

**Lucent Technologies**  
Bell Labs Innovations



**DEFINITY®**

**Enterprise Communication Server**

Release 8.2

Upgrades and Additions for R8.2si

555-233-122  
Comcode 108678707  
Issue 1  
April 2000

## Notice

Every effort was made to ensure that the information in this book was complete and accurate at the time of printing. However, information is subject to change.

## Your Responsibility for Your System's Security

Toll fraud is the unauthorized use of your telecommunications system by an unauthorized party, for example, persons other than your company's employees, agents, subcontractors, or persons working on your company's behalf. Note that there may be a risk of toll fraud associated with your telecommunications system and, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

You and your system manager are responsible for the security of your system, such as programming and configuring your equipment to prevent unauthorized use. The system manager is also responsible for reading all installation, instruction, and system administration documents provided with this product in order to fully understand the features that can introduce risk of toll fraud and the steps that can be taken to reduce that risk. Lucent Technologies does not warrant that this product is immune from or will prevent unauthorized use of common-carrier telecommunication services or facilities accessed through or connected to it. Lucent Technologies will not be responsible for any charges that result from such unauthorized use.

## Lucent Technologies Fraud Intervention

If you *suspect that you are being victimized* by toll fraud and you need technical support or assistance, call Technical Service Center Toll Fraud Intervention Hotline at 1 800 643-2353 or contact your local Lucent representative.

## Federal Communications Commission Statement

**Part 15: Class A Statement.** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

**Part 68: Network Registration Number.** This equipment is registered with the FCC in accordance with Part 68 of the FCC Rules. It is identified by FCC registration number AS593M-13283-MF-E.

**Part 68: Answer-Supervision Signaling.** Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 Rules. This equipment returns answer-supervision signals to the public switched network when:

- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user

This equipment returns answer-supervision signals on all DID calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered
- A busy tone is received
- A reorder tone is received

## Canadian Department of Communications (DOC)

### Interference Information

This digital apparatus does not exceed the Class A limits for radio noise emissions set out in the radio interference regulations of the Canadian Department of Communications.

Le Présent Appareil Numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le reglement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

## Trademarks

See the preface of this document.

## Ordering Information

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**Order:** Document No. 555-233-122  
Comcode 108678707  
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For additional documents, refer to the section in "About This Document" entitled "Related Resources."

You can be placed on a standing order list for this and other documents you may need. Standing order will enable you to automatically receive updated versions of individual documents or document sets, billed to account information that you provide. For more information on standing orders, or to be put on a list to receive future issues of this document, contact the Lucent Technologies Publications Center.

## European Union Declaration of Conformity

The "CE" mark affixed to the DEFINITY® equipment described in this book indicates that the equipment conforms to the following European Union (EU) Directives:

- Electromagnetic Compatibility (89/336/EEC)
- Low Voltage (73/23/EEC)
- Telecommunications Terminal Equipment (TTE) i-CTR3 BRI and i-CTR4 PRI

For more information on standards compliance, contact your local distributor.

## Comments

To comment on this document, return the comment card at the front of the document.

## Acknowledgment

This document was prepared by Product Documentation Development, Lucent Technologies, Denver, CO.

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## What's New in Release 8.2si

This is a short list of what changed from Release 7si. For more detailed information, refer to *DEFINITY ECS Release 8 What's New in Release 8*. The categories addressed are as follows:

- [Features](#)
- [Hardware](#)
- [Tools](#)
- [Commands, screens, and fields](#)
- [Procedures](#)
- [Upgrade tips](#)
- [Cautions and warnings](#)
- [Product names](#)

### Features

This list provides categorized features available with Release 8.2. For full descriptions, see *DEFINITY Enterprise Communications Server Release 8, Issue 1.0 Change Description*.

#### Phone features

64 bridged call appearances

Abort transfer

Automatic exclusion

Circular station hunting

Coverage of calls redirected off-net

Group call pick-up

Long hold recall - warning

#### Networking — ISDN Public

ATM circuit emulation service (CES)

