C (up to ten are allowed). Only one TN750/B may be present in the system when a TN750C is used. The announcements from a TN750/B can be saved and restored to a TN750C — but once the announcements are recorded onto a TN750C, do not copy announcements from a TN750C to a TN750 or TN750B, as it may corrupt the announcement data.
9. Required for Call Prompting answer detection or with OCM.
10. Also requires NT1.
11. Packet bus required when these lines are used.
12. Required in a port slot of a critical-reliability DEFINITY ECS R5si EPN with the optional packet bus.
13. Required for ring generation in France.
14. Required when system is equipped with neon message waiting lamps.

8. Add Circuit Packs

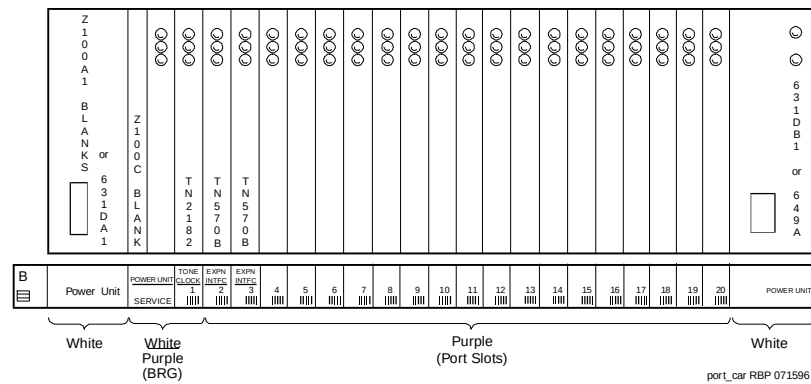


Figure 12-50. Circuit-Pack Locations in Port Carrier

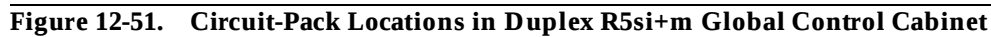
Table 12-10. Circuit Packs in Port Carrier (J58890BB)

Description	Code	Slot Position	Note
Power Unit	TN755B	POWER UNIT	1
Ring Generator	(TN2202)	POWER UNIT	2
Expansion Interface	TN776	EXPN INTFC/1, /2	3
Expansion Interface	TN570	EXPN INTFC/1, /2	4
Tone Clock or Tone-Clock or Tone-Clock	TN768 or TN419B TN780 TN2182	1-20 1-20 TONE-CLOCK	5 5, 6 7
Tone Detector	TN748B or TN420B	1-20	
Ground-/Loop-Start CO Trunk	TN747 or TN2147	1-20	
Ground-Start CO Trunk	(TN447)	1-20	
Loop-Start CO Trunk	TN465C	1-20	
Loop-Start CO Trunk	(TN438 or TN2138)	1-20	
16-KHz PPM Loop-Start CO Trunk	(TN2147)	1-20	
DID Trunk	TN753 , TN436, TN459, TN2139, or TN2146	1-20	
DIOD Trunk	(TN2184)	1-20	
DIOD Trunk	(TN429)	1-20	
4-Wire E&M Tie Trunk	TN760 , TN437, TN458, or TN2140	1-20	
2-Wire Loop-Disconnect Tie Trunk	(TN439)	1-20	
Auxiliary Trunk	TN763 or TN417	1-20	
4-Wire Digital Line	TN754 or TN413	1-20	
DCP Interface (2-Wire, 16 Port)	TN2181	1-20	
DCP Interface (2-wire, 24 port)	TN2224	1-10	
2-Wire Mu-Law/A-Law Digital Line	(TN2136)	1-20	
Hybrid Line	TN762B	1-20	
Analog Line (8-Port)	TN742	1-20	
Analog Line (8-Port)	TN769	1-20	
Analog Line (16-Port)	TN2183	1-20	

Table 12-10. Circuit Packs in Port Carrier (J58890BB) — Continued

Description	Code	Slot Position	Note
Analog Line (16-Port)	TN746 or TN468	1-20	8
Analog Line (16-Port)	(TN2135, TN2144, or TN2149)	1-20	
DS1 Interface	TN767C	1-20	
DS1/E1 Interface (ISDN)	TN464C	1-20	
ISDN-BRI Line (2-Wire)	TN2198	1-20	9
ISDN—BRI Line	TN556	1-20	10
MET Line	TN735	1-20	
Pooled Modem	TN758	1-20	
Data Line	TN726	1-20	
Speech Synthesizer	TN725B , TN433, or TN437	1-20	
Call-Classifer-Detector	TN750C	1-20	
Call Classifier	TN744	1-20	11
Announcement	TN750C	1-20	12
Announcement	TN750	1-20	
DEFINITY LAN Gateway	TN2208	1-20	13
DEFINITY AUDIX System	None	1-20	13

1. Required when the system is equipped with neon message waiting lamps.
2. Required for ring generation in France.
3. Required in a port carrier residing in the "B" position of a critical-reliability EPN (without the optional packet bus) in either:
Slot position "1" (for a system with one EPN)
Slot positions "1" and "2" (for a system with two EPNs)
4. Required in a port carrier residing in the "B" position of a critical-reliability EPN (with the optional packet bus) in either:
Slot position "1" (for a system with one EPN)
Slot positions "1" and "2" (for a system with two EPNs)
5. A TN768, TN419B, or TN780 is only required for the port carrier located in position "B" of a critical-reliability EPN cabinet. It is always shipped in slot "1," but can be placed in any port slot.t. TN780 is required to provide international tones for DEFINITY ECS R5si system.
6. Use TN780 as Tone-Clock for Stratum 3 timing. Also required with the TN780 are the TN748, and TN744 for tone-detection.
7. The TN2182 Tone-Clock provides tone detection, tone generation, and tone-clock in one circuit pack, and it replaces the TN756, TN768, and TN780 circuit packs, while providing the same functionality as the TN748 and TN420 circuit packs.
8. A TN746B or TN468B is required to provide the complete set of analog line functions.
9. Also requires NT1.
10. Packet bus required when these lines are used.
11. Required for Call Prompting answer detection or with OCM.
12. TN750C is required if your system will have multiple announcement boards. To use multiple announcement boards, you must have at least one TN750C (up to ten are allowed). Only one TN750/B may be present in the system when a TN750C is used. The announcements from a TN750/B can be saved and restored to a TN750C — but once the announcements are recorded onto a TN750C, do not copy announcements from a TN750C to a TN750 or TN750B, as it may corrupt the announcement data.
13. For adequate cooling, never locate in port carrier "C."



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Table 12-11. Circuit Packs in R5si+m Global Control Cabinet (J58890L or J58890M) —

Description	Code	Slot Position	Note
Ground-Start CO Trunk	(TN447)	1-10	
Loop-Start CO Trunk	TN465C	1-10	
Loop-Start CO Trunk	(TN438 or TN2138)	1-10	
16-KHz PPM Loop-Start CO Trunk	(TN2147)	1-10	
DID Trunk	TN753 , TN436, TN459, TN2139, or TN2146	1-10	
DIOD Trunk	(TN2184)	1-10	
DIOD Trunk	(TN429)	1-10	
4-Wire E&M Tie Trunk	TN760 , TN437, TN458, or TN2140	1-10	
2-Wire Loop-Disconnect Tie Trunk	(TN439)	1-10	
Auxiliary Trunk	TN763 or TN417	1-10	
4-Wire Digital Line	TN754 or TN413	1-10	
DCP Interface (2-Wire, 16 Port)	TN2181	1-10	
DCP Interface (2-wire, 24 port)	TN2224	1-10	
Hybrid Line	TN762B	1-10	
Analog Line (8-Port)	TN742	1-10	
Analog Line (8-Port)	TN769	1-10	
Analog Line (16-Port)	TN2183	1-10	
Analog Line (16-Port)	TN746 or TN468	1-10	12
Analog Line (16-Port)	(TN2135, TN2144, or TN2149)	1-10	
Analog Line (neon)	TN769	1-10	
Met Line	TN735B	1-10	
DS1 Tie Trunk (ISDN)	TN767C	1-10	
DS1/E1 Interface (ISDN)	TN464C	1-10	
ISDN-BRI Line (2-Wire)	TN2198	1-10	13
ISDN—BRI Line	TN556	1-10	14
Pooled Modem	TN758	1-10	
Data Line	TN726	1-10	
Speech Synthesizer	TN725B , TN433, or TN437	1-10	
Announcement	TN750C	1-10	15
Announcement	TN750	1-10	
Maintenance/Test	TN771C	1-10	16
DEFINITY LAN Gateway	TN2208	1-10	
DEFINITY AUDIX System	None	1-10	
Ring Generator	(TN2202)	9, 10	17
Power Unit	TN755B	9, 10	18

8. Add Circuit Packs

-
1. One always required.
 2. Required to activate the optional packet bus.
 3. Acceptable as a tone plant in a standard-reliability SCC PPN without an EPN connected. Also, does not support DS1 or OCM applications.
 4. Required for Stratum 3 clock. (Since special connections are required, see "42. Add Stratum 3 Clock" later in this chapter.)
 5. Use TN780 as Tone-Clock for Stratum 3 timing. Also required with the TN780 are the TN748, and TN744 for tone-detection.
 6. The TN2182 Tone-Clock provides tone detection, tone generation, and tone-clock in one circuit pack, and it replaces the TN756, TN768, and TN780 circuit packs, while providing the same functionality as the TN748 and TN420 circuit packs.
 7. Required if system without packet bus is equipped with one EPN.
 8. Required if system without packet bus is equipped with two EPNs.
 9. Required if system with packet bus is equipped with one EPN.
 10. Required if system with packet bus is equipped with two EPNs.
 11. Required for Call Prompting answer detection or with OCM.
 12. A TN746B or TN468B is required to provide the complete set of analog line functions.
 13. Also requires NT1.
 14. Packet bus required when these lines are used.
 15. TN750C is required if your system will have multiple announcement boards. To use multiple announcement boards, you must have at least one TN750C (up to ten are allowed). Only one TN750/B may be present in the system when a TN750C is used. The announcements from a TN750/B can be saved and restored to a TN750C — but once the announcements are recorded onto a TN750C, do not copy announcements from a TN750C to a TN750 or TN750B, as it may corrupt the announcement data.
 16. Optional for digital trunk testing.
 17. Required for ring generation in France.
 18. Required when system is equipped with neon message waiting lamps.
-

Table 12-12. Circuit Packs in DEFINITY ECS R5si (XE) Control Cabinet (J58890G) —

Description	Code	Slot Position	Note
2-Wire Mu-Law/A-Law Digital Line	(TN2136)	1-14	
Hybrid Line	TN762B	1-14	
Analog Line (8-Port)	TN742	1-14	
Analog Line (16-Port)	TN2183	1-14	
Analog Line (16-Port)	TN746 or TN468	1-14	8
Analog Line (16-Port)	(TN2135, TN2144, or TN2149)	1-14	
Analog Line (neon)	TN769	1-14	
Met Line	TN735	1-14	
Pooled Modem	TN758	1-14	
Data Line	TN726	1-14	
Speech Synthesizer	TN725B , TN433, or TN437	1-14	
Announcement	TN750C	1-14	7
Announcement	TN750	1-14	
Call-Classifer-Detector	TN744C	1-14	
Call Classifier	TN744	1-14	9
Maintenance/Test	TN771C	1-14	10
DEFINITY LAN Gateway	TN2208	1-14	
DEFINITY AUDIX System	None	1-14	
Ring Generator	(TN2202)	13, 14	11
Power Unit	TN755B	13, 14	12

1. One always required.
2. Acceptable as a tone plant in this system. Does not support DS1/E1 applications.
3. Required for Stratum 3 clock. (Since special connections are required, see "42. Add Stratum 3 Clock" later in this chapter.)
Also required to provide international tones for DEFINITY ECS R5si (XE) system.
4. Use TN780 as Tone-Clock for Stratum 3 timing. Also required with the TN780 are the TN748, and TN744 for tone-detection.
5. The TN2182 Tone-Clock provides tone detection, tone generation, and tone-clock in one circuit pack, and it replaces the TN756, TN768, and TN780 circuit packs, while providing the same functionality as the TN748 and TN420 circuit packs.
6. Also requires NT1.
7. TN750C is required if your system will have multiple announcement boards. To use multiple announcement boards, you must have at least one TN750C (up to ten are allowed). Only one TN750/B may be present in the system when a TN750C is used. The announcements from a TN750/B can be saved and restored to a TN750C — but once the announcements are recorded onto a TN750C, do not copy announcements from a TN750C to a TN750 or TN750B, as it may corrupt the announcement data.
8. A TN746B or TN468B is required to provide the complete set of analog line functions.
9. Required for Call Prompting answer detection.
10. Optional for digital trunk testing.
11. Required for ring generation in France.
12. Required when system is equipped with neon message waiting lamps.

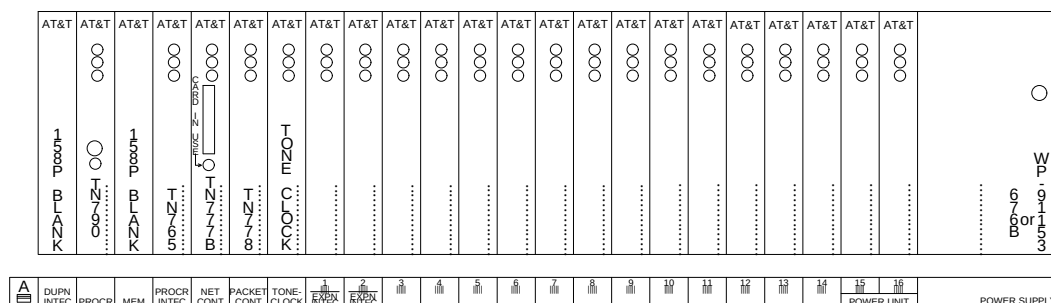


Figure 12-53. Circuit-Pack Locations in R5si Enhanced Control Cabinet

Table 12-13. Circuit Packs in R5si Enhanced Control Cabinet (J58890L L5)

Description	Code	Slot Position	Note
Processor	TN790	PROCR	1
Network Control	TN777B	NET CONT	1
Processor Interface	TN765	PROCR INTFC	
Tone Detector/Generator or Tone-Clock or Tone-Clock or Tone-Clock	[TN756] TN768 or TN419B TN780 TN2182	TONE-CLOCK TONE-CLOCK TONE-CLOCK TONE-CLOCK	2 3, 4 5
Packet Control	TN778	PACKET CONT	6
Tone Detector	TN748B or TN420B	1-16	
Ground-/Loop-Start CO Trunk	TN747 or TN2147	1-16	
Ground-Start CO Trunk	(TN447)	1-16	
Loop-Start CO Trunk	TN465C	1-16	
Loop-Start CO Trunk	(TN438 or TN2138)	1-16	
16-KHz PPM Loop-Start CO Trunk	(TN2147)	1-16	
DID Trunk	TN753 , TN436, TN459, TN2139, or TN2146	1-16	
DIOD Trunk	(TN2184)	1-16	
DIOD Trunk	(TN429)	1-16	
4-Wire E&M Tie Trunk	TN760 , TN437, TN458, or TN2140	1-16	
2-Wire Loop-Disconnect Tie Trunk	(TN439)	1-16	
Auxiliary Trunk	TN763 or TN417	1-16	
DS1 Tie Trunk (ISDN)	TN767C	1-16	
DS1/E1 Interface (ISDN)	TN464C	1-16	
ISDN-BRI Line (2-Wire)	TN2198	1-16	7
ISDN-BRI Line	TN556	1-16	8
4-Wire Digital Line	TN754 or TN413	1-16	
DCP Interface (2-Wire, 16 Port)	TN2181	1-16	

Table 12-13. Circuit Packs in R5si Enhanced Control Cabinet (J58890L L5)

Description	Code	Slot Position	Note
DCP Interface (2-wire, 24 port)	TN2224	1-10	
2-Wire Mu-Law/A-Law Digital Line	(TN2136)	1-16	
Hybrid Line	TN762B	1-16	
Analog Line (8-Port)	TN742	1-16	
Analog Line (16-Port)	TN2183	1-16	
Analog Line (16-Port)	TN746 or TN468	1-16	9
Analog Line (16-Port)	(TN2135, TN2144, or TN2149)	1-16	
Analog Line (neon)	TN769	1-16	
Met Line	TN735	1-16	
Pooled Modem	TN758	1-16	
Data Line	TN726	1-16	
Speech Synthesizer	TN725B , TN433, or TN437	1-16	
Announcement	TN750C	1-16	10
Announcement	TN750	1-16	
Call-Classifyer-Detector	TN744C	1-16	
Call Classifier	TN744	1-16	11
Maintenance/Test	TN771C	1-16	12
DEFINITY LAN Gateway	TN2208	1-16	
DEFINITY AUDIX System	None	4-16	
Power Unit	TN755B	15,16	13
Ring Generator	(TN2202)	15, 16	14

1. One always required.
2. Acceptable as a tone plant in this system. Does not support DS1/E1 or OCM applications.
3. Required to activate the optional packet bus.
4. Use TN780 as Tone-Clock for Stratum 3 timing. Also required with the TN780 are the TN748, and TN744 for tone-detection.
5. The TN2182 Tone-Clock provides tone detection, tone generation, and tone-clock in one circuit pack, and it replaces the TN756, TN768, and TN780 circuit packs, while providing the same functionality as the TN748 and TN420 circuit packs.
6. Required for Stratum 3 clock. (Since special connections are required, see "42. Add Stratum 3 Clock" later in this chapter.)
Also required to provide international tones.
7. Also requires NT1.
8. Packet bus required when these lines are used.
9. A TN746B or TN468B is required to provide the complete set of analog line functions.
10. TN750C is required if your system will have multiple announcement boards. To use multiple announcement boards, you must have at least one TN750C (up to ten are allowed). Only one TN750/B may be present in the system when a TN750C is used. The announcements from a TN750/B can be saved and restored to a TN750C — but once the announcements are recorded onto a TN750C, do not copy announcements from a TN750C to a TN750 or TN750B, as it may corrupt the announcement data.
11. Required for Call Prompting answer detection or with OCM.
12. Optional for digital trunk testing.
13. Required when system is equipped with neon message waiting lamps.
14. Required for ring generation in France.

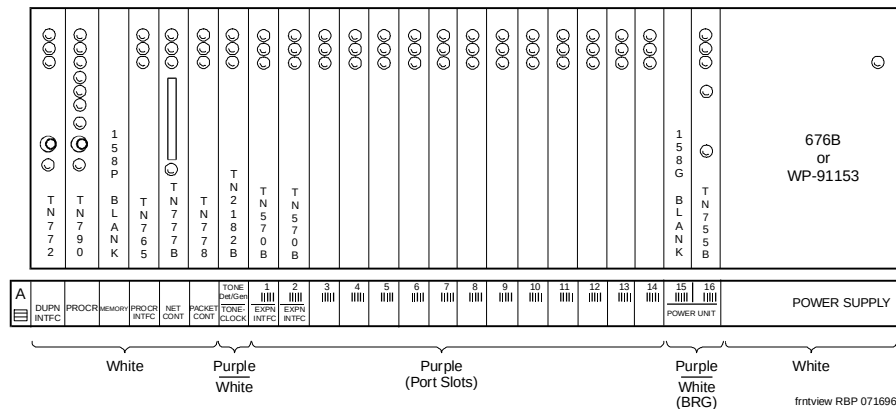


Figure 12-54. Circuit-Pack Locations in Duplicated DEFINITY ECS R5si Control Cabinet

Table 12-14. Circuit Packs in DEFINITY ECS R5si Control Cabinet (J58890L or J58890M)

Description	Code	Slot Position	Note
Duplication Interface	TN772	DUPN INTFC	
Processor	TN790	PROCR	1
Network Control	TN777B	NET CONT	1
Processor Interface	TN765	PROCR INTFC	
Tone Detector/Generator or Tone-Clock or Tone-Clock or Tone-Clock	[TN756] TN768 or TN419B TN780 TN2182	TONE-CLOCK TONE-CLOCK TONE-CLOCK TONE-CLOCK	2 3, 4 5
Packet Control	TN778	PACKET CONT	6
Expansion Interface	TN776 or TN570	1/EXPN INTFC	7
Expansion Interface	TN776 or TN570	2/EXPN INTFC	8
Tone Detector	TN748B or TN420B	1-10	
Ground-/Loop-Start CO Trunk	TN747 or TN2147	1-10	
Ground-Start CO Trunk	(TN447)	1-10	
Loop-Start CO Trunk	TN465C	1-10	
Loop-Start CO Trunk	(TN438 or TN2138)	1-10	
16-KHz PPM Loop-Start CO Trunk	(TN2147)	1-10	
DID Trunk	TN753 , TN436, TN459, TN2139, or TN2146	1-10	
DIOD Trunk	(TN2184)	1-10	
DIOD Trunk	(TN429)	1-10	
4-Wire E&M Tie Trunk	TN760 , TN437, TN458, or TN2140	1-10	

Table 12-14. Circuit Packs in DEFINITY ECS R5si Control Cabinet (J58890L or J58890M)

Description	Code	Slot Position	Note
2-Wire Loop-Disconnect Tie Trunk	(TN439)	1-10	
Auxiliary Trunk	TN763 or TN417	1-10	
DS1 Tie Trunk (ISDN)	TN767C	1-10	
DS1/E1 Interface (ISDN)	TN464C	1-10	
ISDN-BRI Line (2-Wire)	TN2198	1-10	
ISDN—BRI Line	TN556	1-10	9
4-Wire Digital Line	TN754 or TN413	1-10	
DCP Interface (2-Wire, 16 Port)	TN2181	1-10	
DCP Interface (2-wire, 24 port)	TN2224	1-10	
2-Wire Mu-Law/A-Law Digital Line	(TN2136)	1-10	
Hybrid Line	TN762B	1-10	
Analog Line (8-Port)	TN742	1-10	
Analog Line (16-Port)	TN2183	1-10	
Analog Line (16-Port)	TN746 or TN468	1-10	10
Analog Line (16-Port)	(TN2135, TN2144, or TN2149)	1-10	
Analog Line (neon)	TN769	1-10	
Met Line	TN735	1-10	
Pooled Modem	TN758	1-10	
Data Line	TN726	1-10	
Speech Synthesizer	TN725B , TN433, or TN437	1-10	
Announcement	TN750C	1-10	11
Announcement	TN750	1-10	
Call-Classifyer-Detector	TN744C	1-10	
Call Classifier	TN744	1-10	12
Maintenance/Test	TN771C	1-10	13
DEFINITY LAN Gateway	TN2208	1-10	
DEFINITY AUDIX System	None	1-10	
Ring Generator	(TN2202)	9, 10	14
Power Unit	TN755B	9, 10	15

1. One always required.
2. Acceptable as a tone plant in a standard-reliability SCC PPN without an EPN connected. Also, does not support DS1 or OCM applications.
3. Required for Stratum 3 clock. (Since special connections are required, see "42. Add Stratum 3 Clock" later in this chapter.)
4. Use TN780 as Tone-Clock for Stratum 3 timing. Also required with the TN780 are the TN748, and TN744 for tone-detection.
5. The TN2182 Tone-Clock provides tone detection, tone generation, and tone-clock in one circuit pack, and it replaces the TN756, TN768, and TN780 circuit packs, while providing the same functionality as the TN748 and TN420 circuit packs.
6. Required to activate the optional packet bus.
Also required to provide international tones for DEFINITY ECS R5si system.
7. Required when system without (TN776) or with (TN570) packet bus is equipped with one EPN.
8. Required when system without (TN776) or with (TN570) packet bus is equipped with two EPNs.
9. Packet bus required when these lines are used.
10. A TN746B or TN468B is required to provide the complete set of analog line functions.

11. TN750C is required if your system will have multiple announcement boards. To use multiple announcement boards, you must have at least one TN750C (up to ten are allowed). Only one TN750/B may be present in the system when a TN750C is used. The announcements from a TN750/B can be saved and restored to a TN750C — but once the announcements are recorded onto a TN750C, do not copy announcements from a TN750C to a TN750 or TN750B, as it may corrupt the announcement data.
12. Required for Call Prompting answer detection or with OCM.
13. Optional for digital trunk testing. Required in a port slot of a critical-reliability DEFINITY ECS R5si PPN with the optional packet bus.
14. Required for ring generation in France.
15. Required when system is equipped with neon message waiting lamps.

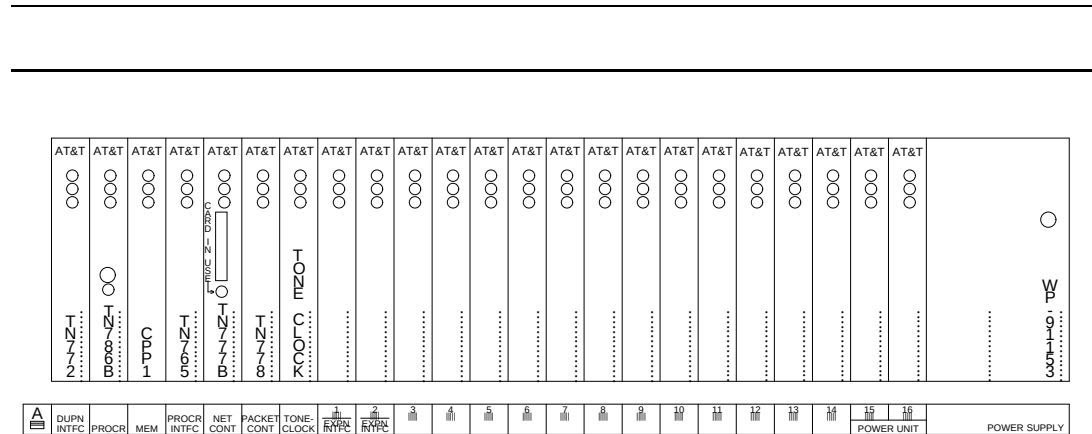


Figure 12-55. Circuit-Pack Locations in Duplicated DEFINITY ECS R5si Enhanced Control Cabinet

8. Add Circuit Packs

Table 12-15. Circuit Packs in DEFINITY ECS R5si Enhanced Control Cabinet (J58890L L5 or J58890M L5)

Description	Code	Slot Position	Note
Duplication Interface	TN772	DUPN INTFC	
Processor	TN790	PROCR	1
Network Control	TN777B	NET CONT	1
Processor Interface	TN765	PROCR INTFC	
Tone Detector/Generator or Tone-Clock or Tone-Clock or Tone-Clock	[TN756] TN768 or TN419B TN780 TN2182	TONE-CLOCK TONE-CLOCK TONE-CLOCK TONE-CLOCK	2 3, 4 5
Packet Control	TN778	PACKET CONT	6
Expansion Interface	TN776 or TN570	1/EXPN INTFC	7
Expansion Interface	TN776 or TN570	2/EXPN INTFC	8
Tone Detector	TN748B or TN420B	1-16	
Ground-/Loop-Start CO Trunk	TN747 or TN2147	1-16	
Ground-Start CO Trunk	(TN447)	1-16	
Loop-Start CO Trunk	TN465C	1-16	
Loop-Start CO Trunk	(TN438 or TN2138)	1-16	
16-KHz PPM Loop-Start CO Trunk	(TN2147)	1-16	
DID Trunk	TN753 , TN436, TN459, TN2139, or TN2146	1-16	
DIOD Trunk	(TN2184)	1-16	
DIOD Trunk	(TN429)	1-16	
4-Wire E&M Tie Trunk	TN760 , TN437, TN458, or TN2140	1-16	
2-Wire Loop-Disconnect Tie Trunk	(TN439)	1-16	
Auxiliary Trunk	TN763 or TN417	1-16	
DS1 Tie Trunk (ISDN)	TN767C	1-16	
DS1/E1 Interface (ISDN)	TN464C	1-16	
ISDN—BRI Line	TN556	1-16	9
ISDN—BRI Line (2-wire)	TN2198	1-16	10
4-Wire Digital Line	TN754 or TN413	1-16	
DCP Interface (2-Wire, 16 Port)	TN2181	1-16	
DCP Interface (2-wire, 24 port)	TN2224	1-10	
2-Wire Mu-Law/A-Law Digital Line	(TN2136)	1-16	
Hybrid Line	TN762B	1-16	
Analog Line (8-Port)	TN742	1-16	
Analog Line (16-Port)	TN2183	1-16	
Analog Line (16-Port)	TN746 or TN468	1-16	11
Analog Line (16-Port)	(TN2135, TN2144, or TN2149)	1-16	
Analog Line (neon)	TN769	1-16	
Met Line	TN735	1-16	
Pooled Modem	TN758	1-16	
Data Line	TN726	1-16	
Speech Synthesizer	TN725B , TN433, or TN437	1-16	
Announcement	TN750C	1-16	12

Table 12-15. Circuit Packs in DEFINITY ECS R5si Enhanced Control Cabinet (J58890L L5 or J58890M L5) — Continued

Description	Code	Slot Position	Note
Announcement	TN750	1-16	
Call-Classified-Detector	TN744C	1-16	
Call Classifier	TN744	1-16	13
Maintenance/Test	TN771C	1-16	14
DEFINITY LAN Gateway	TN2208	1-16	
DEFINITY AUDIX System	None	4-16	
Ring Generator	(TN2202)	15,16	15
Power Unit	TN755B	15,16	16

1. One always required.
 2. Acceptable as a tone plant in a standard-reliability SCC PPN without an EPN connected. Also, does not support DS1 or OCM applications.
 3. Required for Stratum 3 clock. (Since special connections are required, see "42. Add Stratum 3 Clock" later in this chapter.)
Also required to provide international tones for DEFINITY ECS R5si system.
 4. Use TN780 as Tone-Clock for Stratum 3 timing. Also required with the TN780 are the TN748, and TN744 for tone-detection.
 5. The TN2182 Tone-Clock provides tone detection, tone generation, and tone-clock in one circuit pack, and it replaces the TN756, TN768, and TN780 circuit packs, while providing the same functionality as the TN748 and TN420 circuit packs.
 6. Required to activate the optional packet bus.
 7. Required when system without (TN776) or with (TN570) packet bus is equipped with one EPN.
 8. Required when system without (TN776) or with (TN570) packet bus is equipped with two EPNs.
 9. Packet bus required when these lines are used.
 10. Also requires NT1.
 11. A TN746B or TN468B is required to provide the complete set of analog line functions.
 12. TN750C is required if your system will have multiple announcement boards. To use multiple announcement boards, you must have at least one TN750C (up to ten are allowed). Only one TN750/B may be present in the system when a TN750C is used. The announcements from a TN750/B can be saved and restored to a TN750C — but once the announcements are recorded onto a TN750C, do not copy announcements from a TN750C to a TN750 or TN750B, as it may corrupt the announcement data.
 13. Required for Call Prompting answer detection or with OCM.
 14. Optional for digital trunk testing. Required in a port slot of a critical-reliability DEFINITY ECS R5si PPN with the optional packet bus.
 15. Required for ring generation in France.
 16. Required when system is equipped with neon message waiting lamps.
-



Figure 12-56. Circuit-Pack Locations in DEFINITY ECS R5si Expansion Control Cabinet

Table 12-16. Circuit Packs in DEFINITY ECS R5si Expansion Control Cabinet (J58890N)

Description	Code	Slot Position	Note
Maintenance	TN775	MAINTENANCE	1
Tone-Clock or Tone-Clock or Tone-Clock	TN768 or TN419B TN780 TN2182	TONE-CLOCK TONE-CLOCK TONE-CLOCK	1 2, 3 4
Expansion Interface	TN776	1/EXPN INTFC	5
Expansion Interface	TN776	2/EXPN INTFC	6
Expansion Interface	TN570	1/EXPN INTFC	7
Expansion Interface	TN570	2/EXPN INTFC	8
Tone Detector	TN748B or TN420B	2-17	
Ground-/Loop-Start CO Trunk	TN747 or TN2147	2-17	
Ground-Start CO Trunk	(TN447)	2-17	
Loop-Start CO Trunk	TN465C	2-17	
Loop-Start CO Trunk	(TN438 or TN2138)	2-17	
16-KHz PPM Loop-Start CO Trunk	(TN2147)	2-17	
DID Trunk	TN753 , TN436, TN459, TN2139, or TN2146	2-17	
DIOD Trunk	(TN2184)	2-17	
DIOD Trunk	(TN429)	2-17	
4-Wire E&M Tie Trunk	TN760 , TN437, TN458, or TN2140	2-17	
2-Wire Loop-Disconnect Tie Trunk	(TN439)	2-17	
Auxiliary Trunk	TN763 or TN417	2-17	
ISDN-BRI Line (2-Wire)	TN2198	2-17	9
ISDN—BRI Line	TN556	2-17	10
DS1 Interface (ISDN)	TN767C	2-17	

Table 12-16. Circuit Packs in DEFINITY ECS R5si Expansion Control Cabinet (J58890N)

Description	Code	Slot Position	Note
DS1/E1 Interface (ISDN)	TN464C	2-17	
4-Wire Digital Line	TN754 or TN413	2-17	
DCP Interface (2-Wire, 16 Port)	TN2181	2-17	
DCP Interface (2-wire, 24 port)	TN2224	1-10	
2-Wire Mu-Law/A-Law Digital Line	(TN2136)	2-17	
Hybrid Line	TN762B	2-17	
Analog Line (8-Port)	TN742	2-17	
Analog Line (16-Port)	TN2183	2-17	
Analog Line (16-Port)	TN746 or TN468	2-17	11
Analog Line (16-Port)	(TN2135, TN2144, or TN2149)	2-17	
Analog Line (neon)	TN769	2-17	
MET Line	TN735	2-17	
Pooled Modem	TN758	2-17	
Data Line	TN726	2-17	
Speech Synthesizer	TN725B , TN433, or TN437	2-17	
Call-Classified-Detector	TN744C	2-17	
Call Classifier	TN744	2-17	12
Announcement	TN750C	2-17	13
Announcement	TN750	2-17	
DEFINITY LAN Gateway	TN2208	2-17	
DEFINITY AUDIX System	None	4-17	
Ring Generator	(TN2202)	16,17	14
Power Unit	TN755B	16,17	15

- One always required.
- Required for Stratum 3 clock. (Since special connections are required, see "42. Add Stratum 3 Clock" later in this chapter.)
Also required to provide international tones for DEFINITY ECS R5si system.
- Use TN780 as Tone-Clock for Stratum 3 timing. Also required with the TN780 are the TN748, and TN744 for tone-detection.
- The TN2182 Tone-Clock provides tone detection, tone generation, and tone-clock in one circuit pack, and it replaces the TN756, TN768, and TN780 circuit packs, while providing the same functionality as the TN748 and TN420 circuit packs.
- Required if system without packet bus is equipped with one EPN.
- Required if system without packet bus is equipped with two EPNs.
- Required if system with packet bus is equipped with one EPN.
- Required if system with packet bus is equipped with two EPNs.
- Also requires NT1.
- Packet bus required when these lines are used.
- A TN746B or TN468B is required to provide the complete set of analog line functions.
- Required for Call Prompting answer detection or with OCM.
- TN750C is required if your system will have multiple announcement boards. To use multiple announcement boards, you must have at least one TN750C (up to ten are allowed). Only one TN750/B may be present in the system when a TN750C is used. The announcements from a TN750/B can be saved and restored to a TN750C — but once the announcements are recorded onto a TN750C, do not copy announcements from a TN750C to a TN750 or TN750B, as it may corrupt the announcement data.



Table 12-17. Circuit Packs in Port Cabinet (J58890H)

Description	Code	Slot Position	Note
Tone-Clock or Tone-Clock or Tone-Clock	TN768 or TN419B TN780 TN2182	1/TONE-CLOCK 1/TONE-CLOCK TONE-CLOCK	1 1, 2 3
Expansion Interface	TN776 or TN570	2/, 3/EXPN INTFC	4
Tone Detector	TN748B or TN420B	1-18	5
Ground-/Loop-Start CO Trunk	TN747 or TN2147	1-18	
Ground-Start CO Trunk	(TN447)	1-18	
Loop-Start CO Trunk	TN465C	1-18	
Loop-Start CO Trunk	(TN438 or TN2138)	1-18	
16-KHz PPM Loop-Start CO Trunk	(TN2147)	1-18	
DID Trunk	TN753 , TN436, TN459, TN2139, or TN2146	1-18	
DIOD Trunk	(TN2184)	1-18	
DIOD Trunk	(TN429)	1-18	
4-Wire E&M Tie Trunk	TN760 , TN437, TN458, or TN2140	1-18	
2-Wire Loop-Disconnect Tie Trunk	(TN439)	1-18	
Auxiliary Trunk	TN763 or TN417	1-18	
ISDN-BRI Line (2-Wire)	TN2198	1-18	6
ISDN—BRI Line	TN556	1-18	7
DS1 Interface (ISDN)	TN767C	1-18	
DS1/E1 Interface (ISDN)	TN464C	1-18	
4-Wire Digital Line	TN754 or TN413	1-18	
DCP Interface (2-Wire, 16 Port)	TN2181	1-18	
DCP Interface (2-wire, 24 port)	TN2224	1-10	
2-Wire Mu-Law/A-Law Digital Line	(TN2136)	1-18	
Hybrid Line	TN762B	1-18	
Hybrid Line	TN762B	1-18	
Analog Line (8-Port)	TN742	1-18	
Analog Line (16-Port)	TN2183	1-18	
Analog Line (16-Port)	TN746 or TN468	1-18	8
Analog Line (16-Port)	(TN2135, TN2144, or TN2149)	1-18	
Analog Line (neon)	TN769	1-18	
MET Line	TN735	1-18	
Pooled Modem	TN758	1-18	
Data Line	TN726	1-18	
Speech Synthesizer	TN725B , TN433, or TN437	1-18	
Call-Classifer-Detector	TN744C	1-13	
Call Classifier	TN744	1-18	9
Announcement	TN750C	1-18	10
Announcement	TN750	1-18	
DEFINITY LAN Gateway	TN2208	1-18	
DEFINITY AUDIX System	None	5-18	
Ring Generator	(TN2202)	17, 18	11
Power Unit	TN755B	17, 18	7

8. Add Circuit Packs

1. A TN768, TN419B, or TN780 is only required for the port cabinet located in position "B" of a critical-reliability EPN cabinet stack. It is always shipped in slot "1," but can be placed in any port slot.
A TN780 is required to provide international tones for DEFINITY ECS R5si system.
 2. Use TN780 as Tone-Clock for Stratum 3 timing. Also required with the TN780 are the TN748, and TN744 for tone-detection.
 3. The TN2182 Tone-Clock provides tone detection, tone generation, and tone-clock in one circuit pack, and it replaces the TN756, TN768, and TN780 circuit packs, while providing the same functionality as the TN748 and TN420 circuit packs
 4. Required in a port cabinet residing in the "B" position of a critical-reliability EPN either without (TN776) or with (TN570) the optional packet bus in either:
Slot position "2" (for a system with one EPN)
Slot positions "2" and "3" (for a system with two EPNs)
 5. One always required if the cabinet is the first or second port cabinet in the system. Not required if cabinet is the third port cabinet in the system.
 6. Also requires NT1.
 7. Packet bus required when these lines are used.
 8. A TN746B or TN468B is required to provide the complete set of analog line functions.
 9. Required for Call Prompting answer detection or with OCM.
 10. TN750C is required if your system will have multiple announcement boards. To use multiple announcement boards, you must have at least one TN750C (up to ten are allowed). Only one TN750/B may be present in the system when a TN750C is used. The announcements from a TN750/B can be saved and restored to a TN750C — but once the announcements are recorded onto a TN750C, do not copy announcements from a TN750C to a TN750 or TN750B, as it may corrupt the announcement data.
 11. TN750C is required if your system will have multiple announcement boards. To use multiple announcement boards, you must have at least one TN750C (up to ten are allowed). Only one TN750/B may be present in the system when a TN750C is used. The announcements from a TN750/B can be saved and restored to a TN750C — but once the announcements are recorded onto a TN750C, do not copy announcements from a TN750C to a TN750 or TN750B, as it may corrupt the announcement data.
-

9. Add Attendant Console

Requirements for 302A1 Attendant Console

Like any voice terminal, an attendant console is connected to an information outlet (modular wall connecting block).

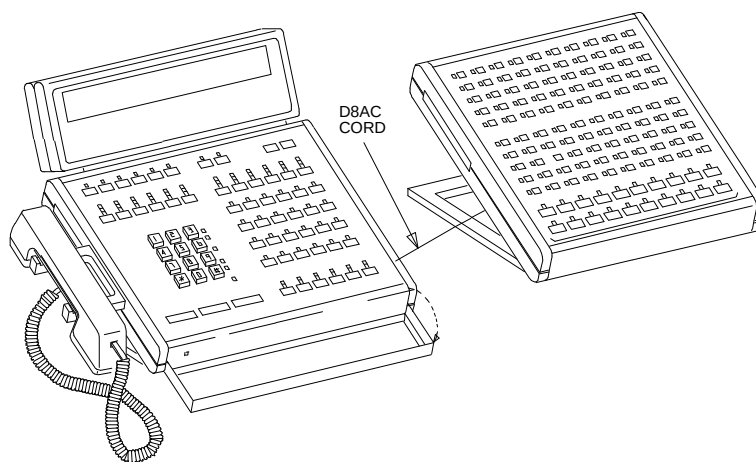


Figure 12-58. 302A1 Console and 26A1 Selector Console

Phantom Power

Since, like DCP voice terminals, an attendant console derives power for essential telecommunications functions through its DCP interface, a console's maximum distance from the system is limited. This maximum distance for a 302A1 console is:

- 5000 feet for 24-AWG wire
- 3400 feet for 26-AWG wire

The maximum distance for a 301B1 console is:

- 2400 feet for 25-AWG wire
- 1500 feet for 26-AWG wire

⇒ NOTE:

To install the 302B1 Console and 26A1 Selector Console, refer to Section 49, page 23-199 in this chapter.

Auxiliary Power

See NOTE. The nonessential functions of an attendant console and its optional 26A1 or 24A1 selector console derive their power from an auxiliary power source. Out of the maximum number of attendant consoles:

- 15 for R5si+m
- 6 for R5si
- 4 for R5vs

three (one for R5vs) of the consoles connected to each cabinet or single-carrier cabinet stack can derive auxiliary power from the system and through the auxiliary cable located in the trunk/auxiliary field. Whenever possible, auxiliary power for a primary attendant console should be provided through this cable so that the console remains fully operational during short power outages.

NOTE:

For a console connected to an MCC R5si+m system to realize the longest possible nominal battery holdover:

- 10 minutes in a standard-reliability system
- 5 minutes in a high- or critical-reliability system

NOTE:

The console's TN754 or TN413 Digital Line circuit should reside in the PPN's control carrier.

Depending on the location, a console connected to a circuit pack in another MCC R5si+m carrier will receive no more than 15 seconds of holdover. Whereas, a console connected to a circuit pack in any single-carrier cabinet will receive 1/4 second of holdover.

An attendant console can also derive auxiliary power from either:

- Individual MSP-1 power supplies or 258A-type adaptors, or
- Bulk power supplies such as the 1145A1

located at the cross-connect field, at an information outlet, or at the attendant console's site.

A console's maximum distance from its auxiliary power source is:

- 800 feet for a 302A1
- 350 feet for a 301B1

Installation

1. Unpack the attendant console and inspect for damage. Report any damage for appropriate action per local procedures.
2. Determine the port assignment of the console from Attendant Console form.

EXAMPLE:

Port Number	2	A	04	06
	Cabinet (Port Network)	Carrier (or Single-Carrier Cabinet)	Slot	Circuit

3. Connect a modular line cord from the designated information outlet to the attendant console.
4. Install auxiliary power for the attendant console; refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, 555-230-104, Issue 5, for detailed information.
5. Install labels per Attendant Console form and Display Module form assignments.
6. Install the handset bracket on either the left or right side of the console, as desired.
7. Insert the handset adapter on the same side of the handset bracket. A bracket is not required for a headset.



NOTE:

The handset adapter is available in two models: 854A-03 (black) or 854A-143 (burgundy).

8. Connect the handset cord to the jack on the same side of the console as the handset bracket.
9. See "8. Add Circuit Packs" earlier in this chapter, and install a TN754 or TN413 Digital Line circuit pack in the assigned carrier slot (if an additional circuit pack is required).
10. Administer forms listed under Attendant Console in *DEFINITY Enterprise Communications Server Release 5 Implementation*, 555-230-655.

Requirements for 302B1 Attendant Console

The 302B1 attendant console has the same capabilities and appearance as the 302A1 console (see Figure 12-59), but can operate with either a 2-wire or 4-wire DCP interface to the system. This console automatically detects the wire count of its interface and establishes the correct DCP link accordingly.

9. Add Attendant Console

Like the 302A1 console and any voice terminal, a 302B1 attendant console is connected to an information outlet (modular wall connecting block).

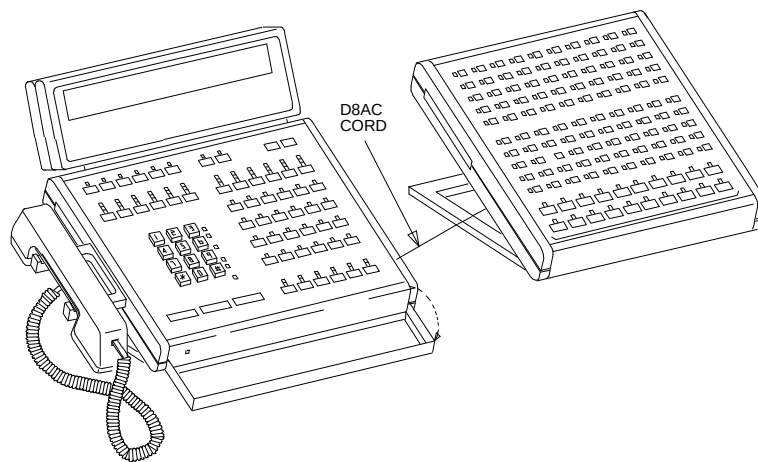


Figure 12-59. 302B1 Console and 26A1 Selector Console

Hard-Wire Bridging

Analog-type hard-wire bridging has never been allowed for 4-wire (only) DCP endpoints such as 302A1 consoles and 7400-series voice terminals. This is because, from the *outgoing* perspective of these endpoints, hard-wire bridging provides no way of combining the digital output of two bridged DCP sets. From the *incoming* perspective, a bridged endpoint causes enough additional load to degrade the fairly wide-spectrum DCP signal. (And, 2-wire DCP interfaces require twice the spectrum of 4-wire interfaces.)

See CAUTION. Likewise, hard-wire bridging is not allowed for a 302B1 console installed with either a 2- or 4-wire interface to the system.



CAUTION:

Bridging or dual wiring of these endpoints can either cause:

- *Electrical damage to the consoles*
- *The system's circuit pack to remove power from the consoles*

Dual Wiring of 2-Wire and 4-Wire Endpoints

See previous CAUTION. A 2-wire and a 4-wire endpoint cannot be simultaneously wired to the same equipment location in a cross-connect field, even though they connect to differently colored wire pairs. The system uses separate circuit packs to interface 2- and 4-wire endpoints, and none of these circuit packs are capable of interfacing both.

Phantom Power

Since, like DCP voice terminals, a 302B1 derives power for essential telecommunications functions through its DCP interface, a console's maximum distance from the system is limited. This maximum distance for a 302B1 is:

- 5000 feet at 24AWG using 4-wire DCP interface
- 3400 feet at 26AWG using 4-wire DCP interface
- 4250 feet at 22AWG using 2-wire DCP interface
- 1650 feet at 26AWG using 2-wire DCP interface

Auxiliary Power

See NOTE. The nonessential functions of a 302B1 console and its optional 26A1 or 24A1 selector console derive their power from an auxiliary power source. Out of the maximum number of attendant consoles:

- 15 for R5si+m
- 6 for R5si
- 4 for R5vs

three (one for R5vs) of the consoles connected to each cabinet or single-carrier cabinet stack can derive auxiliary power from the system and through the auxiliary cable located in the trunk/auxiliary field. Whenever possible, auxiliary power for a primary attendant console should be provided through this cable so that the console remains fully operational during short power outages.



NOTE:

For a console connected to an MCC R5si to realize the longest possible nominal battery holdover:

- 10 minutes in a standard-reliability system
- 5 minutes in a high- or critical-reliability system

the console's:

- TN754 or TN413 (for 4-wire connectivity)
- TN2181 (for 2-wire connectivity)

Digital Line circuit should reside in the PPN's control carrier.

Depending on the location, a console connected to a circuit pack in another MCC R5si carrier will receive no more than 15 seconds of holdover. Whereas, a console connected to a circuit pack in any single-carrier cabinet will receive 1/4 second of holdover.

An attendant console can also derive auxiliary power from either:

- Individual MSP-1 power supplies or 258A-type adaptors, or
- Bulk power supplies such as the 1145A1

located at the cross-connect field, at an information outlet, or at the attendant console's site.

A 302B1 console's maximum distance from its auxiliary power source is 800 feet.

Installation

1. Unpack the attendant console and inspect for damage. Report any damage for appropriate action per local procedures.
2. Determine the port assignment of the console from Attendant Console form.

EXAMPLE:

Port Number	2	A	04	06
	Cabinet (Port Network)	Carrier (or Single-Carrier Cabinet)	Slot	Circuit

3. Connect a modular line cord from the designated information outlet to the attendant console.
4. Install auxiliary power for the attendant console; refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, 555-230-104, Issue 5, for detailed information.
5. Install labels per Attendant Console form and Display Module form assignments.
6. Install the handset bracket on either the left or right side of the console, as desired.
7. Insert the handset adapter on the same side of the handset bracket. A bracket is not required for a headset.



NOTE:

The handset adapter is available in two models: 854A-03 (black) or 854A-143 (burgundy).

8. Connect the handset cord to the jack on the same side of the console as the handset bracket.
9. See "8. Add Circuit Packs" earlier in this chapter, and install a:
 - TN754 or TN413 Digital Line circuit pack for a 4-wire interface
 - TN2181 Digital Line circuit pack for a 2-wire interface
 in the assigned carrier slot (if an additional circuit pack is required).

Administration

1. Log in as "craft" at the login: prompt on the G3-MT or G3-MA.
2. See NOTE. Enter **display system-parameters country-options**, and press RETURN to verify that the system's companding mode for its local stations is set to the desired value (usually, A-law for Europe and Mu-law for North America and Japan).



NOTE:

Refer to *DEFINITY Enterprise Communications Server Release 5 Implementation*, 555-230-655, and -653ADD1 for a description of these forms.

3. See NOTE. If necessary, for a 302B1 console in a DEFINITY ECS system, enter **change terminal-parameters 603/302B1**, and press RETURN to change the default system-level parameters and audio levels for these consoles.



NOTE:

For detailed information about changing the default parameters and audio levels, refer to *DEFINITY Application Notes* available through the International Technical Assistance Center (ITAC).

4. Administer other forms listed under Attendant Console in *DEFINITY Enterprise Communications Server Release 5 Implementation*, 555-230-655.

10. Add Selector Console

Requirements

The selector console is connected to an attendant console by a 3-foot D8AC cord provided with the selector console (see Figure 12-60 and Figure 12-61).

Installation

1. Install a 3-foot D8AC cord between the DXS/BLF jack (under the attendant console) and the modular jack (under the selector console).
 2. Install labels per Attendant Console form.
 3. Administer forms listed under "Attendant Direct Extension Selection With Busy Lamp Field" in *DEFINITY Enterprise Communications Server Release 5 Implementation*, 555-230-655.
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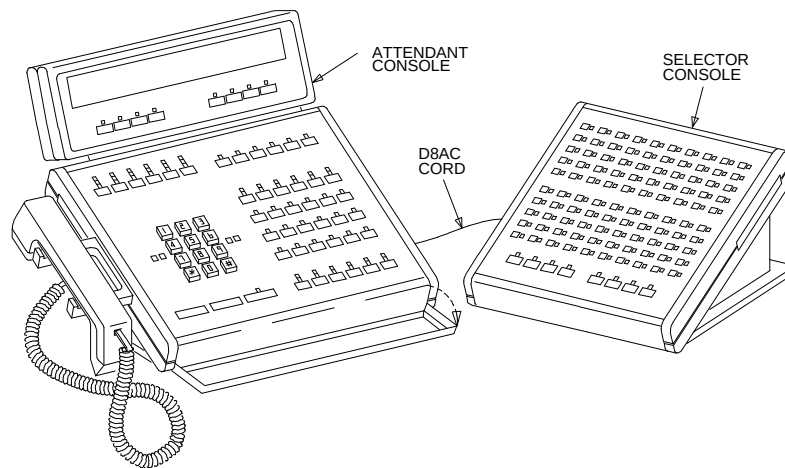


Figure 12-60. 301B1A Console and 24A1 Selector Console

10. Add Selector Console

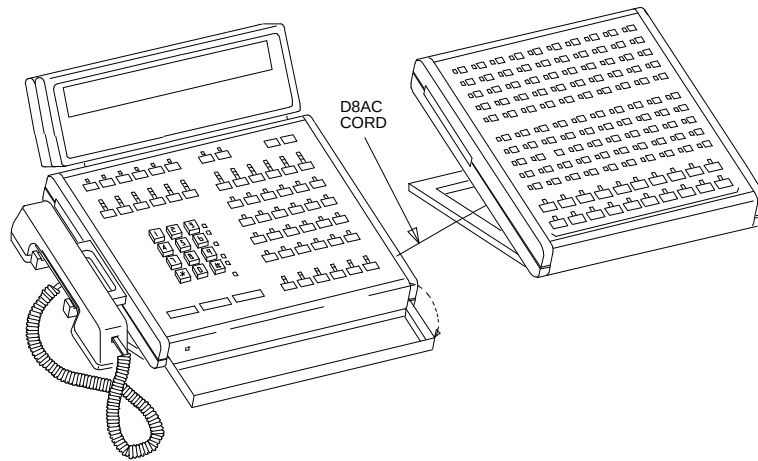


Figure 12-61. 302A Console and 26A1 Selector Console

11. Add CO, FX, WATS, and PCOL

Requirements

Each Central Office (CO), Foreign Exchange (FX), Wide Area Telecommunications Service (WATS), or Personal Central Office Line (PCOL) trunk is connected to one port of either an 8-port TN747 or to one of an assortment of international CO Trunk circuit packs. To add these trunks, do the following.

Installation

1. Determine the port assignment of the trunk from Trunk Group form.

EXAMPLE:

Port Number	3	A	07	01
	Cabinet	Carrier	Slot	Circuit
	(Port Network)	(or Single-Carrier		
		Cabinet)		

2. See "8. Add Circuit Packs" earlier in this chapter, and install a TN747 or an international CO Trunk circuit pack in assigned carrier slot (if an additional circuit pack is required).
3. Administer forms listed under CO, FX, WATS, or PCOL Trunk Group in *DEFINITY Enterprise Communications Server Release 5 Implementation*, 555-230-655.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, 555-230-104, Issue 5.

12. Add DID Trunks

Requirements

Each Direct Inward Dial (DID) trunk is connected to one port of an 8-port TN753 or to one of an assortment of international DID Trunk circuit packs. To add these trunks, do the following.

Installation

1. Determine the port assignment of the trunk from Trunk Group form.

EXAMPLE:

Port Number	1	A	07	01
	Cabinet	Carrier	Slot	Circuit
	(Port Network)	(or Single-Carrier		
		Cabinet)		

2. See "8. Add Circuit Packs" earlier in this chapter, and install a TN753 or an international DID Trunk circuit pack in assigned carrier slot (if an additional circuit pack is required).
3. Administer forms listed under "DID Trunk Group" in *DEFINITY Enterprise Communications Server Release 5 Implementation*, 555-230-655.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, 555-230-104, Issue 5.

13. Add Tie Trunks

Requirements

Each tie trunk is connected to one port of a 4-port TN760 or to an assortment of international Tie Trunk circuit packs. To add these trunks, do the following.

Installation

1. Determine the port assignment of the trunk from Trunk Group form.

EXAMPLE:

Port Number	3	A	02	01
	Cabinet	Carrier	Slot	Circuit
	(Port Network)	(or Single-Carrier		
		Cabinet)		

2. See "8. Add Circuit Packs" and install TN760 or an international Tie Trunk circuit pack in assigned carrier slot (if an additional circuit pack is required).
3. For customer-owned (not -leased) tie-trunk facilities (such as campus environments), TN760 circuit packs provide signaling capabilities beyond those specified by the industry-wide E&M standard. Use Figure 12-62 and Table 12-18 to choose the preferred signaling format, set switches on the TN760 circuit pack, and administer the port.
4. Administer forms listed under "Tie Trunk Group" in the *DEFINITY Enterprise Communications Server Release 5 Implementation*, 555-230-655.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, 555-230-104, Issue 5.

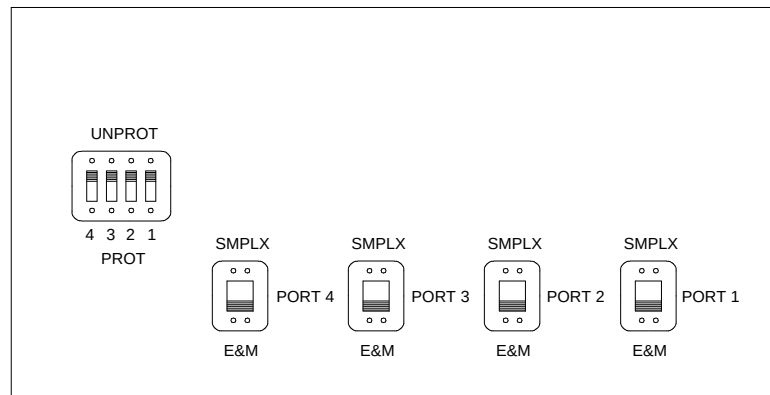


Figure 12-62. TN760 Tie Trunk Circuit Packs (Component Side)

Table 12-18. TN760 Option-Switch Settings and Administration

DEFINITY ECS R5 Installation Situation		Preferred Signaling Format		Set E&M/SMPLX Option Switch To:	Set Prot/Unprot Option Switch To:	Administer Port As:
Circumstance	To	R5	Far End			
Collocated	DEFINITY, Sys 75/75XE, Sys 85, Sys 25	Simplex, Type 5	Simplex, Type 5	SMPLX	Either	Type 5
Interbuilding	DEFINITY, Sys 75/75XE, Sys 85, Sys 25	Simplex, Type 5	Simplex, Type 5	SMPLX	Either	Type 5
Collocated	Dimension. PBX	E&M Type 1 Compatible	E&M Type 1 Standard	E&M	Unprotected	Type 1 Compatible
Interbuilding	Dimension PBX	Prot., Type 1 Compatible	Prot., Type 1 Standard	E&M	Protected	Type 1 Compatible
Collocated	Network Interface	E&M Type 1 Standard	Don't Care	E&M	Unprotected	Type 1
Collocated	Other	E&M Type 1 Compatible	E&M Type 1 Standard	E&M	Unprotected	Type 1 Compatible
Interbuilding	Other	Prot., Type 1 Compatible	Prot., Type 1 Std., plus Protection Unit	E&M	Protected	Type 1 Compatible

14. Add DS1 Tie, CO, FX, WATS, and OPS

The TN722B DS1 Tie Trunk, TN767C DS1 Interface, and TN464C DS1 Interface circuit packs provide connections to a 1.544 Mbps DS1 facility as 24 independent 64-kbps trunks. On any of the 24 ports, the TN767C and TN464C support ISDN—PRI *B-channel* transmissions between the TDM bus and the DS1 facility. Whereas, only ports on the TN464C support ISDN—PRI *D-channel* transmissions. The data-transmission formats are specified by the signaling on a per-trunk basis for automatic, immediate-start, delay-dial, or release-link trunks.

When upgrading from a TN722 to a TN767C:

- Remove all TN722 trunk members from affected trunk groups.
- Enter `remove ds1 PCSS` (PCSS is the slot in which the TN722 is located).
- Remove the TN722 circuit pack.
- Put the TN767C circuit pack into the same slot.
- Wait until the red LED goes off. The hardware tests take 12 to 20 seconds to run. When the red LED goes off, the tests have completed.
If the red LED stays on, reseal the board and repeat this step.
- Enter `add ds1 PCSS`.
- Continue with appropriate procedures to set up members of trunk groups.

Service Interruption

Since the addition of DS1 tie-trunk service may require a service interruption, notify the customer in advance as to when the addition will be carried out.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Log in at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
4. If the system contains a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Shut Down DEFINITY LAN Gateway System

If a DEFINITY LAN Gateway system resides in the control cabinet to be upgraded, prepare to shut down the DEFINITY LAN Gateway assembly and allow the disk to completely spin down. See Caution. See WARNING.



CAUTION:

Before using this procedure to shut down the DEFINITY LAN Gateway, make sure that you save the system parameters if you plan to reuse the current system.



WARNING:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet where it resides can damage the LAN Gateway disk.

1. See WARNING. To avoid an unexpected LAN Gateway reboot after an unplanned switch reboot, unseat the LAN Gateway assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Log onto the DEFINITY LAN Gateway if you have not previously logged on. *See the DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway, 555-230-223, for the procedure to log in.*
3. When the main menu appears, select *Maintenance*.
4. Select *Reset System* from the *Maintenance* menu.
5. Select *Shutdown* from the *Reset System* menu.

Shut Down DEFINITY AUDIX System

1. See WARNING. If a DEFINITY AUDIX System resides in the system to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. See WARNING. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Down System



NOTE:

Power down the PPN only if the existing Tone-Clock is being replaced in a standard-reliability system.

1. At the PPN, on the power-distribution unit, set the main circuit breaker to OFF.
2. At each EPN, on the power-distribution unit, set the main circuit breaker to OFF.

Add Circuit Packs

1. Determine the port assignments of the circuit packs to be added.
2. See “8. Add Circuit Packs” earlier in this chapter, and install the TN722B DS1 Tie Trunk, the TN767C DS1 Interface, or TN464C DS1 Interface circuit pack in assigned carrier slot.
3. For single-carrier systems only, see “8. Add Circuit Packs” earlier in this chapter, and replace an existing TN756 Tone Detector/Generator circuit pack with:
 - TN768, TN780, or an international TN419B Tone-Clock
 - TN748B or an international TN420B Tone Detectorcircuit packs in assigned carrier slots.

Install Cables

Install H600-307 cable from the cabinet to a channel service unit (CSU), and install cables from the CSU to cross-connect field as required.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, 555-230-104, Issue 5.

Reseat DEFINITY LAN Gateway System

See WARNING. Reseat the LAN Gateway assembly into its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reseat DEFINITY AUDIX System

See WARNING. If a DEFINITY AUDIX System resides in the system, reseat the AUDIX assembly to its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Up System

1. At each EPN's power-distribution unit, set the main circuit breaker to ON.
2. At the PPN's power-distribution unit, set the main circuit breaker to ON.
3. The system now goes through the level 4 rebooting process, loading the system translations from the translation memory card(s) or the tape(s). Rebooting takes 8 to 11 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and G3-MT terminal displays that occur during system reboot.

4. After the system reboot is finished and all trouble is cleared, verify that the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.



NOTE:

To ensure that the upgrade completes successfully, perform all steps in the order provided.

Enter Added Translations

Administer forms listed under "DS1 Tie Trunk Service" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Save Translations

1. Log in at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
4. If the PPN contains a TN750 Announcement circuit pack, enter **list configuration software-version**, and press RETURN.

If Page 2 of this form shows that recorded announcements were saved, these announcements can be restored using the restore announcements command. Enter **restore announcements**, and press RETURN.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/sil*.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to *y*, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).

3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.

4. Enter **save translation**, and press RETURN.

 NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.

 WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

15. Add Speech Synthesis

Requirements

The TN725B Speech Synthesizer circuit pack is required when the Voice Message Retrieval, Automatic Wakeup, or Do Not Disturb features are activated. The TN725B circuit pack does not require administration.

Installation

1. Determine the port assignment of the Speech Synthesizer circuit pack being added.
2. See "8. Add Circuit Packs" earlier in this chapter, and install the TN725B Speech Synthesizer circuit pack in the designated carrier slot.

16. Add Code Calling Access

The tones for the Code Calling feature are generated by the TN756, TN768, TN780, TN2182, or TN419B Tone-Clock circuit packs in the port networks. This feature allows attendants, voice terminal users, and trunk users to page with coded signals. The feature is administered on the Loudspeaker Paging and Code Calling Access form.

Requirements

A TN763 (or an international TN417) Auxiliary Trunk circuit pack or a TN457 Speech Synthesizer circuit pack must be installed and connected for Loudspeaker Paging. The Code Calling Access feature shares the same ports used for Loudspeaker Paging. An Auxiliary Trunk circuit pack provides four ports for Loudspeaker Paging and Code Calling Access.

Installation

Administer the form listed under "Code Calling Access" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

17. Add Pooled Modem

Requirements

Modem Pooling supports two kinds of conversion resources: integrated conversion resources and combined conversion resources.

The integrated type requires a TN758 Pooled Modem circuit pack for each two conversion resources provided.

The combined type requires a port of a TN754, TN413, or TN2136 Digital Line circuit pack and a port of either an 8-port TN742, TN769, or TN467 or a 16-port TN746B, TN468B, TN2135, TN2144, or TN2149 Analog Line circuit pack for each conversion resource provided.

Installation

1. Determine the port assignment of the circuit pack(s) to be added (if required).
2. See "8. Add Circuit Packs" earlier in this chapter, and install the appropriate circuit pack(s) in assigned carrier slot (if required).
3. Administer the forms listed under "Modem Pooling" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

18. Add Off-Premises Terminals

Requirements — Off-Premises Terminals

See NOTE. An off-premises terminal is not physically located in the same building as the port network to which it is connected, and its access to the port network is provided by *public* right-of-way. An off-premises terminal must be an analog station (for example, a 2500 set). The outside cabling is engineered and provided by a telephone company. Appearances for off-premises terminals reside on the information outlet (RJ21X interface facility). Either any 8-port analog circuit pack or most 16-port analog circuit pack (except a TN746A, TN468A, or TN479) can be used for off-premises terminals.



NOTE:

The neon message waiting capability provided by the TN769, TN746B, TN468B, TN2133, TN2144, or the TN2149 cannot be used off-premises.

The 16-port TN746A, TN468A, or TN479 circuit packs do not support off-premises terminals.

Requirements — Out-of-Building Terminals

See NOTE. Out-of-building terminals are not physically located in the same building as the port network to which they are connected, but their access to the port network is provided by *private* right-of-way. Carbon block (or equivalent) protection must be provided at both building entrances. Either any 8-port or most 16-port circuit packs can be used for out-of-building terminals.



NOTE:

The 16-port TN746A, TN468A, or TN479 circuit packs do not support out-of-building terminals.

Installation

1. Determine the port assignment of the terminal from Station Record form:

EXAMPLE:	Port Number	1	B	07	01
	Cabinet (Port Network)		Carrier (or Single-Carrier Cabinet)	Slot	Circuit

2. Connect modular line cord from the information outlet to off-premises terminal.
3. See "8. Add Circuit Packs" earlier in this chapter and install the Analog Line circuit pack in assigned carrier slot (if an additional circuit pack is required).
4. Administer the appropriate voice terminal form according to *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

19. Add External Alerting

Requirements

See NOTE. External alerting is provided by a device, such as a gong, chime, or bell, connected to an information outlet (modular wall connecting block). The switch side of the cross-connect field connects to any 8-port or to a 16-port (with restrictions) Analog Line circuit packs located in a port carrier.

 NOTE:

The 16-port TN746A, TN468A, or TN479 circuit packs do not support external alerting.

Up to three external alerting devices can be connected to one port of an Analog Line circuit pack.

Installation

1. Determine the port assignment of the Night Service — Trunk Answer From Any Station feature using the External Alert Port field of the Console Parameters form:

EXAMPLE:	Port Number	1	B	07	01
		Cabinet (Port Network)	Carrier (or Single-Carrier Cabinet)	Slot	Circuit

2. See “8. Add Circuit Packs” earlier in this chapter, and install the Analog Line circuit pack in assigned carrier/cabinet slot (if an additional circuit pack is required).
3. Administer External Alert Port number on the Console Parameters form per *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

20. Add Queue Warning Indicator

Requirements

See NOTE. An AC indicator (lamp), such as a 94983 beehive lamp or 1A indicator, can be used as a queue warning indicator for a Uniform Call Distribution (UCD)/Direct Department Calling (DDC) queue. The lamp is connected to an information outlet (modular wall connecting block). The switch side of the cross-connect field is connected either to any 8-port or to a 16-port (with restrictions) Analog Line circuit pack.

**NOTE:**

The 16-port TN746, TN468A, or TN479 circuit packs do not support queue-warning indications.

Installation

1. Determine the port assignment of the queue warning lamp from Hunt Group form:

EXAMPLE:	Port Number	1	B	07	01
		Cabinet (Port Network)	Carrier (or Single-Carrier Cabinet)	Slot	Circuit

2. See "8. Add Circuit Packs" earlier in this chapter, and install the Analog Line circuit pack in assigned carrier slot (if an additional circuit pack is required).
3. Administer the fields on the Hunt Group form listed under "Queue Status Indications" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

21. Add Loudspeaker Paging Access

Requirements

Access to loudspeaker paging is provided by an information outlet (modular wall connecting block). A 4-port TN763 (or an international TN417) Auxiliary Trunk circuit pack must be installed for Loudspeaker Paging.

Installation

1. Determine the port assignment of the paging zone(s) from Loudspeaker Paging form:

EXAMPLE:	Port Number	3	B	02	01
	Cabinet (Port Network)		Carrier (or Single-Carrier Cabinet)	Slot	Circuit

2. See "8. Add Circuit Packs" earlier in this chapter, and install the TN763 (or the international TN417) Auxiliary Trunk circuit pack in assigned carrier slot (if an additional circuit pack is required).
3. Administer the forms listed under "Loudspeaker Paging Access" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

See NOTE. Detailed descriptions for installing the wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

NOTE:

The 278A adapter is no longer manufactured. Therefore, the wiring diagram in the installation manual assumes the new 909-series universal coupler is being used. If a 278A adapter is being reused, Figure 12-63 provides the appropriate wiring.

21. Add Loudspeaker Paging Access

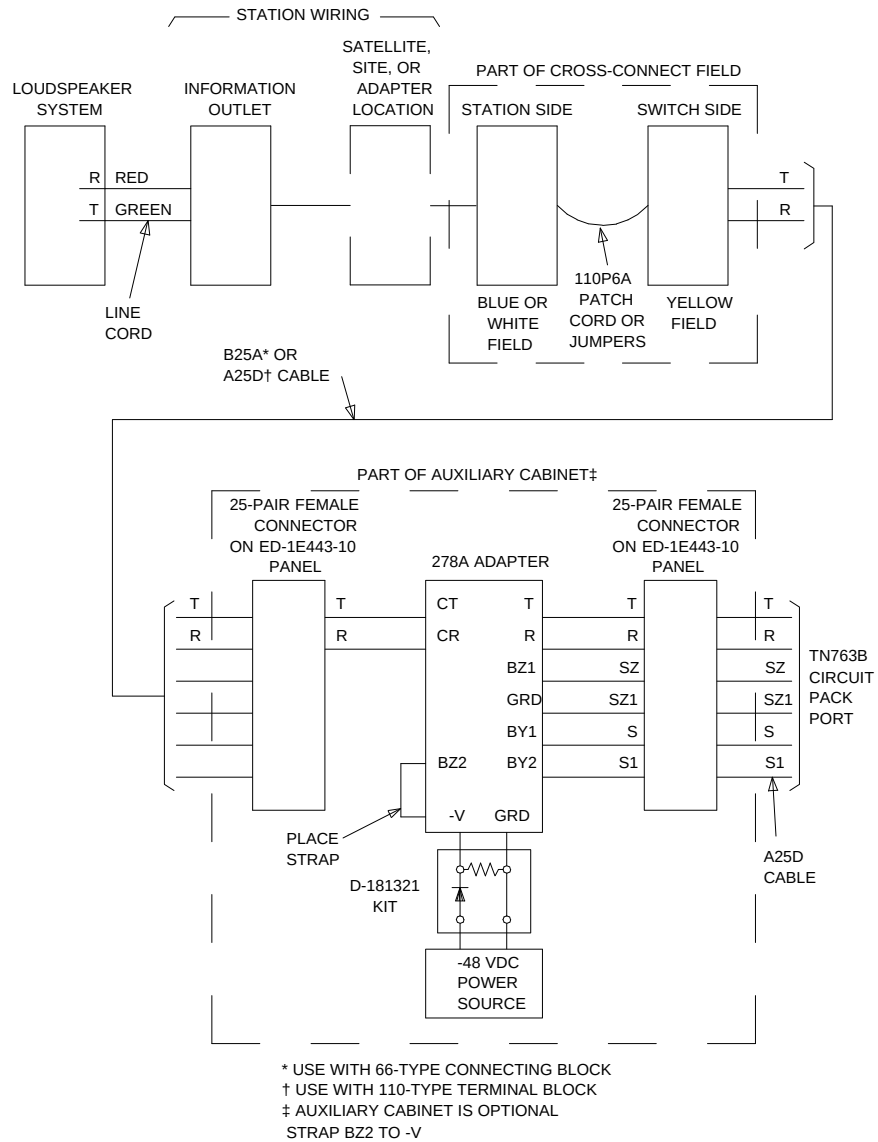


Figure 12-63. Loudspeaker Paging

22. Add Loudspeaker Paging with Music

Requirements

Background music may be added after installing the Loudspeaker Paging and Music-on-Hold features. The music source and loudspeaker equipment may be provided by the customer.

Installation

The music source is connected to the M1 and M2 terminals on the Loudspeaker Paging Access 278A adapter and from the adapter's CT and CR terminals to the loudspeaker paging equipment.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

23. Add PagePac Paging System

Requirements

The PagePac[®] paging systems use a single port of a system circuit pack to provide single or multizone loudspeaker paging. A PagePac system may be used in addition to the standard loudspeaker paging and code-calling capabilities of the system. A TN763B (or an international TN417) Auxiliary Trunk circuit pack is used for PagePac paging equipment.

Three models are available:

- PagePac 20
- PagePac VS
- PagePac 50/100/200

PagePac 20

The PagePac is a 20-watt amplifier that can be used alone to provide a single zone of paging or it can be equipped with a ZoneMate 9 or 34 to provide multiple paging zones.

PagePac VS

The PagePac VS is a 35-watt amplifier that provides up to three paging zones. This unit is wall mountable. The optional feature cards (to provide music or talkback) are plugged into the lower half of the unit.

PagePac 50/100/200

The 50/100/200 PagePac Paging system will mount directly on the wall or on a 23-inch relay rack by using the appropriate adapters.

The unit provides three wattages: 50, 100, and 200. The PagePac amplifier can either be used alone to provide a single paging zone or add-on units can be provided to create a paging system with up to 24 paging zones.

Installation

1. Determine the port assignment of the paging zone(s) from Loudspeaker Paging form:

EXAMPLE:

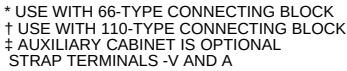
Port Number	3	B	02	01
	Cabinet (Port Network)	Carrier (or Single-CarrierCa binet)	Slot	Circuit

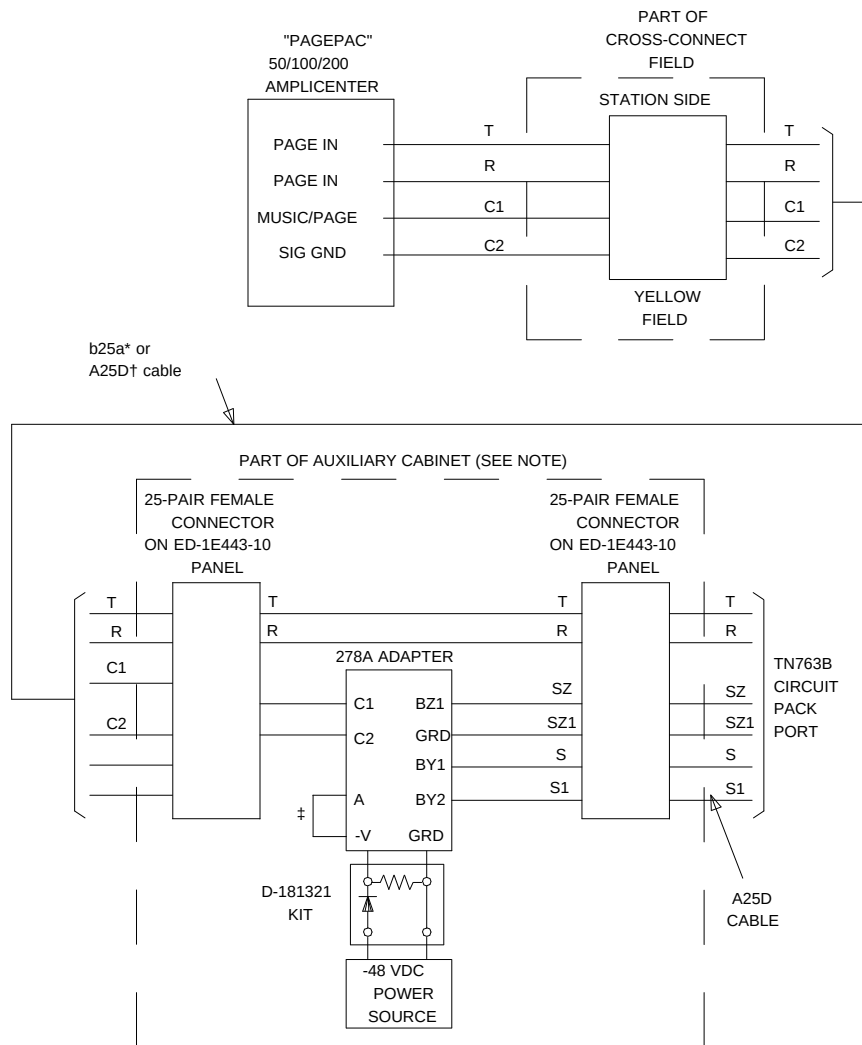
2. See "8. Add Circuit Packs" earlier in this chapter, and install the TN763B (or the international TN417) Auxiliary Trunk circuit pack in assigned carrier slot (if an additional circuit pack is required).
3. Administer forms listed under "Loudspeaker Paging Access" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

NOTE:

The 278A adapter is no longer manufactured. Therefore, the wiring diagram in the installation manual assumes that a new 909-series universal coupler is being used. If a 278A adapter is being reused, Figure 12-64 and Figure 12-65 provide the appropriate wiring.





NOTE: AUXILIARY CABINET IS OPTIONAL

* USE WITH 66-TYPE CONNECTING BLOCK

† USE WITH 110-TYPE TERMINAL BLOCK

‡ STRAP TERMINALS -V AND A

Figure 12-65. Connections for PagePac 50/100/200 Amplicenter Only

24. Add Music-on-Hold Access

Requirements

Access to the music source is provided by an information outlet.

Either a 4-port TN763 (or international TN417) Auxiliary Trunk or an 8- or 16-port Analog Line circuit pack (except a TN746, TN468, or a TN479) must be installed for Music-on-Hold.

Installation

1. Determine the port assignment of the feature from Feature-Related System Parameters form:

EXAMPLE:	Port Number	3	B	02	01
		Cabinet (Port Network)	Carrier (or Single-CarrierCa binet)	Slot	Circuit

2. See "8. Add Circuit Packs" earlier in this chapter, and install the:

- 4-port TN763 (or international TN417) auxiliary trunk
- 8-port TN742 analog line
- 8-port TN769 analog line
- 16-port TN746B analog line
- 16-port TN468B analog line

circuit pack in assigned carrier slot (if an additional circuit pack is required).

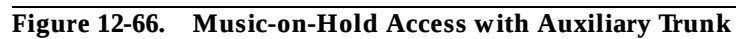
3. Administer the forms listed under "Music-on-Hold Access" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

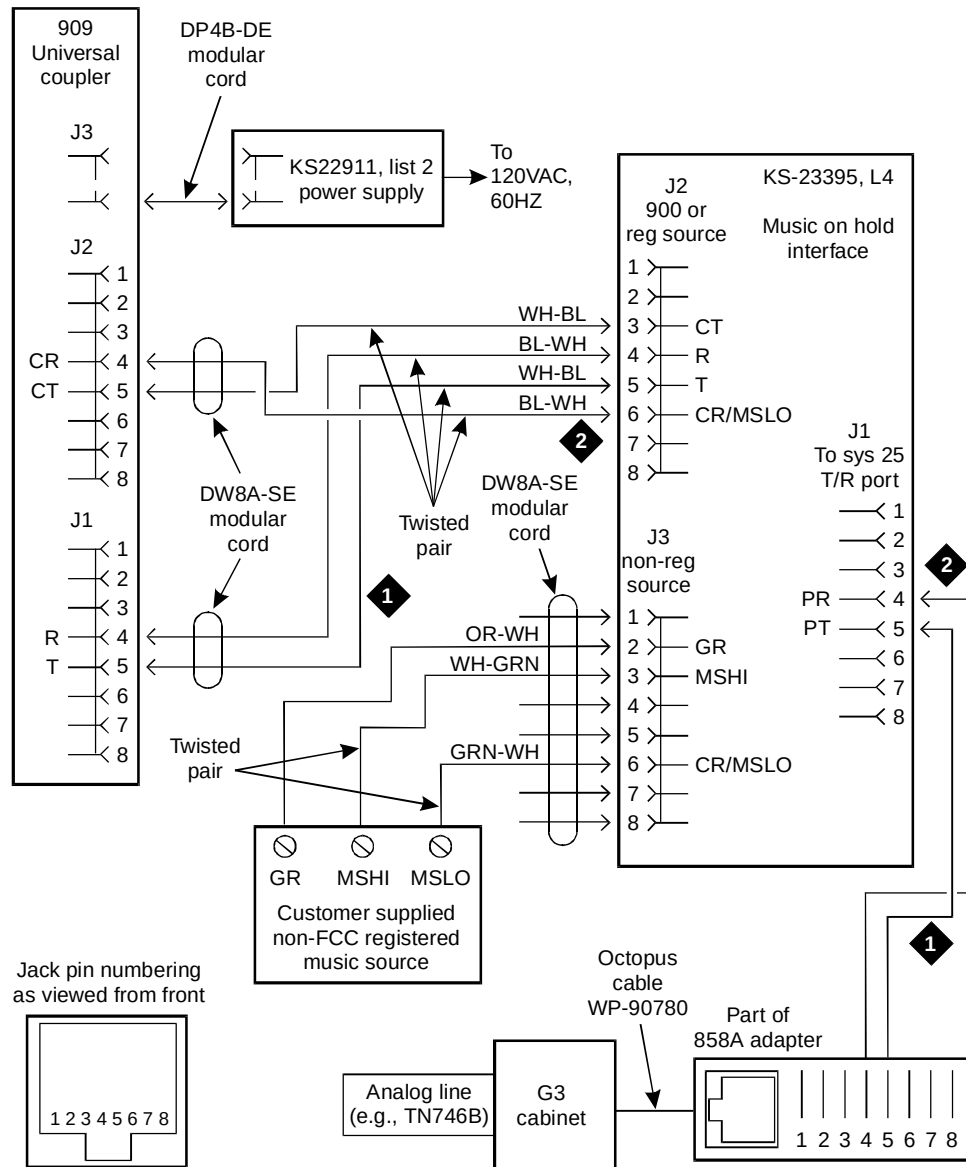
The following figures show the wiring for Music-on-Hold.