Feature plus — non-DID calling via UDP

Restricted Presentation

Multiple pubnet calling/connect numbers/system

Pass advice of charge to BRI (basic rate interface) endpoints

BellCore calling name ID

#### Networking — QSIG

Reset shift call	Call-independent signaling connection (CISC) enhancements
Station self display	VALU distinctive alerting
<b>Call Center</b>	VALU call coverage
Advocate related enhancements	Transfer to Audix
ASAI/computer telephony integration (CTI) enhancements	Coverage interaction support
Increased Call Center capacities (G3r)	CAS Attendant display of COR
Site stats for ATM connected remote EPNs	CAS Attendent return call
CMS measurement of ATM trunks	CAS Display enhancements
CALLMASTER V (CC 6416D+) native support	CAS Priority queue
PASTE update	CAS RLT emulation via PRI
CentreVu computer Telephony on MAPD	<b>Networking — Other</b>
<b>DEFINITY Wireless Business Systems (DWBS)</b>	13-digit Authorization Codes
X-station mobility	Interworking with bandwidth constricted ATM networks
<b>Hospitality</b>	ATM - Hybrid reliability
Auto digit rotation for direct inward dial	<b>System availability/serviceability</b>
Crisis alert to pager	Optical drive
Suite check-in via the hunt-to feature	Restart notification
<b>International</b>	Reliability options
Administrable loss plan	OverLAN serviceability tools
Brazil and Hungary — E&M signaling	<b>Terminal support</b>
China — special dial tone	IDS (6200) family of analog terminals native support
China — time supervision & forced release	6400 tip/ring module
Japan — Support for Japan National Private Networking	Fast analog modem support
Japan — Transfer Call Back	<b>Platform</b>
Brazil and Hungary — E&M signaling	24-port analog line (TN793/TN2793B) with Caller ID
<b>Security</b>	Analog trunk & line board (TN797) without busy tone detection
DADMIN login	



## Hardware

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### Minimum required hardware

You need the following minimum required hardware to upgrade to Release 8.2si software.

Equipment	Code Comcode	Notes
Basic SI processor cabinet (SCC) or Basic SI processor carrier (MCC)	J58890L-1, L5 — or J58890AH-2, L13 —	Contains the following circuit packs: <ul style="list-style-type: none"> <li>■ TN780 tone clock</li> <li>■ TN790B processor</li> <li>■ TN792 duplicate interface (opt)</li> <li>■ TN794<sup>1</sup> NetCtrl/PktnIntf</li> </ul>
Duplex processor cabinet (SCC) or Duplex processor carrier (MCC)	J58890M-2, L15 — or J58890AJ-2, L12 —	Contains the following circuit packs: <ul style="list-style-type: none"> <li>■ TN780 tone clock</li> <li>■ TN790B processor</li> <li>■ TN792 duplicate interface (opt)</li> <li>■ TN794<sup>1</sup> NetCtrl/PktnIntf</li> </ul>
Power unit	WP-91153 405970229	
TDM/LAN bus terminator (SCC)	AHF110 105631527	Need 2

1. If you are shipped a J58890AH-2, L12 MCC processor carrier, you need the TN794/TN2400 assembly (848254942). Look at the label on the middle of the carrier's backplane to check the code and list number. Check the table to determine whether you need the TN794/TN2400 assembly.

## R8.2si hardware

The following upgrade equipment is new to Release 8.2si.

Equipment	Code Comcode	Notes
Formatted flashcard with R8si software (orange)	? —	If duplicated system, you need 2
2-Mbyte translation flashcard (white)	601817448	If duplicated system, you need 2
4-Mbyte translation flashcard (white) <sup>1</sup>	— 601817422	
10-Mbyte translation flashcard (white) <sup>2</sup>	— 601817430	
	—	

1. Required for systems using recorded announcements.
2. Required for systems with a DEFINITY ECS Wireless Business System installed.

## Additional hardware available

The following equipment is port slot hardware introduced with Release 8.2si.

Equipment	Code Comcode	Notes
DS1 interface	TN2313 108382607	Cost reduction, no new features
Analog line	TN793 103557468	24-port analog line with CID
Analog trunk/line combo	TN797 103557500	Combines an analog trunk and line into one circuit pack.
Control-LAN (C-LAN)	TN799B 108525528	Updates TN799; enables trace route command
IP interface assembly	TN802B 108517996	Updates TN802; expansion of IP trunk; introduces two modes: Media Processor Mode and IP Trunk Mode

## Discontinued hardware

No equipment was discontinued with Release 8.2si.

## Tools

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No new tools became available with Release 8.2si.

## Commands, screens, and fields

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The following commands and screens are new to or affected by Release 8.2si. The number of screens has changed, and some fields have moved to different screens.

Command/field	Screen	Notes
<b>reset translation-id</b>	System Parameters Security	This command resets the translation-ID on the translation card to match the processor; saves translations to the memory card; and restores use of the add, change, remove, and duplicate commands.  Needs init login to correct TRANS-ID alarm.

## Procedures

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The following procedures and steps changed or were added because of problems identified in the laboratory or during early introduction.

Many of the upgrade procedures were reordered and the steps within the procedure better defined. Check the task tables at the beginning of each upgrade chapter for the current order.

Also, to reduce redundancy in the book, there is no longer a separate upgrade process for high or critical reliability. The procedures and steps that apply to high or critical reliability are noted where they occur in the upgrade process.

Procedure	Steps	Notes
<a href="#">Check SPE</a>	1. Type <b>status system 1</b> and press Enter to check the health of the system.	Becomes first step of upgrade procedure
<a href="#">Check Link Status</a>	1. Type <b>display communication-interface links</b> and press Enter. Write down all enabled links.  2. Type <b>status link number</b> and press Enter for each enabled link.  3. Write down which links are in service.	This optional step is to make sure the settings are the same after the upgrade.  This step was simplified.
<a href="#">Resolve Alarms</a>	1. Type <b>display alarms</b> and press Enter to examine the alarm log.	Extra step before upgrading the software to make sure no alarms exist before the upgrade.