NOTE:

The 36A voice coupler is no longer manufactured. The wiring diagram in the installation manual assumes the new 909-series universal coupler is being used. If a 36A voice coupler is being reused, Figure 12-66 through Figure 12-68 provide the appropriate wiring.

For analog line access, use the KS23395, L4 coupler.





Notes:

1. Caution: Use minimum Class 2 wiring only.
2. Modular plug required.

Figure 12-67. Non-FCC-Registered Music-on-Hold Access with Analog Line

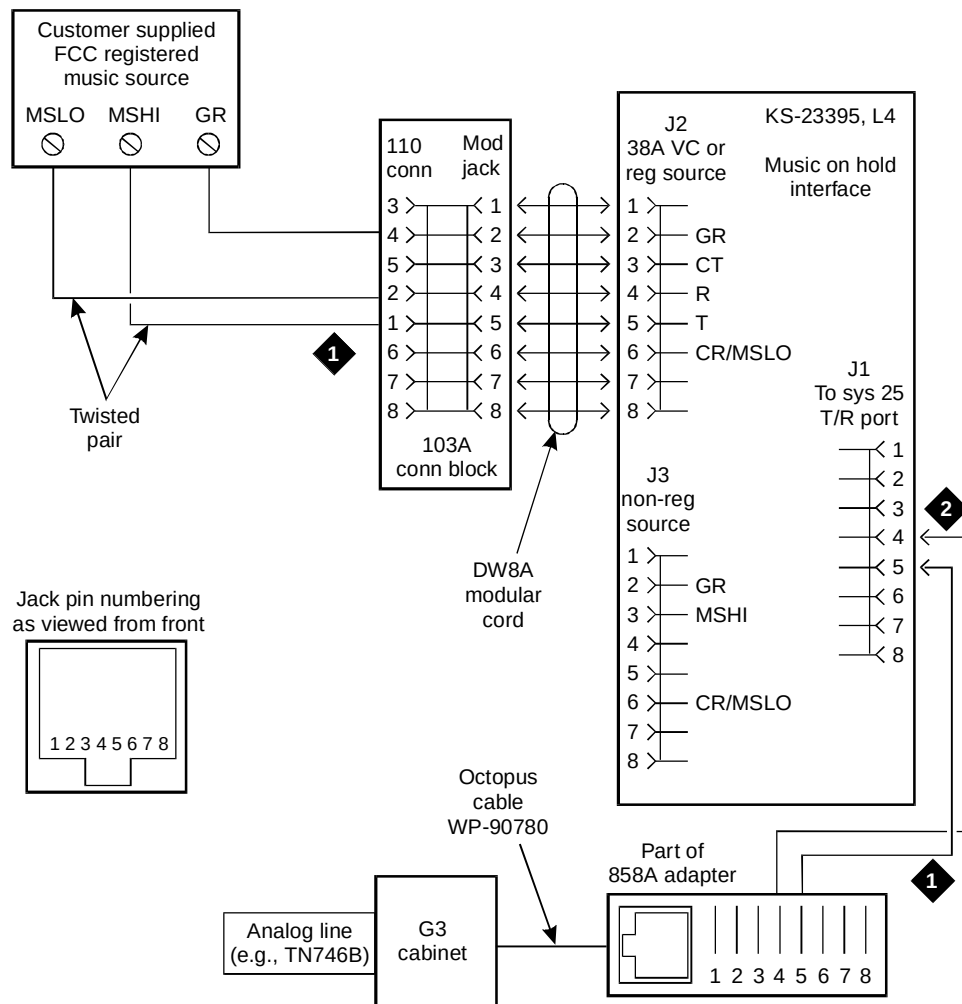


Figure 12-68. FCC-Registered Music-on-Hold Access with Analog Line

25. Add Analog Recorded Announcement

Requirements

Access for customer-provided analog recorded announcement equipment is provided by an information outlet.

An 8- or 16-channel 15A Digital Announcer provides recorded announcements for the Intercept Treatment — Recorded Announcement feature. If located outside an auxiliary cabinet, this model requires an MSP-1 power supply.

A Cook Electric 1- or 5-channel Digital Announcer is also available and provides recorded announcements for the Intercept Treatment — Recorded Announcement feature. Both models require an AC adapter for 115-volt AC power.

Either an 8-port or a 16-port (with restrictions) Analog Line circuit pack is installed for recorded announcements.



NOTE:

The 16-port TN746A, TN468A, or TN479 circuit packs do not support recorded announcements.

Installation

1. Determine the port assignment of the feature from Announcement form:

EXAMPLE:	Port Number	3	B	02	01
	Cabinet (Port Network)		Carrier (or Single-Carrier Cabinet)	Slot	Circuit

2. See “8. Add Circuit Packs” earlier in this chapter, and install the Analog Line circuit pack in assigned carrier slot (if an additional circuit pack is required).
3. Administer the forms listed under Recorded Announcements in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.



NOTE:

The 36A voice coupler is no longer manufactured. Therefore, the wiring diagram in the installation manual assumes that a new 909-series universal coupler is being used. If a 36A voice coupler is being reused, Figure 12-69 and Figure 12-70 provide the appropriate wiring.

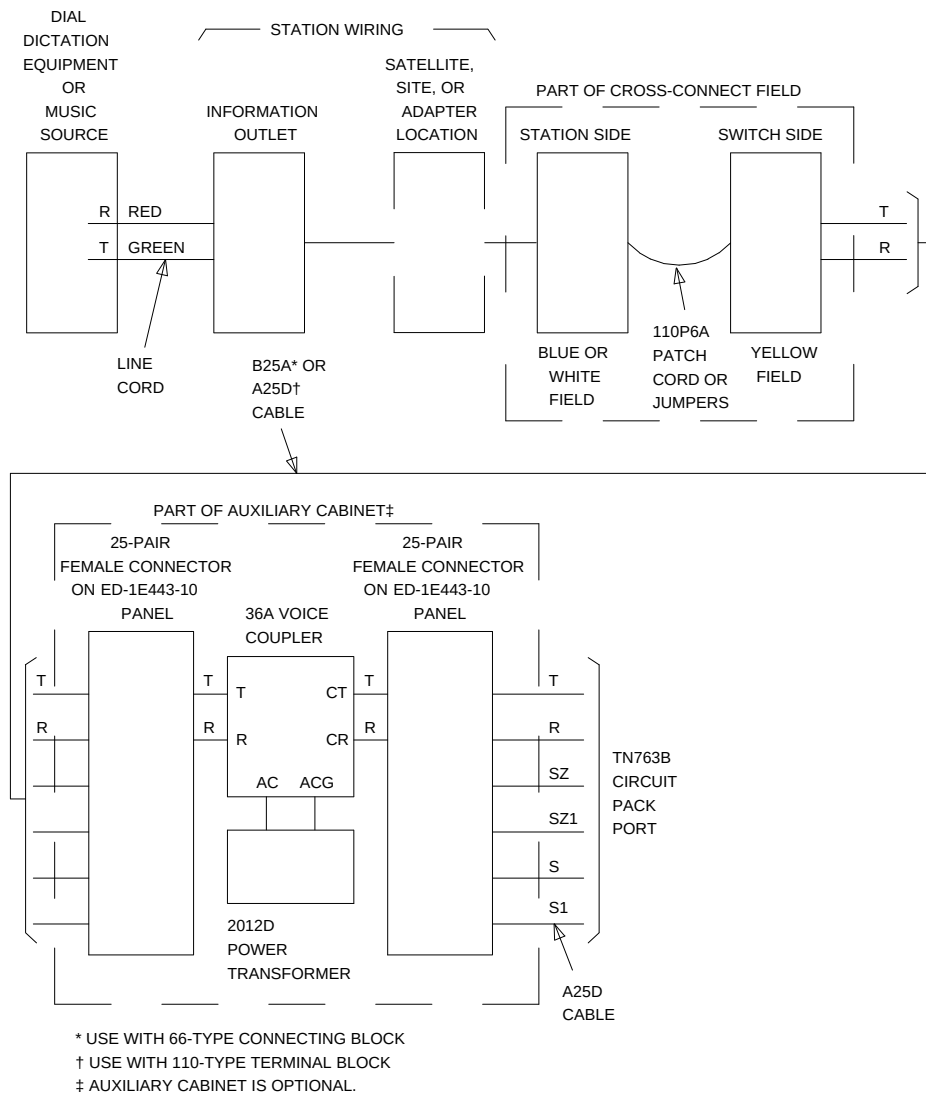


Figure 12-69. Analog Access to Recorded Announcement

25. Add Analog Recorded Announcement

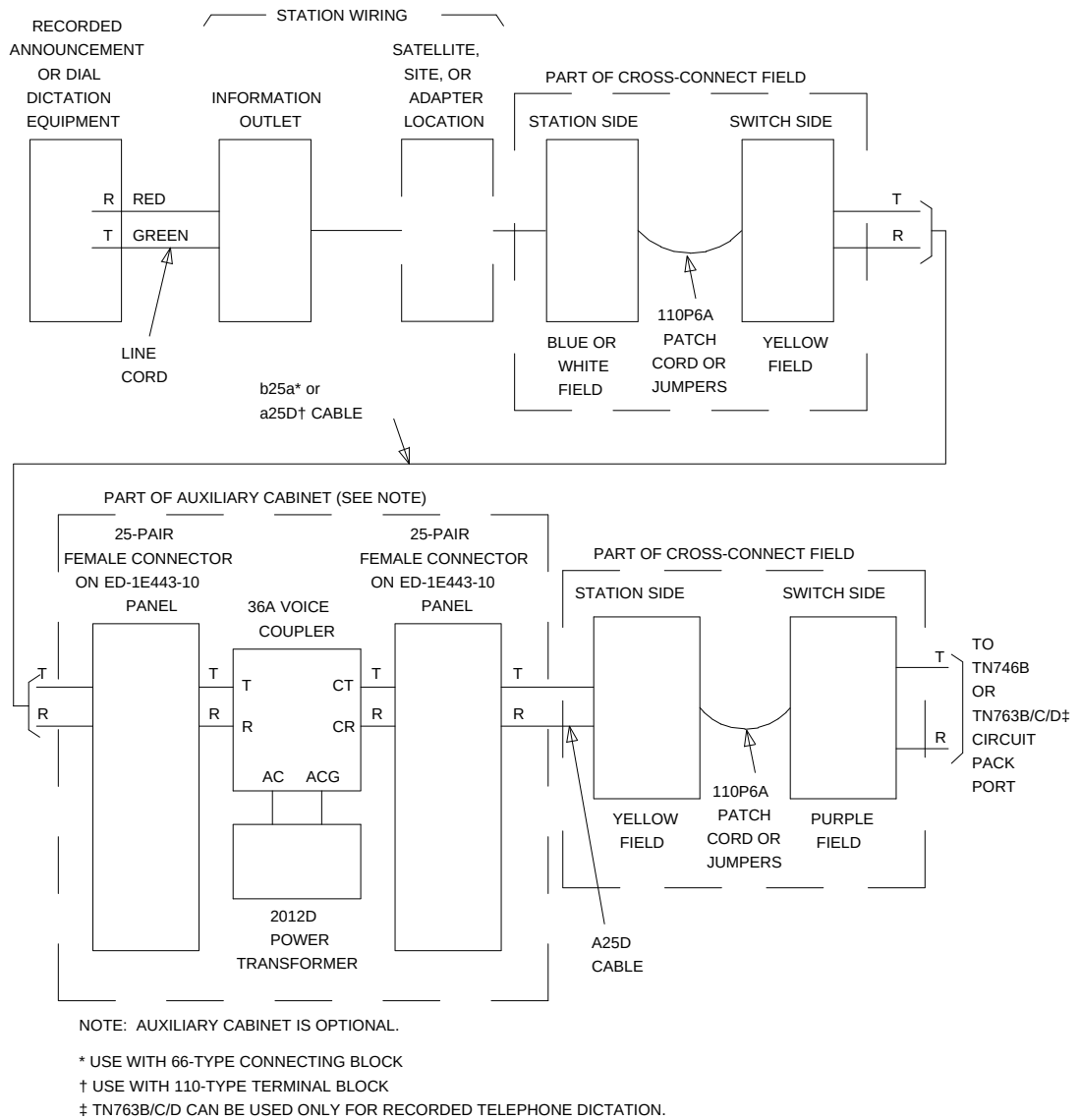


Figure 12-70. Connections for Digital Announcer Mounted in Auxiliary Cabinet

26. Add Multiple Integrated Recorded Announcement

Requirements

The TN750C Multiple Integrated Announcement circuit pack records and stores announcements that can be played back on demand as part of a calling feature. The TN750C provides on-board flash memory, which provides internal backup of the announcements. This allows support for multiple circuit packs and eliminates the need for a 40-minute restore/download process after a power failure or system reload.

TN750C circuit packs are required if your system will have multiple announcement circuit packs. To use multiple announcement circuit packs, you must have at least one TN750C circuit pack. No more than one TN750 or TN750B can reside in the system. The TN750C can be installed in any port or service (TDM) slot, and need not reside in a control carrier for extra power holdovers.

The following table shows the maximum number of announcement circuit packs you may have in your system:

Table 12-19. Maximum Announcement Boards Per Release 5 System

System Type	Maximum Number of Announcement Boards
R5vs	1
R5si	1
R5si+m	5
R5r	10

The announcements from a TN750 or TN750B can be saved and then restored to a TN750C.

⇒ NOTE:

Do not copy or restore announcements from a TN750C to a TN750 or TN750B circuit pack, as this process may corrupt the announcement data.

TN750C Announcement Board

The TN750C circuit pack contains flash memory which provides internal backup of announcements on the circuit packs. Thus, the TN750C circuit pack does not need the save and restore processes still required for the TN750 and TN750B circuit packs. However, you can use the save and restore processes to copy announcements from the TN750 or TN750B to a TN750C circuit pack.

The TN750C circuit pack can be used to replace a TN750 or TN750B circuit pack. The difference in operation is that the TN750C circuit pack automatically restores and reports the availability of announcements from its own internal flash memory in 5 minutes, rather than the approximately 40 minutes it took the TN750 or TN750B circuit pack from the mass-storage system.

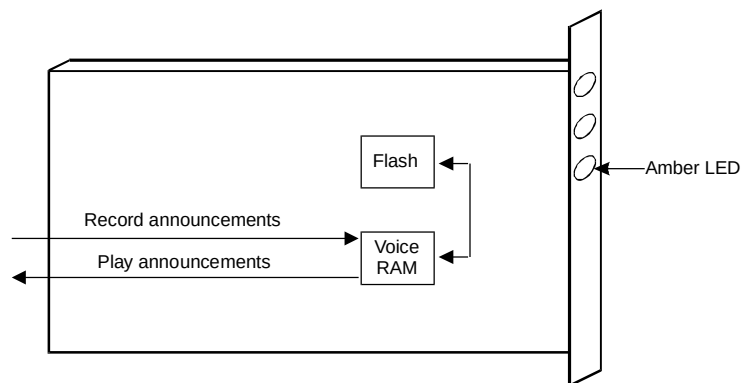


Figure 12-71. Operation of TN750C Announcement Board

If a circuit pack being installed already has announcements in its flash memory, the amber LED will flash as the announcements are being copied to the Voice RAM.

Save and Restore Recorded Announcements



CAUTION:

If the amber LED is flashing, do not remove the circuit pack, as this will corrupt the announcement data.

The command syntax for saving from any TN750 circuit pack is as follows:

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

The command syntax for restoring to a TN750C circuit pack is as follows:

restore announcements [disk | tape [to PCSS]]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

When you execute a restore command and there are existing announcements on the circuit pack, you will receive the following warning message:

WARNING: This restore announcement command will overwrite
the existing announcements on the specified
board.

After five minutes have lapsed with no alterations to the announcements, the TN750C automatically copies the announcements from the Voice RAM to the internal flash memory. Again, the amber LED on the front of the TN750C will flash during this operation.

You can only save the announcement contents of one circuit pack to mass storage (R5r tape or disk, or R5vs/si translation memory card) at a time. For the contents of every circuit pack to be saved, you must save to separate tapes or translation memory cards. Label each tape or translation memory card to match the circuit pack saved to it.

TN750 and TN750B Announcement Boards

NOTE:

The save and restore procedures described below are only necessary for TN750 and TN750B announcement circuit packs. You can also use them to copy announcements to TN750C announcement circuit packs, but TN750C circuit packs use an internal backup process and do not need these save procedures.

The recorded announcements in the system can be saved on the mass-storage system by entering the **save announcements spe-active/spe-standby** command. These commands should only be used after business hours or when the system is operating during a low-usage period. The system takes about 40 minutes to transfer the recorded announcements from the announcement circuit pack to the mass-storage system. During this time period, the G3-MT terminal (where the save announcements command was executed) cannot be used to administer the system until the transfer is finished; however, all other administration terminals, if provided, are allowed to perform administration procedures.

The recorded announcements in the system can be restored to system memory from the system tape or translation memory card by entering the `restore announcements` command.

Recommended Installation Procedures

The following sections describe the various procedures to install the TN750C circuit pack on DEFINITY ECS systems.

Replace a TN750B with a TN750C or Move all Announcements from a TN750B to a TN750C

Use this procedure to replace a TN750B circuit pack with a TN750C circuit pack or to move every announcement from a TN750B circuit pack to a TN750C circuit pack.

NOTE:

Do not copy or restore announcements from a TN750C to a TN750 or TN750B circuit pack, as this process may corrupt the announcement data.

1. Save announcements from the TN750/B to the mass-storage system.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Align and slide the TN750C circuit pack with latch lever opened into a vacant slot of a carrier.



NOTE:

Any carrier is acceptable since power holdover is not a concern.

3. Lift locking lever upward until latch pin engages.
4. Administer a new data module on the TN750C circuit pack, as described in *DEFINITY Communications System Generic 3 Implementation*.
5. Execute the **restore announcements** command to the TN750C circuit pack equipment location.
6. Wait until announcements have been copied from Voice RAM to flash memory. (i.e., amber LED on the TN750C stops flashing). This may take about ten minutes.
7. Execute the **busyout board 01c11** command for the TN750/B circuit pack, where "01c11" is an example circuit pack location.
8. Execute the **change integrated announcements** command. This modifies the translations for the TN750B circuit pack to reference the TN750C circuit pack.

9. Verify proper playback of the announcements from the TN750C circuit pack by calling them.
10. Execute the **release board 01c11** command for the TN750/B circuit pack, where "01c11" is an example circuit pack location.

Add Additional TN750C Boards

Use this procedure to add TN750C circuit packs to a system.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

1. Align and slide circuit pack with latch lever opened into a vacant slot in a carrier.



NOTE:

Any carrier is acceptable since power holdover is not a concern.

2. Lift locking lever upward until latch pin engages.
3. Administer a new data module on the TN750C circuit pack, as described in *DEFINITY Enterprise Communications Server Release 5 Implementation*.
4. Administer new announcements to that TN750C slot by executing the **change announcements** command and filling in the "designated board location" field for the circuit pack's location.
5. Record the announcements, as described in *DEFINITY Communications System Feature Description*.
6. Wait until the announcements have been copied from Voice RAM to the on-board flash memory (i.e., the amber LED on the TN750C starts and then stops flashing). This may take about 10 minutes.

Move a Single Announcement from One Announcement Board to Another

Use this procedure to move a single announcement from one announcement circuit pack to another.

1. Execute the **change announcements** command to change the circuit pack locations of a particular announcement. (You may also change the compression rate at this time.)
2. You must rerecord the announcement, as described in *DEFINITY Communications System Feature Description*.

Recommended Installation Procedures for G3 V3 and Earlier Systems

Replace a TN750/B Board with a TN750C Board

Use this procedure to replace a TN750/B circuit pack with a TN750C circuit pack on G3 V3 and earlier systems.

1. Save announcements from the TN750/B to the mass-storage system.
2. Execute the **busyout board 01c11** command for the TN750/B circuit pack, where "01c11" is an example circuit pack location.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

3. Remove the TN750B circuit pack from its slot.
4. Align and slide the TN750C circuit pack with latch lever opened into the same slot.
5. Lift locking lever upward until latch pin engages.
6. Execute the **restore announcements** command to ensure that your announcements are on the TN750C circuit pack.

New Integrated Announcement Commands

Use the following new commands to administer integrated announcements:

erase integrated announcements

change integrated announcements

list integrated announcements

display integrated announcements

See *DEFINITY Enterprise Communications Server Release 5 Implementation*, for more information about using these commands.

27. Add Recorded Telephone Dictation Access

Requirements

Access for recorded telephone dictation equipment is provided by an information outlet.

For analog line access, either an 8-port or a 16-port (with restrictions) Analog Line circuit pack is required.

⇒ NOTE:

The 16-port TN746A, TN468A, or TN479 circuit packs do not support recorded telephone dictation access.

For auxiliary trunk access, a TN763 (or an international TN417) Auxiliary Trunk circuit pack is required.

Installation

1. Determine the port assignment of the feature either from the Station Record form when an Analog Line circuit pack is used or from the Trunk Group form for Customer Provided Equipment when an Auxiliary Trunk circuit pack is used.

EXAMPLE:

Port Number	3	B	02	01
	Cabinet (Port Network)	Carrier (or Single-Carrier Cabinet)	Slot	Circuit

2. See "8. Add Circuit Packs" earlier in this chapter, and install the Analog Line or the Auxiliary Trunk circuit pack in assigned carrier slot [if additional circuit pack(s) is required].
3. Administer the forms listed under "Recorded Telephone Dictation Access" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Detailed descriptions for installing wiring are contained *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

⇒ NOTE:

The 36A voice coupler is no longer manufactured. Therefore, the wiring diagram in the installation manual assumes that a new 909-series universal coupler is being used. If a 36A voice coupler is being reused, Figure 12-72 and Figure 12-73 provide the appropriate wiring.

27. Add Recorded Telephone Dictation Access

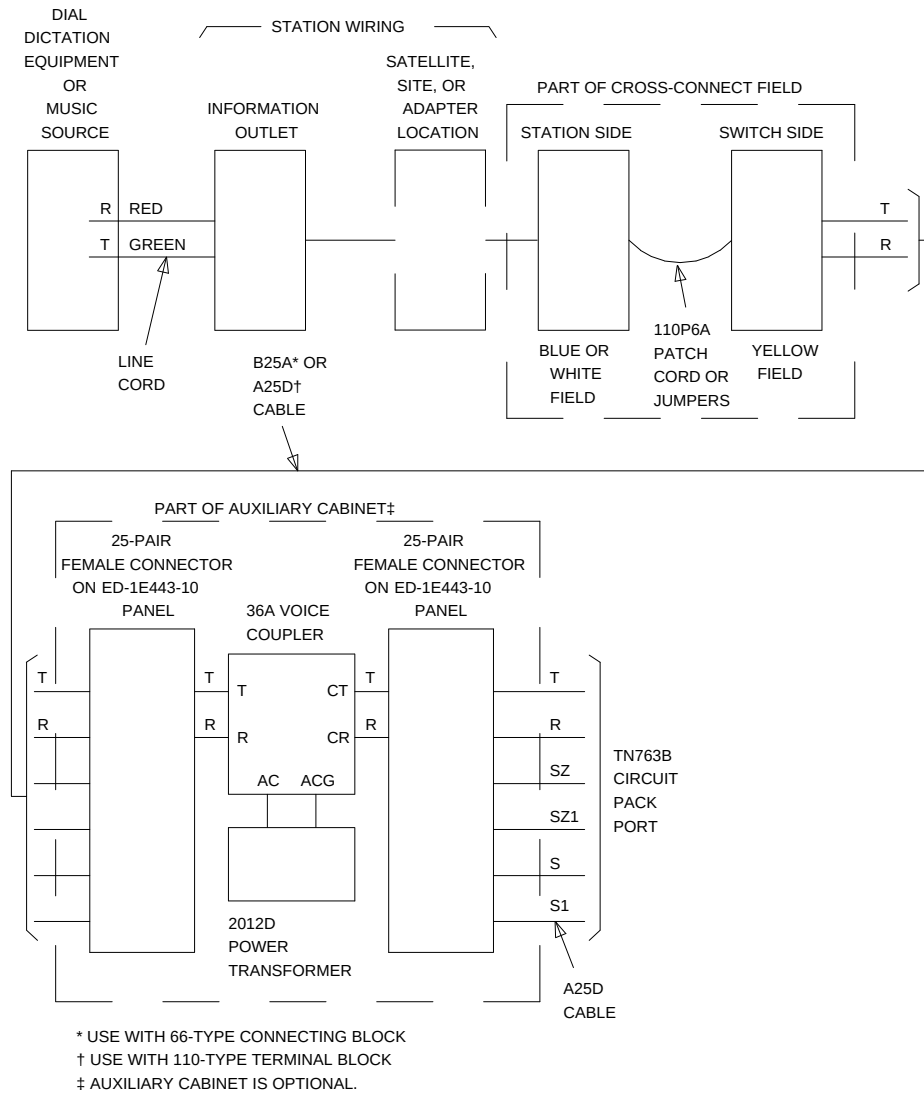


Figure 12-72. Non-FCC-Registered Auxiliary Access to Recorded Telephone Dictation

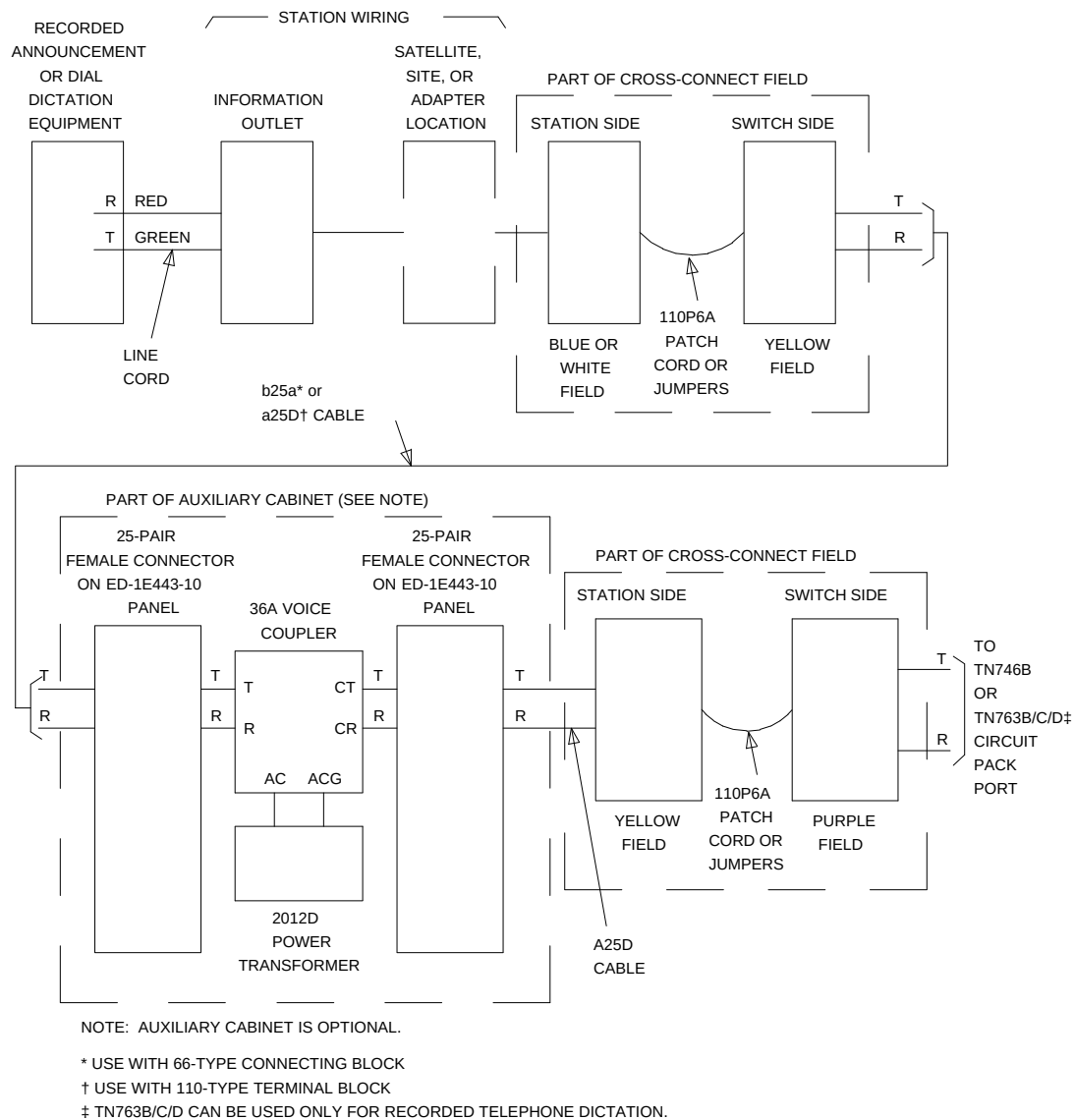


Figure 12-73. Non-FCC-Registered Analog Access to Recorded Telephone Dictation

28. Add INADS Interface

Requirements

The interface between DEFINITY ECS and the Initialization and Administration System (INADS) is through a two-way loop start trunk and the Processor circuit pack.

Installation

1. The INADS trunk should be specified to appear on the twenty-fifth pair of an RJ21X network-interface jack. The INADS trunk is connected to the TN773 or TN786B Processor circuit pack through the Trunk/Auxiliary field.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

2. Enter **change system-parameters maintenance**, and press RETURN. See NOTE. The product identification and the INADS OSS telephone number must be obtained from the NTSO or the TSC.

Enter the ten-digit product identification. Enter the INADS OSS telephone number in the *First OSS Telephone Number* field.

3. Enter **first-only** in the *Alarm Origination to OSS Numbers* field and press RETURN to enable Alarm Origination (to the first OSS).

You should normally also enable *Cleared Alarm Notification* and *Restart Notification*.



NOTE:

DEFINITY ECS Release 5 supports up to two OSS telephone numbers. Some services contracts may require the second OSS telephone numbers and a different option in the *Alarm Origination to OSS Numbers* field to be administered.

29. Add CDR Interface

Requirements

For Intel systems, four methods of accessing CDR equipment are available:

- Direct access using an EIA cord connected to the Data Communication Equipment (DCE) connector behind the control carrier.
- Access through an MPDM or modular trunk data module (MTDM) requires a TN754 or TN413 Digital Line circuit pack.
- Access through a 212-type modem and requires an 8-port or a 16-port (with restrictions) Analog Line circuit pack. A TN758 Pooled Modem circuit pack or an external modem pool must also be provided.



NOTE:

The 16-port TN746A, TN468A, or TN479 circuit packs do not support the Call Detail Recording Interface.

- Access through a TN726 Data Line circuit pack. A Z3A Asynchronous Data Unit (ADU) is required at the SMDR output receiving device. The TN777B Network Control circuit pack must also be provided.

Installation

For the direct access method, connect EIA cord to the DCE connector behind the control carrier (see Figure 12-74).

For the other methods, see "8. Add Circuit Packs" earlier in this chapter, and install the Digital Line, the Analog Line (and if necessary the internal Pooled Modem), or Data Line circuit pack in assigned carrier slot.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

Administer the required translations using the forms listed under "Call Detail Recording" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

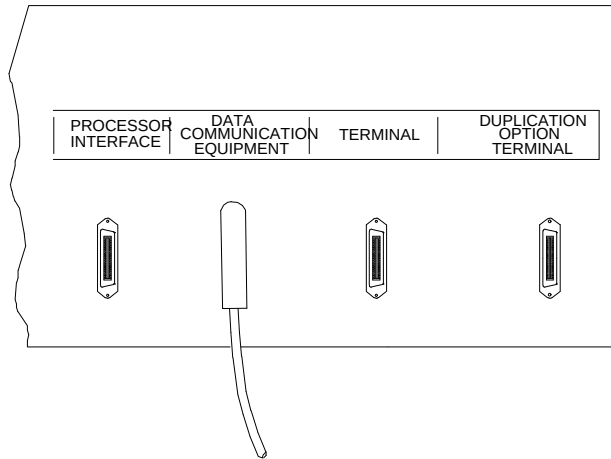


Figure 12-74. Direct CDR Connection to Control Carrier

30. Add Emergency Transfer

Requirements

Four emergency-transfer panels are supported by DEFINITY ECS:

- 808A emergency-transfer panel — Each unit serves up to five power-failure transfer terminals. The unit provides automatic ground start and "restore after busy," which means that an emergency call proceeds in normal fashion even when the PBX is restored to normal operation.
- PORTA-SYSTEMS™ Model 574-5 panel — Each unit serves up to five power-failure transfer terminals. The unit provides automatic ground start.
- Z1A emergency-transfer panel — Each unit serves up to six power-failure transfer terminals. If the serving central office (CO) requires ground-start trunk signaling, a ground-start key must be installed on each power-failure transfer terminal.
- 609A emergency-transfer panel — Each unit serves up to ten power-failure transfer terminals. If the serving CO requires ground-start trunk signaling, a ground-start key must be installed on each power-failure transfer terminal.

Any analog registered set can be used for emergency transfer. Both the 500- and 2500-type terminals can be used as normal stations.

For detailed wiring information, refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*. Also, refer to *AT&T 808A Emergency-Transfer Panel Installation Instructions*, 846-774-701, for detailed instructions on installing the 808A Emergency-Transfer Panel.

31. Add ISN Interface

Requirements

The interface between DEFINITY ECS and the Information Systems Network (ISN) is through an ADU. The ADU connects to an ISN concentrator. This allows DEFINITY ECS and the ISN to share data capabilities.

Installation

1. Determine the port assignment of the ISN from Data Module form:

EXAMPLE:	Port Number	3	B	02	01
	Cabinet (Port Network)		Carrier (or Single-Carrier Cabinet)	Slot	Circuit

2. See "8. Add Circuit Packs" earlier in this chapter, and install the TN726B Data Line circuit pack in assigned carrier slot (if additional circuit pack is required).
3. Administer the forms listed under "Information System Network (ISN) Interface" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

32. Add 3270 Data Module

Requirements

The 3270 data module consists of a family of protocol converters that allow 3270-type terminals to communicate with a host computer through the DEFINITY ECS. The three types of 3270 data modules are 3270A, 3270C, and 3270T. The 3270 data modules are connected to the TN754 or TN413 Digital Line circuit pack.

Installation

1. Determine the port assignment of the 3270 data module from Data Module form:

EXAMPLE:	Port Number	3	B	02	01
	Cabinet (Port Network)		Carrier (or Single-Carrier Cabinet)	Slot	Circuit

2. See "8. Add Circuit Packs" earlier in this chapter, and install the Digital Line circuit pack in assigned carrier slot (if an additional circuit pack is required).
3. Administer the Data Module form per *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

33. Add ISDN—PRI

North American

The North American ISDN—PRI is a 1.544 Mbps digital interface that consists of a 1.536 Mbps signal multiplexed with an 8-kbps framing channel. The 1.536 Mbps is divided into 24 channels of 64 kbps each (23 "B" voice or data channel and 1 "D" signaling channel). The "D" channel multiplexes signaling messages for the 23 "B" channels.

A TN767C DS1 or a TN464C DS1/E1 circuit pack is required for the assignment of a signaling link and up to 23 ISDN—PRI Trunk Group members. Each DS1 span provides 24 ports. A TN768, TN780, or TN2182 Tone-Clock circuit pack is required to provide synchronization for the DS1 circuit pack. A TN765 Processor Interface circuit pack is required for use with the TN767C DS1 circuit pack when PRI is to be activated.

As an option to the TN768 or TN2182 Tone-Clock, a TN780 Tone-Clock circuit pack (installed in the PPN) can interface external Stratum 3 synchronization for DS1 connections (see Section 43).

European

The European ISDN—PRI is a 2.048 Mbps digital interface that consists of a 1.920 Mbps signal controlled by two 64-kbps signaling channels. The 1.920 Mbps is divided into 30 "B" channels of 64 kbps each. The two signaling channels multiplex signaling and framing messages for the 30 "B" channels.

A TN464C DS1/E1 circuit pack is required for the assignment of the two signaling channels and up to 30 ISDN—PRI Trunk Group members. Each E1 span provides 32 ports. Except for North American private-network applications, a TN780, TN2182, or TN419B Tone-Clock circuit pack normally provides synchronization for the DS1/E1 circuit pack. A TN765 Processor Interface circuit pack is required for use with the TN464C DS1/E1 circuit pack when PRI is to be activated.

As an option to the TN2182 or TN419B Tone-Clock, a TN780 Tone-Clock circuit pack (installed in the PPN) can interface external Stratum 3 synchronization for DS1 connections (see Section 43).

Service Interruption

Since the addition of ISDN—PRI requires a service interruption, notify the customer in advance as to when the addition will be carried out.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Login at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**, and press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
4. If the system contains a TN750/B Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Power Down System

1. At the PPN, on the power-distribution unit, set the main circuit breaker to OFF.
2. At an EPN, on the power-distribution unit, set the main circuit breaker to OFF.

Add Circuit Packs

1. Determine port assignment of circuit packs to be added.
2. See “8. Add Circuit Packs” earlier in this chapter, and install the TN767C DS1 or TN464C DS1/E1 Interface circuit pack in assigned carrier slot.
3. For single-carrier cabinet systems only, remove an existing TN756 Tone Detector/Generator circuit pack and install the TN768, TN780, TN2182, or TN419B Tone-Clock circuit pack in assigned carrier slots, if required.
4. See “8. Add Circuit Packs” earlier in this chapter, and install a TN765 Processor Interface circuit pack if required.
5. See “8. Add Circuit Packs” earlier in this chapter, and install a TN748B (or the international TN420B) Tone Detector circuit pack if required.

Install Cables

Install cables from cabinet to cross-connect field as required.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

Power Up System

1. At an EPN, on the power-distribution unit, set the main circuit breaker to ON.
2. At the PPN, on the power-distribution unit, set the main circuit breaker to ON.

3. The system now goes through the rebooting process, loading the system translations from the translation memory card(s) or the tape(s). Rebooting takes 8 to 20 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

4. After the system reboot is finished and all trouble is cleared, verify the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Enter Added Translations

1. Administer forms listed under "Integrated Services Digital Network — Primary Rate Interface" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to *y*, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).

3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.

NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.



WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

Save Translations

1. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. Enter **save translation**, and press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
3. If the system contains a TN750 Announcement circuit pack, enter **list configuration software-version**, and press RETURN.

If Page 2 of this form shows that recorded announcements were saved, these announcements can be restored using the restore announcements command. Enter **restore announcements**, and press RETURN.
4. Update backup tape(s), if required.

34. Add CMS Interface

Requirements

The interface between DEFINITY ECS and the CMS is through an MPDM or MTDM. A standard-reliability DEFINITY ECS R5si can be connected to the CMS with the direct PI EIA connector on the back of the cabinet.

The MPDM or MTDM is connected to a TN754 or TN413 Digital Line circuit pack and is mounted individually or in a 71A multiple data mounting. MPDM or MTDM installation and testing information is contained in *System 85 Processor Data User's Guide*, 999-700-028, or *System 85 Data Module Trunk: Data Module Operations User's Guide*, 999-700-029.

The communications interface for the DEFINITY ECS R5si+m is provided by the TN765 Processor Interface circuit pack.

Service Interruption

Since, if a TN765 Processor Interface circuit pack is being added, the addition of CMS requires a service interruption, notify the customer in advance as to when the addition will be carried out.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Login at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
4. If the PPN contains a TN750 Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Power Down PPN

If a TN765 Processor Interface circuit pack is being added, at the PPN, on the power-distribution unit, set the main circuit breaker to OFF

Add Circuit Packs

1. Determine port assignment of circuit packs to be added.

EXAMPLE:	Port Number	3	B	02	01
	Cabinet (Port Network)		Carrier (or Single-Carrier Cabinet)	Slot	Circuit

2. See "8. Add Circuit Packs" earlier in this chapter, and install the appropriate circuit pack(s) in assigned carrier slot (as required).

A vacant port on a TN765 Processor Interface circuit pack is required.

A vacant port is required on a Digital Line circuit pack.

Install Cables

Install cables from cabinet to cross-connect field as required.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

Power Up PPN

If a TN765 Processor Interface circuit pack was added:

1. At the PPN, on the power-distribution unit, set the main circuit breaker to ON.
2. The system now goes through the rebooting process, loading the system translations from the translation memory card(s) or the tape(s). Rebooting takes several minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

3. After the system reboot is finished and all trouble is cleared, verify the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Enter Added Translations

Administer the required translation data using the forms listed under Call Management System (CMS) Interface in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to *y*, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.
The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.



NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.



WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

Save Translations

1. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
3. If the PPN contains a TN750 Announcement circuit pack, enter **list configuration software-version**, and press RETURN.

If Page 2 of this form shows that recorded announcements were saved, these announcements can be restored using the restore announcements command. Enter **restore announcements**, and press RETURN.

4. Update backup tape(s), if required.

35. Add AUDIX Interface

Requirements

The interface between DEFINITY ECS R5si+m and the AUDIX is through an MPDM. The AUDIX can be connected to the PI connector on the back of the control carrier on standard-reliability systems.

The MPDM is connected to a TN754 or TN413 Digital Line circuit pack and is mounted individually or in a 71A multiple data mounting. MPDM installation and testing information is contained in *System 85 Processor Data Module*, 999-700-028.

For DEFINITY ECS R5si+m, the communications interface is provided by the TN765 Processor Interface circuit pack.

See NOTE. Up to sixteen ports from 8-port or 16-port (with restrictions) Analog Line circuit packs are also required for voice retrieval.

NOTE:

The 16-port TN746A, TN468A, or TN479 circuit packs do not support AUDIX voice retrieval.

Service Interruption

Since, if a TN765 Processor Interface circuit pack is being added, the addition of AUDIX requires a service interruption, notify the customer in advance as to when the addition will be carried out.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Login at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
4. If the PPN contains a TN750 Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Power Down PPN

If a TN765 Processor Interface circuit pack is being added:

At the PPN, on the power-distribution unit, set the main circuit breaker to OFF.

Add Circuit Packs

1. Determine port assignment of circuit packs to be added.

EXAMPLE:	Port Number	3	B	02	01
	Cabinet (Port Network)		Carrier (or Single-Carrier Cabinet)	Slot	Circuit

2. See "8. Add Circuit Packs" earlier in this chapter, and install the appropriate circuit pack(s) in assigned cabinet slot (as required).

A vacant port on a TN765 Processor Interface circuit pack is required.

Up to sixteen ports on Analog Line circuit packs are required.

A vacant port is required on a Digital Line circuit pack.

Install Cables

Install cables from cabinet to cross-connect field as required.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

Power Up PPN

If a TN765 Processor Interface circuit pack was added:

1. At the PPN, on the power-distribution unit, set the main circuit breaker to ON.
2. The system now goes through the rebooting process, loading the system translations from the translation memory card(s) or the tape(s). Rebooting takes several minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

3. After the system reboot is finished and all trouble is cleared, verify the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Enter Added Translations

Administer the required translation data using the forms listed under "Audio Information Exchange (AUDIX) Interface" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to *y*, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.



NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.



WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

Save Translations

1. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).

3. If the PPN contains a TN750 Announcement circuit pack, enter **list configuration software-version**, and press RETURN.

If Page 2 of this form shows that recorded announcements were saved, these announcements can be restored using the restore announcements command. Enter **restore announcements**, and press RETURN.

4. Update backup tape(s), if required.

36. Add DEFINITY AUDIX System

The DEFINITY AUDIX System is an integrated hardware assembly (consisting of a TN556 Multifunction circuit pack, a TN2169 Alarm circuit pack, a disk drive, and a tape unit) that resides in five contiguous port slots of either a control carrier, expansion control carrier, or port carrier.

Requirements

In order to give this assembly proper cooling, certain recommendations for its placement within a DEFINITY ECS system should be followed. Providing optimum cooling may require that up to five port circuit packs be relocated and retranslated.

First, if possible, locate a DEFINITY AUDIX System in the same equipment room as the PPN.

See NOTE. Second, locate a DEFINITY AUDIX System in a carrier with close proximity to a cabinet's fan assembly.

 NOTE:

Never locate a DEFINITY AUDIX System in port carrier "C" of a multicarrier cabinet.

See NOTE. Third, to minimize the voltage drop on a single-carrier or on a wall-mounted cabinet, locate a DEFINITY AUDIX System as far to the right side of these cabinets as possible.

 NOTE:

Never locate a DEFINITY AUDIX System either in port slots:

- "01" to "03" of an enhanced control cabinet
- "01" to "03" of an expansion control cabinet
- "01" to "04" of a port cabinet
- "01" to "06" of a wall-mounted R5vs cabinet

Installation

1. If necessary, to provide five contiguous port slots in a desirable location, relocate and retranslate port circuit packs. See "8. Add Circuit Packs" earlier in this chapter.
2. Unpack the DEFINITY AUDIX System and inspect for damage. Report any damage for appropriate action per local procedures.
3. See CAUTION. It is not necessary to power down a DEFINITY ECS system before installing a DEFINITY AUDIX System.



CAUTION:

Although the AUDIX assembly can be installed in a live DEFINITY ECS system, be careful to protect the AUDIX assembly. Later, when the assembly is inserted, it will automatically power up (including the disk), run diagnostics, and boot. Therefore, to avoid an AUDIX disk crash, never remove the AUDIX assembly and never power down the R5r system without first shutting down the AUDIX assembly and allowing the disk to completely spin down.

4. See CAUTION. Prepare to install the AUDIX assembly Y-cables behind the selected port slots. For details, refer to *DEFINITY AUDIX System R1.0 Installation* 585-300-111.



CAUTION:

To prevent damage to the AUDIX assembly, be sure that you install these cables before actually inserting the AUDIX assembly.

5. Continue installing the AUDIX assembly; refer to *DEFINITY AUDIX System R1.0 Installation*, 585-300-111, for detailed information.
6. See NOTE. For information about administering a DEFINITY AUDIX installation, refer to *Switch Administration for DEFINITY AUDIX System R1.0*, 585-300-509.



NOTE:

The switch treats an installed DEFINITY AUDIX System as a TN754 Digital Line circuit pack connected to up to eight 7405D display voice terminals. These emulated stations (serving as AUDIX voice ports) are assigned as members of a hunt group that resides in a coverage path. Then, this coverage path is used by every station that covers to AUDIX. Also, AUDIX subscribers access the AUDIX system and retrieve messages by dialing the hunt group's access number.

37. Add PMS Access

Requirements

The interface between DEFINITY ECS R5si and the PMS is through an MPDM or 7400-series data module and a port on TN754 or TN413 Digital Line circuit pack, or directly from a port on a TN726 Data Line circuit pack using an asynchronous data line.

MPDM installation and testing information is contained in *Processor Data Module*, 999-700-028.

Installation

1. Determine port assignment from Data Module Form:

EXAMPLE:	Port Number	3	B	02	01
		Cabinet (Port Network)	Carrier (or Single-CarrierCa binet)	Slot	Circuit

2. See "8. Add Circuit Packs" earlier in this chapter, and install the Digital Line circuit pack or the TN726 Data Line circuit pack in assigned carrier slot (if an additional circuit pack is required).
3. Administer the forms listed under 'Property Management System Interface' in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

38. Replace 2 8-Port with 16-Port Analog Circuit Pack

Requirements

When there is a need for more lines and the carrier port slots are full, this change-out will free a slot to add another circuit pack.

Assuming acceptable signaling characteristics for a specific system's venue, a 16-port TN746B, TN468B, TN2135, TN2144, or TN2149 Analog Line circuit pack can replace two 8-port packs with no functional limitations.

However, a 16-port TN746, TN468, or TN479 circuit pack has some limitations to consider when replacing 8-port TN742, TN746, TN769, or TN467 circuit packs. The functional limitations of the TN746, TN468, or TN479 are as follows:

- Cannot be used for off-premises or out-of-building extensions
- Cannot be used for bridging
- Does not support voice terminals or modems or other vendor equipment requiring 48 volts. The TN746, TN468, and TN479 provide a 24-volt battery feed circuit and will support only 500-series and 2500-series voice terminals with no adjuncts.

The TN746B, TN468B, TN2135, TN2144, and TN2149 can be used off premises with no limitations, but do not support neon message waiting.

Installation

1. For all stations (external alerting devices, announcements, etc.) that are assigned ports from a slot that currently has an 8-port Analog Line circuit pack administered, change the port assignments to temporary ports. (These temporary ports can either be spare ports on real analog boards or from spare slots that are administered as having analog boards. If there are no spare analog ports or spare slots, the stations must be removed from the system.)
2. See WARNING. Remove the two circuit packs to be replaced.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

3. Determine the slot (any port slot) for the 16-port circuit pack, and align and slide circuit pack with latch lever opened into slot until some resistance is felt.

4. Lift locking lever upward until latch pin engages.
5. Behind the carrier, disconnect B25A cables from both slots.
6. Connect single end of 853B (Y) adapter cable to the 16-port circuit pack's slot on carrier.
7. Connect the two B25A cables to the double end of the 853B adapter cable.
8. At cross-connect field, change jumper wires or patch cords as required. Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.
9. Readminister the stations from Step 1 with the same ports that were taken away.
10. Administer the second eight ports on the 16-port pack as required in *DEFINITY Enterprise Communications Server Release 5 Implementation*.
11. Type in a **list configuration board** command or a **display circuit-packs** command to verify that the resident board is recognized as the correct 16-port circuit pack. If the board still appears as an 8-port circuit pack, reseal the board, and repeat this step.

39. Add DCS Interface

The DCS switches are interconnected by tie trunks for voice communications and data links for control and feature information. The data links, also called DCS signaling links, support DCS feature transparency.

For the DEFINITY ECS, the interface for each physical link is provided by a port on the TN765 Processor Interface circuit pack. Also, a TN760B Tie Trunk, TN722B or TN767C DS1 Tie Trunk, or TN464C DS1/E1 Tie Trunk circuit packs are required for voice communications. Also, either a vacant port on a TN754 or TN413 Digital Line circuit is required for each DCS link, or a channel on the TN722B, TN767C, or TN464C DS1/(E1) Tie Trunk circuit pack may be used for each data link. The direct PI on the back of the cabinet can also be used for the data link on standard-reliability systems.

For further information about DCS, refer to the following documents:

- *AT&T System 75/85 Network and Data Services Reference Manual*, 555-025-201
- *DEFINITY Enterprise Communications Server Release 5 Feature Description*

Service Interruption

Since, if a TN765 Processor Interface circuit pack is being added, the addition of DCS requires a service interruption, notify the customer in advance as to when the addition will be carried out.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Login at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
4. If the PPN contains a TN750 Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Power Down PPN

If a TN765 Processor Interface circuit pack is being added:

At the PPN, on the power-distribution unit, set the main circuit breaker to OFF.

Add Circuit Packs

1. Determine port assignment of circuit packs to be added.
2. See "8. Add Circuit Packs" earlier in this chapter, and install the appropriate circuit pack(s) in assigned cabinet slot (as required).

A vacant port on a TN765 Processor Interface circuit pack is required for each physical DCS link.

TN760B Tie Trunk, TN722B or TN767C DS1 Tie Trunk, or TN464C DS1/E1 circuit packs are required.

A vacant port is required on a TN754 or TN413 Digital Line circuit pack for each DCS link, or the TN722B DS1 Tie Trunk may be used for the data link.

When either a TN722B or TN767C DS1 Tie Trunk or a TN464C DS1/E1 circuit packs are used, the system must be equipped with either a TN768 or TN780 Tone-Clock circuit pack.

Install Cables

Install cables from cabinet to cross-connect field as required.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

Power Up PPN

If a TN765 Processor Interface circuit pack was added:

1. At the PPN, on the power-distribution unit, set the main circuit breaker to ON.
2. The system now goes through the rebooting process, loading the system translations from the translation memory card(s) or the tape(s). Rebooting takes several minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

3. After the system reboot is finished and all trouble is cleared, verify the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Enter Added Translations

To enable DCS, set the DCS field on the System Parameters-Customer Options form to "y."

Administer the other required translation data using the forms listed under Distributed Communications System (DCS) in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to y, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter y in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.



NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.



WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

Save Translations

1. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
3. If the PPN contains a TN750 Announcement circuit pack, enter **list configuration software-version**, and press RETURN.

If Page 2 of this form shows that recorded announcements were saved, these announcements can be restored using the restore announcements command. Enter **restore announcements**, and press RETURN.
4. Update backup tape(s), if required.

40. Add Customer-Provided Alarm

A major, minor, and warning alarm is provided by the system to a customer-provided device such as a lamp or bell.

The CPE Alarm Activation Level field on the System-Parameters Maintenance form must be administered to indicate which level of alarm (major, minor, warning, or none) should activate the CPE device.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

41. Add Packet Bus to R5si or R5si+m

Add Packet Bus for R5si System

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

3. Perform a "save translation."
4. Power down the control cabinet.
5. At the control cabinet, install the appropriate circuit packs using Table 12-20.

Table 12-20. Circuit-Pack Locations for Packet Bus in R5si

Circuit Pack	Carrier	Quantity	Slot
TN778	Control Cabinet A	1	PACKET CONT
TN771C	Control Cabinet A	1 ¹	01 to 16

1. Optional for digital trunk testing.

6. Power up the control cabinet.
7. Log in at the G3-MT terminal.

8. Enter **change system-parameters maintenance**, and press RETURN.
Use this form to enable the packet bus.
9. Perform tests.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to y, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter y in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.
4. Enter **save translation**, and press RETURN.



NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.



WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

Add Packet Bus for Standard-Reliability R5si+m System

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translation

1. Perform a "save translation."

Install Circuit Packs

1. Power down the PPN, then EPN1, and then EPN2 as required.
2. At the PPN, install the appropriate circuit packs using Table 12-21.

Table 12-21. Circuit-Pack Locations for Packet Bus in R5si+m PPN

Circuit Pack	Carrier	Quantity	Slot
TN778	Control Carrier A	1	PACKET CONT
TN570	Control Carrier A	1 or 2 ¹	EXPN INTFC/1 and /2
TN771C	Control Carrier A	1 ²	Any Available Port Slot

1. Quantity of this pack should equal the number of EPNs.
2. Optional for digital trunk testing.

3. At each EPN, install the appropriate circuit packs using Table 12-22.

Table 12-22. Circuit-Pack Locations for Packet Bus in Each EPN

Circuit Pack	Carrier	Quantity	Slot
TN570	Expansion Control Carrier A	1 or 2 ¹	EXPN INTFC/1 and /2
TN771C	Expansion Control Carrier A	1 ²	Any Available Port Slot

1. Quantity of this pack should equal the number of EPNs.
 2. Optional for digital trunk testing.
-

4. Power up EPN2, then EPN1, then the PPN as required.
5. Log in at the G3-MT terminal.
6. Enter **change system-parameters maintenance.** and press RETURN.
Use this form to enable the packet bus.
7. Perform tests.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to *y*, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.

4. Enter **save translation**, and press RETURN.

 NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.

 WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

Add Packet Bus for High- or Critical-Reliability R5si+m System

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.

 WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.

 NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

3. Perform a "save translation."
4. Power down the PPN, then EPN 1, then EPN2 as required.

5. At the PPN, install the appropriate circuit packs using Table 12-23.

Table 12-23. Circuit-Pack Locations for Packet Bus in PPN

Circuit Pack	Carrier	Quantity	Slot
TN778	Control Carrier A	2	PACKET CONT
	Control Carrier B	2	PACKET CONT
TN570	Control Carrier A	1 or 2 ¹	EXPN INTFC/1 and /2
	Control Carrier B	1 or 2	EXPN INTFC/1 and /2
TN771C	Control Carrier A	1 ²	Any Available Port Slot

1. Quantity of this pack should equal the number of EPNs.
2. Required for critical-reliability PPN. Optional for digital trunk testing in high-reliability PPN.
-

6. At each EPN, install the appropriate circuit packs using Table 12-24.

Table 12-24. Circuit-Pack Locations for Packet Bus in Each EPN

Circuit Pack	Carrier	Quantity	Slot
TN570	Expansion Control Carrier A	1 or 2 ¹	EXPN INTFC/01 and /02
	Port Carrier B	1 or 2	EXPN INTFC/02 and /03
TN771C	Expansion Control Carrier A	1 ²	Any Available Port Slot

1. Quantity of this pack should equal the number of EPNs.
2. Required for critical-reliability EPN. Optional for digital trunk testing in high-reliability EPN.
-

7. Power up EPN2, then EPN1, then the PPN, as required.
8. Log in at the G3-MT terminal.
9. Enter **change system-parameters maintenance.** and press RETURN.
Use this form to enable the packet bus.
10. Perform tests.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to *y*, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.
4. Enter **save translation**, and press RETURN.



NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.



WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

42. Add CallVisor ASAI

Requirements

CallVisor™ ASAI provides an ISDN-based interface between the DEFINITY ECS switch and one or more adjuncts. Through the services provided by the CallVisor ASAI, the adjunct(s) improves the switch efficiency by initiating, receiving, and controlling calls on behalf of system users.

Service Interruption

Since, if the packet bus is being added, the addition of CallVisor ASAI requires a service interruption, notify the customer in advance as to when the addition will be carried out.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Enter Added Translations

On the System-Parameters Customer-Options form, be certain that the Calling Party Number/Billing Number (CPN/BN) option is disabled, and enable the CallVisor ASAI Interface option. (Either CallVisor ASAI or CPN/BN can be enabled on the switch, but not both.)

Also, the Packet Bus Activated option must be enabled on the System-Parameters Maintenance.

See *DEFINITY Enterprise Communications Server Release 5 Implementation*, for details on disabling and enabling options on these forms.

Save Translations

1. Login at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
4. If the system contains a TN750 Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Power Down System

If the packet bus is being added:

1. At the PPN, on the power-distribution unit, set the main circuit breaker to OFF.
2. At each EPN, on the power-distribution unit, set the main circuit breaker to OFF.

Add Circuit Packs

1. Determine port assignment of circuit packs to be added.
2. See "8. Add Circuit Packs" earlier in this chapter, and install the appropriate circuit pack(s) in assigned cabinet slot (as required).

EXAMPLE:	Port Number	3	B	02	01
	Cabinet (Port Network)		Carrier (or Single-Carrier Cabinet)	Slot	Circuit

The TN748C or TN744 Call Classifier circuit pack is required. The TN744 is required for those customers who desire switch call classification.

A vacant port is required on a TN556 ISDN—BRI circuit pack.

3. A Packet Bus is required with CallVisor ASAI. If the system isn't equipped with a Packet Bus, see "41. Add Packet Bus to R5si or R5si+m" earlier in this chapter.

Install Cables

Install cables from cabinet to cross-connect field as required.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

Power Up System

If the packet bus was added:

1. At each EPN, on the power-distribution unit, set the main circuit breaker to ON.
2. At the PPN, on the power-distribution unit, set the main circuit breaker to ON.
3. The system now goes through the rebooting process, loading the system translations from the translation memory card(s) or the tape(s). Rebooting takes several minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

4. After the system reboot is finished and all trouble is cleared, verify the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Enter Added Translations

Administer the required translation data using the forms listed under "Adjunct/Switch Applications Interface (ASAI)" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to *y*, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.



NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.



WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

Save Translations

1. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
3. If the system contains a TN750 Announcement circuit pack, enter **list configuration software-version**, and press RETURN.

If Page 2 of this form shows that recorded announcements were saved, these announcements can be restored using the restore announcements command. Enter **restore announcements**, and press RETURN.
4. Update backup tape(s), if required.

43. Add Stratum 3 Clock

The DEFINITY ECS R5si+m can be equipped with Stratum 3 synchronization by using an external Stratum 3 clock and interface circuit packs. Stratum 3 clock synchronization can be used on standard-, high-, or critical-reliability systems.

The external clock is mounted at the cross connect field. One TN780 Tone-Clock circuit pack is required for standard-reliability systems, two for high- or critical-reliability systems.

Each TN780 must be associated with a connector on the carrier's rear connector panel. Some backplane wiring changes may have to be made on the carrier in which the TN780 is installed. A port circuit pack will require moving to another slot if these wiring changes are required. Steps are included in the following procedure to make these changes. Read through the following procedures, and be sure you understand them before starting.

Service Interruption

Since the addition of a Stratum 3 clock requires a service interruption, notify the customer in advance as to when the addition will be carried out.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Login at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
4. If the system contains a TN750 Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Power Down System

1. At the PPN, on the power-distribution unit, set the main circuit breaker to OFF.
2. At each EPN, on the power-distribution unit, set the main circuit breaker to OFF.

Install the Clock Unit

1. Install the External Clock. See *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for the installation information.

Install Circuit Packs

1. See WARNING. At the TONE-CLOCK slot of the appropriate carrier, remove the TN768, TN2182, or TN419B Tone-Clock circuit pack and replace it with a TN780 Tone-Clock circuit pack. See Table 12-25.



WARNING:

A wrist strap must always be worn and the clip must be grounded to the carrier frame being worked on before inserting or removing any circuit pack.

2. If the system is high- or critical-reliability, repeat Step 1 for the duplicated portion of the system.

Table 12-25. TN780 Locations

System	Carrier	Slot
MCC	J58890AH	09
	J58890AJ	09
SCC	J58890L	11 (standard reliability)
		12 (high or critical reliability)
	J58890M	12

Backplane Wiring Changes

The TN780 must be connected to the cross-connect field. Some of the slots in which the TN780 was installed are not equipped with the proper backplane wiring. Use the following steps and Table 12-26 to move the circuit pack and to make the appropriate backplane wiring changes.

1. See NOTE. Remove the port circuit pack from the slot identified in Table 12-26, if required.



NOTE:

This port circuit pack will have to be moved to another slot and re-administered. See *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, for the required cross-connect information and *DEFINITY Enterprise Communications Server Release 5 Implementation*, for the administration information.

2. See CAUTION. On the carrier's backplane (behind the slot that the port circuit pack was removed from in step 1), disconnect the carrier cable assembly from the carrier backplane. Do not disconnect the cable assembly from the connector panel. (See Table 12-26).



CAUTION:

Exercise extreme care to ensure that no damage is done to the backplane pins or cable assembly.

3. See CAUTION. Connect the carrier cable assembly to the backplane connector associated with slot that contains the TN780. (See Table 12-26).



CAUTION:

The backplane pins can be bent very easily when connecting the cable. Use extreme caution to ensure the pins aren't bent. Double check all connections to verify pins aren't bent.

4. Repeat Steps 1 through 3 for all TN780s in the system. See Table 12-26.
5. At the rear connector panel, install the "TONE CLOCK" label above the 25-pair connector associated with the slot that the TN780 is in.
6. Install the "SERVICE" label on the slot from which the port circuit pack was removed.
7. Close all doors.

Table 12-26. Backplane Wiring Changes

Carrier	Slot that Port Pack is Removed from	Disconnect Cable Assembly from Slot	Connect Cable Assembly to Slot
J58890AH	09	12	09
J58890AJ	09	12	09
J58890L	12 (standard reliability) 11 (high or critical reliability)	N/A	N/A
J58890M	12	N/A	N/A

Install Cables

Install cables from cabinet to cross-connect field as required.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

When connecting the cable, use extreme caution to avoid bending the backplane pins. Double check all connections to ensure pins are not bent.

Power Up System

1. At each EPN, on the power-distribution unit, set the main circuit breaker to ON.
2. At the PPN, on the power-distribution unit, set the main circuit breaker to ON.
3. The system now goes through the rebooting process, loading the system translations from the translation memory card(s) or the tape(s). Rebooting takes 8 to 20 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

4. After the system reboot is finished and all trouble is cleared, verify the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Enter Added Translations

1. Administer forms listed in the "DS1 Tie Trunk Service" section in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to *y*, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.



NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.



WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

Save Translations

1. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
3. If the system contains a TN750 Announcement circuit pack, enter **list configuration software-version**, and press RETURN.

If Page 2 of this form shows that recorded announcements were saved, these announcements can be restored using the restore announcements command. Enter **restore announcements**, and press RETURN.
4. Update backup tape(s), if required.

44. Add ISDN—BRI

Requirements

BRI provides an ISDN-based interface between the DEFINITY ECS and one or more stations or voice terminals.

Service Interruption

Since, if the packet bus is being added, the addition of ISDN—BRI requires a service interruption, notify the customer in advance as to when the addition will be carried out.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free. Of particular concern is that there be no packet faults.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Login at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
4. If the system contains a TN750 Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Power Down System

If the packet bus is being added:

1. At the PPN, on the power-distribution unit, set the main circuit breaker to OFF.
2. At each EPN, if present, on the power-distribution unit, set the main circuit breaker to OFF.

Add Circuit Packs

1. Determine port assignment of circuit packs to be added.
2. See “8. Add Circuit Packs” earlier in this chapter, and install the appropriate circuit pack(s) in assigned cabinet slot (as required).

EXAMPLE:	Port Number	3	B	02	01
	Cabinet (Port Network)		Carrier (or Single-Carrier Cabinet)	Slot	Circuit

The TN778 Packet Control circuit pack and the TN556 *or* TN2198 ISDN BRI circuit pack are required. The TN778 Packet Control circuit pack should be added first.

If an EPN is present, a TN570 Expansion Interface circuit pack is required.

3. The packet bus is required with BRI. If the system isn't equipped with a packet bus see "41. Add Packet Bus to R5si or R5si+m" earlier in this chapter.

Install Cables

Install cables from cabinet to cross-connect field as required.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

NOTE:

BRI requires a 12-port backplane cable terminator (breakout connector). This terminator is connected to the 25-pair cable. This is different from the 8-port connector used for DCP.

Power Up System

If the packet bus was added:

1. At each EPN, if present, on the power-distribution unit, set the main circuit breaker to ON.
2. At the PPN, on the power-distribution unit, set the main circuit breaker to ON.

3. The system now goes through the rebooting process, loading the system translations from the translation memory card(s) or the tape(s). Rebooting takes several minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

4. After the system reboot is finished and all trouble is cleared, verify the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Enter Added Translations

Administer the required translation data using the forms listed under 7500D voice terminals and 8500 voice terminals in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5vs/si and Generic 3vs/si Maintenance* manual.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to *y*, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.

NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.



WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

Save Translations

1. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
3. If the system contains a TN750/B Announcement circuit pack, enter **list configuration software-version**, and press RETURN.

If Page 2 of this form shows that recorded announcements were saved, these announcements can be restored using the restore announcements command. Enter **restore announcements**, and press RETURN.
4. Update backup tape(s), if required.

45. Add ISDN Voice Terminals

ISDN—BRI voice terminals can be added to the system as endpoints. The DEFINITY ECS supports the 7505, 7506, 7507, 8503T, 8510T, and 8520 voice terminals.

For instructions on adding BRI voice terminals, see *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

46. Add 715 BCS or 715 GBCS Terminal for G3-MT

DEFINITY ECS R5si supports the use of the 715 Business Communications System (BCS) Terminal and the 715 Global Business Communications System (GBCS) as a G3-MT terminal. Brief connection instructions are provided below. For detailed connection and usage instructions, refer to the following documents:

- For the 715 BCS terminal, see the *AT&T Information Systems 715 BCS User's Guide and Service Manual*.
- For the 715 GBCS terminal, see the *2900/715 GBCS User's Guide and Service Manual*.
- For the 715 GBCS-2 terminal, see the *715 GBCS -2 User's Guide and Service Manual*, 555-230-876.

715 BCS Terminal

To connect the 715 BCS terminal, perform the following:

1. Plug the keyboard cable into the 6-pin DIN jack on the rear of the terminal
2. Plug the 25-pin DTE cable into the P2 port (center connector) on the rear of the terminal.
3. Change the autowrap option setting on PRIMARY/WINDOW 1 and WINDOW 2 from on to off to make the power-up option settings compatible with the DEFINITY ECS R5si. The customer will not have to change any option settings on the 715 BCS after powering up.

715 GBCS Terminal (2900/715)

To connect the 2900/715 GBCS terminal, perform the following:

1. Plug the keyboard cable into the 6-pin RJ-11 jack on the left side of the terminal. An adapter cable is available to convert a 6-pin DIN jack to an RJ-11 jack to allow a 715 BCS keyboard to be used
2. Plug the 25-pin DTE cable into the P2 port (right side connector looking from the rear of the terminal)

715 GBCS-2 Terminal

To connect the 715 GBCS-2 terminal, perform the following:

1. Plug the keyboard cable into the keyboard jack on the rear of the terminal. This is a unique cable and must be connected to the 715 GBCS-2 only.
2. Plug the 25-pin DTE cable into the COM1 port (right side connector looking from the rear of the terminal).

47. Add Wideband Switching

With a single call setup per call, Wideband Switching supports high-bandwidth end-to-end connectivity between customer endpoints. These calls can transmit data at rates (in DS0, or 64-kbps, increments) either between 128 and 1536 kbps over T1 facilities or between 128 and 1984 kbps over E1 facilities. As a result, DEFINITY ECS also supports CCITT-defined data-service rates (including H0 — 384 kbps or 6 DS0s, H1 — 1536 kbps or 24 DS0s, and H2 — 1920 kbps or 30 DS0s).

Wideband Switching allows for services and applications that require high bandwidth, such as:

- High-speed video conferencing
- Data backup
- Scheduled batch processing
- Primary data interfaces

For these purposes, DEFINITY ECS supports wideband connectivity:

- Within private networks (including ETNs)
- With offerings from a variety of domestic IXC and RBOCs
- With offerings from a variety of international carriers

However, with Wideband Switching, dedicated network facilities are no longer required for high-speed services. Instead, switched wideband network access can readily be used to cost-effectively:

- Serve as a reliable switched backup to a failure of dedicated network facilities
- Supplement the capacity of dedicated facilities to avoid provisioning enough dedicated facilities to handle peak traffic volumes

Configuration

At a high level, a DEFINITY ECS interfaces a wideband endpoint with a TN464C DS1/E1 Interface circuit pack. Also, either an AT&T ACCULINK™ Bandwidth Controller or an Ascend Multiband¹ Plus resides between the wideband endpoint (or, "application host") and the DEFINITY ECS (see Figure 12-75).

1. Trademark of Ascend Communications, Inc.

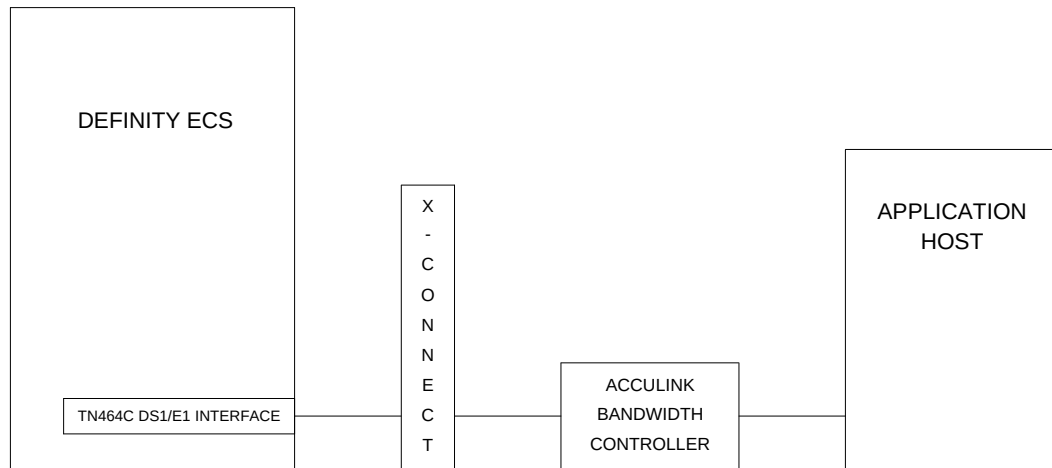


Figure 12-75. DEFINITY ECS Connection to Wideband Endpoint

Installation

For instructions about connecting Wideband Switching equipment to a DEFINITY ECS, see *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

For instructions about installing an ACCULINK Bandwidth Controller for use in Wideband Switching, see:

- *ACCULINK Bandwidth Controller System Guide*, 314-620-300
- *ACCULINK Bandwidth Controller Operating Guide*, 314-620-301
- *ACCULINK Bandwidth Controller Application and Release Notes*, 314-620-302

Administration

For instructions about assigning Wideband Switching to a DEFINITY ECS, see:

- *DEFINITY Enterprise Communications Server Release 5 Implementation*.
- *DEFINITY Enterprise Communications Server Release 5 V4 Wideband Technical Reference*, 555-230-230, Chapter 3.

48. Add OVATION System

The four models of the AT&T OVATION voice messaging system (Models 2000, 4000, 6000, and SSP) provide voice mail, fax mail, integrated distribution of voice and fax information, and customized call processing.

An OVATION system supports a variety of telecommunications interfaces that conform to both North American and international standards. Also, where a specific switching system or national telecommunications network may deviate from standards, an OVATION system can often be translated to adjust its interface criteria to the peculiar requirements of the adjacent system.

The system's modular configuration and distributed architecture provide high reliability, incremental growth, and simple upgrading for a variety of applications in:

- Corporate message centers
- Voice- and fax-mail service bureaus
- Customer services and telemarketing
- Sales-force management

Configuration

At a high level, a DEFINITY ECS interfaces an OVATION system with digital signaling ports and analog voice ports (see Figure 12-76). Each signaling port, a TN754 or TN413 Digital Line circuit, connects either to a Switch Integration Device or to a VTG Voice Bridge² Series II residing between the DEFINITY ECS and the OVATION system. Using busy-indication information received from the signaling port, the Switch Integration Device controls the signaling for up to 24 directly connected voice ports, which can be composed of a variety of the DEFINITY ECS DEFINITY ECS Analog Line circuits.

Using three signaling ports, Switch Integration Devices, and COM ports, up to 64 voice ports can deliver messages to an OVATION system.

2. Trademark of Voice Technologies Group, Inc.

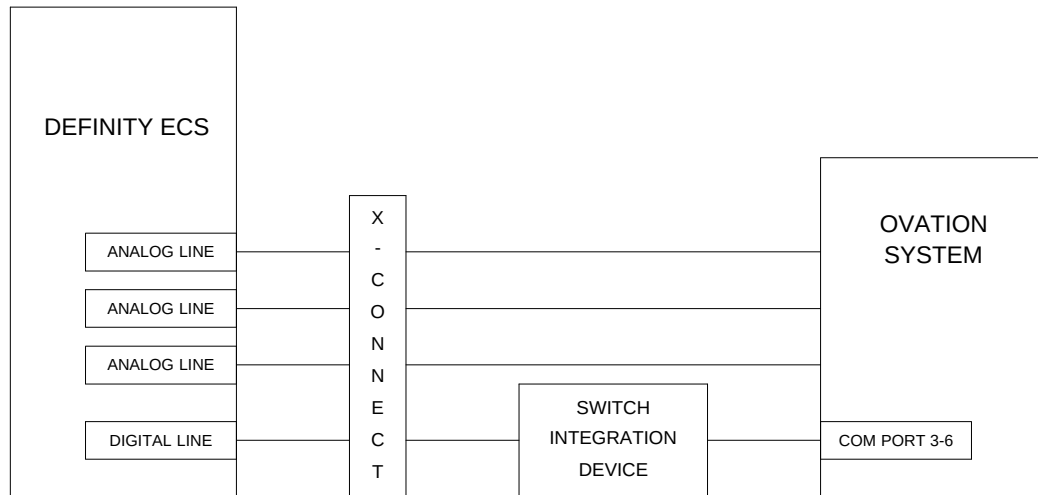


Figure 12-76. DEFINITY ECS Connection to an OVATION System

Installation and Administration

For instructions about installing digital and analog line circuits as the DEFINITY ECS interface to an OVATION system, see "8. Add Circuit Packs" earlier in this chapter.

For instructions about assigning a DEFINITY ECS to interface an OVATION system, see *Voice Bridge Series II AT&T Installation*, Chapter 1.

For instructions about installing the Switch Integration Device, see *Voice Bridge Series II AT&T Installation*, Chapter 2.

For instructions about installing an OVATION system, refer to the model's installation manual shipped with the specific system.

49. Add 8400-Series Voice Terminals

Several 8400-series 2-wire/4-wire DCP terminals can be assigned to the system in native mode. Also, as a convenience during installations, administrative information can be downloaded from the system to nonvolatile memory in these terminals.

For systems before G3 V3, 8400-series DCP sets needed to be aliased as a 7400-series set, and administrative information could not be downloaded.

Requirements

A 4-wire 8400-series set is connected to the system in the same manner as any other 4-wire DCP voice terminal. A modular cable connects the set to an information outlet. From there, it connects through the cross-connect field and through a 25-pair cable to a 4-wire digital circuit pack such as the TN754 or TN413.

See NOTE. The tip and ring connections of 2-wire 8400-series sets are connected to a 16-port 2-wire TN2181 DCP circuit pack in a similar manner to the way that 2-wire analog endpoints are connected to a TN746B.

NOTE:

Unlike with some analog circuits, be careful to wire tip to tip and ring to ring between the circuit pack's port and the endpoint.

Hard-Wire Bridging

Analog-type hard-wire bridging has never been allowed for 4-wire (only) DCP endpoints such as 7400-series voice terminals. This is because, from the *outgoing* perspective of these endpoints, hard-wire bridging provides no way of combining the digital output of two bridged DCP sets. From the *incoming* perspective, a bridged endpoint causes enough additional load to degrade the fairly wide-spectrum DCP signal. (And, 2-wire DCP interfaces require twice the spectrum of 4-wire interfaces.)

See CAUTION. Likewise, hard-wire bridging is not allowed for 8400-series either sets with either 2-wire or 4-wire DCP interfaces to the system.



CAUTION:

Bridging or dual wiring of these endpoints can either cause:

- Electrical damage to the endpoints
- The system's circuit pack to remove power from the endpoints

Dual Wiring of 2-Wire and 4-Wire Endpoints

See previous CAUTION. A 2-wire and a 4-wire endpoint cannot be simultaneously wired to the same equipment location in a cross-connect field, even though they connect to differently colored wire pairs. The system uses separate circuit packs to interface 2- and 4-wire endpoints, and none of these circuit packs are capable of interfacing both.

Auxiliary Power

One of the 8400-series voice terminals, the 8434, derives power for its nonessential functions from an auxiliary power source.

The source of this power can be either:

- Individual MSP-1 power supplies or 258A-type adaptors, or
- Bulk power supplies such as the 1145A1

located at the cross-connect field, at an information outlet, or at the adaptor's site.

This voice terminal's maximum distance from its auxiliary power source is 250 feet.

Minimum Usable Vintage

For two of the 8400-series sets, administrative information cannot be downloaded to the sets through early vintages of the TN754(A) circuit pack. Therefore, when an 8410D or an 8434D voice terminal is installed as a 4-wire set connected to a TN754 circuit pack, the vintage of the TN754 circuit pack must be Vintage 11 or higher.

Administration

1. Log in as "craft" at the login: prompt on the G3-MT or G3-MA.
2. See NOTE. Enter **display system-parameters country-options**, and press RETURN to verify that the system's companding mode for its local stations is set to the desired value (usually, A-law for Europe and Mu-law for North America and Japan).



NOTE:

Refer to *DEFINITY Enterprise Communications Server Release 5 Implementation*, for a description of these forms.

3. See NOTE. If necessary, for 8400-series terminals in a DEFINITY ECS system, enter **change terminal-parameters 8400**, and press RETURN to change the default system-level parameters and audio levels for these terminals.



NOTE:

For detailed information about changing the default parameters and audio levels, refer to *DEFINITY Application Notes* available through the International Technical Assistance Center (ITAC).

4. See NOTE. If necessary, for 8400-series terminals in a DEFINITY ECS system, enter **change display-messages softkey-labels**, and press RETURN to assign user-defined soft-key labels for these terminals.



NOTE:

On a per-station basis in the "station" form, these soft keys can be labeled in several languages (including English, French, Spanish, and Italian). However, on a system-wide basis, this "display-messages soft-key" form can also label soft keys in another language or can change the predefined names of the soft-key labels.

5. Determine the port assignment of the endpoint's 2-wire digital line from the "station" form.

EXAMPLE:

Port Number	2	A	04	06
	Cabinet (Port Network)	Carrier (or Single-Carrier Port)	Slot	Circuit

6. Enter **add station xxxxx** [[extension number] or **next**], and press RETURN to add the new 8400-series set to the system and to assign its attributes.

Installation

See “8. Add Circuit Packs” earlier in this chapter, and install the:

- TN754 or TN413 circuit pack(s) for 8400-series installed as 4-wire sets
- TN2181 circuit pack(s) for 8400-series installed as 2-wire sets

in assigned carrier slot (if an additional circuit pack is required).

See NOTE. Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

 NOTE:

This manual gives separate wiring descriptions for 8400-series sets with 2-wire and 4-wire interfaces to the system.

Detailed descriptions for installing 8400-series voice terminals are contained in *8403, 8410, and 8434 Voice Terminal Instructions for Installation, Switch Administration, and Programming the Options*, 555-015-164.

50. Add CallMaster 603A, 603D, or 603E

603A and 603D CallMaster 4-wire DCP terminals can be assigned to the system in native mode. Also, 603E CallMaster 2-wire/4-wire DCP terminals can be assigned to the system in native mode. As a convenience during installations, administrative information can be downloaded from the system to nonvolatile memory in these terminals.

For systems before G3 V3, all of these CallMaster sets needed to be aliased as 602A CallMaster sets, and administrative information could not be downloaded.

Requirements

603E 2-wire CallMaster sets are connected to the system in the same manner as any other 2-wire DCP voice terminal. A modular cable connects the sets to an information outlet. From there, it connects through the cross-connect field and through a 25-pair cable to a TN2181 2-wire digital circuit pack.

603A, 603D, and 603E 4-wire CallMaster sets are connected to the system in the same manner as any other 4-wire DCP voice terminal. A modular cable connects the sets to an information outlet. From there, it connects through the cross-connect field and through a 25-pair cable to a 4-wire digital circuit pack such as the TN754 or TN413.

Hard-Wire Bridging

Analog-type hard-wire bridging has never been allowed for 4-wire DCP endpoints such as 7400-series voice terminals. This is because, from the *outgoing* perspective of these endpoints, hard-wire bridging provides no way of combining the digital output of two bridged DCP sets. From the *incoming* perspective, a bridged endpoint causes enough additional load to degrade the fairly wide-spectrum DCP signal. (And, 2-wire DCP interfaces require twice the spectrum of 4-wire interfaces.)

See CAUTION. Likewise, hard-wire bridging is not allowed for a 603A, 603D, or 603E CallMaster installed with either a 2- or 4-wire interface to the system.



CAUTION:

Bridging or dual wiring of these endpoints can either cause:

- *Electrical damage to the endpoints*
- *The system's circuit pack to remove power from the endpoints*

Dual Wiring of 2-Wire and 4-Wire Endpoints

See previous CAUTION. A 2-wire and a 4-wire endpoint cannot be simultaneously wired to the same equipment location in a cross-connect field, even though they connect to differently colored wire pairs. The system uses separate circuit packs to interface 2- and 4-wire endpoints, and none of these circuit packs are capable of interfacing both.

Administration

1. Log in as "craft" at the login: prompt on the G3-MT or G3-MA.
2. See NOTE. Enter **display system-parameters country-options**, and press RETURN to verify that the system's companding mode for its local stations is set to the desired value (usually, A-law for Europe and Mu-law for North America and Japan).

**NOTE:**

Refer to *DEFINITY Enterprise Communications Server Release 5 Implementation*, for a description of these forms.

3. See NOTE. If necessary, for 603-series terminals in a DEFINITY ECS system, enter **change terminal-parameters 603/302B1**, and press RETURN to change the default system-level parameters and audio levels for these terminals.