## Upgrade tips

The following upgrade tips were generated from problems identified in the laboratory or during early introduction.

- The pooled modem requires a **Lucent WP90110 L7** power supply. Although integrated conversion can use either the L5 or L7, the combined only works with an L7.

## Cautions and warnings

The following new cautions and warnings were generated from problems affecting possible data loss that were identified in the laboratory or during early introduction.

Procedure	Caution or Warning
<a href="#">Add Pooled Modem</a>	 <b>CAUTION:</b> <i>The L5 and L7 power supplies look identical. Check the label to be sure you have the L7 before installing.</i>

## Product names

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The following products have been renamed.

<b>Product name</b>	<b>Old name</b>
IP Interface Assembly (TN802B)	IP trunk (TN802)



## About This Book

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This book provides the procedures for upgrading existing systems to a DEFINITY<sup>®</sup> Enterprise Communications Server Release 8.2. This book also contains instructions for adding equipment to an existing Release 8.2 system.

This document covers information related to DEFINITY ECS Release 8.2 and is intended for use by a trained installation technician.

## Offer Categories

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Features are limited depending on the category purchased by the customer. Offer Category A allows access to all DEFINITY features. Offer Category B allows access to a subset of DEFINITY features. Contact your Lucent Technologies representative for more information.

## Security Issues

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To ensure the greatest security possible for customers, Lucent Technologies offers services that can reduce toll-fraud liabilities. Contact your Lucent Technologies representative for more security information.

Login security is an attribute of the DEFINITY ECS software. Existing passwords expire 24 hours after installation.

For Access Security Gateway (ASG), see [Appendix A, "Administering and Using ASG"](#).

## Upgrade Paths

[Table 1](#) correlates each upgrade to an associated chapter number.



**NOTE:**

The oldest load that can be directly upgraded to R6 is V2 4.5. If the existing load is older than that, it must first be upgraded to V2 4.5. This can be done with Remediation 687DR. Also, the existing load must be V1 8.0 or later to update to V2 4.5. If it is not, it can be upgraded to 8.0 with Remediation 645DR.



**NOTE:**

To upgrade G3 systems to at least G3V4, refer to *DEFINITY Communications System Generic 3vs and Generic 3si Upgrades and Additions*, 555-230-108.



**NOTE:**

For G3 systems containing the XE control carrier, refer to *DEFINITY Communications System Generic 3vs and Generic 3si Upgrades and Additions*, 555-230-108 for details on upgrading the control carrier to the ESCC control carrier supported in Release 8.

**Table 1. Software and Hardware Upgrade Chapters**

Description	Chapter
<a href="#">Upgrading G3vs (w/Intel 386) to R8si</a>	1
<a href="#">Upgrading R5vs/R6vs to R8si</a>	2
<a href="#">Upgrading G3s/si (w/Intel 386) to R8si</a>	3
<a href="#">Upgrading R5si/R6si/R6 SR EPN to R8si/R8 SR EPN</a>	4
<a href="#">Upgrading R7si to R8si</a>	5
<a href="#">Adding or Removing Hardware</a>	6



The following table indicates the processes and their corresponding time allotment. Not all processes are required for every upgrade; the table shows maximum times and includes high and critical reliability processes.

Process	Minutes
Save translations	10
Busyout/release multimedia interface circuit packs	2
Disable/enable TTI	2
Disable/enable scheduled maintenance and alarm origination	2
Save announcements (TN750/B Only)	40
Restore announcements (TN750/B Only)	40
List configuration software long	5
Shutdown/restart AUDIX and LAN Gateway	20
Reboot and upgrade software	15
Remove PRI/PI links	15
Miscellaneous	15

## Related Documents

As supplemental information, the following books may be required to perform upgrades and additions to DEFINITY ECS Release 8 systems:

- *BCS Products Security Handbook*
- *DEFINITY Enterprise Communications Server Release 8 Installation for Adjuncts and Peripherals*
- *DEFINITY Enterprise Communications Server Release 5 Installation and Upgrades for CSCC*
- *DEFINITY Enterprise Communications Server Release 8 Installation and Test for Single-Carrier Cabinets*
- *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*
- *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*
- *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8csi*
- *DEFINITY Enterprise Communications Server Release 8 System Description*

- *DEFINITY Enterprise Communications Server Release 8 Administration for Network Connectivity*
- *Switch Administration for DEFINITY AUDIX*

## Conventions Used in This Book

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This book uses the following conventions:

- Keyboard keys are shown as: Enter.
- Information you type is shown as: **save announcements**. To submit the command you typed, press the Enter key in the numbers section of the keyboard, not the Enter/Return key in the letters section.
- Information displayed on the screen is shown as: login:
- Circuit pack codes (for example, TN772 or TN754B) are shown with the *minimum acceptable* alphabetic suffix (like the “B” in the code “TN754B”).

Generally, an alphabetic suffix higher than the 1 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 Vintages and Change Notices*, for current information about the usable vintages of specific circuit pack codes (including the suffix) in a DEFINITY ECS Release 8 system.