**NOTE:**

For detailed information about changing the default parameters and audio levels, refer to *DEFINITY Application Notes* available through the International Technical Assistance Center (ITAC).

4. Determine the port assignment of the endpoint's 4-wire digital line from the "station" form.

EXAMPLE:	Port Number	2	A	04	06
	Cabinet (Port Network)		Carrier (or Sigle-Carrier Cabinet)	Slot	Circuit

5. Enter **add station xxxxx** [extension number] or **next**], and press RETURN to add the new CallMaster set to the system and to assign its attributes.

Installation

See “8. Add Circuit Packs” earlier in this chapter, and install the:

- TN754 or TN413 circuit pack(s) for 4-wire sets
- TN2181 circuit pack(s) for 2-wire sets

in assigned carrier slot (if an additional circuit pack is required).

See NOTE. Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.



NOTE:

This manual gives separate wiring descriptions for 2-wire and 4-wire 603E CallMaster sets.

51. Add PRI Over PACCON to R5si or R5si+m

The optional asynchronous packet bus provided by a TN778 Packet Control circuit pack [rather than the synchronous TDM bus provided by TN765 Processor Interface (PI) circuit packs] can allow TN464 ISDN-PRI interfaces on a R5si or R5si+m system to communicate with the system's SPE.

Higher ISDN-PRI Capacities for System

This new packet interface, between an ISDN-PRI interface and the SPE, increases the number of possible ISDN-PRI interfaces to the number of possible D channels. In a system without D-channel backup, this value equals the maximum number of DS1/E1 spans:

- 8 for a R5si
- 30 for a R5si+m

Tone-Clock Circuit Packs

Like DS1 and ISDN-PRI using a TN765 Processor Interface, a TN756 Tone Detector/Generator circuit pack cannot be used with PRI Over PACCON interfaces. Therefore, if a TN756 resides in a single-carrier cabinet system, this circuit pack must be replaced with both a:

- TN768, TN780, TN419B, or TN2182 Tone-Clock circuit pack
- TN748B, TN420B, or TN744C Tone Detector circuit pack



NOTE:

If a TN756 tone-detector/generator is removed from the DEFINITY R5si control cabinet, the TN2182 tone clock should replace this circuit pack. The TN2182 Tone-Clock serves to replace the tone detector circuits on the old TN756. If a TN2182 is used, no TN748B is required.

Expansion Interface (EI) Circuit Packs

If a new packet bus is being added to provide PRI Over PACCON for a R5si+m system with an EPN, every TN776 EI circuit pack in the system must be replaced with a TN570 EI circuit pack. These TN570 EIs allow packet-based communication between the PPN and each EPN in the system.

DS1/E1 Interface Circuit Packs

Like ISDN-PRI using a TN765 Processor Interface, a TN464C (minimum "C" suffix) DS1/E1 circuit pack is required to assign a European 32-port E1 interface. Each E1 span contains up to 30 ISDN-PRI trunk-group members and 2 signaling channels.

PRI Over PACCON Versus "PRI Over Processor Interface"

See NOTE. For simpler call processing, R5 administration does not allow Packet Interface *and* Processor Interface circuit packs to control ISDN-PRI calls for the *same* system at the *same* time. Therefore, during a PRI Over PACCON addition, every TN767C DS1 circuit pack used to provide a D-channel signaling for ISDN-PRI must be replaced with a TN464 DS1 circuit pack. One benefit of this practice is the freeing of PI circuits to control other important links such as DCS, CMS, and AUDIX.

NOTE:

In a R5si or R5si+m system with Non-facility-Associated Signaling, a TN767C DS1 circuit pack may still provide B channels for a PRI Over PACCON link as long as each controlling D channel for the link (primary and optional backup) resides on a TN464 DS1 circuit pack.

Service Interruption

Since, if the packet bus is being added, the addition of PRI Over PACCON requires a service interruption, notify the customer in advance as to when the addition will be carried out.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free. Of particular concern is that there be no packet faults.

Disable Alarm Origination

1. See WARNING. Enter **change system-parameters maintenance**, and press RETURN.
2. Make a note of the *Alarm Origination Activated* field administration. If the feature is enabled, enter **n** in this field and press RETURN to disable Alarm Origination.

You will enable this feature again in one of the final processes. See NOTE.



WARNING:

If you do not disable Alarm Origination before making changes to the switch, the switch may generate alarms, resulting in unnecessary trouble tickets. Reducing redundant and unnecessary trouble tickets is critical for measuring the quality of Lucent services and products.



NOTE:

For earlier releases of the system software, you may also need to disable *Cleared Alarm Notification* and *Restart Notification* before you can submit the form successfully.

Save Translations

1. Login at the G3-MT terminal.
2. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
3. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
4. If the system contains a TN750 Announcement circuit pack, enter **display announcements**, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter **save announcements**, and press RETURN.

Power Down System

If the packet bus is being added:

1. At the PPN, on the power-distribution unit, set the main circuit breaker to OFF.
2. At each EPN, if present, on the power-distribution unit, set the main circuit breaker to OFF.

Add Circuit Packs

1. To control every ISDN-PRI link in the system, a TN778 Packet Control circuit pack and TN464 ISDN-PRI circuit packs are required.

Since the packet bus is required with PRI Over PACCON, the TN778 Packet Control circuit pack should be added first. If the system isn't equipped with a packet bus see "41. Add Packet Bus to R5si or R5si+m" earlier in this chapter.

If EPNs reside in the system, replace every TN776 EI circuit pack with a TN570 EI to provide packet-based communication between the PPN and each EPN.

2. For single-carrier cabinet systems only, remove an existing TN756 Tone Detector/Generator circuit pack and install the TN768, TN780, or TN419B Tone-Clock circuit pack in assigned carrier slot, if required.
3. Determine port assignment of port circuit packs to be added.
4. See "8. Add Circuit Packs" earlier in this chapter, and install the TN464 circuit pack(s) in assigned carrier slot (as required).

EXAMPLE:	Port Number	3	B	02	01
	Cabinet (Port Network)		Carrier (or Single-Carrier Cabinet)	Slot	Circuit

5. See "8. Add Circuit Packs" earlier in this chapter, and install the TN748B (or the international TN420B) Tone Detector circuit packs, as required.

Install Cables

Install cables from cabinet to cross-connect field as required.

Detailed descriptions for installing wiring are contained in *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*.

Power Up System

If the packet bus was added:

1. At each EPN, if present, on the power-distribution unit, set the main circuit breaker to ON.
2. At the PPN, on the power-distribution unit, set the main circuit breaker to ON.
3. The system now goes through the rebooting process, loading the system translations from the translation memory card(s) or the tape(s). Rebooting takes several minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

4. After the system reboot is finished and all trouble is cleared, verify the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Enter Added Translations

Log in as "craft" at the login: prompt on the G3-MT or G3-MA.

Do Preliminary Administration

For a system where ISDN-PRI interfaces were previously controlled by a TN765 PI circuit pack, preliminary administration must first remove any:

- Existing PI-controlled ISDN-PRI links
- TN767C DS1 Interface circuit packs used to provide D-channel signaling for ISDN-PRI links

The preliminary administration includes:

1. Remove the existing PI-controlled ISDN-PRI link translations
 - **busyout link <n>** — For each PRI link assigned
 - **change trunk <nn>** — To not reference the signaling groups associated with each trunk's B channel
 - **remove signaling-group <nn>** — For each signaling group assigned
 - **change communications link** — To set the "Enable" field to "n" for each link of type "ISDN"

- **change communications processor-channel** — To vacate all fields for each processor channel of type "ISDN"
 - **change communications link** — To vacate all fields for each link of type "ISDN"
2. For each TN767C previously used to provide D-channel signaling for ISDN-PRI, remove its existing DS1 translations, and reassign circuit pack as a TN464

Assign ISDN-PRI and PRI Over PACCON Options

1. If ISDN-PRI is being assigned as a new feature on the system, get the DOSS order number of the ISDN-PRI addition.
2. Call the regional CSA to request an "init" login. Once logged in as "init," the CSA should assign the "ISDN-PRI" (if necessary) and the "PRI Over PACCON" option to the system.

The CSA should enter **change system-parameters customer-options**, and press RETURN to enable the "ISDN-PRI" (if necessary) and the "PRI Over PACCON" option. For details on enabling this option, see *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Assign or Reassign ISDN-PRI Feature

Assign or reassign ISDN-PRI using the forms listed under "Integrated Services Digital Network — Primary Rate Interface" in *DEFINITY Enterprise Communications Server Release 5 Implementation*.

Resolve Alarms and Enable Alarm Origination

1. Examine the alarm log. Resolve any alarms that may exist by using the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual.
2. See NOTE. See WARNING. If the *Alarm Origination Activated* field administration that you previously noted is already set to y, be sure to enable Alarm Origination. Otherwise you do not need to enable Alarm Origination (proceed to the next section directly).
3. Enter **change system-parameters maintenance**, and press RETURN.

The *Alarm Origination Activated* field has been changed to *Alarm Origination to OSS Numbers* to support more than one OSS (INADS, etc.).

Enter **first-only** in this field to enable Alarm Origination (to the first OSS, which should be INADS).

Be sure to enter *y* in both *Cleared Alarm Notification* and *Restart Notification* fields if they are not enabled already. Press RETURN.

 NOTE:

If you have lost the previous administration of the *Alarm Origination* field, you may register the system again with the INADS Database Administrator at the TSC. The INADS Database Administrator will enable Alarm Origination as part of the registration process.

 WARNING:

If you do not enable Alarm Origination when the customer has purchased a services contract, the switch will not report any alarm to the TSC automatically, causing the TSC to be unable to fulfill the services contract.

Save Translations

1. If the system is high- or critical-reliability, enter **status system 1**, and press RETURN to verify that the system is in the "active/standby" mode.
2. Enter **save translation**. Press RETURN. This command instructs the system to take all translation information in memory and write it to the translation memory card(s) or the tape(s).
3. If the system contains a TN750 Announcement circuit pack, enter **list configuration software-version**, and press RETURN.

If Page 2 of this form shows that recorded announcements were saved, these announcements can be restored using the restore announcements command. Enter **restore announcements**, and press RETURN.
4. Update backup tape(s), if required.

52. Add Integrated CSU Module

For DEFINITY ECS Release 5, an integrated CSU module is composed of a wallet-sized 120A CSU module. See Figure 12-77. For R5, the 120A CSU module must be paired with either a:

- TN767E DS1 circuit pack
- TN464F DS1/E1 circuit pack (optioned only for 24-channel DS1 service)

to realize the enhanced DS1-maintenance capabilities provided by new maintenance software on the R5 system and firmware on the updated DS1 circuit packs.

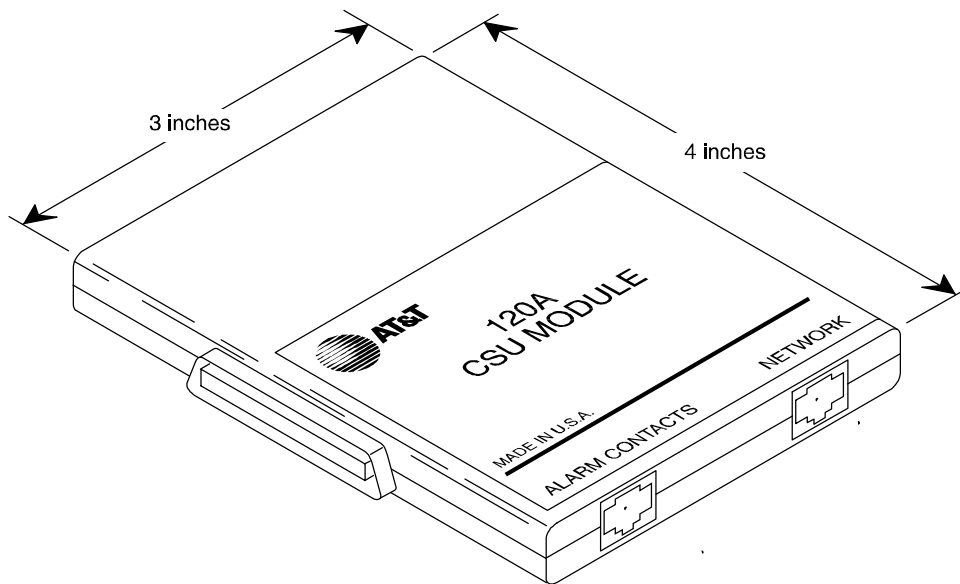


Figure 12-77. 120A CSU Module

Integrated CSUs present many advantages over traditional configurations using external CSUs. Some of these include:

- Simpler installation using fewer cables
- Automatic initialization and test of 120A by DS1
- Increased reliability with fewer parts (including a single processor on DS1 circuit pack)

- Lower power consumption without external power supplies
- Simpler maintenance, due to
 - Detection of on-line alarms by DS1
 - Convenient access to test jacks and LEDs on DS1 circuit pack
 - Ready access to DS1-associated performance counters using the G3-MT or G3-MA

Installation

For detailed information about installing an Integrated CSU Module refer to:

- *Integrated CSU Module Installation and Operation*, 555-230-193
- *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*

53. Add PassageWay Solution Interface

The current version of the PassageWay™ Solution interface connects a:

- 4-wire Mu-law DCP voice terminal including:
 - 7400-series terminals
 - 602A, 603A, and 603D CallMaster terminals
- Personal computer (PC) with Microsoft³ Windows⁴ operating system version 3.1 (or later)

through a single 4-wire Mu-law DCP port to a DEFINITY system (see Figure 12-78).

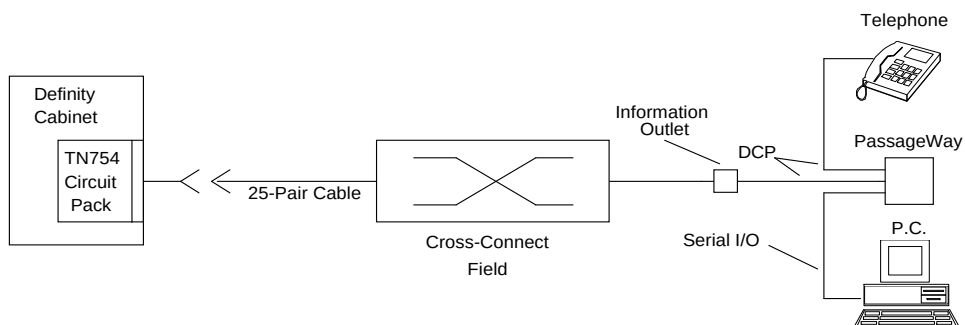


Figure 12-78. Typical System Interface for PassageWay Solution

The PassageWay Solution provides user applications including:

- AT&TBuzz
- AT&TCall
- AT&TConnect
- Log Viewer

and features such as:

- Autodialing using the Hayes⁵ command set
- Dynamic Data Exchange linking PassageWay applications with other Windows applications

3. Registered trademark of the Microsoft Corporation.

4. Trademark of the Microsoft Corporation.

5. Registered trademark of the Hayes Corporation.

Interface Installation

Wiring

The PassageWay adaptor provides two standard 8-pin modular jacks, one for connection to the 4-wire Mu-law DCP terminal and the other for connection to a modular wall jack leading to the switch. This adaptor also provides a 9-pin RS-232 connection for the PC.

See NOTE. The previous figure shows both the PC and voice terminal connected through the adaptor to a 4-wire Digital Line circuit pack (in this case a TN754).

NOTE:

In the current offering of the PassageWay Solution, a TN419B A-law Digital Line circuit pack cannot serve as the switch-side interface, and a TN754B must always be selected for Mu-law companding.

Auxiliary Power

The PassageWay adaptor derives its power from an auxiliary power source.

Since the PassageWay adaptor only draws about 1 1/4 Watts at 20 to 60 Volts (or in the worst case about 1/10 Ampere of current), the adaptor can either derive power:

- Individually, when the adjacent DCP voice terminal only uses phantom power

This arrangement provides a wide maximum distance from the adaptor to its auxiliary-power source.
- In parallel, using the same power source as its adjacent DCP voice terminal requiring auxiliary power

This arrangement only slightly decreases the DCP voice terminal's maximum distance from its auxiliary-power source.

The source of this power can be either:

- Individual MSP-1 power supplies or 258A-type adaptors, or
- Bulk power supplies such as the 1145A1

located at the cross-connect field, at an information outlet, or at the adaptor's site.

Switch Administration

1. Determine the port assignment of the PassageWay interface's 4-wire Mu-law digital line from the "station" form.

EXAMPLE:

Port Number	2	A	04	06
	Cabinet (Port Network)	Carrier (or Single-Carrier Cabinet)	Slot	Circuit

2. See NOTE. Enter **add station xxxxx** [extension number] or **next**], and press RETURN to add the PassageWay adaptor's adjacent 4-wire Mu-law DCP voice terminal to the system and to assign its attributes.

If desired, an adjacent 7400-series voice terminal (without a display) can be aliased as a voice terminal with a display module. When this is done, the PassageWay Solution:

- Simulates the display module — but not additional appearances or feature buttons
- Provides the simulated module on the PC's screen



NOTE:

Be sure to assign the "station" form with the terminal type of adaptor's adjacent voice terminal or with a suitable alias. Do not use the "PC" terminal type as would be done with the PC/PBX Connection feature.

Installing the PassageWay Solution

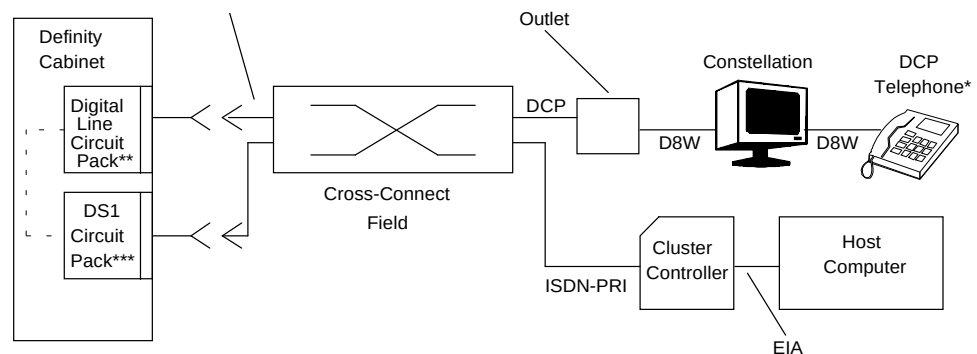
For detailed information about installing the PassageWay software refer to *PassageWay Solution User's Guide*, 560-201-102.

54. Add Constellation Interface

Requirements

A Constellation interface provides advanced telemarketing features for up to 23 ACD agents by integrating several voice and data components into a single configuration. The primary purpose of this configuration is to automatically present an appropriate data screen with each incoming call to an ACD agent.

Constellation does this by passing D-channel information (for incoming ACD calls from an ISDN network) to an I channel in the Memorex-Telex cluster controller (Model 6544) which converts the information to an EIA format for access to a host computer. Then, the host computer accesses its database and relays a call-associated data screen back to the answering ACD agent's Memorex-Telex data terminal (Model 6538 or 6539). This data screen can then be presented to the agent as the incoming call arrives at the agent's 4-wire DCP voice terminal (see Figure 12-79).



* Use with 7401D, 7406D, 602A1, 603A1, and 603D1 telephones

** Digital line pack can be a TN754 or TN413

*** DS1 circuit pack can be a TN464C or TN767C

Figure 12-79. Typical System Interface for Constellation

Installation

ISDN-PRI Interface to Cluster Controller

As shown in the previous figure, a North American 24-port DS1 (*not* a 32-port E1) interface connects the switch to a Model 6544 cluster controller. This allows each cluster-controller/host-computer combination to communicate with as many as 23 Constellation terminals.

For detailed information about installing an ISDN-PRI interface, refer to either:

- Section "33. Add ISDN—PRI" on page 12-169, in this chapter
- Section "51. Add PRI Over PACCON to R5si or R5si+m" on page 12-231, in this chapter

Cluster Controller

The Model 6544 cluster controller passes call-related information from an ISDN trunk group to applications databases on as many as three host computers. It also downloads a terminal configuration to a Constellation terminal.

For detailed information about installing the cluster controller, refer to the Memorex-Telex instructions that accompany the controller.

Constellation Terminals and DCP Voice Terminals

Model 6538 and 6539 Constellation terminals are connected between the switch and a 4-wire DCP voice terminal using two standard 8-pin modular jacks. These jacks reside on a plug-in card installed in the base of the terminal. (Use the "PHONE" jack to connect the Constellation terminal to the 4-wire DCP voice terminal, and use the "LINE" jack to connect the Constellation terminal to the information outlet.)

As shown in the previous figure, ACD agents served by a Constellation interface can use the following 4-wire DCP voice terminals: 7401D, 7406D, 602A1, 603A1, and 603D1. These voice terminals can be assigned as endpoints with either:

- Mu-law companding using a TN754
- A-law companding using a TN754B or TN413

Digital Line circuit pack.

For detailed information about installing a Constellation data terminal, refer to the Memorex-Telex instructions that accompany the terminal.

For detailed information about assigning a Constellation terminal to the switch, refer to the "Constellation Voice/Data Terminals" section of *DEFINITY Enterprise Communications Server Release 5 Implementation*.

55. Remove an EPN from the System

When down-sizing a system, it may be necessary to remove an EPN cabinet from the system configuration. A problem may be encountered on some older systems when removing the Tone Clock circuit packs. When displaying the “change circuit” of the B carrier in EPN2, two question marks (??) may appear, meaning no board designation. A minor alarm is generated and cannot be removed.

To remove an EPN from a system, perform the following:

1. Power down the EPN to be removed.
2. Remove the associated EIs in the PPN.
3. If a second EPN is present, remove the EIs from the remaining EPN (if it is to remain operational).
4. Remove all fiber-optic cables and transceivers connecting to the EPN to be removed.



WARNING:

The DEFINITY ECS contains a Class 1 LASER device with the following specifications:

Power Output: -5 dBm

Wavelength: 1310 nm

Mode Field Diameter: 8.8 microns



CAUTION:

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

5. Administer all ports/stations that are using the EPN to be removed.
6. Use the “change circuit” procedure to blank out the EIs.
7. Save the translations.
8. At the maintenance terminal, execute a “reset system” command

The system reboots and performs the board insertion procedure. When completed, all references to the removed EPN and its circuit packs and ports are removed. The minor alarm is cleared.

56. Add Additional Memory (SIMM)

Use the following procedure to perform a memory upgrade:

- Save the current translations to the existing translation memory card
- Power down the control cabinet
- Remove the TN790 Processor circuit pack and install the SIMM
- Install the TN790 Processor circuit pack into the control cabinet
- Reboot the upgraded system
- Verify that the system boots properly

Prerequisite Hardware

The equipment in Table 12-27 *must* be on-site before the upgrade begins. Ensure that the SIMM is current and, if necessary, contains the appropriate amount of memory.



CAUTION:

Be sure to use a Lucent Technologies-provided SIMM. Other brands may have incompatible edge connectors and could produce unpredictable results.

To place a claim for missing equipment, as part of the Streamlined Implementation process, call 1-800-772-5409, or the number provided by your Lucent Technologies representative.

Table 12-27. Required Hardware

Equipment	Description	Quantity
63610	SIMM	1 ¹
106718521	TN790 Processor Circuit Pack	1 ²

1. During the hardware upgrade, attach the SIMM to the TN790 before inserting the TN790 into the enhanced control cabinet.
2. TN790 Processor circuit pack is required for all system upgrades to DEFINITY ECS Release 5.

Required Tools

The following tools and items may be required during the upgrade:

- Authorized wrist grounding strap
- Static-proof or original circuit-pack packaging for transporting circuit packs
- One copy of each of the following manuals:
 - *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si*
 - *DEFINITY Enterprise Communications Server Release 5 V5 Implementation*

Open Control Cabinet Door



NOTE:

The door should already be open in a system that was just upgraded.

Using a screwdriver, turn the door-latch screw counter-clockwise one-fourth turn to open the door.

Verify System Status

Before proceeding, the system should be examined for alarms, and every problem should be corrected. The system must be alarm-free.

Shut Down System Alarms

See WARNING. On the “Change System-Parameters Maintenance” form, turn the system alarms off by disabling the *alarm origination* field.



WARNING:

If you do not disable the alarms before powering down, the system generates an automatic call to the Technical Service Center with a trouble ticket.

Save Current Translations to Existing Translation Memory Card

The current translations are first saved to the translation memory card.

1. Log in at the G3-MT terminal.
2. Verify that the switch on the outside edge of the memory card is in the downward position to record (see Figure 12-80).

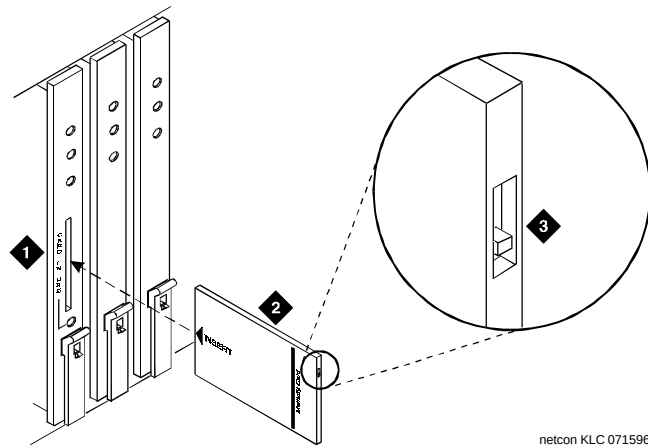


Figure 12-80. Record Switch on DEFINITY Memory Card

3. Enter **save translation**. Press RETURN. This command instructs the system to write all translation information from memory to the translation memory card.
4. If the system is equipped with a TN750/B Announcement circuit pack, enter display announcements, and press RETURN.

If administered recorded announcements are listed, enter **list configuration software-version**, press RETURN. Check Page 2 of this form to find out when the announcements were last saved, and ask the customer whether any announcements have changed since then.

If so, the current announcements can be saved using the save announcements command. Enter the following command,

save announcements [from PCSS]

and press RETURN

where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

Shut Down DEFINITY LAN Gateway System

If a DEFINITY LAN Gateway system resides in the control cabinet to be upgraded, prepare to shut down the DEFINITY LAN Gateway assembly and allow the disk to completely spin down. See Caution. See WARNING.



CAUTION:

Before using this procedure to shut down the DEFINITY LAN Gateway, make sure that you save the system parameters if you plan to reuse the current system.



WARNING:

Neglecting to shut down a DEFINITY LAN Gateway assembly before powering down the system cabinet where it resides can damage the LAN Gateway disk.

1. See WARNING. To avoid an unexpected LAN Gateway reboot after an unplanned switch reboot, unseat the LAN Gateway assembly from its backplane connectors in the carrier.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

2. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
3. When the main menu appears, select *Maintenance*.
4. Select *Reset System* from the *Maintenance* menu.
5. Select *Shutdown* from the *Reset System* menu.

Shut Down DEFINITY AUDIX System

1. See WARNING. If a DEFINITY AUDIX System resides in the control cabinet to be upgraded, shut down the AUDIX assembly and allow the disk to completely spin down.



WARNING:

Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

2. See WARNING. To avoid an unexpected AUDIX reboot after an unplanned switch reboot, unseat the AUDIX assembly from its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Power Down Control Cabinet

See CAUTION. Behind the PPN control cabinet power supply, set the circuit breaker to OFF.



CAUTION:

Powering down the control cabinet will cause important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup requests, and Do Not Disturb requests to be lost. Refer to DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r or DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si for information about preparing the system for a power down. BCMS data cannot be stored to or retrieved from tape.

Install the SIMM on the TN790 Processor Circuit Pack

See WARNING.



WARNING:

Before handling the circuit pack or the SIMM, put on a wrist strap and attach its plug or clip to the cabinet's frame.

See Figure 12-81 to locate the SIMM sockets on the TN790 processor circuit pack.

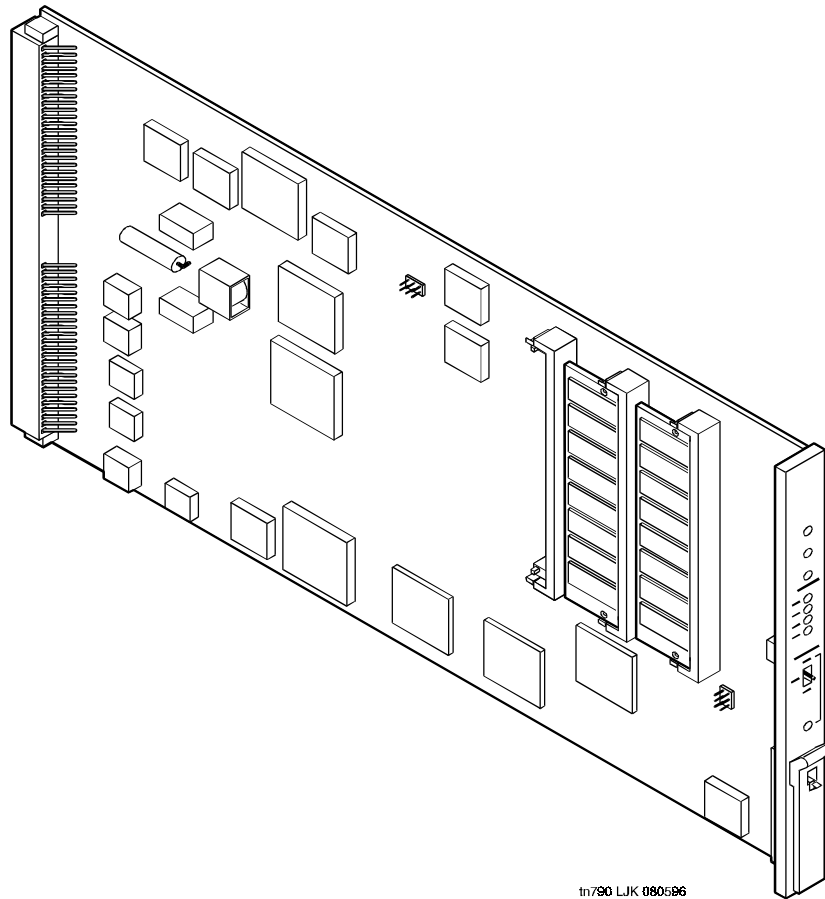


Figure 12-81. TN790 Processor Circuit Pack

Use the following procedure to install a SIMM:

1. Remove the TN790 Processor circuit pack from the control carrier.
2. Place the TN790 Processor circuit pack on an ESD-approved work station, such as the anti-static circuit pack packaging or anti-static mat, with the SIMM sockets facing up and to the left, as shown in Figure 12-81.
3. Locate the Notch cutout area on one corner of the SIMM. See Figure 12-82. See WARNING.



WARNING:

Do not touch the SIMM's edge connector. Oils from your fingers can cause corrosion and/or oxidation to the contacts.

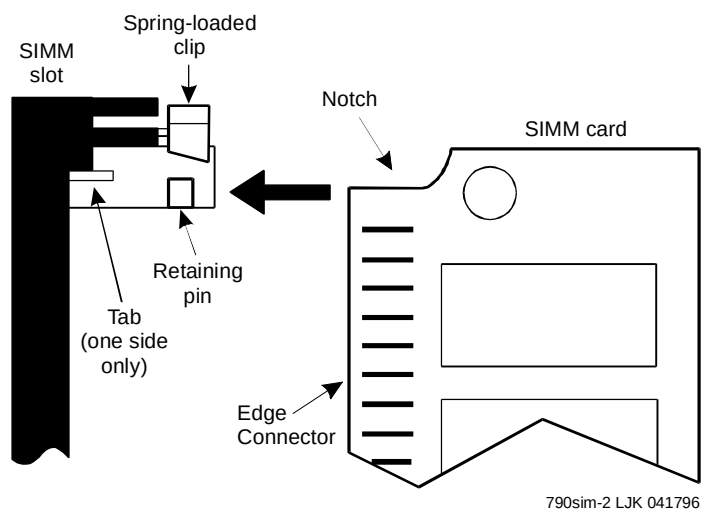


Figure 12-82. Align the SIMM with the SIMM Socket

4. Align the SIMM with the slot in the center of the SIMM socket.

(See Figure 12-82).

Hold the SIMM at a 45-degree angle, with the notch pointing towards the front face plate of the circuit pack. Align the SIMM's edge connector with the slot in the center of the SIMM socket. See WARNING.



WARNING:

*Do not use force when inserting the SIMM into the SIMM socket.
When the SIMM is installed correctly, it will snap easily into place.*

5. Press the SIMM's edge connector firmly into the SIMM socket.

Pivot the SIMM down and towards the circuit pack until it clicks into place (as shown in Figure 12-83).

The metal tabs at each end of the socket snap into place around the SIMM and the small retaining pins snap into the holes at each end of the SIMM.

If you have misaligned or only partially seated the SIMM, you will not hear a sharp click, and the retaining pins will not snap cleanly into the holes. You can easily remove the SIMM (see the next section, "Removing a SIMM,") and reinstall it.

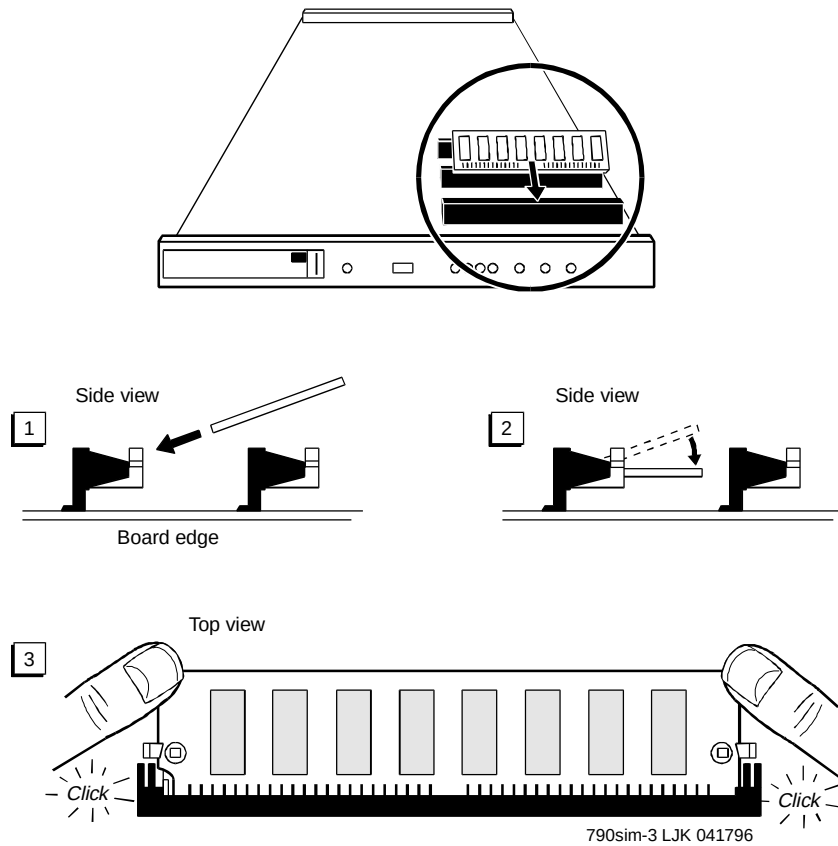


Figure 12-83. SIMM Insertion Procedure

57. Remove the SIMM from the TN790 Processor Circuit Pack

See WARNING.



WARNING:

Before handling the circuit pack or the SIMM, put on a wrist strap and attach its plug or clip to the cabinet's frame.

See Figure 12-81 to locate the SIMM sockets on the TN790 processor circuit pack.

Use the following procedure to remove a SIMM:

1. Place the TN790 Processor circuit pack on an ESD-approved work station, such as the circuit-pack packaging or an anti-static mat.
2. Carefully press the spring-loaded clips, located at each end of the SIMM socket, away from the SIMM. The SIMM will reposition itself at an angle when both clips are released. See Figure 12-84.

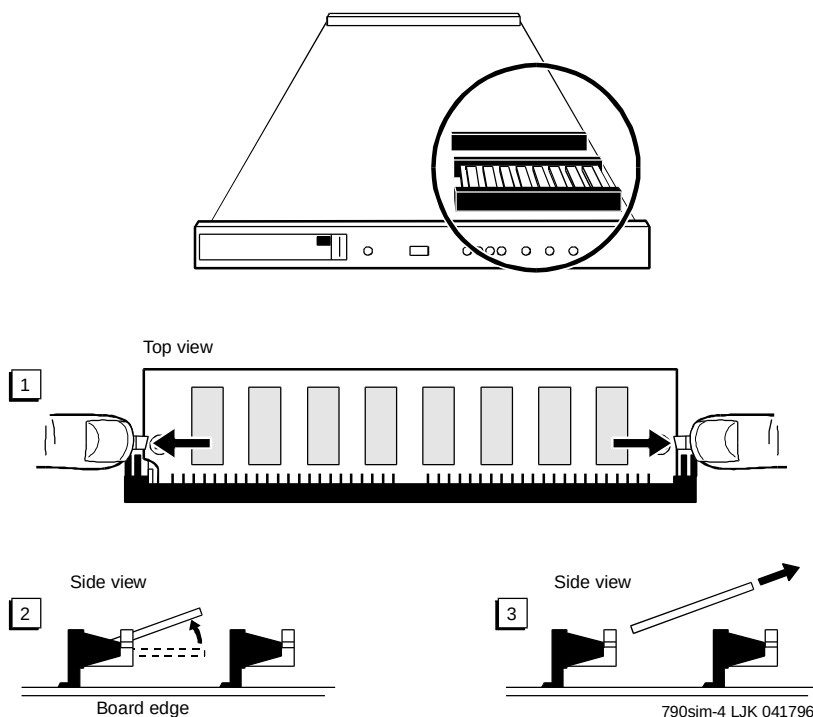


Figure 12-84. Removing a SIMM from its Socket

- 3. Remove the SIMM and place it in an ESD bag.

Install TN790 Processor Circuit Pack

NOTE:
If new adjuncts or features are being added requiring additional circuit packs, refer to "8. Add Circuit Packs" on page 12-79 of this manual for installation instructions.

- 1. See WARNING. Install the TN790 processor circuit pack into the control-cabinet slots labeled "PROCR" (see Figure 12-85).

Refer to "8. Add Circuit Packs" on page 12-79 in this manual for instructions on installing circuit packs.

WARNING:
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reseat DEFINITY LAN Gateway System

- 1. See WARNING. Reseat the LAN Gateway assembly into its backplane connectors in the carrier.

WARNING:
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

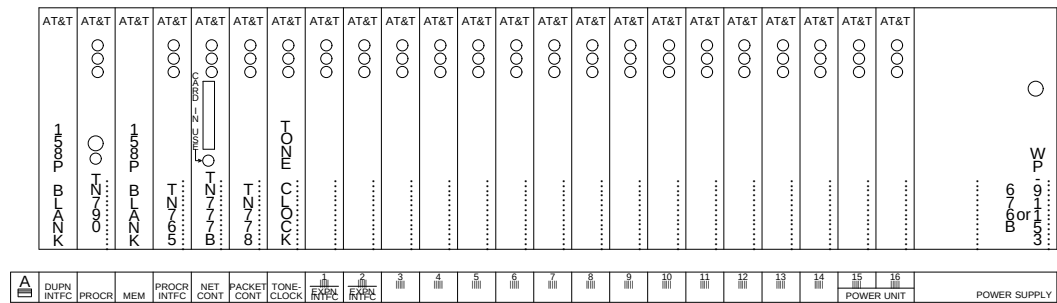


Figure 12-85. Circuit-Pack Locations in R5si Enhanced Control Cabinet

Reseat DEFINITY AUDIX System

See WARNING. If a DEFINITY AUDIX System resides in the control cabinet, reseal the AUDIX assembly to its backplane connectors.



WARNING:

Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

Reboot the System

1. Behind the PPN control cabinet's power supply, set the circuit breaker to ON.
2. The system now goes through the reset level 4 rebooting process, loading translations from the translation memory card. Rebooting requires 8 to 11 minutes.

Refer to the "System Reboot Indications" section in *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* for circuit-pack LED indications and screen displays that occur during system reboot.

3. Login at the `login:` prompt on the G3-MT or G3-MA, and set the time to ensure that the system is booted properly.
4. Enter **list configuration software-version**, and press RETURN to compare the version number of the software program (displayed on the G3-MT or G3-MA) with the TN790 version number (written on a label on the TN790's faceplate). If the version numbers are not the same, change the version number on the TN790 label so that they agree.



NOTE:

Certain forms have changed for Release 5. Upgraded translations may appear on a different form, fields may have shifted within a form, and/or the names assigned to particular fields may have changed. Refer to *DEFINITY Communications System Generic 2 to DEFINITY Enterprise Communications Server Release 5 Transition Reference*, and *DEFINITY Enterprise Communications Server Release 5 Implementation*, and make the necessary changes.

Restart DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway if you have not previously logged on. See the *DEFINITY Communications System Generic 3 Installation, Administration and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for the procedure to log in.
2. When the main menu appears, select *Maintenance*.

3. Select *Reset System* from the *Maintenance* menu.
4. Select *Restart System* from the *Reset System* menu.

 NOTE:

To ensure that the upgrade completes successfully, perform all steps in the order provided.

Close Cabinet Door

Close the front door and secure with the latch.

Run Acceptance Tests

Refer to *DEFINITY Enterprise Communications Server Release 5 Installation and Test for Single-Carrier Cabinets*, and perform the appropriate tests.

Reactivate System Alarms

1. Examine the alarm log to determine the extent of any existing alarms. Use the *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5r* or *DEFINITY Enterprise Communications Server Release 5 Maintenance for R5vs/si* manual to resolve any existing alarms.
2. Once all alarms have been resolved, reactivate the *alarm origination* field on the "Change System-Parameters Maintenance" form to turn the system alarms back on.