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

- The word *system*, is a general term encompassing Release 8 and includes references to the DEFINITY Enterprise Communications Server
- Systems in this book are called: G3V4, Release 5, Release 6, Release 7, and Release 8
- Older DEFINITY Communications Systems Generic 3vs, Generic 3s, and Generic 3i are referred to as G3vs, G3s, and G3i
- All occurrences of G3s, G3i, G3siV4, G3siV4+m, Release 5si, Release 5si + memory, and Release 6si are called Release 6si unless a specific configuration is required to differentiate between product offerings
- Information in this book is applicable for G3V4 through Release 8, unless otherwise specified
- DEFINITY Enterprise Communications Server is abbreviated as DEFINITY ECS

## How to Order Books

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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 book and any other DEFINITY books can be ordered directly from the Lucent Technologies Business Communications System Publications Fulfillment Center at 1-317-322-6791 or toll free at 1-800-457-1235.

## How to Comment on This Book

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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 book's name and number, *DEFINITY Enterprise Communication Server Release 8 Upgrades and Additions for R8si*, 555-233-104.

## LASER Product

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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:

Maximum Power Output: -5 dBm

Wavelength: 1310 nm

Mode Field Diameter: 8.8 mm

**CLASS 1 LASER PRODUCT**

**IEC 825 1993**



**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.

## Single-Mode Fiber Attenuators

Attenuators may be required when using single-mode fiber. See the table below.

106060718	5 dB attenuator	2 for each fiber connection
106060734	10 dB attenuator	2 for each fiber connection

A different value attenuator may be required on the transmit side versus the receive side, even though the fiber span is between the same 2 cabinets (local and remote cabinet). Refer to *DEFINITY Enterprise Communications Server Release 8 Installation and Test for Multicarrier Cabinets* for detailed fiber attenuator information.

## Where to Call for Technical Support

Use the telephone numbers in the following table for technical support.

	Telephone Number
DEFINITY Helpline (feature administration and system applications)	1-800-225-7585
Lucent Technologies Toll Fraud Intervention	1-800-643-2353
Lucent Technologies National Customer Care Center	1-800-242-2121
Lucent Technologies Corporate Security	1-800-822-9009
Streamlined Implementation (for missing equipment)	1-800-772-5409
USA/Canada Technical Service Center	1-800-248-1234
ITAC	1-303-804-3777
Lucent Technologies Centers of Excellence	
Asia/Pacific Regional Support Center	65-872-8686
Western Europe/Middle East/South Africa	44-1252-77-4800
Central/Eastern Europe	361-345-4334
Central/Latin America Caribbean	1-303-804-3778
Australia	61-2-9352-9090
North America (INADS Database Administration)	1-800-248-1111

## Trademarks

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

- ACCUNET®
- AUDIX®
- Callmaster®
- CallVisor®
- CONVERSANT®
- DEFINITY®
- FORUM™
- MEGACOM®
- SYSTIMAX®
- 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, Incorporated
- 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

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

- ITU-T (Formerly CCITT)
- ECMA
- ETSI
- IPNS
- DPNSS
- National ISDN-1

- National ISDN-2
- ISO-9000
- ANSI
- FCC Part 15 and Part 68
- EN55022
- EN50081
- EN50082
- CISPR22
- Australia AS3548 (AS/NZ3548)
- Australia AS3260
- IEC 825
- IEC 950
- UL 1459
- UL 1950
- CSA C222 Number 225
- TS001

## Electromagnetic Compatibility Standards

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This product complies with and conforms to the following EMC standards (as appropriate):

- Limits and Methods of Measurements of Radio Interference Characteristics of Information Technology Equipment, EN55022 (CISPR22), 1993
- EN50082-1, European Generic Immunity Standard
- FCC Part 15
- 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 IEC 1000-4-11

## European Union Standards

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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” (Conformité Européenne) 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 6 products:

- Global AC powered Multicarrier Cabinet (MCC)
- DC powered Multicarrier 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
- Compact Modular Cabinet (CMC) with 25-Hz ring generator

## Antistatic Protection

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### CAUTION:

*When handling circuit packs or any components of a DEFINITY System, always wear an antistatic wrist ground strap. Connect the strap to an approved ground such as an unpainted metal surface on the DEFINITY System.*

## Remove/Install Circuit Packs

---



### CAUTION:

*The control circuit packs with white labels cannot be removed or installed when the power is on. The port circuit packs with gray labels (older version circuit packs had purple labels) can be removed or installed when the power is on.*

# Federal Communications Commission Statement

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## Part 68: Statement

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Part 68: Answer-Supervision Signaling. Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 rules. This equipment returns answer-supervision signals to the public switched network when:

- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user

This equipment returns answer-supervision signals on all DID calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered
- A busy tone is received
- A reorder tone is received

Lucent Technologies attests that this registered equipment is capable of providing users access to interstate providers of operator services through the use of access codes. Modification of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator Consumers Act of 1990.

This equipment complies with Part 68 of the FCC Rules. On the rear of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed 5.0. To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

 **NOTE:**

REN is not required for some types of analog or digital facilities.



## Means of Connection

Connection of this equipment to the telephone network is shown in the following table.

Manufacturer's Port Identifier	FIC Code	SOC/REN/ A.S. Code	Network Jacks
Off/On Premises Station	OL13C	9.0F	RJ2GX, RJ21X, RJ11C
DID Trunk	02RV2-T	0.0B	RJ2GX, RJ21X
CO Trunk	02GS2	0.3A	RJ21X
CO Trunk	02LS2	0.3A	RJ21X
Tie Trunk	TL31M	9.0F	RJ2GX
1.544 Digital Interface	04DU9-B,C	6.0P	RJ48C, RJ48M
1.544 Digital Interface	04DU9-BN,KN	6.0P	RJ48C, RJ48M
120A2 Channel Service Unit	04DU9-DN	6.0P	RJ48C

If the terminal equipment (DEFINITY<sup>®</sup> System) causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment, for repair or warranty information, please contact the Technical Service Center at 1-800-242-2121. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

It is recommended that repairs be performed by Lucent Technologies certified technicians.

The equipment cannot be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

This equipment, if it uses a telephone receiver, is hearing aid compatible.

About This Book

*Federal Communications Commission Statement*

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# Upgrading G3vs (w/Intel 386) to R8si

# 1

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This chapter provides the information necessary to upgrade a G3vs with an Intel® 386 processor to a Release 8si.

This upgrade requires replacing the existing cabinet with a new Single-Carrier Control Cabinet. The port circuit packs from the present system may be reused in the new cabinet only if a site inspection determines that the port circuit pack vintages are usable in the Release 8si.

Some of the interconnect cables from the existing system may be too short to reach from the Release 8si cabinet to the Main Distribution Frame (MDF). If so, replace the cables as part of the upgrade process.

## NOTE:

This chapter assumes that the current system contains an Intel® 386. If the system is not at this level, refer to *DEFINITY Communications System Generic 3vs and Generic 3si Upgrades and Additions*.

When the system is up to the required level, return to this chapter to upgrade to Release 8.

*DEFINITY Enterprise Communications Server Release 8 Administrator's Guide* lists DEFINITY ECS Release 8 features and functions and also provides the commands, procedures, and screens to initialize and administer the DEFINITY System.

## Read This First

---

### Service Interruption

The upgrade process for a standard reliability system requires a service interruption. Coordinate the service interruption with the customer and the local account team.

### Call Management System (CMS)

The CMS link is dropped and restarted during the upgrade. This causes CMS data to be lost. This data loss can be minimized if the upgrade is performed just after the last CMS measurement interval.

All measurement data is lost during the upgrade (including BCMS). If needed, the reports may be printed before the upgrade begins.

CMS could abort the processing of a call if a measured trunk that was part of the conference dropped off the call before the end of the call. Customers experiencing this symptom and who are running R3V4 CMS should update to r3v4ao.e or higher.

### Contact Network Technicians

Contact the technician for each public and private network before the upgrade begins. Otherwise, it is possible that network access trunk facilities will be busied out at the far end.

### Translation Card Compatibility

An upgrade from a G3V4 requires a Release 8 formatted translation card. A new MIPS formatted translation card ships with each upgrade.

### Usable Circuit Packs

Every circuit pack used in the Release 8 system must conform to the minimum usable vintage requirements for that system. At a presale site inspection, the remediation process checks the vintages of existing circuit packs to be reused in the Release 8 system. Replace all unusable vintage circuit packs with current vintages.

Refer to *Technical Quarterly, Reference Guide for Circuit Pack Vintages, Change Notices*, and to the *Software Release Letter* for information about usable circuit pack vintages. For information about usable vintages of non-U.S. circuit packs, refer to the ITAC Tech Alert from your regional distributor.

## Software Upgrade

Although the translations upgrade automatically to Release 8, several features require special attention because of screen changes or potential naming conflicts in the upgrade procedure.

Between customer confirmation and the actual update or upgrade, check the screens to ensure the translations meet the customer's needs. After rebooting the system, enter the translations either locally or remotely. If done remotely, Contact Field Support Administration Center (FSAC) for the remote entry. For information to make the required changes, refer to:

- *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide, 555-233-502*

No administration changes should be made during the upgrade procedure. There can be 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 upgrade process.

## Required Tools

This upgrade may require the following tools and other items:

- Wrist ground strap
- Static-proof or original circuit pack packaging for transporting circuit packs
- Flash maintenance kit (MTCE 00037) (from Material Stocking Location)
- One copy of each of the following books:
  - *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si, 555-233-105*
  - *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide, 555-233-502*

## DC Isolator

Each peripheral connected to a DC-powered system, by the asynchronous EIA RS-232 interface, requires a 116A or 105C isolator. The isolator is inserted at the RS-232 interface between the peripheral and the interface connector to isolate ground between the system and external adjuncts.