Enable Customer Options

1. Enter **change system-parameters customer-options** and press RETURN.
2. Use the customer options forms to verify the customer options are set properly.

 NOTE:

In the **Basic Call Setup** field, if **ISDN-PRI?** was set to y before the upgrade, be sure to set the field back to y.

Register System as DEFINITY ECS Release 5vs

Get the serial number of the DEFINITY ECS Release 5vs, and call the INADS Database Administrator at the Technical Service Center (1-800-248-1111) to register the upgraded system as a DEFINITY ECS Release 5vs.

58. Add DEFINITY LAN Gateway

This section describes the tasks needed to install the DEFINITY LAN Gateway system hardware and peripheral hardware to the DEFINITY ECS.

Refer to *DEFINITY Communications System Generic 3 Installation, Administration, and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for more information about preparing the system, administration, and maintenance of the DEFINITY LAN Gateway.

The DEFINITY LAN Gateway system installation tasks are the same for all switch types. These tasks include:

- Install the DEFINITY LAN Gateway system assembly
- Connect the Alarm Board cables
- Install the terminal (optional)
- Connect the Maintenance Modem0
- Finalize and test the hardware

Install the DEFINITY LAN Gateway System Assembly

This task is required for all installation scenarios.



WARNING:

*To prevent damage to the DEFINITY LAN Gateway system assembly, make sure that you (or the factory, for new switches) have connected the system assembly adapter cables to the port connectors on the back of the switch (as described in Step 3) **before** you insert the system assembly in the switch carrier.*

You can install the system assembly in the switch when the switch is powered on or off. When the assembly is inserted in the slots of the switch carrier, it will automatically power up, run diagnostics, and boot. To avoid a disk crash, never remove the assembly without first completing the shutdown procedure to shut down the DEFINITY LAN Gateway system (and allowing the disk to completely spin down).

For the same reason, do not cycle the power on the switch (for example, during switch acceptance tests) once the system assembly is inserted unless you have first shut down the DEFINITY LAN Gateway system.

Slot and Carrier Restrictions

If rearrangement of circuit packs in the PBX is required to accommodate the system assembly, rearrange the circuit packs before proceeding.

There is a maximum of one system assembly per carrier. This assembly occupies five slots and should be placed to the far right in the carrier.

⇒ NOTE:

For thermal reasons, the system assembly should not be placed in Multi-Carrier Cabinet C carrier position (top carrier position).

DEFINITY LAN Gateway System Slots

The system assembly requires five contiguous port slots in the switch carrier. In this description, the five slots are referred to as the first through the fifth slot, with the understanding that they can be any five contiguous port slots.

⇒ NOTE:

It is recommended that the DEFINITY LAN Gateway Assembly be installed as far to the right as possible in the carrier.

The slots are numbered from left to right on the front panel of the switch cabinet, and from right to left on the rear panel as shown in Figure 12-86. The five port slots are occupied by the DEFINITY LAN Gateway system assembly as follows:

- The first and second slots are covered by the DEFINITY LAN Gateway disk and removable media and are not connected to the switch backplane or amphenol connectors.
- The third slot is connected to the Alarm Board (ALB).
- The fourth slot is connected to the Multi-Function Board.
- The fifth slot remains vacant to provide added clearance and cooling for certain components on the Multi-Function Board.

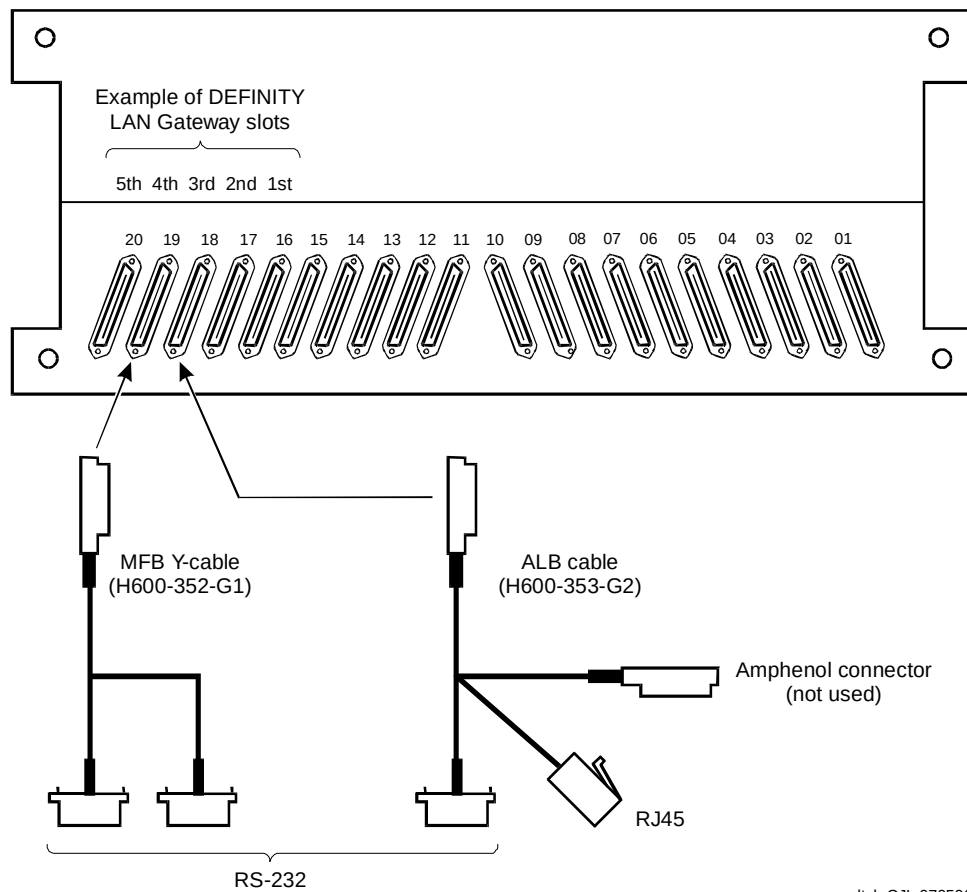


Figure 12-86. Connecting the DEFINTY LAN Gateway Adapter Cables (Rear View)



NOTE:

If the DEFINTY LAN Gateway system was shipped in a new switch, skip to Step 7 of this task.

Installation Steps

Follow the steps below to install the system assembly.

1. Remove any existing cables from the third and fourth slots of the five contiguous slots reserved for the DEFINITY LAN Gateway system. For example, if you are to install the DEFINITY LAN Gateway system in slots 7 through 11 of carrier A in the switch, remove the I/O cables from slots 8 and 9. (These are the two slots that provide connectivity to the DEFINITY LAN Gateway system circuit packs.)
2. Referring to Figure 12-86 and to Steps 2a and 2b that follow, connect the DEFINITY LAN Gateway system assembly adapter cables to the port connectors on the back of the switch.

NOTE:

You must connect these adapter cables directly to the port connectors on the switch. If you install another cable between the switch and the cables, the DEFINITY LAN Gateway system will not operate correctly (either now or in the future).

- a. Attach the male D-type amphenol connector on the Alarm Board (ALB) cable (the one with two amphenol connectors, one RJ45 LAN connector, and one 25-pin RS-232 connector) to the ALB (TN2170), the third slot of the five DEFINITY LAN Gateway system slots.
- b. Attach the male D-type amphenol connector on the Multi-Function Board (MFB) Y-cable (the one with one amphenol and two RS-232 connectors) to the MFB (TN2208), the fourth slot of the five DEFINITY LAN Gateway system slots.

NOTE:

If you are installing the DEFINITY LAN Gateway system in a DC-powered switch, perform the following steps to install the 116A isolating data interface. Otherwise, skip to Step 4.

3. Install the 116A isolating data interface.
 - a. Attach the male end of the null modems (supplied with the DEFINITY LAN Gateway system PEC) to the RS-232C connector on both PORT A and PORT B on the MFB Y-cable. Attach the male connector of a 116A to the other end of the null modems.
4. Insert the system assembly (see figure below, "DEFINITY LAN Gateway System Assembly") into the switch cabinet as follows:

Holding the system assembly by the outside edges of the faceplate, line up the Alarm Board and the Multi-Function Board with the bottom guides of the third and fourth slots, respectively, of the five reserved port slots in the switch carrier.

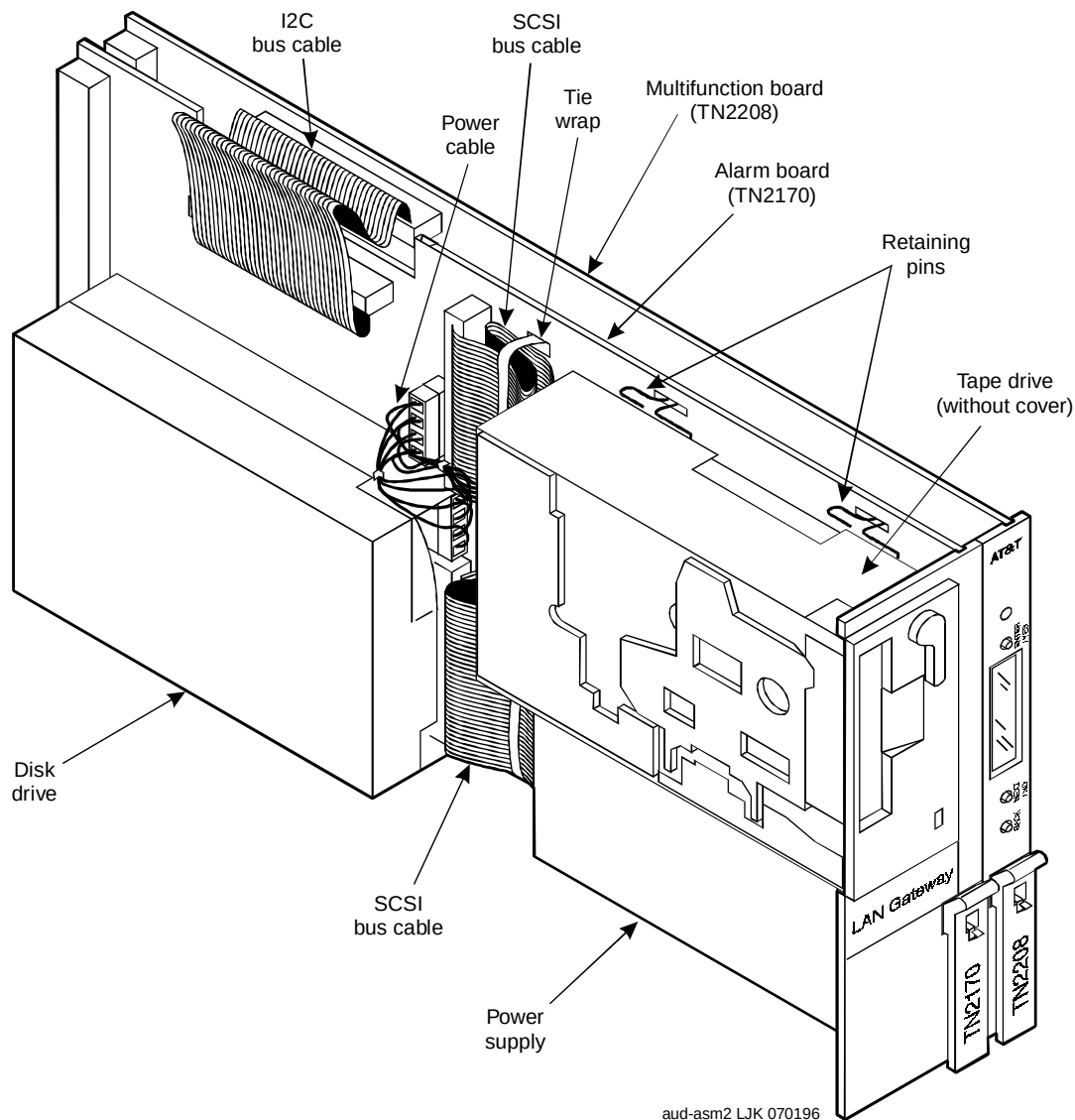


Figure 12-87. DEFINITY LAN Gateway System Assembly



WARNING:

The DEFINITY LAN Gateway system will automatically boot when seated in the slots of a switch that is powered on. Damage to the disk could occur if the assembly is removed while booting. Therefore, try to avoid the need to adjust or reinsert the assembly after the first attempt to insert it; make sure that the assembly is properly aligned in the slot, and then insert it with a single firm push.

5. Insert the assembly and lock it in place by pushing up the securing latches on the two circuit packs. (It is normal for the two circuit packs to feel loosely connected to each other. This is to allow some give when you are seating them into the two slots of the backplane.) If the switch is powered on, the DEFINITY LAN Gateway system will boot automatically.



NOTE:

If the switch is not powered on, wait until it is and then proceed to Step 6.

6. As the DEFINITY LAN Gateway system comes up, watch the Liquid Crystal Display (LCD) on the faceplate (see figure below). The LCD identifies the DEFINITY LAN Gateway states and alarms.

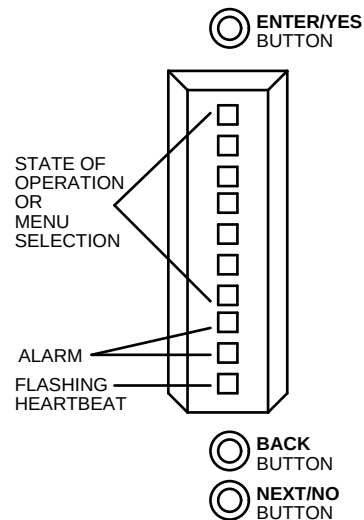


Figure 12-88. DEFINITY LAN Gateway System LCD Display

The following list details the positions of the LCD:

- Standing to the right of the faceplate and reading from bottom to top, the first position contains the DEFINITY LAN Gateway system heartbeat.

- The second and third positions display two letters indicating the following types of alarms: warnings (WN), minor (MN), and major (MJ). These positions are blank if there are no alarms.
- The remaining positions indicate the DEFINITY LAN Gateway system states or menu selections.

When the DEFINITY LAN Gateway system is coming up, the LCD should display the following states (in order):

BTEST (Firmware board tests)
BOOT (Booting the operating system)
OSINIT (Operating system initialization)
OS (Operating system)
AINIT (DEFINITY LAN Gateway system initialization)
ASAI X (DEFINITY LAN Gateway running with X attached clients)

If the system does not come up to the ASAI X state within 30 minutes (10 to 15 minutes is average), contact the Technical Service Center (TSC) for assistance.

7. If you are installing the DEFINITY LAN Gateway system in an existing switch, insert the 1/2-inch blank faceplate adapter into the fifth DEFINITY LAN Gateway system slot.

Task 6: Connect the Alarm Board Cables

The Alarm Board cable has three connectors available for outside connections:

- Amphenol connector — not used
- Local Area Network (LAN)
- RS-232 (Not used)

Figure 12-89 shows how to connect the Alarm Board cables.

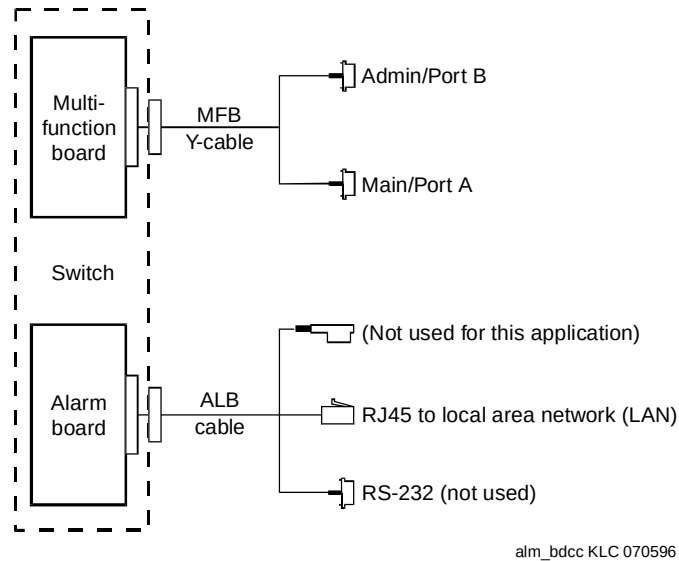


Figure 12-89. Alarm Board Cable Connections

Amphenol Connection

The DEFINITY LAN Gateway does not use this connection.

LAN Connection

Make the following connections:

- A 10BaseT twisted pair cable with a male RJ-45 connector must be present at the wall field, no further than 25 feet from the back of the switch where DEFINITY LAN Gateway resides. The customer is responsible for this LAN connection.
- A 104A connecting block will be mounted on the wall within reach of this connector. This is supplied by Lucent Technologies. Eight wires must be hard-connected across the two mounting blocks inside the 104A prior to mounting it to the wall, as shown in Figure 12-90. The ends of each wire are stripped of insulation. A punch-down tool is used to press the ends of these eight wires into the mounting blocks. Four protector caps snap over the top of the mounting blocks.



NOTE:

Service technicians dispatched for DEFINITY LAN Gateway system installation and maintenance may not troubleshoot the customer LAN. The demarcation point for the DEFINITY LAN Gateway LAN is

the point of connection into the connecting block where the cord plugs in. The customer is responsible for the following: the LAN cable, the connector at the end of the cable for connection into the DEFINITY LAN Gateway system, and LAN administration not performed by AT&T on the DEFINITY LAN Gateway system. After cutover, the customer is also responsible for maintaining the TCP/IP addresses and administration on the DEFINITY LAN Gateway system unless otherwise specified by contract.

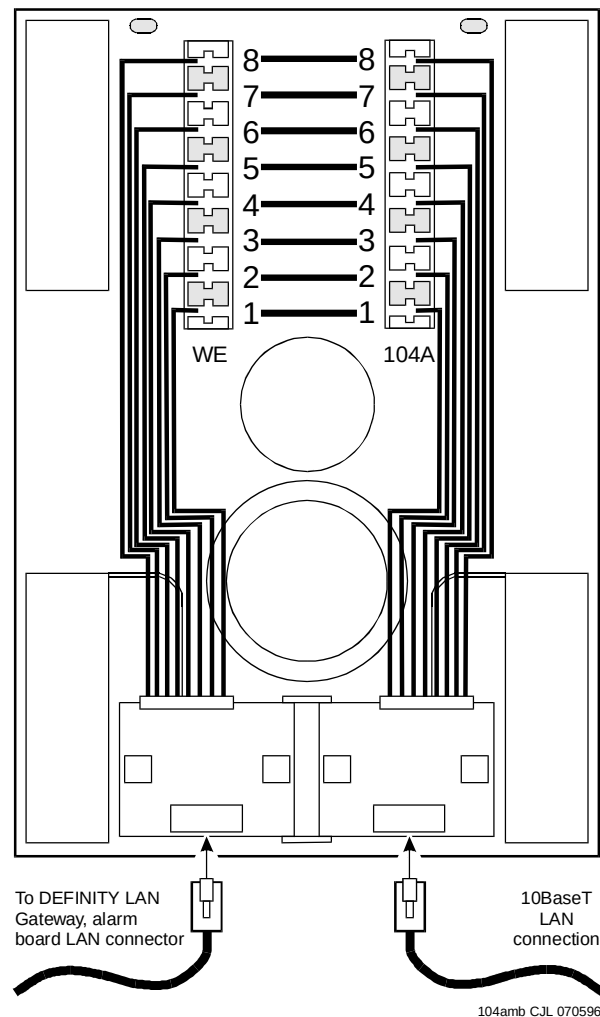


Figure 12-90. 104A Mounting Block

- A D8W modular wall cord (up to 25 feet long) is used to connect the Alarm Board RJ45 connector to the 104A connecting block.

TN2170 RS-232 Connection

Not used.

An additional terminal or remote connector can be installed on this port following the procedures in the next section.

Task 7: Install the Terminal (Optional)

This task is optional, but the temporary installation described below is recommended to facilitate initial administration of the DEFINITY LAN Gateway application.

You can install a terminal or a terminal emulator device, such as a PC or laptop, to perform administration and maintenance operations. The terminal may be permanently installed, or may be temporarily installed when direct administration or maintenance is desired. The connection for a directly attached terminal is always available for Lucent Technologies service personnel. This terminal is usually connected via a direct cable to Admin/Port B, but can be connected remotely if desired.

NOTE:

Once initial administration is completed, the directly connected terminal may be disconnected and further administration and maintenance may be accomplished over the LAN with a terminal emulator that supports Telnet access.

The terminal can be connected to Admin/Port A in one of four ways:

- Via a direct connection
- Via modems
- Via Asynchronous Data Units (ADUs)
- Via 7400A data sets

The connectivity for all supported terminals is similar. Therefore, the subtasks for this task are the same for all supported terminals. See Appendix B for a list of supported terminals and modems.

If you are connecting a PC using G3-MA software (formerly SAT-PC) as a DEFINITY LAN Gateway administration/maintenance terminal, see *DEFINITY Communications System Generic 3 Management Applications Station Provisioning*, 555-229-202, for installation instructions.

If you are connecting a generic PC with a terminal emulation package, you must ensure that the terminal emulation package is set to support a terminal type listed in Appendix B.

Keep in mind that the DEFINITY LAN Gateway system is data terminal equipment (DTE), and the switch is data communications equipment (DCE). Therefore, you may need to install a null modem to complete the DTE/DCE pair when connecting the PC.

MFB Port Usage

The MFB Y-cable has two RS-232C connectors labeled Main/Port A and Admin/Port B.

The administration and maintenance terminal should be connected to Admin/Port B. Some system diagnostic messages, created only when the system is initializing, are sent to Main/Port A. These additional messages are not useful during normal operation of the system.

Perform one of the four following subtasks, depending on the connection type to connect a system-access terminal to Admin/Port B.

The descriptions of these subtasks assume that you are connecting a remote terminal to Admin/Port B. You can also use these tasks for a remote connection to Main/Port A by substituting A for B in the descriptions.

Install a Terminal via a Direct Connection

Refer to Figure 12-91, "Installing a Terminal via Direct Connection" and Figure 12-92, "Installing a Terminal via Direct Connection (DC Switch Only)," while performing this task.

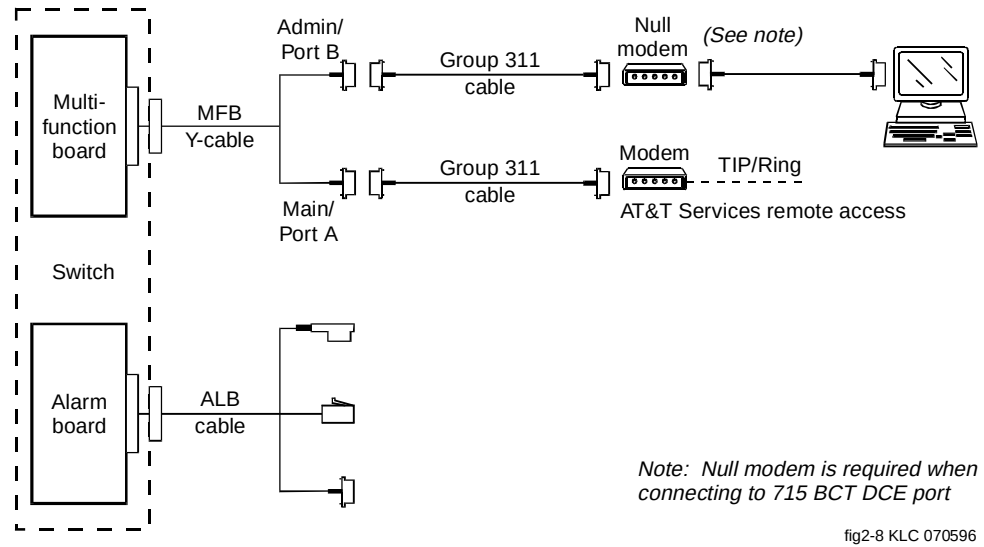


Figure 12-91. Installing a Terminal via Direct Connection

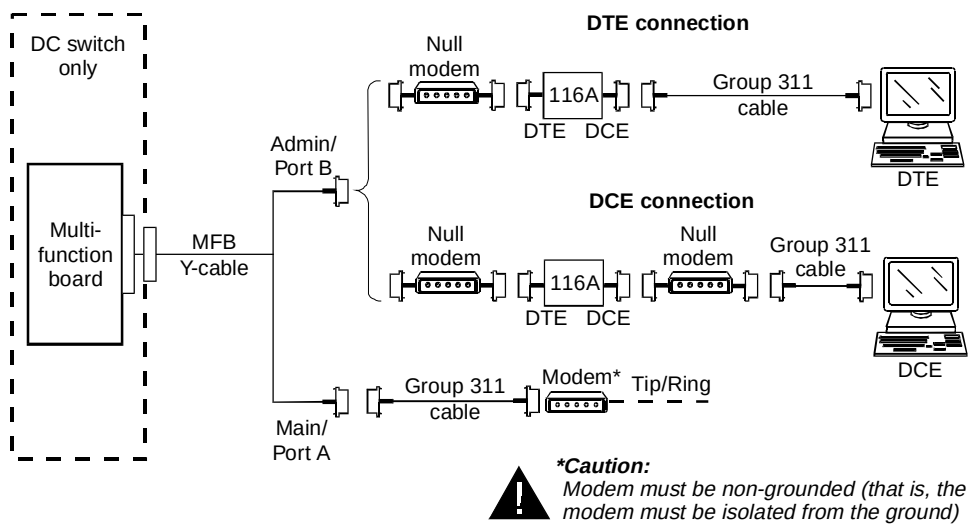


Figure 12-92. Installing a Terminal via Direct Connection (DC Switch Only)

1. If you are installing a new terminal, unpack it according to the instructions supplied with the terminal.
2. Place the terminal on a suitable table within 15 feet of the switch cabinet if you have a 20-foot ED-1E434 Group 311 cable, or within 45 feet if you have a 50-foot ED-1E434 Group 311 cable, and connect the keyboard. Connect an ED-1E434 Group 311 cable between the DEFINITY LAN Gateway system MFB and the terminal:
 - a. Attach one end of an ED-1E434 Group 311 cable (supplied with the DEFINITY LAN Gateway system PEC) to the RS-232 connector labeled PORT B on the MFB Y-cable.
 - b. If you connected a 116A to the PORT A and PORT B connectors on the Y-cable (in Task 4), attach the ED-1E434 Group 311 cable to the 116A (for a DTE connection). For a DCE connection, attach another null modem to the 116A, and attach the ED-1E434 Group 311 cable to the other end of the null modem.
 - c. For a 715 BCT, attach the other end of the ED-1E434 Group 311 cable to the DCE connector on the back of the terminal. Then skip to Step 4.

For a 513 or equivalent BCT, attach the other end to the female connector on an H600-258 Group 1 null modem.
 - d. Connect the male connector on the null modem to an RS-232 serial port connector on the back of the terminal.
3. Plug the terminal power cord into a wall outlet and power on the terminal.
4. Set the terminal options. See Appendix B, "Supported Terminals and Modems/Option Settings," in *DEFINITY Communications System Generic 3 Installation, Administration, and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for a complete list of option settings for supported terminals.



NOTE:

When installing a serial printer on all but a 610 or 615 BCT, set the options on the printer as described in the manual supplied with the printer, then set the corresponding options on the terminal to match. On the 610/615, set the terminal options first, then set the printer options.

If the terminal is installed correctly (and the DEFINITY LAN Gateway system is in either OAM or OS state), the screen displays the login prompt.

If the terminal does not display the login prompt when the DEFINITY LAN Gateway system is in one of the above states, try pressing the RETURN key a few times. If the login prompt still does not appear, write down the state displayed on the LCD and then see the troubleshooting procedure for terminal connections in Appendix D.

Install a Terminal via Modems

This task describes how to connect a terminal via a modem to Admin/Port B of the MFB. (This task can also be used for remote connection to the main/Port A.

To make sure the modems that you are installing are on the list of supported peripherals, see Appendix B, "Supported Terminals and Modems/Option Settings," in *DEFINITY Communications System Generic 3 Installation, Administration, and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223.

Refer to Figure 12-93, "Connecting a Terminal to the MFB via Modem," when performing this task.

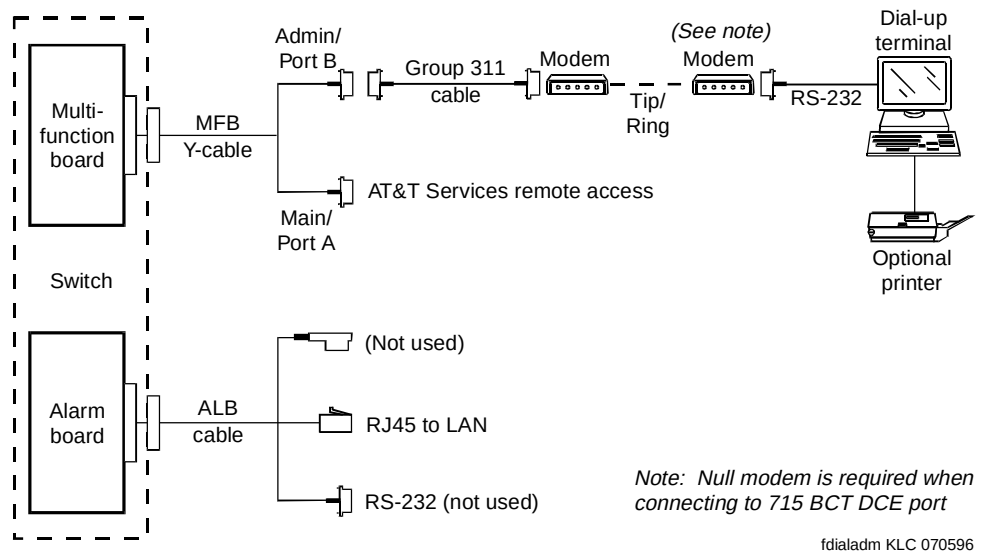


Figure 12-93. Connecting a Terminal to the MFB via Modem

1. In the room where the switch and DEFINITY LAN Gateway system are located, place one modem between the DEFINITY LAN Gateway system and a telephone jack, close enough so that the cables can easily reach. Also make sure the modem is within reach of a power outlet.
2. Connect the modem to Admin/Port B of the DEFINITY LAN Gateway system Multi-Function Board as follows:
 - a. Attach one end of the ED-1E434 Group 311 cables to the RS-232 connector labeled Admin/Port B on the MFB Y-cable (the one connected to the fourth slot of the five system slots). Attach the other end to the female 25-pin connector on the modem.

- b. Attach the connector on one end of a modular cord to the modem, and attach the other connector to a telephone outlet.
 - c. Plug the modem power cord into a wall outlet and power on the modem.
 - d. Set the modem options if necessary. Refer to Appendix B, "Supported Terminals and Modems/Option Settings," in *DEFINITY Communications System Generic 3 Installation, Administration, and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for a list of option settings for supported modems and terminals.
3. Connect a modem to the terminal (locally or remotely) as follows:
- a. If you are installing a new terminal, unpack it according to the instructions supplied with the terminal.
 - b. Place the terminal on a suitable table and connect the keyboard.
 - c. Attach one end of an RS-232 cable to a serial RS-232 port on the terminal (the DTE port on a 715 BCT), and attach the other end to the modem (if it is not already connected).

 NOTE:

If you connect the modem to the DCE port on a 715 BCT, you must also connect a null modem cable between the modem and the 715 BCT.

- d. Attach the connector on one end of a modular cord to the modem, and attach the other end to a telephone outlet.
- e. Plug the modem power cord into a wall outlet.
- f. Plug the terminal power cord into a wall outlet.
- g. Power on the terminal and modem.
- h. Set the options on the terminal and modem. Refer to Appendix B, "Supported Terminals and Modems/Option Settings," in *DEFINITY Communications System Generic 3 Installation, Administration, and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for a list of option settings for all supported terminals and modems.

 NOTE:

When installing a serial printer on all but a 610 or 615 BCT, set the options on the printer as described in the manual supplied with the printer, then set the corresponding options on the terminal to match. On the 610/615, set the terminal options first, and then set the printer options.

- i. At the terminal, enter **AT**. If the modem is installed correctly, it responds with "OK" (written on the terminal screen).

- j. Enter **ATDT** and the telephone number of the modem connected to the DEFINITY LAN Gateway system ADMIN port.

If the terminal is installed correctly (and the DEFINITY LAN Gateway system is in either ASAI, AINIT or OS state), the screen displays the login prompt.

If the terminal does not display the login prompt when the DEFINITY LAN Gateway system is in one of the above states, try pressing the RETURN key a few times. If the login prompt still does not appear, write down the state displayed on the LCD, and then see the troubleshooting procedure for terminal connections in Appendix D in *DEFINITY Communications System Generic 3 Installation, Administration, and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223.

- k. Log in to the DEFINITY LAN Gateway system (see Chapter 3 in *DEFINITY Communications System Generic 3 Installation, Administration, and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223). If you can log in successfully, the modem and terminal options are set correctly.

Install a Terminal via ADUs

This task describes how to connect a terminal via ADUs to Admin/Port B of the MFB.

Refer to Figure 12-94 when performing this task.

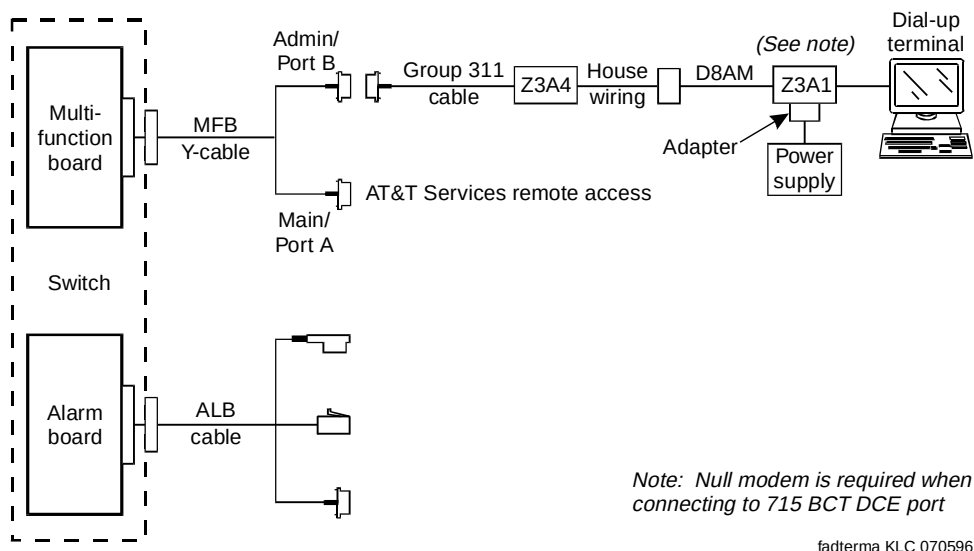


Figure 12-94. Connecting a Terminal to the MFB via ADUs

1. Connect the Z3A-4 ADU to the DEFINITY LAN Gateway system MFB as follows:
 - a. In the room where the switch and DEFINITY LAN Gateway system are located, attach one end of an ED-1E434 Group 311 cable to the RS-232 connector labeled PORT B on the MFB Y-cable (the one connected to the fourth slot of the five DEFINITY LAN Gateway system slots). Attach the other end to the Z3A-4 (female) ADU.
 - b. Plug the cable from the ADU into a telephone outlet.
2. In the terminal room, connect the Z3A-1 ADU to the terminal as follows:
 - a. If you are installing a new terminal, unpack it according to the instructions supplied with the terminal.
 - b. Place the terminal on a suitable table and connect the keyboard.
 - c. Attach the Z3A-1 ADU (male) to a serial RS-232 port on the terminal (the DTE port on a 715 BCT).

NOTE:

If you connect the ADU to the DCE port on a 715 BCT, you must also connect a null modem cable between the ADU and the 715 BCT.

- d. Plug one end of the D8AM crossover cord into the connector labeled Wall Jack on the ADU, and plug the other end of the D8AM cord into a telephone outlet.
- e. Connect the 2012D ADU Power Supply to the ADU. (The power supply can be connected to either ADU.)
 - Attach either the 400B2 or 248B adapter to the ADU.
 - Plug the power supply into the adapter.
 - Plug the power cord on the power supply into a wall outlet.
- f. Power on the terminal.
- g. Set the terminal options. Refer to Appendix B, "Supported Terminals and Modems," in *DEFINITY Communications System Generic 3 Installation, Administration, and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223, for a complete list of option settings for all supported terminals.

If the terminal is installed correctly (and the DEFINITY LAN Gateway system is in either OS, AINIT, or ASAI state), the screen displays the login prompt.

If the terminal does not display the login prompt when the DEFINITY LAN Gateway system is in one of the above states, try pressing the RETURN key a few times. If the login prompt still does not appear, write down the state displayed on the LCD then see the troubleshooting procedure for terminal connections in Appendix D in *DEFINITY Communications System Generic 3 Installation, Administration, and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223.

Install a Terminal via 7400A Data Sets

This task describes how to connect a terminal via 7400A Data Sets to Admin/Port B of the MFB.

Refer to Figure 12-95, "Connecting a Terminal to the MFB via 7400 Data Sets," when performing this task.

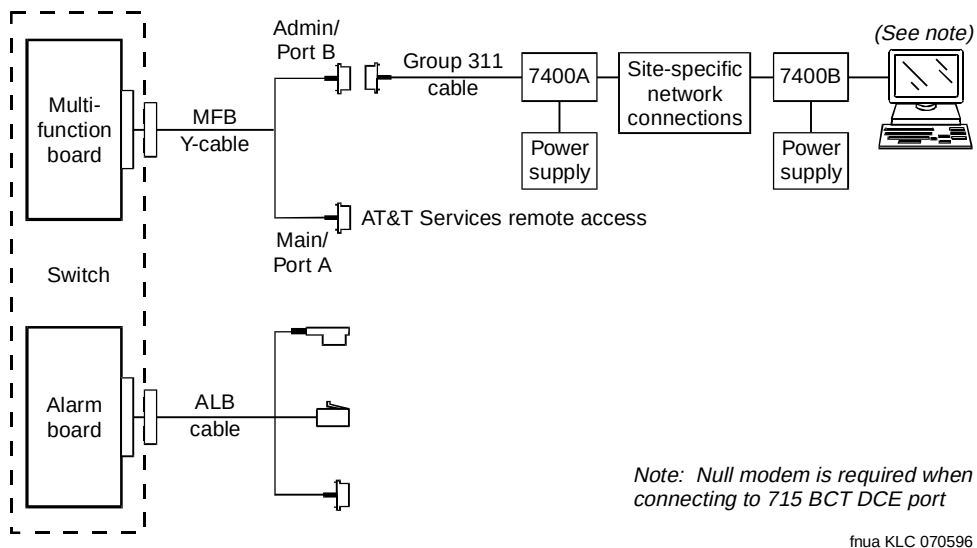


Figure 12-95. Connecting a Terminal to the MFB via 7400 Data Sets

NOTE:

You may use two 7400A data sets in this configuration. However, because the 7400B data set is easier to set up and use, it is the one described in this procedure on the terminal side. (The DEFINITY LAN Gateway system side of the configuration requires the 7400A.) If you are using two 7400A data sets, connect the second 7400A the same as the 7400B, but set the options as described in "Using the Front Panel" in *7400A Data Module User's Manual*, 555-020-706.

1. Make sure the EIA connector board (located under the top panel) is set to DCE (the factory default). If not, unplug the card and turn it around to the DCE setting (see the *7400A Data Module User's Manual*, 555-020-706, for details).
2. Connect the 7400A data set to the DEFINITY LAN Gateway system MFB as follows:
 - a. In the room where the switch and DEFINITY LAN Gateway system are located, attach one end of an ED-1E434 Group 311 cable to the RS-232 connector labeled PORT B on the MFB Y-cable. Attach the other end to a 7400A data set.
 - b. Plug one end of the modular cord (supplied with the data set) into the LINE connector on the 7400A data set and plug the other end into a telephone outlet.

- c. Connect the 4-pin connector on one of the 7400A power supplies to the POWER connector on the data set, and plug the power supply into a wall outlet.
 - d. Set the options and interface baud rate on the 7400A data set. Refer to "Using the Front Panel" in the *27400A Data Module User's Manual*, 555-020-706, for details.
3. In the terminal room, connect the 7400B data set to the terminal as follows:
- a. If you are installing a new terminal, unpack it according to the instructions supplied with the terminal.
 - b. Place the terminal on a suitable table and connect the keyboard.
 - c. Check the dip switches inside the front panel of the 7400B. If you are not connecting a telephone with this data set, set the first dip switch (1) to the ON position (it is shipped in the OFF position, as are all the others). If you are connecting a telephone, leave all dip switches OFF.
 - d. Attach the 7400B data set to an RS-232 port on the terminal (the DTE port on a 715 BCT).

 NOTE:

If you connect the data set to the DCE port on a 715 BCT, you must also connect a null modem cable between the data set and the 715 BCT.

- e. Plug one end of a D8W cable into the LINE connector on the 7400B data set and connect the other end into a telephone outlet.
- f. Connect the 7400B power supply to the data set, and plug the power supply into a wall outlet.
- g. Plug the terminal power cord into a wall outlet and power on the terminal.
- h. Set the terminal options. Refer to Appendix B, "Supported Terminals and Modems/Option Settings," for a complete list of option settings for all supported terminals.

 NOTE:

When installing a serial printer on all but a 610 or 615 BCT, set the options on the printer as described in the manual supplied with the printer, and then set the corresponding options on the terminal to match. On the 610/615, set the terminal options first, and then set the printer options.

- i. At the terminal, enter AT.

If the 7400B data set is connected correctly, it responds with **OK** (on the terminal screen).

- j. Enter ATDT and the phone number of the 7400A data set connected to the DEFINITY LAN Gateway system (refer to Worksheet B-1, "Terminals/Modems" for this number).