## Antistatic Protection



### CAUTION:

*When handling circuit packs or any components of a DEFINITY ECS system, always wear an antistatic wrist ground strap. Connect the strap to an approved ground such as ground jack on the DEFINITY ECS system.*

**1** Upgrading G3vs (w/Intel 386) to R8si  
*Read This First*

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**Required Hardware**

The equipment in [Table 1-1](#) 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, or the number provided by your Lucent Technologies representative

**Table 1-1. Required Hardware**

Equipment	Description	Quantity
J58890L-1 L5	Single Carrier Control Cabinet	1
405970229	WP-91153 Power Unit	1
407780501	TN790B (16 Mbyte) Processor Circuit Pack	1 <sup>1</sup>
103557476 or 848254942	TN794 Network Control/Package Interface or TN794/2400 Network Controller Interface Assembly	1 <sup>1,2</sup>
105631527	AHF110 TDM/LAN Bus Terminator	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-byte Mass-Storage Translation Card (White Card)	1 <sup>3</sup> or 2
846408250	Stiffener (Earthquake mounting only)	1
846408243	Earthquake Front Mounting Angle (Earthquake mounting only)	1
106590953	Apparatus Blanks	up to 10

1. The TN790B and TN794 circuit packs ship inside the Basic Control Cabinet.
2. To determine which circuit pack you need, check the vintage of the control carrier. If your carrier is listed in [Table 1-2](#), use the TN794 circuit pack. If your carrier is NOT listed in [Table 1-2](#), you need the TN794/TN2400 circuit pack.
3. A 4-Mbyte translation card is required for a system that uses recorded announcements. A 10-Mbyte card is required if a DEFINITY Wireless Business System is installed.

**Table 1-2. Carriers that use the TN794 NetCon circuit pack**

<b>DEFINITY R7.1 or later Carrier/Backplane</b>	<b>Equipment</b>	<b>Notes</b>
SCC Processor Cabinet	J58890L-2 List 25	This replaces List 10
SCC Processor Cabinet (Survivable Remote)	J58890L-2 List 31	This replaces List 30
SCC Processor Cabinet (Knock Down)	J58890L-2 List 52	This replaces List 51
Backplane for the J58890L-2 List 25, List 31, and List 52 Cabinets	PWJ58890AL-1 List 3	This backplane replaces List 2
SCC Duplication Processor Cabinet	J58890M-2 List 15	This replaces List 7
SCC Duplication Processor Cabinet (Knock Down)	J58890M-2 List 52	This replaces List 51
Backplane for the J58890M-2 List 15 and List 52 Cabinets	PWJ58890AM-1 List 3	This backplane replaces List 2
MCC SI Processor Carrier	J58890AH-2 List 13	This replaces List 10
MCC SI Processor Carrier (Knock Down)	J58890AH-2 List 55	This replaces List 54
Backplane for the J58890AH-2 List 13 and List 55 Cabinets	PWJ58906AA-1 List 4	This backplane replaces List 3
MCC SI Duplication Processor Carrier	J58890AJ-2 List 12	This replaces List 9
MCC SI Duplication Processor Carrier (Knock Down)	J58890AJ-2 List 55	This replaces List 54
Material required in addition to L55 (Knock Down)	J58890AJ-2 List 56	This replaces List 53
Backplane for the J58890AJ-2 List 12 and List 55 Cabinets	PWJ58906AB-1 List 3	This backplane replaces List 2
Fiber Optic Cable: MCC Dup-Int	848204434	14-in. cable
Fiber Optic Cable: SCC Dup-Int	LL2SC-SC-10 107122640	10-ft cable

## Task Table

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[Table 1-3](#) lists the high-level tasks to perform the upgrades. Refer to the appropriate page for instructions for each step.

**Table 1-3. Tasks to Upgrade to Release 8si**

✓	Task Description	Page
	<a href="#">Unpack and Inspect Control Cabinet</a>	<a href="#">1-7</a>
	<a href="#">Install Control Cabinet</a>	<a href="#">1-8</a>
	<a href="#">Add Earthquake Protection</a>	<a href="#">1-8</a>
	<a href="#">Label Existing Cables</a>	<a href="#">1-8</a>
	<a href="#">Install TDM/LAN Bus Terminators</a>	<a href="#">1-8</a>
	<a href="#">Swing Existing System into Maintenance Position</a>	<a href="#">1-8</a>
	<a href="#">Check SPE</a>	<a href="#">1-9</a>
	<a href="#">Disable Scheduled Maintenance and Alarm Origination to INADS</a>	<a href="#">1-9</a>
	<a href="#">Disable TTI</a>	<a href="#">1-10</a>
	<a href="#">Check TTI Status</a>	<a href="#">1-10</a>
	<a href="#">Check Link Status</a>	<a href="#">1-10</a>
	<a href="#">Save Translations</a>	<a href="#">1-11</a>
	<a href="#">Remove ISDN Interface Links</a>	<a href="#">1-11</a>
	<a href="#">Save Announcements (if necessary)</a>	<a href="#">1-12</a>
	<a href="#">Verify Software Version</a>	<a href="#">1-13</a>
	<a href="#">Shut Down DEFINITY LAN Gateway System</a>	<a href="#">1-13</a>
	<a href="#">Shut Down DEFINITY AUDIX System</a>	<a href="#">1-13</a>
	<a href="#">Power Down Existing System</a>	<a href="#">1-14</a>
	<a href="#">Remove Ground Connections</a>	<a href="#">1-15</a>
	<a href="#">Move 25-Pair Cables from G3vs System to R8si</a>	<a href="#">1-15</a>
	<a href="#">Move Management Terminal Cable from G3vs System to R8si</a>	<a href="#">1-15</a>
	<a href="#">Move Circuit Packs from G3vs System to R8si</a>	<a href="#">1-15</a>
	<a href="#">Connect Control Cabinet Power and Ground</a>	<a href="#">1-17</a>
	<a href="#">Power Up the System</a>	<a href="#">1-18</a>
	<a href="#">Administer the System</a>	<a href="#">1-18</a>
	<a href="#">Enable TTI</a>	<a href="#">1-21</a>