After a connect interval, if the terminal and 7400 data sets are installed correctly (and the DEFINITY LAN Gateway system is in either AINIT, OS or ASAI state), the screen displays the login prompt.

If the login prompt is not displayed when the system is in one of the above states, try pressing the RETURN key a few times. If the login prompt still does not appear, write down the state displayed on the LCD and then see the troubleshooting procedure for terminal connections in Appendix D.

Connect the Maintenance Modem

For this task, make sure you have the correct ED-1E434 Group 311 cable (in a length between 5 and 50 feet).

1. Physically connect one end of the cable to the modem and the other end to the DEFINITY LAN Gateway maintenance port.
2. Set the modem options, and if necessary, connect the modem to a phone jack and apply power to it.
3. Use the steps in "Install a Terminal via Modems" on page 12-271 in this chapter to establish communications with the modem connected to main Port A.
4. After you have connected to the modem, record the telephone number. You will call the TSC and give them the telephone number of the modem in a later procedure.

Finalize and Test the Hardware

This task is required for all installation scenarios.

1. Verify that the DEFINITY LAN Gateway system hardware and software components are installed properly. At the DEFINITY G3-MT, enter **list configuration board <loc>**. The screen that appears should display **LGATE Board** in the **Board Type** field.
2. Verify that the system is in the ASAI state.

Stand to the right of the system assembly and read from bottom to top. The LCD should display ASAI X, where X is the number of connections.

3. Log in to the DEFINITY LAN Gateway system (see Chapter 3 in *DEFINITY Communications System Generic 3 Installation, Administration, and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223,) at the terminal to verify that the terminal and modems (if applicable) are connected and set up correctly.
 - a. At the **login** prompt, type **craft** and press RETURN (if the login prompt is not displayed, press RETURN once or twice.)

NOTE:

To send the information to the DEFINITY LAN Gateway system, the RETURN key (located on the right side of your keyboard) must be pressed after you type a command or a response to a prompt. On some keyboards, this key is labeled ENTER instead of RETURN. If your keyboard has both a RETURN key and an ENTER key (as on the 513 and 615 keyboards), use the RETURN key.

System response: **Password**

- b. Enter the default password for the craft login.

System response: Enter terminal type

- c. Enter one of the following:
 - **513** for a 513 BCT or 715 BCT; enter **513** also for a 610/615 BCT or a PC with a 513 emulation package. (Since 513 is the default, just press RETURN to select it.)
 - **4410** for a 4410 or 5410 terminal; enter **4410** also for a 610/615 BCT or a PC with a 4410 emulation package.
 - **4425** for a 4425 or 5425 terminal
 - **5420** for a 5420 or 4415 terminal

- **g3-ma** for a G3-MA terminal
- **vt220** (or other terminal listed in Appendix B in *DEFINITY Communications System Generic 3 Installation, Administration, and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223,)

If the terminal and modems (if applicable) are connected properly and the options are set correctly, the system responds with the DEFINITY LAN Gateway main menu.

4. Place the labels supplied with the DEFINITY LAN Gateway system hardware as follows:
 - a. Place the label containing the DEFINITY LAN Gateway system shutdown warning next to the cabinet Power switch.
 - b. Place the tape maintenance log label near the system assembly.
5. Give the program (original) tape to the DEFINITY LAN Gateway system administrator. The blank tape that came with the system will be installed in the drive later in this chapter when the system is backed up.

Proceed with administration of the DEFINITY LAN Gateway in the section, "Initial Administration," in *DEFINITY Communications System Generic 3 Installation, Administration, and Maintenance of CallVisor ASAI over the DEFINITY LAN Gateway*, 555-230-223.

Circuit Packs in DEFINITY

Table 13-1 lists the circuit packs sorted by apparatus code, including circuit packs used in non-US installations. For more information on the circuit packs and other equipment related to DEFINITY ECS, refer to the *DEFINITY Enterprise Communications Server System Description and Specifications, 555-230-206*.

Table 13-1. Circuit Packs and Circuit Modules

Apparatus Code	Name	Type
631DA1	AC Power Unit	Power
631DB1	AC Power Unit	Power
644A1	DC Power Unit	Power
645B1	DC Power Unit	Power
649A	DC Power Converter	Power
676B	DC Power Supply	Power
982LS	Current Limiter	Power
CFY1B	Current Limiter	Power
CPP1	Memory Expansion	Control

Continued on next page

Table 13-1. Circuit Packs and Circuit Modules — Continued

Apparatus Code	Name	Type
ED-1E546 (TN2169) (TN2170) (TN566) (TN567)	DEFINITY AUDIX R3 System	Port Assembly
ED-1E546 (TN2208) (TN2170)	Call Visor ASAI over the DEFINITY (LAN) Gateway R1	Port Assembly
TN417	Auxiliary Trunk	Port
TN419B	Tone-Clock	Control
TN420B/C	Tone Detector	Service
TN429	Direct Inward/Outward Dialing (DIOD) Trunk	Port
TN433	Speech Synthesizer	Service
TN436B	Direct Inward Dialing Trunk	Port
TN437	Tie Trunk	Port
TN438B	Central Office Trunk	Port
TN439	Tie Trunk	Port
TN447	Central Office Trunk	Port
TN457	Speech Synthesizer	Service
TN458	Tie Trunk	Port
TN459B	Direct Inward Dialing Trunk	Port
TN464C/ D/E/ F	DS1/E1 Interface - T1, 24 Channel - E1, 32 Channel	Port
TN465/B/C	Central Office Trunk	Port
TN467	Analog Line	Port
TN468B	Analog Line	Port
TN479	Analog Line	Port
TN497	Tie Trunk	Port
TN553	Packet Data Line	Port
TN556/B	ISDN-BRI 4-Wire S/T-NT Line (A-Law)	Port
TN570/B/C	Expansion Interface	Port
TN572	Switch Node Clock	Control
TN573/B	Switch Node Interface	Control

Continued on next page

Table 13-1. Circuit Packs and Circuit Modules — Continued

Apparatus Code	Name	Type
TN574	DS1 Converter - T1, 24 Channel	Port
TN577	Packet Gateway	Port
TN722B	Digital Signal Level 1 Tie Trunk	Port
TN725B	Speech Synthesizer	Service
TN726/B	Data Line	Port
TN735	MET Line	Port
TN742	Analog Line	Port
TN744/B	Call Classifier	Service
TN744/C/D	Call Classifier - Detector	Service
TN746/B	Analog Line	Port
TN747B	Central Office Trunk	Port
TN748/B/C/D	Tone Detector	Service
TN750/B/C	Announcement	Service
TN753	Direct Inward Dialing Trunk	Port
TN754/B	Digital Line 4-Wire DCP	Port
TN755B	Neon Power Unit	Power
TN756	Tone Detector	Service
TN758	Pooled Modem	Port
TN760B/C/D	Tie Trunk	Port
TN762B	Hybrid Line	Port
TN763B/C/D	Auxiliary Trunk	Port
TN765	Processor Interface	Control
TN767B/C/D/E	DS1 Interface - T1, 24 Channel	Port
TN768	Tone-Clock	Control
TN769	Analog Line	Port
TN771D	Maintenance/Test	Service
TN772	Duplication Interface	Control
TN773	Processor	Control
TN775/B	Maintenance	Service
TN776	Expansion Interface	Port

Continued on next page

Table 13-1. Circuit Packs and Circuit Modules — Continued

Apparatus Code	Name	Type
TN777/B	Network Control	Control
TN778	Packet Control	Control
TN780	Tone-Clock	Control
TN786	Processor	Control
TN786B	Processor	Control
TN789	Radio Controller	Control
TN790	Processor	Control
TN1648	System Access/Maintenance	Control
TN1650B	Memory	Control
TN1654	DS1 Converter - T1, 24 Channel/E1, 32 Channel	Port
TN1655	Packet Interface	Control
TN1656	Tape Drive	Control
TN1657	Disk Drive	Control
TN2135	Analog Line	Port
TN2136	Digital Line 2-Wire DCP	Port
TN2138	Central Office Trunk	Port
TN2139	Direct Inward Dialing Trunk	Port
TN2140/B	Tie Trunk	Port
TN2144	Analog Line	Port
TN2146	Direct Inward Dialing Trunk	Port
TN2147/C	Central Office Trunk	Port
TN2149	Analog Line	Port
TN2180	Analog Line	Port
TN2181	Digital Line 2-Wire DCP	Port
TN2182/B	Tone-Clock -Tone Detector and Call Classifier	Control
TN2183	Analog Line	Port
TN2184	DIOD Trunk	Port
TN2198	ISDN-BRI 2-Wire U Interface	Port
TN2199	Central Office Trunk	Port
TN2202	Ring Generator	Power

Continued on next page

Table 13-1. Circuit Packs and Circuit Modules — Continued

Apparatus Code	Name	Type
TN2224	Digital Line, 24-Port, 2-Wire DCP	Port
UN330B	Duplication Interface	Control
UN331B	Processor	Control
UN332	Mass Storage/Network Control	Control
WP-90510	AC Power Supply (Compact Single-Carrier Cabinet)	Power
WP-91153	AC Power Supply (Single-Carrier Cabinet)	Power

Abbreviations

A

AA

Archangel

AAC

ATM Access Concentrator

AAR

Automatic Alternate Routing

AC

Alternating Current

ACA

Automatic Circuit Assurance

ACB

Automatic Callback

ACD

Automatic Call Distribution

ACU

Automatic Call Unit

ACW

After Call Work

AD

Abbreviated Dialing

ADAP

AUDIX Data Acquisition Package

ADM

Asynchronous Data Module

ADU

Asynchronous Data Unit

AE

Access Endpoint

AG

ASAI Gateway

AIM

Asynchronous Interface Module

AIOD

Automatic Identification of Outward Dialing

ALBO

Automatic Line Build Out

ALM-ACK

Alarm Acknowledge

AMW

Automatic Message Waiting

AN

Analog

ANI

Automatic Number Identification

AOL

Attendant Offered Load

AP

Applications Processor

APLT

Advanced Private Line Termination

ARS

Automatic Route Selection

ASAI

Adjunct Switch Applications Interface

ASCII

American Standard Code for Information Interchange

ATB

All Trunks Busy

ATD

Attention Dial

ATM

Asynchronous Transfer Mode

ATMS

Automatic Transmission Measurement System

AUDIX

Audio Information Exchange

AUX

Auxiliary

AVD

Alternate Voice/Data

AWOH

Administration Without Hardware

AWT

Average Work Time

B

BCC
Bearer Capability Class

BCMS
Basic Call Management System

BCT
Business Communications Terminal

BER
Bit Error Rate

BHCC
Busy Hour Call Completions

BLF
Busy Lamp Field

BN
Billing Number

BOS
Bit Oriented Signaling

BPN
Billed Party Number

bps
Bits Per Second

BRI
Basic Rate Interface

BTU
British Thermal Unit

B8ZS
Bipolar Eight Zero Substitution

C

CA-TSC
Call-Associated Temporary Signaling Connection

CACR
Cancellation of Authorization Code Request

CAG
Coverage Answer Group

CAMA
Centralized Automatic Message Accounting

CARR-POW
Carrier Port and Power Unit for AC Powered Systems

CAS
Centralized Attendant Service or Call Accounting System

CBC
Coupled Bonding Conductor

CC
Country Code

CCIS
Common Channel Interoffice Signaling

CCITT
Consultative Committee for International Telephone and Telegraph

CCMS
Control Channel Message Set

CCS
Centum (Hundred) Call Seconds

CCSA
Common Control Switching Arrangement

CDM
Channel Division Multiplexing

CDOS
Customer-Dialed and Operator Serviced

CDR
Call Detail Recording

CDRP
Call Detail Record Poller

CDRR
Call Detail Recording and Reporting

CDRU
Call Detail Recording Utilities

CEM
Channel Expansion Multiplexing

CEPT
European Conference of Postal and Telecommunications Rate 1

CI
Clock Input

CISPR
International Special Committee on Radio Interference

Abbreviations

cm
Centimeter

CM
Connection Manager

CMDR
Centralized Message Detail Recording

CMS
Call Management System

CO
Central Office

COR
Class of Restriction

COS
Class of Service

CP
Circuit Pack

CPE
Customer Premises Equipment

CPN
Called-Party Number

CPN/BN
Calling Party Number/Billing Number

CPTR
Call Progress Tone Receiver

CRC
Cyclical Redundancy Checking

CSA
Canadian Safety Association

CSCC
Compact Single Carrier Cabinet

CSCN
Center Stage Control Network

CSD
Customer Service Document

CSM
Centralized System Management

CSS
Center Stage Switch

CSSO
Customer Services Support Organization

CSU
Channel Service Unit

CTS
Clear to Send

CWC
Call Work Codes

D

DAC
Dial Access Code or Direct Agent Calling

dB
Decibel

dba
Decibels in reference to Amperes

dBrnC
Decibels above reference noise with C filter

DC
Direct Current

DCE
Data Communications Equipment

DCO
Digital Central Office

DCP
Digital Communications Protocol

DCS
Distributed Communications System

DDC
Direct Department Calling

DDD
Direct Distance Dialed

DID
Direct Inward Dialed

DIOD
Direct Inward and Outward Dialing

DIVA
Data In/Voice Answer

DLC
Data Line Circuit

Abbreviations

DLDM

Data Line Data Module

DMI

Digital Multiplexed Interface

DND

Do Not Disturb

DNIS

Dialed Number Identification Service

DOD

Direct Outward Dialing

DOSS

Delivery Operations Support System

DOT

Duplication Option Terminal

DPM

Dial Plan Manager

DPR

Dual Port RAM

DS1

Digital Signal Level 1

DS1C

Digital Signal Level-1 protocol C

DSI

Digital Signal Interface

DSU

Data Service Unit

DTDM

Digital Terminal Data Module

DTE

Data Terminal Equipment

DTGS

Direct Trunk Group Select

DTMF

Dual-Tone Multi-Frequency

DTS

Disk Tape System

DXS

Direct Extension Selection

E

E & M

Ear and Mouth (receive and transmit)

EAA

Expansion Archangel

EAL

Expansion Archangel Link

EBCDIC

Extended Binary-Coded Decimal Interexchange Code

ECC

Error Correct Code

ECMA

European Computer Manufacturers Association

EPF

Electronic Power Feed

EI

Expansion Interface

EIA

Electronic Industries Association

EMI

Electro-Magnetic Interference

EPN

Expansion Port Network

EPROM

Erasable Programmable Read Only Memory

EPSCS

Enhanced Private Switched Communications Services

ERL

Echo Return Loss

ESF

Extended Superframe Format

ESPA

European Standard Paging Access

ETA

Extended Trunk Access, also Enhanced Terminal Administration

ETN

Electronic Tandem Network

ETSI
European Telecommunications Standards Institute

F

FAC
Feature Access Code

FAS
Facility-Associated Signaling

FAT
Facility Access Trunk

FAX
Facsimile

FCC
Federal Communications Commission

FEAC
Forced Entry of Account Codes

FEP
Front End Processor

FIC
Facility Interface Codes

FNPA
Foreign Numbering-Plan Area

FRL
Facilities Restriction Level

FX
Foreign Exchange

G

G3-MA
Generic 3 Management Applications

G3-MT
Generic 3 Management Terminal

GM
Group Manager

GPTR
General-Purpose Tone Receiver

GRS
Generalized Route Selection

H

HNPA
Home Numbering Plan Area Code

Hz
Hertz

I

IAS
Inter-PBX Attendant Service

IC
Inter-Cabinet

ICC
Intercarrier Cable

ICD
Inbound Call Director

ICDOS
International Customer Dialed Operator Serviced

ICHT
Incoming Call-Handling Table

ICI
Incoming Call Identifier

ICM
Inbound Call Management

IDDD
International Direct Distance Dialing

IDF
Intermediate Distribution Frame

IE
Information Element

IMT
Intermachine Trunk

INADS
Initialization and Administration System

Abbreviations

INS

ISDN Network Service

INWATS

Inward Wide Area Telephone Service

IO

Information Outlet

ISDN

Integrated Services Digital Network

IS/DTT

Integrated Services/Digital Tie Trunk

ISN

Information Systems Network

ISO

International Standards Organization

ISV

Independent Software Vendor

ITP

Installation Test Procedures

ITU

International Telecommunications Union

IXC

Interexchange Carrier Code

K

kB

Kilobyte

kHz

Kilohertz

kbps

Kilobits Per Second

kbyte

Kilobyte

kg

Kilogram

L

LAN

Local Area Network

LAP-D

Link Access Procedure on the D-channel

LAPD

Link Access Procedure Data

LATA

Local Access and Transport Area

lb

Pound

LBO

Line Build Out

LDN

Listed Directory Number

LDS

Long-Distance Service

LEC

Local Exchange Carrier

LED

Light Emitting Diode

LINL

Local Indirect Neighbor Link

LMM

Low Level Maintenance Monitor

LSU

Local Storage Unit

LWC

Leave Word Calling

M

MAC

Medium Access

M-Bus

Memory Bus

MA-UUI

Message Associated User-to-User Signaling

MADU

Modular Asynchronous Data Unit

MAP

Maintenance Action Process

MAPD

Multi-Application Platform for DEFINITY

Mbps

Megabits Per Second

MCC

Multi-Carrier Cabinet

MCS

Message Center Service

MCT

Malicious Call Trace

MCU

Multipoint Control Unit

MDF

Main Distribution Frame

MDM

Modular Data Module

MDR

Message Detail Record

MEM

Memory

MET

Multibutton Electronic Telephone

MF

Multi-Frequency

MFB

Multifunction Board

MFC

Multi-Frequency Compelled (Signaling)

MHz

Megahertz

MIM

Management Information Message

MIPS

Million Instructions Per Second

MIS

Management Information System

MISCID

Miscellaneous Identification

MMCH

Multimedia Call Handling

MMCX

Multimedia Communications Exchange

MMI

Multimedia Interface

MMS

Material Management Services

MO

Maintenance Object

MOS

Message-Oriented Signaling

MPDM

Modular Processor Data Module

MS

Message Server

ms

Millisecond

MS/T

Main Satellite/Tributary

MSA

Message Servicing Adjunct

MSG

Message Service

MSM

Modular System Management

MSS

Mass Storage System

MSSNET

Mass Storage/Network Control

MT

Management Terminal

MTDM

Modular Trunk Data Module

MTP

Maintenance Tape Processor

MTT

Multi-Tasking Terminal

Abbreviations

MWL
Message Waiting Lamp

N

NANP
North American Numbering Plan

NAU
Network Access Unit

NCA/TSC
Non-Call Associate/Temporary Signaling Connection

NCOSS
Network Control Operations Support Center

NCSO
National Customer Support Organization

NEC
National Engineering Center

NEMA
National Electrical Manufacturer's Association

NETCON
Network Connection Circuit Pack

NFAS
Non-Facility Associated Signaling

NI
Network Interface

NID
Network Inward Dialing

NM
Network Management

NN
National Number

NPA
Numbering Plan Area

NPE
Network Processing Element

NQC
Number of Queued Calls

NSE
Night Service Extension

NSU
Network Sharing Unit

NXX
Public Network Office Code

O

OA
Operator Assisted

OCM
Outbound Call Management

ONS
On-Premises Station

OPS
Off-Premises Station

OPX
Off Premises Extension

OQT
Oldest Queued Time

OSHA
Occupational Safety and Health Administration

OSI
Open Systems Interconnect

OSS
Operations Support System

OSSI
Operational Support System Interface

OTDR
Optical Time Domain Reflectometer

OTQ
Outgoing Trunk Queuing

P

PACCON
Packet Control

PAD
Packet Assembly/Disassembly

PBX

Private Branch Exchange

PC

Personal Computer

PCM

Pulse Code Modulation

PCOL

Personal Central Office Line

PCOLG

Personal Central Office Line Group

PCS

Permanent Switched Calls

PDM

Processor Data Module

PDS

Premises Distribution System

PE

Processing Element

PEC

Price Element Codes

PEI

Processor Element Interchange

PGATE

Packet Gateway

PGN

Partitioned Group Number

PI

Processor Interface

PIB

Processor Interface Board

PIDB

Product Image Database

PKTINT

Packet Interface

PL

Private Line

PLS

Premises Lightwave System

PMS

Property Management System

PN

Port Network

PNA

Private Network Access

POE

Processor Occupancy Evaluation

POP

Point Of Presence

PPM

Parts Per Million or Periodic Pulse Metering

PPN

Processor Port Network

PRI

Primary Rate Interface

PROCR

Processor

PSC

Premises Service Consultant

PSDN

Packet Switch Public Data Network

PT

Personal Terminal

PTC

Positive Temperature Coefficient

PTT

Postal Telephone and Telegraph

R

RAM

Random Access Memory

RBS

Robbed-Bit Signaling

RC

Radio Controller

RCL

Restricted Call List

REN

Ringer Equivalency Number

Abbreviations

RFP

Request For Proposal

RHNPA

Remote Home Numbering Plan Area

RINL

Remote Indirect Neighbor Link

RISC

Reduced Instruction Set Computer

RLT

Release Link Trunk

RMATS

Remote Maintenance, Administration, and Traffic System

RNX

Route Number Index (Private Network Office Code)

ROM

Read-Only Memory

RPN

Routing Plan Number

RS-232C

Recommended Standard 232C

RS-449

Recommended Standard 449

RSC

Regional Support Center

S

SABM

Set Asynchronous Balance Mode

SAC

Send All Calls

SAKI

Sanity and Control Interface

SAT

System Access Terminal

SCC

Single Carrier Cabinet or Serial Communications Controller

SCD

Switch-Control Driver

SCI

Switch Communications Interface

SCO

System Control Office

SCOTCH

Switch Conferencing for TDM Bus in Concentration Highway

SCSI

Small Computer System Interface

SDDN

Software Defined Data Network

SDI

Switched Digital International

SDLC

Synchronous Data Link Control

SDN

Software Defined Network

SFRL

Single-Frequency Return Loss

SID

Station Identification Number

SIT

Special Information Tones

SMDR

Station Message Detail Recording

SMM

Standby Maintenance Monitor

SN

Switch Node

SNA

Systems Network Architecture

SNC

Switch Node Clock

SNI

Switch Node Interface

SNMP

Simple Network Management Protocol

SPE

Switch Processing Element

SPID

Service Profile Identifier

SSI
Standard Serial Interface

SSM
Single Site Management

SSV
Station Service

ST3
Stratum 3 Clock Board

STARLAN
Star-Based Local Area Network

SVN
Security Violation Notification

SWG
Standard Wire Gauge

SXS
Step-by-Step

SYSAM
System Access and Administration

T

TAAS
Trunk Answer from Any Station

TABS
Telemetry Asynchronous Block Serial

TAC
Trunk Access Code

TC
Technical Consultant

TCM
Traveling Class Mark

TDM
Time Division Multiplex(ing)

TDR
Time of Day Routing

TEG
Terminating Extension Group

TEI
Terminal Endpoint Identifier

TGE
Incoming Tie Trunk (Italian)

TGU
Outgoing Tie Trunk (Italian)

TOD
Time of Day

TOP
Task Oriented Protocol

TSC
Technical Service Center

TTR
Touch-Tone Receiver

TTT
Terminating Trunk Transmission

TTTN
Tandem Tie Trunk Network

TTY
Teletypewriter

U

UAP
Usage Allocation Plan

UART
Universal Asynchronous Transmitter

UCD
Uniform Call Distribution

UCL
Unrestricted Call List

UDP
Uniform Dial Plan

UL
Underwriter Laboratories

UM
User Manager

UNMA
Unified Network Management Architecture

UNP
Uniform Numbering Plan

Abbreviations

UPS
Uninterruptible Power Supply

USOP
User Service Order Profile

UUCP
UNIX-to-UNIX Communications Protocol

UUI
User-to-user information

WSS
Wireless Subscriber System

Z

ZCS
Zero Code Suppression

V

VAR
Value Added Reseller

VDN
Vector Directory Number

VIS
Voice Information System

VLSI
Very Large Scale Integration

VM
Voltmeter

VNI
Virtual Nodepoint Identifier

W

WATS
Wide Area Telecommunications Service

WCC
World Class Core

WCR
World Class Routing

WCTD
World Class Tone Detection

WFB
Wireless Fixed Base

WSA
Waiting Session Accept

Glossary

Numerics

3B2 Message Server

An AT&T software application that combines voice and data messaging services for voice terminal users whose extensions are connected to a G3 switch.

800 service

A service in the United States that allows incoming calls from a certain area or areas to an assigned number for a flat-rate charge based on usage.

A

abandoned call

An incoming call, where the caller hangs up before being answered.

access code

A 1-, 2-, or 3-digit dial code used to activate or cancel a feature, or access an outgoing trunk. The star (*) and pound (#) can be used as the first digit of an access code.

access endpoint

Either a nonsignaling channel on a DS1 interface or a nonsignaling port on an analog tie trunk circuit pack that is assigned a unique extension.

access tie trunk

A trunk that connects a main communications system with a tandem communications system in an electronic tandem network (ETN). An access tie trunk can also be used to connect a system or tandem to a serving office or service node. Also called "access trunk."

ACCUNET

A trademarked name for a family of digital services offered by AT&T in the USA.

ACD

See **Automatic Call Distribution**. ACD also refers to the "Work State" indicating that the agent is on an ACD call.

ACD split (or split)

A group of extensions that are staffed by agents trained to handle a certain type of incoming call. Valid split numbers range from 1~through 99. Each number identifies a unique grouping of ACD agent positions. ACD split is also referred to as an *ACD hunt group* or *hunt group*.

ACD work modes

See **work modes**.

active-notification association

A "link" that is initiated by the adjunct allowing it to receive Event Reports for a specific switch entity, for example, an outgoing call. This association is initiated by the adjunct via the *Event Notification Request* capability.

active-notification call

A call for which Event Reports are being sent over an active-notification association (communication channel) to the adjunct. Sometimes referred to as a monitored call.

active notification domains

Domains are VDNs and ACD split extensions for which Event Notification has been requested.

adjunct-control association

A relationship initiated by an application via the *Third Party Make Call*, the *Third Party Take Control* or *Domain (Station) Control* capabilities to set up calls and control calls already in progress.

adjunct-controlled calls

Include all the calls that can be controlled using an adjunct-control association. These calls must have been originated via the *Third Party Make Call* or *Domain (Station) Control* capabilities or must have been taken control of via the *Third Party Take Control* or *Domain (Station) Control* capabilities.

adjunct-controlled splits

ACD splits administered to be under adjunct control. Agents logged into such splits must do all telephony and ACD login and/or logout and change work mode functions through the adjunct (except for auto-available adjunct controlled splits, whose agents may not be logged in and/or logged out or have their work modes changed).

adjunct-monitored calls

Include all the adjunct-controlled calls and the active-notification calls. In addition it includes calls which provide event reporting over domain-control associations.

ANSI

The American National Standards Institute. This is a United States professional/technical association supporting a variety of standards.

adjunct

A processor that does one or more tasks for another processor and that is optional in the configuration of the other processor.

adjunct-switch application interface (ASAI)

An AT&T recommendation for interfacing adjuncts and communications systems, based on the CCITT Q.932 specification for layer 3.

administer

To access and change parameters associated with the services or features of a system.

Administered Connection (AC)

Administered Connection is a feature that allows the switch to automatically establish and maintain end-to-end connections between access endpoints (trunks) and/or data endpoints (data modules).

administration terminal

A terminal used to administer and maintain a system. See also **terminal**.

Administration Without Hardware (AWOH)

Provides the ability to administer ports without the need for the associated terminals or other hardware to be physically present.

after call work (ACW) mode

In this mode, agents are unavailable to receive ACD calls. Agents should enter the ACW mode to perform ACD-related activities such as filling out a form after an ACD call. If agents are in the Manual-In mode and disconnect from an ACD call, they automatically enter the ACW mode. Agents normally using Auto-In mode can enter the ACW state by depressing the ACW button while on a call.

agent (or ACD agent)

An answering position who receives calls directed to a split. A member of an ACD hunt group (ACD split).

agents in multiple splits

An agent may be logged into more than one split (three maximum). If, while logged into more than one split, the agent (1) answers an ACD call, (2) is in ACW mode for any split, or (3) makes or receives a direct extension call, the switch will not distribute additional ACD calls to that agent.

agent report

Provides historical traffic information for internally measured agents.

American National Standard Code for Information Interchange

See **ASCII**.

analog

The representation of information by means of continuously variable physical quantities such as amplitude, frequency, and phase.

analog data

Data that is transmitted over a digital facility in analog (pulse code modulation) form. The data must pass through a modem either at both ends or at a modem pool at the distant end.

analog telephone

A telephone that receives acoustic voice signals and sends analog electrical signals along the telephone line. Analog telephones are usually served by a single wire pair (tip and ring). The model-2500 telephone set is a typical example of an analog telephone.

analog-to-digital converter (ADC)

A device that converts an analog signal to digital form. See also **digital-to-analog converter**.

angel

A microprocessor located on each port card in a processor port network (PPN). The angel uses the control-channel message set (CCMS) to manage communications between the port card and the archangel on the controlling switch processing element (SPE). The angel also monitors the status of other microprocessors on a port card and maintains error counters and thresholds. See also **archangel**.

answerback code

An assigned number used to respond to a page from a code-calling or loudspeaker-paging system, or to retrieve a parked call.

appearance

A software process that is associated with an extension and whose purpose is to supervise a call. Also called "call appearance," "line appearance," and "occurrence."

application

Refers to an adjunct entity that requests and receives ASAI services or capabilities. One or more applications can reside on a single adjunct. However, the switch cannot distinguish among several applications residing on the same adjunct and treats the adjunct, and all resident applications, as a single application. The terms application and adjunct are used interchangeably throughout this document.

applications processor

Amicro-icomputer based, program controlled computer providing application services for the DEFINITY switch. The processor is used with several user-controlled applications such as traffic analysis and electronic documentation.

architecture

The organizational structure of a system, including hardware and/or software.

ARS

See **Automatic Route Selection**.

ASCII (American National Standard Code for Information Interchange)

The standard code, using a coded character set consisting of 7-bit coded characters (eight bits, including parity check), used for information interchange among data processing systems, data communications systems, and associated equipment. The ASCII set consists of control characters and graphic characters.

asynchronous data transmission

A method of transmitting data in which each character is preceded by a start bit and followed by a stop bit, thus permitting data characters to be transmitted at irregular intervals. This type transmission is advantageous when transmission is not regular (characters typed at a keyboard). Also called "asynchronous transmission." See also **synchronous data transmission**.

association

An association is a communication channel between the adjunct and switch for messaging purposes. An active association is one which applies to an existing call on the switch or to an extension on the call.

asynchronous data unit (ADU)

A data communications equipment (DCE) type device that allows direct connection between RS-232C equipment and a digital switch.

attendant

A person at a console on a customer's premises who provides personalized service for incoming callers and voice-services users by performing switching and signaling operations. See also attendant console.

attendant console

The workstation used by an attendant. The attendant console allows the attendant to originate a call, answer an incoming call, transfer a call to another extension or trunk, put a call on hold, and remove a call from hold. Attendants using the console can also manage and monitor some system operations. Also called "console." See also **attendant**.

Audio Information Exchange (AUDIX)

A fully integrated voice-mail system that can be used with a variety of communications systems to provide call-history data, such as subscriber identification and reason for redirection.

auto-in trunk groups

Those trunk groups where the CO processes all of the digits for the incoming call. Whenever the switch determines that the CO has seized a trunk from an Auto-In trunk group, it automatically (without processing any digits) connects the trunk to the destination. The destination will typically be an ACD split where (if there are no agents available) the call will go into a queue in which the callers wait to be answered in the order in which they arrived.

auto-in work mode

One of four agent work modes. The work mode where an agent indicates, to the system, that the agent is ready to process another call as soon as the current call is completed. Specifically, if an agent disconnects from an ACD call while in Auto-in Work Mode, then that agent immediately becomes available to receive another ACD call. See **Manual-In Work Mode** for a contrast.

Automatic Call Distribution (ACD) split

Calls of a similar type are distributed among agents.

automatic trunk

A trunk that does not require the sending or receiving of addressing information because the destination is predetermined. A request for service on the trunk, called a "seizure," is sufficient to route the call. The normal destination of an automatic trunk is the communications-system attendant group. Also called "automatic incoming trunk" and "automatic tie trunk."

automatic restoration

A service that restores disrupted connections between access endpoints (nonsignaling trunks) and data endpoints (devices that connect the switch to data terminal and/or communications equipment). This restoration is done within seconds of a service disruption so that critical data applications can remain operational.

auxiliary equipment

Equipment used for optional system features, such as Loudspeaker Paging and Music-on-Hold.

auxiliary trunk

A trunk used to connect auxiliary equipment, such as radio-paging equipment, to a communications system.

aux-work mode

In this mode, agents are unavailable to receive ACD calls. Agents should enter aux-work mode when involved in non-ACD activities such as taking a break, going to lunch, or placing an outgoing call.

When agents log in, they are automatically placed in the Aux-Work mode. They can then use the Auto-In or Manual-In feature to make themselves available to answer the first call.

Also, the last available agent in a split cannot enter the aux-work mode if any ACD calls are remaining in the queue. If the last available agent attempts to enter aux-work mode, the following occurs: (1) Calls in the queue are routed to the agent until the queue is empty (2) If the last available agent has an aux-work button, the light next to the button flashes until all calls in the queue are answered. When the last call is answered, the light next to the button goes on steadily, and the agent then enters aux-work mode.

B

bandwidth

The difference, expressed in Hertz, between the defined highest and lowest frequencies in a frequency range.

barrier code

A security code used with the Remote Access feature to prevent unauthorized access to the system.

baud

In telecommunications applications, a unit of transmission speed equal to the number of signal events per second. See also **bit rate** and **bits per second**.

BCC

The Bearer Capability Class (BCC) identifies the type of a call, for example, voice and different types of data. Determination of BCC is based on the call originator's characteristics for non-ISDN endpoints and on the Bearer Capability and Low-Layer Compatibility Information Elements of an ISDN endpoint.

Current BCCs are:

- n 0: Voice-grade data and voice
- n 1: DMI Mode 1, 56 kbps data transmission
- n 2: DMI Mode 2, synchronous/asynchronous data transmission up to 19.2 kbps
- n 3: DMI Mode 3, 64 kbps circuit/packet data transmission
- n 4: DMI Mode 0, 64 kbps synchronous data
- n 5: Temporary Signaling Connection
- n 6: Wideband Call, 128 to 1984 kbps synchronous data

bit (binary digit)

One unit of information in binary notation having two possible states or values, 0 or 1.

bits per second (bps)

The number of binary units of information that are transmitted or received per second. See also **baud** and **bit rate**.

bit rate

The speed at which bits are transmitted, usually expressed in bits per second. Also called "data rate." See also **baud** and **bits per second**.

bridge (bridging)

The appearance of a voice terminal's extension at one or more other voice terminals.

BRI

The ISDN Basic Rate Interface specification.

bridged appearance

A call appearance on a voice terminal that matches a call appearance on another voice terminal for the duration of a call.

buffer

(1) In hardware, a circuit or component that isolates one electrical circuit from another. Typically, a buffer holds data from one circuit or process until another circuit or process is ready to accept the data. (2) In software, an area of memory used for temporary storage.

bus

A multiconductor electrical path used to transfer information over a common connection from any of several sources to any of several destinations.

business communications terminal (BCT)

An integrated digital data terminal used for business applications. A BCT can function via a digital terminal data module (DTDM) or a processor data module (PDM) as a special-purpose terminal for services provided by an applications processor (AP) or, as a terminal for data entry and retrieval.

BX.25

An AT&T version of the CCITT X.25 protocol for data communications. BX.25 adds a fourth level to the standard X.25 interface. This uppermost level combines levels 4, 5, and 6 of the International Standards Organization (ISO) reference model.

bypass tie trunks

A one-way, outgoing tie trunk from a tandem switch to a main switch in an electronic tandem network (ETN). Bypass tie trunks, provided in limited quantities, are used as a "last-choice" route when all trunks to another tandem switch are busy. Bypass tie trunks are used only if all applicable intertandem trunks are busy.

byte

A sequence of (usually eight) bits processed together.

C

cabinet

Housing for racks, shelves, or carriers that hold electronic equipment.

cable

The physical connection between two pieces of equipment (em for example, cable from a data terminal to a modem (em or between a piece of equipment and a termination field (em for example, circuit pack I/O cables).

cable connector

A cable connector is either a jack (female) or plug (male) on the end of a cable. A cable connector connects wires on a cable to specific leads on telephone or data equipment.

call appearance, attendant console

Six buttons, labeled "a" through "f," and used to originate, receive, and hold calls. Each button has two lights to show the status of the call appearance.

call appearance, voice terminal

A button labeled with an extension number and used to place outgoing calls, receive incoming calls, or hold calls. Two lights next to the button show the status of the call appearance or the status of the call.

call control capabilities

call control capabilities are all the capabilities (*Third Party Selective Hold*, *Third Party Reconnect*, *Third Party Merge*) that can be used in either of the Third Party Call Control ASE (cluster) subsets: Call Control and Domain Control.

call detail recording

A switch feature that utilizes software and hardware to record call data (same as CDRU).

call detail recording utility (CDRU)

Applications software that collects, stores, optionally filters, and outputs call detail records for direct or polled output to peripheral devices.

call management system (CMS)

An application, running on an adjunct processor, that collects information from an Automatic Call Distribution (ACD) unit. CMS enables customers to monitor and manage telemarketing centers by generating reports on the status of agents, splits, trunks, trunk groups, vectors, and vector directory numbers (VDNs), and enables customers to partially administer the ACD feature for a communications system.

call reference value (CRV)

An identifier present in ISDN messages that serves to associate a related sequence of messages. In ASAI, the CRVs distinguish between associations.

call vector

A set of up to 15 vector commands to be performed for an incoming or internal call.

callback call

A call that is automatically returned to a voice terminal user who activated the Automatic Callback or Ringback Queuing feature.

call-waiting ringback tone

A low-pitched tone identical to ringback tone except that the tone decreases in the last 0.2~second (in the United States). A call-waiting ringback tone notifies the attendant that the Attendant Call Waiting feature has been activated and that the called user is aware of the waiting call. Tones in international countries may sound different.

call work code

A number, up to 16 digits, entered by Automatic Call Distribution (ACD) agents to record the occurrence of customer-defined events (such as account codes, social security numbers, or phone numbers) on ACD calls.

carrier

An enclosed shelf containing vertical slots that hold circuit packs.

carried load

The amount of traffic actually served by traffic-sensitive facilities during a given interval.

CCS or hundred call seconds

A unit of traffic measure that is used to determine usage. In order to determine usage for a facility, it is scanned every 100 seconds. If the facility is found busy, then it is assumed to have been busy for the entire scan interval. There are 3600 seconds per hour. The Roman numeral for 100 is the capital letter "C." The abbreviation for call seconds is CS. Therefore, 100 call seconds is abbreviated as CCS. If a facility is busy for an entire hour, then it is said to have been busy for 36 CCS. *See also Erlang.*

capability

A capability is either a request or indication of an operation. For example, a *Third Party Make Call* is a request for setting-up a call and an *Event Report* is an indication that an event has occurred.

capability groups

Capability groups are sets of capabilities, provisioned through switch administration, that can be requested by an application. Each capability group may contain capabilities from several capability groups. Capability groups are also referred to, in other documentation, as administration groups or Application Service Elements (ASEs). Capability groups denote association types. For example, *Call Control* is a type of association which allows certain functions (the ones in the capability group) to be performed over this type of association.

cause value

A Cause Value is returned in responses to requests or in event reports when a denial occurs or an unexpected condition is encountered. ASAI cause values fall into two "coding standards": Coding Standard 0 includes any cause values that are part of AT&T and CCITT ISDN specifications, and, Coding standard 3 includes any other ASAI cause values. This document uses a notation for cause value where the coding standard for the cause is given first, then a slash, then the cause value. For example, CS0/100 is coding standard 0, cause value 100.

CCITT

CCITT (Comite Consultatif International Telephonique et Telegraphique) is now called *International Telecommunications Union* (ITU). See this name for information.

center stage switch (CSS)

The central interface between the processor port network (PPN) and expansion port networks (EPNs) in a CSS-connected system.

central office (CO)

The location housing telephone switching equipment that provides local telephone service and access to toll facilities for long-distance calling.

central office (CO) codes

The first three digits of a 7-digit public network telephone number in the USA. CO codes are numbered from 200 through 999.

central office (CO) trunk

A telecommunications channel that provides access from the system to the public network through the local CO.

channel

The term channel is nonspecific and must be taken in context. Channel can refer to a circuit-switched call or a communications path for transmitting voice and/or data.

In wideband, a channel refers to all of the time slots necessary to support a call. For example, an H0-channel uses six 64 kbps time slots. This definition of channel is the same whether the time slots necessary to support the call are contiguous or noncontiguous.

Channel can also refer to a DS0 on a T1 or E1 facility not specifically associated with a logical circuit-switched call. In this context, a channel is analogous to a single trunk.

channel negotiation

Channel negotiation is the process by which the channel offered in the Channel Identification Information Element (CIIE) in the SETUP message is "negotiated" to be another channel acceptable to the switch receiving the SETUP message and ultimately to the switch that sent the SETUP. Negotiation will only be attempted if the CIIE is encoded as *Preferred*. Channel negotiation will not be attempted for wideband calls.

circuit

(1) An arrangement of electrical elements through which electric current flows, providing one or more specific functions. (2) A channel or transmission path between two or more points.

circuit pack

A card on which electrical circuits are printed, and integrated circuit (IC) chips and electrical components are installed. A circuit pack is installed in a switch carrier.

Class of Restriction (COR)

A feature that allows up to 64 classes of call-origination and call-termination restrictions for voice terminals, voice terminal groups, data modules, and trunk groups. See also **Class of Service (COS)**.