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*Continued on next page*



**Table 1-3. Tasks to Upgrade to Release 8si**

✓	Task Description	Page
	<a href="#">Check Link Status</a>	<a href="#">1-22</a>
	<a href="#">Enable Scheduled Maintenance</a>	<a href="#">1-22</a>
	<a href="#">Enable Customer Options and Alarm Origination to INADS</a>	<a href="#">1-22</a>
	<a href="#">Save Translations</a>	<a href="#">1-23</a>
	<a href="#">Restore Announcements (if necessary)</a>	<a href="#">1-23</a>
	<a href="#">Power Up DEFINITY LAN Gateway System</a>	<a href="#">1-23</a>
	<a href="#">Power Up DEFINITY AUDIX System</a>	<a href="#">1-26</a>
	<a href="#">Display Memory-Configuration</a>	<a href="#">1-24</a>
	<a href="#">Disassemble the G3vs System</a>	<a href="#">1-24</a>
	<a href="#">Return Replaced Equipment</a>	<a href="#">1-25</a>

## Upgrade to Release 8si

### Unpack and Inspect Control Cabinet

1. Unpack the J58890L-1 L5 Single-Carrier Control Cabinet and verify comcode vintage of the control carrier.



**CAUTION:**

*Take care to avoid injury while cutting and removing bands.*



**NOTE:**

Verify the vintage of the control carrier and check it against [Table 1-2](#). If your carrier is NOT listed, you need a TN794/TN2400 circuit pack.

2. Inspect cabinet for any shipping damage. Report any damage per local procedures.
3. Remove all of the packing material from the cabinet.

## Install Control Cabinet

1. Position the control cabinet at the desired location (as close to the Main Distribution Frame [MDF] as possible).



**CAUTION:**

*The cabinet may weigh as much as 130 pounds (58 kg). Use lifting precautions to avoid injury.*

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

## Add Earthquake Protection

1. If earthquake protection is required, refer to [Chapter 6, "Adding or Removing Hardware"](#).

## Label Existing Cables

1. To make reconnecting the cables simpler and more reliable, label every reusable connector cable in the system.



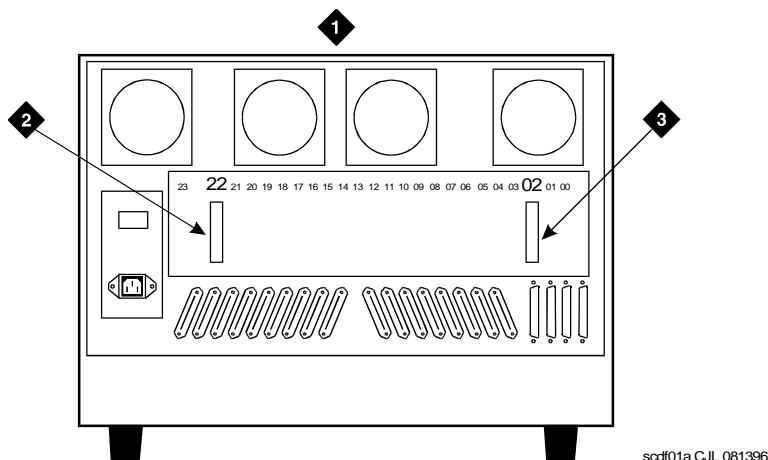
**NOTE:**

The cables connecting to the existing system are probably too short. Replace these cables with new, longer cables (if necessary).

2. Install new connector cables, as necessary, onto the connectors on the rear of the cabinet.
3. Route the cables to the MDF and cross-connect as necessary.

## Install TDM/LAN Bus Terminators

1. Verify that the two AHF110 TDM/LAN bus terminators are installed per [Figure 1-1](#).



**Figure Notes:**

- 1. Rear of Control Cabinet
- 2. TDM/LAN Bus Terminator in Slot 22
- 3. TDM/LAN Bus Terminator in Slot 02

Figure 1-1. Location of TDM/LAN Bus Terminators

**Swing Existing System into Maintenance Position**

- 1. While lifting on the left side of the existing cabinet, allow the left side to swing outward and to the right.