Class of Service (COS)

A feature that uses a number (0 through 15) to specify if voice terminal users can activate the Automatic Callback, Call Forwarding, Call Transfer, Call Transfer with Consultation, Call Transfer with Precedence, Data Privacy, or Priority Calling features.

common control switching arrangement (CCSA)

A private telecommunications network using dedicated trunks and a shared switching center for interconnecting company locations.

communications system

The software-controlled processor complex that interprets dialing pulses, tones, and/or keyboard characters and makes the proper interconnections both within the system and external to the system. The communications system itself consists of a digital computer, software, storage device, and carriers with special hardware to perform the actual connections. A communications system provides voice and/or data communications services, including access to public and private networks, for telephones and data terminals on a customer's premises. See also **switch**.

confirmation tone

A tone confirming that a feature activation, deactivation, or cancellation has been accepted.

connectivity

The connection of disparate devices within a single system.

console

See **attendant console**.

contiguous

Contiguous, which is a wideband term, refers to adjacent DS0s within one T1 or E1 facility or adjacent TDM or fiber time slots. Note that the first and last TDM bus, DS0, or fiber time slots are not considered contiguous (no wraparound). For an E1 facility with a D-channel, DS0s 15 and 17 are considered contiguous.

control cabinet

See **control carrier**.

control carrier

A carrier in a Multi-Carrier Cabinet that contains the switch processing element (SPE) circuit packs and, unlike a G3r control carrier, port circuit packs. Also called "control cabinet" in a single-carrier cabinet. See also **switch processing element**.

controlled station

A station that is being monitored and controlled via a domain-control association.

coverage answer group

A group of up to eight voice terminals that ring simultaneously when a call is redirected to it by Call Coverage. Any one of the group can answer the call.

coverage call

A call that is automatically redirected from the called party's extension number to an alternate answering position when certain coverage criteria are met.

coverage path

The order in which calls are redirected to alternate answering positions.

coverage point

An extension or attendant group, vector directory number (VDN), or Automatic Call Distribution (ACD) split designated as an alternate answering position in a coverage path.

covering user

A person at a coverage point who answers a redirected call.

critical reliability system

A system that has the following duplicated items: control carriers, tone-clock circuit packs, expansion interface (EI) circuit packs, and cabling between port networks (PNs) and center stage switch (CSS) in a CSS-connected system. See also **duplicated common control**, **duplicate processor-only system**, and **duplication**.

D

data channel

A communications path between two points used to transmit digital signals.

data communications equipment (DCE)

The equipment (em usually a modem, data module, or packet assembler/disassembler (em on the network side of a communications link that provides the functions to make the binary serial data from the source or transmitter compatible with the communications channel.

data link

The configuration of physical facilities enabling end terminals to communicate directly with each other.

data module

An interconnection device between a basic rate interface (BRI) or digital communications protocol (DCP) interface of the switch and data terminal equipment (DTE) or data communications equipment (DCE).

data path

The end-to-end connection used for a data-communications link. A data path is the combination of all the elements of an interprocessor communication in a distributed communications system (DCS).

data port

A point of access to a computer that uses trunks or lines for transmitting or receiving data.

data rate

See **bit rate**.

data service unit (DSU)

A device designed to transmit digital data on transmission facilities.

data terminal

An input/output (I/O) device that has either switched or direct access to a host computer or to an applications processor (AP).

data terminal equipment (DTE)

Equipment consisting of the endpoints in a connection over a data circuit. For example, in a connection between a data terminal and a host, the terminal, the host, and their associated modems or data modules make up the DTE. DTE usually consists of the following functional units: control logic, buffer store, and one or more input or output devices or computers. DTE can contain error control, synchronization, and telephone-identification capabilities.

D-channel backup

D-channel backup is used with Non-Facility Associated Signaling (NFAS). With D-channel backup, a primary D-channel provides signaling for an NFAS D-channel group (two or more PRIs facilities). A second (redundant) D-channel, located on a separate PRI facility of the NFAS D-channel group is designated as backup for the D-channel. The failure of the primary D-channel causes an automatic transfer of call-control signaling to the backup D-channel. When this happens, the backup becomes the primary D-channel, and when the previous primary is returned to service it becomes the backup D-channel.

delay-dial trunk

A trunk that allows dialing directly into a communications system (em that is, the digits are received as they are dialed).

denying a request

Denying a Request is the same as sending a negative acknowledgement (NAK), and is done by sending an Facility Information Element (FIE) with a *return error* component (a cause value is also provided). It should not be confused with the "denial" event report which applies to calls.

designated voice terminal

The specific voice terminal to which calls, originally directed to a certain extension number, are redirected. Commonly used to mean the "forwarded-to" terminal when Call Forwarding All Calls is active.

dial-repeating tie trunk

A tie trunk that transmits called-party addressing information between two communications systems.

digit conversion

A process used to convert specific dialed numbers into other dialed numbers.

digital communications protocol (DCP)

An AT&T proprietary protocol used to transmit both digitized voice and digitized data over the same communications link. A DCP link is made up of two 64-kbps information (I-) channels and one 8-kbps signaling (S-) channel.

digital data endpoints

In G3iV2, digital data endpoints include devices such as the 510D terminal or the 515-type business communications terminal (BCT).

digital multiplexed interface (DMI)

An interface that provides connectivity between a communications system and a host computer or between two communications systems using digital signal level-1 (DS1) 24th-channel signaling. DMI provides 23 64-kbps data channels and 1 common signaling channel over a twisted-pair connection. DMI is offered through two capabilities: bit-oriented signaling (DMI-BOS) and message-oriented signaling (DMI-MOS).

digital signal level 0 (DS0)

A single 64 kbps voice channel. A DS0 is a single 64 kbps channel in a T1 or E1 facility and consists of eight bits in a T1 or E1 frame every 125 micro-seconds.

digital terminal data module (DTDM)

An integrated or adjunct data module that shares with a digital telephone the same physical port for connection to a communications system. The function of a DTDM is similar to that of a processor data module (PDM) and modular processor data module (MPDM) in that it converts RS232C signals to DCP signals.

digital-to-analog converter

A device that converts data in digital form to the corresponding analog signals. See also **analog-to-digital converter**.

digital transmission

A mode of transmission in which the information to be transmitted is first converted to digital form and then transmitted as a serial stream of pulses.

digital trunk

A circuit in that carries digital voice and/or digital data in a telecommunications channel.

dial-repeating trunks

A PBX tie trunk that is capable of handling PBX station signaling information without attendant assistance.

direct agent

A switch feature accessed only via Adjunct Switch Applications Interface (ASAI) which allows a call to be placed in a split queue but routed only to a specific agent in that split. This allows a call to receive normal ACD call treatment (for example, announcements) and to be measured as an ACD call while ensuring that a particular agent answers.

Direct Extension Selection (DXS)

A feature on an attendant console that allows an attendant direct access to voice terminals by pressing a group select button and a DXS button.

Direct Inward Dialing (DID)

A feature that allows an incoming call from the public network (not FX or WATS) to reach a specific telephone without attendant assistance. DID calls to DID-restricted telephone lines are routed to an attendant or recorded announcement, depending on the option selected.

direct inward dialing (DID) trunk

An incoming trunk used for dialing directly from the public network into a communications system without help from the attendant.

disk drive

An electromechanical device that stores data on and retrieves data from one or more disks.

distributed communications system (DCS)

A network configuration linking two or more communications systems in such a way that selected features appear to operate as if the network were one system.

domain

Available domains are VDNs, ACD splits, and stations. The VDN domain is only used for active-notification associations, the station domain is only used for the domain-control associations. The ACD-split domain is for active-notification associations and domain-control associations.

domain-control association

A *Third Party Domain Control Request* capability initiates a unique "CRV/link number" combination, which is referred to as a domain-control association.

domain-controlled split

A split for which *Third Party Domain Control* request has been accepted. A domain-controlled split provides an event report for logout.

domain-controlled station

A station for which a *Third_Party_Domain_Control* request has been accepted. A domain-controlled station provides event reports for calls that are alerting, connected, or held at the station.

domain-controlled station on a call

A station active on a call which provides event reports over one or two domain-control associations.

duplicated common control

Two processors ensuring continuous operation of a communications system. While one processor is on-line, the other functions as a backup. The backup processor goes on-line periodically or when a problem condition occurs.

duplication

The use of redundant components to improve availability. When a duplicated subsystem fails, its backup redundant system automatically takes over.

duplication option

A system option that duplicates the following:

6. Control carrier containing the Switch Processing Element (SPE)
7. Expansion interface (EI) circuit packs in carriers
8. Fiber optic cabling between Port Networks (PNs)
9. Center-Stage Switch (CSS) in a CSS-connected system

E

E1

A digital transmission standard that carries traffic at the rate of 2.048 Mbps. The E1 facility is divided into 32 channels (DS0s) of 64 kbps information numbered from 0 to 31. Channel 0 is reserved for framing and synchronization information. When a D-channel is present, it occupies channel 16.

ear and mouth (E & M) signaling

Trunk supervisory signaling, used between two communications systems, whereby signaling information is transferred through two-state voltage conditions (on the E and M leads) for analog applications and through a single bit for digital applications.

electronic tandem network (ETN)

A tandem tie trunk network that has automatic call routing capabilities based on the number dialed and the most preferred route available at the time the call is placed. Each switch in the network is assigned a unique private network office code (RNX), and each voice terminal is assigned a unique extension number.

Electronics Industries Association (EIA)

A trade association of the electronics industry that establishes electrical and functional standards.

emergency transfer

If a major system failure occurs, the automatic transfer within a communications system of a pre-defined set of CO lines to a group of answering telephones with at least one telephone capable of making outgoing calls. The system operates in this mode until the failure is repaired and the system automatically returns to normal operation. Also called "power-failure transfer."

end-to-end signaling

The transmission of touch-tone signals generated by dialing from a voice terminal user to remote computer equipment. A connection must first be established over an outgoing trunk from the calling party to the computer equipment. Then additional digits can be dialed to transmit information to be processed by the computer equipment.

enhanced private-switched communications service (EPSCS)

An analog private telecommunications network based on the No. 5 Crossbar and 1A ESS that provides advanced voice and data telecommunications services to companies with many locations.

Erlang

A unit of traffic intensity, or load, used to express the amount of traffic it takes to keep one facility busy for one hour. One Erlang is equal to 36 CCS. See also **Hundred Call Seconds**.

expansion archangel (EAA)

A network-control microprocessor located on an expansion interface (EI) port circuit pack in an expansion port network (EPN). The EA provides an interface between the EPN and its controlling switch processing element (SPE).

expansion-archangel link (EAL)

A link-access function on the D-channel (LAPD) logical link that exists between a switch processing element (SPE) and an expansion archangel (EA). The EAL carries control messages from the SPE to the EA and to port circuit packs in an expansion port network (EPN).

expansion control cabinet

See **expansion control carrier**.

expansion control carrier

A carrier in a Multi-Carrier Cabinet that contains extra port circuit packs and a maintenance interface. Also called "expansion control cabinet" in a single-carrier cabinet.

expansion interface (EI)

A port circuit pack in a port network (PN) that provides the interface between a PN's time-division multiplex (TDM) bus and packet bus, and a fiber-optic link. The EI carries circuit-switched data, packet-switched data, network control, timing control, and DS1 control. In addition, an EI in an expansion port network (EPN) communicates with the master maintenance circuit pack to provide the EPN's environmental and alarm status to the switch processing element (SPE).

expansion port network (EPN)

A port network (PN) that is connected to the TDM bus and packet bus of a processor port network (PPN). Control is achieved by indirect connection of the EPN to the PPN via a port-network link (PNL). See also **port network**.

extension-in

Extension-In (ExtIn) is the work state agents go into when they answer (receive) a non-ACD call. If the agent is in Manual-In or Auto-In and receives an extension-in call, it is recorded by CMS as an AUX-In call.

extension-out

Extension-Out (ExtOut) is the work state agents go into when they place (originate) a non-ACD call. If the agent is in Manual-In or Auto-In and places an extension-out call, it is recorded by CMS as an AUX-Out call.

external measurements

Refers to those ACD measurements that are made by the External CMS adjunct.

extension number

A 1- to 5-digit number by which calls are routed through a communications system or, with a Uniform Dial Plan (UDP) or main-satellite dialing plan, through a private network. Extension numbers are primarily used for telephones and data terminals but can also be used with specific features.

external call

A connection between a communications system user and a party on the public network or on another communications system in a private network.

F

facility

A general term used for a telecommunications transmission pathway and associated equipment.

facility associated signaling (FAS)

When a D-channel carries the signaling only for those channels on the same physical interface.

feature

A specifically defined function or service provided by the system.

feature button

A labeled button on a telephone or attendant console used to access a specific feature.

fiber optics

A technology using materials that transmit ultrawideband electromagnetic light-frequency ranges for high-capacity carrier systems.

fixed

Fixed is a trunk allocation term. In the fixed allocation scheme, the time slots necessary to support a wideband call are contiguous, and the first time slot is constrained to certain starting points.

flexible

Flexible is a trunk allocation term. The flexible allocation scheme allows the time slots of a wideband call to occupy noncontiguous positions within a single T1 or E1 facility.

floating

Floating is a trunk allocation term. In the floating allocation scheme, the time slots necessary to support a wideband call are contiguous, but the position of the first time slot is not fixed.

foreign exchange (FX)

A central office (CO) other than the one providing local access to the public telephone network.

foreign exchange trunk

A telecommunications channel that directly connects the system to a CO other than its local CO.

foreign numbering-plan area code (FNPAC)

An area code other than the local area code and must be dialed to call outside the local geographical area.

G

generalized route selection (GRS)

An enhancement to Automatic Alternate Routing/Automatic Route Selection (AAR/ARS) that performs routing based on call attributes, such as Bearer Capability Classes (BCCs), in addition to the address and facilities restriction level (FRL), thus facilitating a Uniform Dial Plan (UDP) that is independent of the type of call being placed.

glare

The simultaneous seizure of a two-way trunk by two communications systems, resulting in a standoff.

grade of service

The number of call attempts that fail to receive service immediately. Grade of service is also expressed as the quantity of all calls that are blocked or delayed.

ground-start trunk

A trunk on which, for outgoing calls, the system transmits a request for services to a distant switching system by grounding the trunk ring lead. To receive the digits of the called number, that system grounds the trunk tip lead. When the system detects this ground, the digits are sent.

H

handshaking logic

A format used to initiate a data connection between two data module devices.

H0

An ISDN information transfer rate for 384 kbps data defined by CCITT and ANSI standards.

H11

An ISDN information transfer rate for 1536 kbps data defined by CCITT and ANSI standards.

H12

An ISDN information transfer rate for 1920 kbps data defined by CCITT and ANSI standards.

Hertz (Hz)

A unit of frequency equal to one cycle per second.

high reliability system

A system having the following: two control carriers, duplicate expansion interface (EI) circuit packs in the PPN (in G3r with CSS), and duplicate switch node clock circuit packs in the switch node (SN) carriers. See also **duplicated common control**, **duplication**, **duplication option**, and **critical reliability system**.

holding time

The total length of time in minutes and seconds that a facility is used during a call.

home numbering-plan area code

The local area code. The area code does not have to be dialed to call numbers within the local geographical area.

hop

Nondirect communication between two switch communications interfaces (SCI) where the SCI message passes automatically without intermediate processing through one or more intermediate SCIs.

host computer

A computer, connected to a network, that processes data from data-entry devices.

hunt group

A group of extensions that are assigned the Station Hunting feature so that a call to a busy extension will reroute to an idle extension in the group.

I

immediate-start tie trunk

A trunk on which, after making a connection with a distant switching system for an outgoing call, the system waits a nominal 65 ms before sending the digits of the called number. This allows time for the distant system to prepare to receive digits. On an incoming call, the system has less than 65 ms to prepare to receive the digits.

information exchange

The exchange of data between users of two different systems, such as the switch and a host computer, over a local area network (LAN).

information systems network (ISN)

A wide area network (WAN) and local area network (LAN) with an open architecture combining host computers, minicomputers, word processors, storage devices, PCs, high-speed printers, and nonintelligent terminals into a single packet-switching system.

inside call

A call placed from one telephone to another within the local communications system.

A public or private network that provides end-to-end digital communications for all services to which users have access by a limited set of standard multipurpose user-network interfaces defined by the CCITT. Through internationally accepted standard interfaces, ISDN provides digital circuit-switched or packet-switched communications within the network and links to other ISDNs to provide national and international digital communications. See also **Integrated Services Digital Network Basic Rate Interface** and **Integrated Services Digital Network Primary Rate Interface**.

Integrated Services Digital Network Basic Rate Interface (ISDN-BRI)

The interface between a communications system and terminal that includes two 64 kbps B-channels for transmitting voice or data and one 16 kbps D-channel for transmitting associated B-channel call control and out-of-band signaling information. ISDN-BRI also includes 48 kbps for transmitting framing and D-channel contention information, for a total interface speed of 192 kbps. ISDN-BRI serves ISDN terminals and digital terminals fitted with ISDN terminal adapters. See also **Integrated Services Digital Network Primary Rate Interface**.

Integrated Services Digital Network Primary Rate Interface (ISDN-PRI)

The interface between multiple communications systems that in North America includes 24 64 kbps channels, corresponding to the North American digital signal level-1 (DS1) standard rate of 1.544 Mbytes per second.

The most common arrangement of channels in ISDN-PRI is twenty three 64 kbps B-channels for transmitting voice and data and one 64 kbps D-channel for transmitting associated B-channel call control and out-of-band signaling information. Although with nonfacility-associated signaling (NFAS), ISDN-PRI can include 24 B-channels and no D-channel. See also **Integrated Services Digital Network** and **Integrated Services Digital Network Basic Rate Interface**.

intercept tone

An tone that indicates a dialing error or denial of the service requested.

interface

A common boundary between two systems or pieces of equipment.

internal call

A connection between two users within a system.

International Tele-communications Union (ITU)

Formerly known as International Telegraph and Telephone Consultative Committee (CCITT), ITU is an international organization that sets universal standards for data communications, including Integrated Services Digital Network (ISDN). ITU members are from telecommunications companies and organizations around the world. See also **BX.25**.

International Telegraph and Telephone Consultative Committee

See **International Telecommunications Union (ITU)**.

interflow

Allows calls to forward to other splits on the same PBX or a different PBX using the Call Forward All Calls switch feature.

intraflow

Allows calls to be redirected to other splits on the same PBX on a conditional or unconditional basis using call coverage "busy," "don't answer," or "all" criteria.

internal measurements

Refers to those BCMS measurements that are made by the system. ACD measurements that are made external to the system (via External CMS) are referred to as external measurements.

in-use lamp

A red light on a multiappearance voice terminal that is illuminated to show which call appearance will be selected when the handset is lifted or which call appearance is active when a user is off-hook.

ISDN Gateway (IG)

A feature allowing integration of the switch and a host-based telemarketing application via a link to a gateway adjunct. The gateway adjunct is a 3B-based product that notifies the host-based telemarketing application of call events.

ISDN trunk

A trunk administered for use with Integrated Services Digital Network primary rate interface (ISDN-PRI). Also called "ISDN facility."

ISDN-PRI Terminal Adapter

A terminal adapter acts as interface between endpoint applications and an ISDN PRI facility. ISDN-PRI terminal adapters are currently available from other vendors and are primarily designed for video conferencing applications. Accordingly, currently available terminal adapters adapt the two pairs of video codec data (V.35) and dialing (RS-366) ports to an ISDN PRI facility.

L

light-emitting diode (LED)

A semiconductor device that produces light when voltage is applied. LEDs provide a visual indication of the operational status of hardware components, the results of maintenance tests, and the alarm status of circuit packs, and the activation of telephone features.

lightwave transceiver

Hardware that provides an interface to fiber-optic cable from port circuit packs and digital signal level-1 (DS1) converter circuit packs. Lightwave transceivers convert electrical signals to light signals and vice versa.

line

A transmission path between a communications system or CO switching system and a voice terminal or other terminal.

line port

The hardware that provides the access point to a communications system for each circuit associated with a telephone and/or data terminal.

link

A transmitter-receiver channel that connects two systems.

link-access procedure on the D-channel (LAPD)

A link-layer protocol on the Integrated Services Digital Network basic rate interface (ISDN-BRI) and primary rate interface (ISDN-PRI) data-link layer (level 2). LAPD provides data transfer between two devices, and error and flow control on multiple logical links. LAPD is used for signaling and low-speed packet data (X.25 and mode 3) on the signaling (D-) channel and for mode-3 data communications on a bearer (B-) channel.

local area network (LAN)

A networking arrangement designed for a limited geographical area. Generally, a LAN is limited in range to a maximum of 6.2 miles and provides high-speed carrier service with low error rates. Common configurations include daisy chain, star (including circuit-switched), ring, and bus.

logical link

The communications path between a processor and a basic rate interface (BRI) terminal.

loop-start trunk

A trunk on which, after establishing a connection with a distant switching system for an outgoing call, the system waits for a signal on the loop formed by the trunk leads before sending the digits of the called number.

M

main distribution frame

This device mounts to the wall inside the system equipment room. The main distribution frame (MDF) provides a connection point from the outside telephone lines, to the PBX switch, and to the inside telephone stations.

main-satellite-tributary

A private network configuration that can either stand alone or access an electronic tandem network (ETN). A “main” switch provides interconnection, via tie trunks, with one or more subtending switches, called “satellites”; all attendant positions for the main/satellite configuration; and access to and from the public network. To a user outside the complex, a main/satellite configuration appears as one switch, with one listed directory number (LDN). A “tributary” switch is connected to the main switch via tie trunks, but which has its own attendant positions and LDN.

maintenance

The activities involved in keeping a telecommunications system in proper working condition: the detection and isolation of software and hardware faults, and automatic and manual recovery from these faults.

management terminal

The terminal that is used by the system administrator to administer the switch. The terminal may also be used to access the BCMS feature.

major alarm

An indication of a failure that has caused critical degradation of service and requires immediate attention. Major alarms are automatically displayed on LEDs on the attendant console and maintenance or alarming circuit pack, logged to the alarm log, and reported to a remote maintenance facility, if applicable.

manual-in work mode

In this mode, agents automatically enter the ACW mode when they disconnect from an ACD call. However, in order to become available to receive another ACD call, they must then manually enter the Auto-In or Manual-In mode. See **Auto-In Work Mode** for a contrast.

memory

A device into which information can be copied and held, and from which the information can be obtained at a later time.

message center

An answering service that supplies agents to and stores messages for later retrieval.

message center agent

A member of a message center hunt group who takes and retrieves messages for voice terminal users.

minor alarm

An indication of a failure that could affect customer service. Minor alarms are automatically displayed on LEDs on the attendant console and maintenance or alarming circuit pack, sent to the alarm log, and reported to a remote maintenance facility, if applicable.

modem

A device that converts digital data signals to analog signals for transmission over telephone circuits. The analog signals are converted back to the original digital data signals by another modem at the other end of the circuit.

modem pooling

A capability that provides shared conversion resources (modems and data modules) for cost-effective access to analog facilities by data terminals. When needed, modem pooling inserts a conversion resource into the path of a data call. Modem pooling serves both outgoing and incoming calls.

modular processor data module (MPDM)

A processor data module (PDM) that can be configured to provide several kinds of interfaces (RS232C, RS449, and V.35) to customer-provided data terminal equipment (DTE). See also **processor data module**.

modular trunk data module (MTDM)

A trunk data module that can be configured to provide several kinds of interfaces (RS-232, RS-449, and V.35) to customer-provided data terminal equipment (DTE).

modulator-demodulator

See **modem**.

multiappearance voice terminal

A terminal equipped with several call appearance buttons for the same extension number, allowing the user to handle more than one call, on that same extension number, at the same time.

Multi-Carrier Cabinet

A structure that holds one to five carriers. See also **Single-Carrier Cabinet**.

Multi-Frequency Compelled (MFC), release 2 (R2) signalling

A signal consisting of two frequency components, such that when a signal is transmitted from a switch, another signal acknowledging the transmitted signal is received by the switch. "R2" designates signaling used in the United and countries outside the United States.

multiplexer

A device used to combine a number of individual channels into a single common bit stream for transmission.

multiplexing

A process whereby a transmission facility is divided into two or more channels, either by splitting the frequency band into a number of narrower bands or by dividing the transmission channel into successive time slots. See also **time-division multiplexing**.

multi-rate

Multi-rate refers to the new N x DS0 service (see N x DS0).

N

N x DS0

N x DS0, equivalently referred to as N-x 64-kbps, is an emerging standard for wideband calls separate from H0, H11, and H12 ISDN channels. The emerging N x DS0 ISDN multirate circuit mode bearer service will provide circuit-switched calls with data rate multiples of 64 kbps up to 1536 kbps on a T1 facility or up to 1920 kbps on an E1 facility. In the switch, N x DS0 channels will range up to 1984 kbps using NFAS E1 interfaces.

narrowband

A circuit-switched call at a data rate up to and including 64 kbps. All nonwideband switch calls are considered narrowband.

Non-Facility Associated Signaling (NFAS)

A method that allows multiple T1 and/or E1 facilities to share a single D-channel to form an Integrated Services Digital Network primary rate interface (ISDN PRI). If D-Channel Backup is not used, one facility is configured with a D-channel, while the other facilities that share the D-channel are configured without D-channels. If D-Channel Backup is used, two facilities are configured to have D-channels (one D-channel on each facility), while the other facilities that share the D-channels are configured without D-channels.

On every facility, all DS0s that are not D-channels are available as B-channels. Therefore, a T1 facility without a D-channel has 24 B-channels, and an E1 facility without a D-channel has 31 B-channels.

network

A series of points, nodes, or stations connected by communications channels.

network-specific facility (NSF)

An information element in an ISDN-PRI message that specifies which public-network service is used. NSF applies only when Call-by-Call Service Selection is used to access a public-network service.

network interface

A common boundary between two systems in an interconnected group of systems.

node

A switching or control point for a network. Nodes are either "tandem" (em they receive signals and pass them on (em or "terminal" (em they originate or terminate a transmission path.

O

offered load

The traffic that would be generated by all the requests for service occurring within a monitored interval, usually one hour.

othersplit

The Work State that indicates the agent is currently active on another split's call, or in ACW for another split.

P

packet

A group of bits (em including a message element, which is the data, and a control information element (IE), which is the header (em used in packet switching and transmitted as a discrete unit. In each packet, the message element and control IE are arranged in a specified format. See also **packet bus** and **packet switching**.

packet bus

A wide-bandwidth bus that transmits packets.

packet switching

A data-transmission technique whereby user information is segmented and routed in discrete data envelopes called “packets,” each with its own appended control information, for routing, sequencing, and error checking. Packet switching allows a channel to be occupied only during the transmission of a packet; on completion of the transmission, the channel is made available for the transfer of other packets. See also **BX.25** and **packet**.

paging trunk

A telecommunications channel used to access an amplifier for loudspeaker paging.

party/extension active on call

A party is on the call if it is actually connected to the call (in active talk or in held state). An originator of a call is always a party on the call. Alerting parties, busy parties, and tones are not parties on the call.

PCOL

Personal Central Office Line.

primary extension

The main extension associated with the physical station set.

principal

A station that has its primary extension bridged on one or more other stations.

personal computer (PC)

A personally controllable microcomputer.

pickup group

A group of individuals authorized to answer any call directed to an extension number within the group.

port

A data- or voice-transmission access point on a device that is used for communicating with other devices.

port carrier

A carrier in a Multi-Carrier Cabinet or a single-carrier cabinet containing port circuit packs, power units, and service circuits. Also called a “port cabinet” in a single carrier cabinet.

port network (PN)

A cabinet containing a TDM bus and packet bus to which the following components are connected: port circuit packs, one or two tone-clock circuit packs, a maintenance circuit pack, service circuit packs, and (optionally) up to four expansion interface (EI) circuit packs in G3. Each PN is controlled either locally or remotely by a switch processing element (SPE). See also **expansion port network** and **processor port network**.

port-network connectivity

The interconnection of port networks (PNs), regardless of whether the configuration uses direct or switched connectivity.

Primary Rate Interface (PRI)

A standard Integrated Services Digital Network (ISDN) frame format that specifies the protocol used between two or more communications systems. PRI runs at 1.544 Mbps and, as used in North America, provides 23 64 kbps B-channels (voice or data) and one 64 kbps D-channel (signaling). The D-channel is the 24th channel of the interface and contains multiplexed signaling information for the other 23 channels.

PRI endpoint (PE)

The wideband switching capability introduces PRI Endpoints on switch line-side interfaces. A PRI endpoint consists of one or more contiguous B-channels on a line-side T1 or E1 ISDN PRI facility and has an extension number. Endpoint applications have call control capabilities over PRI endpoints.

principal (user)

A person to whom a telephone is assigned and who has message center coverage.

private network

A network used exclusively for the telecommunications needs of a particular customer.

private network office code (RNX)

The first three digits of a 7-digit private network number. These codes are numbered 220 through 999, excluding any codes that have a 0 or 1 as the second digit.

processor carrier

A phrase used for "control carrier" in G3rV2. See also **control carrier**.

processor data module (PDM)

A device that provides an RS232C data communications equipment (DCE) interface for connecting to data terminals, applications processors (APs), and host computers and provides a digital communications protocol (DCP) interface for connection to a communications system. See also **modular processor data module**.

processor port network (PPN)

A port network (PN) controlled by a switch processing element (SPE) that is directly connected to that PN's time-division multiplex (TDM) bus and local area network (LAN) bus. See also **port network**.

processor port network (PPN) control carrier

A carrier containing the maintenance circuit pack, tone/clock circuit pack, and switch processing element (SPE) circuit packs for a processor port network (PPN) and, optionally, port circuit packs.

Property Management System (PMS)

A stand-alone computer used by lodging and health services organizations use for services such as reservations, housekeeping, and billing.

protocol

A set of conventions or rules governing the format and timing of message exchanges to control data movement and correction of errors.

public network

The network that can be openly accessed by all customers for local or long-distance calling.

pulse-code modulation (PCM)

An extension of pulse-amplitude modulation (PAM) in which carrier-signal pulses modulated by an analog signal, such as speech, are quantized and encoded to a digital, usually binary, format.

Q

quadrant

A quadrant is a group of six contiguous DS0s in fixed locations on an ISDN PRI facility. Note that this term comes from T1 terminology (one-fourth of a T1), but there are five quadrants on an E1 ISDN PRI facility (30B + D).

A quadrant is considered available or idle when all six contiguous DS0s are idle. Otherwise, the quadrant is considered contaminated or partially contaminated. This is a dynamic condition; quadrants become idle and contaminated as calls are placed and dropped. Note that a T1 facility containing the primary or backup D-channel (23B + D) has a maximum of three idle quadrants. The fourth quadrant (DS0s 19-24) never has six contiguous idle DS0s because one is always allocated to the D-channel. On an E1 facility, channel 0 is reserved for framing and synchronization, and channel 16 contains the D-channel when present, but five quadrants are potentially available.

queue

An ordered sequence of calls waiting to be processed.

queuing

The process of holding calls in order of their arrival to await connection to an attendant, to an answering group, or to an idle trunk. Calls are automatically connected in first-in, first-out sequence.

R

random access memory (RAM)

A storage arrangement whereby information can be retrieved at a speed independent of the location of the stored information.

read-only memory (ROM)

A storage arrangement primarily for information retrieval applications.

recall dial tone

Tones signalling that the system has completed a function (such as holding a call) and is ready to accept dialing.

redirection criteria

The information administered for each voice terminal's coverage path that determines when an incoming call is redirected to coverage.

redirection on no answer

An optional feature that redirects an unanswered ringing ACD call after an administered number of rings. The call is then redirected back to the agent.

remote home numbering-plan area code (RHNPAC)

A foreign numbering-plan area code that is treated as a home area code by the Automatic Route Selection (ARS) feature. Calls can be allowed or denied based on the area code and the dialed central office (CO) code rather than just the area code. If the call is allowed, the ARS pattern used for the call is determined by these six digits.

reorder tone

A tone to signal that at least one of the facilities, such as a trunk or a digit transmitter, needed for the call was not available at the time the call was placed.

report scheduler

Software that is used in conjunction with the system printer for the purpose of scheduling the days of the week and time of day that the desired reports are to be printed.

RS232C

A physical interface specified by the EIA. RS232C transmits and receives asynchronous data at speeds of up to 19.2 kbps over cable distances of up to 50 feet.

ROSE

Remote Operations Service Element is a CCITT and ISO standard that defines a notation and services that support interactions between the various entities that make up a distributed application.

S

sanity and control interface (SAKI)

A custom, very-large-scale-integration (VLSI) microchip located on each port circuit pack. The SAKI provides address recognition, buffering, and synchronization between the angel and the five control time slots that make up the control channel. The SAKI also scans and collects status information for the angel on its port circuit pack and, when polled, transmits this information to the archangel.

simplex system

A system that has no redundant hardware.

simulated bridged appearance

The same as a **temporary bridged appearance**, allows the station user (usually the principal) the ability to bridge onto a call which had been answered by another party on its behalf.

single-carrier cabinet

A combined cabinet and carrier unit that contains one carrier. See also **Multi-Carrier Cabinet**.

single-line voice terminal

A voice terminal served by a single-line tip and ring circuit (models 500, 2500, 7101A, 7103A).

small computer system interface (SCSI)

An ANSI bus standard that provides a high-level command interface between host computers and peripheral devices.

software

A set of computer programs that perform one or more tasks.

split

A condition whereby a caller is temporarily separated from a connection with an attendant. A split condition automatically occurs when the attendant, active on a call, presses the start button.

split number

The split's identity to the switch and BCMS.

split report

Provides historical traffic information for internally measured splits.

split (agent) status report

Provides the real-time status and measurement data for internally measured agents and the split to which they are assigned.

staffed

Indicates an agent position is logged-in. A staffed agent will be functioning in one of four work modes: Auto-In, Manual-In, ACW, or AUX-work.

Station Message Detail Recording (SMDR)

An obsolete term now called "CDR" (see call detail recording), which is a switch feature that utilizes software and hardware to record call data.

standard serial interface (SSI)

A communications protocol developed by AT&T Teletype Corporation for use with the 500 business communications terminals (BCTs) and the 400-series printers.

status lamp

A green light that shows the status of a call appearance or a feature button by the state of the light (lit, flashing, fluttering, broken flutter, or unlit).

stroke counts

A method used by Automatic Call Distribution (ACD) agents to record up to nine customer-defined events per call when the Call Management System (CMS) is active.

switch

Any kind of telephone switching system. See also **communications system**.

switchhook

The buttons located under the receiver on a voice terminal.

switch node (SN) carrier

A carrier containing a single switch node, power units, and, optionally, one or two digital signal level-1 (DS1) converter circuit packs. An SN carrier is located in a center stage switch (CSS).

switch node (SN) clock

The circuit pack in a switch node (SN) carrier that provides clock and maintenance alarm functions and environmental monitors for an SN.

switch node interface (SNI)

The basic building block of a switch node. An SNI circuit pack controls the routing of circuit, packet, and control messages.

switch node link (SNL)

The hardware that provides a bridge between two or more switch nodes. The SNL consists of the two switch node interface (SNI) circuit packs residing on the switch nodes and the hardware connecting the SNIs. This hardware can include lightwave transceivers that convert the SNI's electrical signals to light signals, the copper wire that connects the SNIs to the lightwave transceivers, a full-duplex fiber-optic cable, digital signal level-1 (DS1) converter circuit cards and DS1 facilities if a company does not have rights to lay cable, and appropriate connectors.

switch processing element (SPE)

A complex of circuit packs (em processor, memory, disk controller, and bus-interface cards (em mounted in a processor-port-network (PPN) control carrier. The SPE serves as the control element for that PPN and, optionally, for one or more expansion port networks (EPNs).

synchronous data transmission

A method of sending data in which discrete signal elements are sent at a fixed and continuous rate and specified times.

system administrator

The person who maintains overall customer responsibility for system administration. Generally, all administration functions are performed from the G3 Management Terminal (G3-MT). The switch requires a special login, referred to as the system administrator login, in order to gain access to the system administration capabilities.

system printer

An optional printer that may be used to print scheduled reports via the report scheduler.

system report

Provides historical traffic information for all internally measured splits.

system status report

Provide real-time status information for internally measured splits.

system manager

A person responsible for specifying and administering features and services for a system.

system reload

A process that allows stored data to be written from a tape into the system memory (normally after a power outage).

T

T1

A digital transmission standard that in North America carries traffic at the digital signal level-1 (DS1) rate of 1.544 Mbps. A T1 facility is divided into 24 channels (DS0s) of 64 kbps information numbered from 1 to 24. These 24 channels, with an overall digital rate of 1.536 Mbps, and an 8 kbps framing and synchronization channel make up the 1.544 Mbps transmission. When a D-channel is present, it occupies channel 24.

T1 facilities are also used in Japan and some Middle-Eastern countries.

TAC

Trunk Access Code.

tandem switch

A switch within an electronic tandem network (ETN) that provides the logic to determine the best route for a network call, possibly modifies the digits outpulsed, and allows or denies certain calls to certain users.

tandem through

The switched connection of an incoming trunk to an outgoing trunk without human intervention.

tandem tie-trunk network

A private network that interconnects several customer switching systems by dial-

TEG

Terminating Extension Group.

terminal

A device that sends and receives data within a system. See also **administration terminal**.

tie trunk

A telecommunications channel that directly connects two private switching systems.

time-division multiplex (TDM) bus

A bus that is time-shared regularly by preallocating short time slots to each transmitter. In a PBX, all port circuits are connected to the TDM bus, permitting any port to send a signal to any other port.

time-division multiplexing (TDM)

Multiplexing that divides a transmission channel into successive time slots. See also **multiplexing**.

time interval

The period of time, either one hour or one-half hour, that BCMS measurements are collected for a report(s).

time slice

See **time interval**.

time slot

A time slot refers to 64 kbps of digital information structured as eight bits every 125 micro-seconds. In the switch, a time slot refers to either a DS0 on a T1 or E1 facility or a 64 kbps unit on the TDM bus or fiber connection between port networks.

time slot sequence integrity

Time slot sequence integrity means that the "N" octets of a wideband call that are transmitted in one T1 or E1 frame arrive at the output in the same order that they were introduced.

to control

To control means that an application can invoke Third Party Call Control capabilities using either an adjunct-control or a domain-control association.

to monitor

To monitor means that an application can receive *Event_Reports* on either an active-notification, adjunct-control, or a domain-control association.

tone ringer

A device with a speaker, used in electronic voice terminals to alert the user.

trunk

A dedicated telecommunications channel between two communications systems or central offices (COs).

trunk allocation

The manner in which trunks are selected to form wideband channels.

trunk data module

A device that provides the interface for connection between off-premises private-line trunk facilities and a G3V2 switch. The trunk data module provides conversion between the RS232C and the Digital Communications Protocol (DCP), and can connect to direct distance dialing (DDD) modems as the DCP member of a modem pool.

trunk group

Telecommunications channels assigned as a group for certain functions that can be used interchangeably between two communications systems or central offices (COs).

U

uniform dial plan

A feature that allows a unique 4- or 5-digit number assignment for each terminal in a multiswitch configuration such as a distributed communications system (DCS) or main-satellite-tributary system.

V

vector directory number (VDN)

An extension that provides access to the Vectoring feature on the switch. Vectoring allows a customer to specify the treatment of incoming calls based on the dialed number.

vector-controlled split

A hunt group or ACD split administered with the "vector" field enabled. Access to such split is only possible by dialing a VDN extension. Vector-Controlled Splits cannot be Active Notification Domains.

voice terminal

A single-line or multiappearance telephone.

W

wide area tele-communications service (WATS)

A service in the USA that allows calls to a certain area or areas for a flat-rate charge based on expected usage.

wideband

A circuit-switched call at a data rate greater than 64 kbps. A circuit-switched call on a single T1 or E1 facility with a bandwidth between 128 and 1536 (T1) or 1984 (E1) kbps in multiples of 64 kbps. H0, H11, H12, and N x DS0 calls are all wideband.

wideband access endpoint

The wideband switching capability extends Access Endpoints to include wideband access endpoints. A wideband access endpoint consists of one or more contiguous DS0s on a line-side T1 or E1 facility and has an extension number. The Administered Connections feature provides call control for calls originating from wideband access endpoints.

wink-start tie trunk

A trunk with which, after making a connection with a distant switching system for an outgoing call, the system waits for a momentary signal (wink) before sending the digits of the called number. Similarly, on an incoming call, the system sends the wink signal when ready to receive digits.

work modes (or ACD work modes)

A work mode is one of four states (Auto-In, Manual-In, ACW, AUX-work) that an ACD agent enters after logging in. Immediately upon logging in, an agent enters the AUX-work mode. To become available to receive ACD calls, the agent enters either the Auto-In or Manual-In work modes. To do work associated with an ACD call, at the conclusion of the call, an agent would enter the ACW mode.

If an agent changes work modes while handling a call, the change becomes effective when the agent finishes the call. The system does not recognize the change until the call is completed.

In order to answer an ACD call, the ACD agent must specify a Work Mode. Generally, two methods are available for indicating Work Modes: (1) by pressing the appropriate button on their voice terminal, and (2) by dialing an access code. The four work modes associated with ACD call handling are Auto-In, Manual-In, ACW, and AUX-work. An agent can change work modes while handling a call, but the system will not recognize the change until the call is completed. It is important that the ACD agents always accurately indicate their correct work mode, otherwise the BCMS measurements will not be accurate.

work state

An ACD agent may be a member of up to three different splits. Each ACD agent continuously exhibits a work state for every split that it is a member of. Valid work states are Avail, Unstaffed, AUX-work, ACW, ACD (answering an ACD call), ExtIn, ExtOut, and OtherSpl. An agent's work state for a particular split may change for a variety of reasons (for example, whenever a call is answered, abandoned, the agent changes work modes, etc.). The BCMS feature monitors the work states and uses this information to provide the BCMS reports.

write operation

The process of putting information onto a storage medium, such as a hard disk.

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