**Check SPE**

Type **status system 1** and press Enter to check the health of the system.

**Disable Scheduled Maintenance and Alarm Origination to INADS**

- 1. Type **change system-parameters maintenance** and press Enter to prevent scheduled daily maintenance from interfering with the update or upgrade.
- 2. If scheduled maintenance has begun, set the `Stop Time` field to 1 minute after the current time.

or

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Upgrade to Release 8si

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If scheduled maintenance has **not** begun, set the `Start Time` field to a time after the upgrade is completed. For example, if you start the upgrade at 8:00 p.m. and the upgrade takes 90 minutes, set the `Start Time` field to 21:30.



**CAUTION:**

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

3. Type **neither** in the `Alarm Origination to OSS Numbers` field and press `Enter`.



**NOTE:**

For some software loads, set the `Cleared Alarm Notification` and `Restart Notification` fields to `disable` before pressing `Enter`.

## Disable TTI

---



**NOTE:**

Do this step only if the Terminal Translation Initialization (TTI) is enabled.



**CAUTION:**

*If you do not disable the TTI, the translations can be corrupted.*

1. Type **change system-parameters features** and press `Enter`.
2. On the second screen, set the `TTI Enable?` field to **n** to de-activate the TTI feature.

## Check TTI Status

---

1. Type **status tti** and press `Enter`. Wait until the `Percent Complete` field shows **100%**.

## Check Link Status

---

This optional step is to make sure the settings are the same after the upgrade.

1. Type **display communication-interface links** and press `Enter`. Write down all enabled links.
2. Type **status link number** and press `Enter` for each enabled link.
3. Write down which links are in service.

## Save Translations

---

1. Type **save translation** and press `Enter` to write all translation information from memory to the original translation flashcard, which takes about 10 minutes.

When the save translations command is successful, the error code must be a zero; otherwise, the translations are not copied. If the translations were corrupted, the following error message displays when logging in:



**WARNING:**

Translation corruption detected; call Lucent Technologies distributor immediately.



**NOTE:**

The **save translation** command cannot function if the translation corruption message appears. Refer to [“Translation Corruption Detected” on page B-5](#) to clear the problem.



**NOTE:**

This translation card may or not be used in the remainder of the upgrade procedure, depending on the outcome of the Remove ISDN Interface Links step. This card is referred to as the original translation card.

## Remove ISDN Interface Links

---



**NOTE:**

ISDN-PRI resides on the new TN794 (NetCon) circuit pack in R7si and later releases. It is no longer on the processor interface circuit pack.

The translations are the same as those in pre-R7 when a packet control circuit pack was used and the `System Parameters Customer Options` field had the `PACCON` field set to **yes**. That field was removed with the R7 or later upgrade.

1. Type **display communication-interface links** and press `Enter`.
2. Write down all BX.25 links. This information is used in the [“Move Circuit Packs from G3vs System to R8si”](#) section.
3. Write down all ISDN links. If you found no ISDN links, go to [“Save Announcements \(if necessary\)”](#).
4. For each link where the `Prot` field is set to **ISDN**, record the information in all fields (in case you need to back out of the upgrade).
5. For each ISDN link, type **busyout link link number** and press `Enter`.
6. Type **change communication-interface links** and press `Enter`.

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Upgrade to Release 8si

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7. For each link where the `Prot` field is set to **ISDN**, set the `Enable` field to **n** and press Enter.
8. Type **display communication-interface processor-channels** and press Enter.
9. For each processor channel where the `Application` field is set to **ISDN**, record the information in all fields (in case you need to back out of the upgrade).
10. Type **change communication-interface processor-channels** and press Enter.
11. For each processor channel where the `Application` field is set to **ISDN**, clear all fields and press Enter.
12. Type **change communication-interface links** and press Enter.
13. For *each* PI extension where the `Prot` field is set to **ISDN**:
  - a. Set the `Est Conn` field to **n**.
  - b. Set the `Prot` field to **bx25**.
  - c. Set the `DTE/DCE` field to **dte**.
  - d. Leave the `Identification` field blank and press Enter.
14. For *each* PI extension where the `Prot` field was set to **ISDN**:
  - a. Type **display data-module PI Ext number** and press Enter.
  - b. Record the information in each field (in case you need to back out of the upgrade).
  - c. Type **remove data-module PI Ext number** and press Enter.
15. Insert the new translation card, which is formatted for use with Release 5 or later.
16. Type **save translation** and press Enter. Save this card for rebooting after you install the new hardware.

 **NOTE:**

In this case, the original translation card is not be used for the remainder of the upgrade procedure. The original translation card is used only if you need to back out of the upgrade.

**Save Announcements (if necessary)**

---

 **NOTE:**

The TN750C Announcement circuit pack stores announcements in nonvolatile memory; saving the announcements is optional.

1. If the PPN contains a TN750/B Announcement circuit pack, type **display announcements** and press Enter.

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*Upgrade to Release 8si*

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2. If administered recorded announcements are listed, type **save announcements cabinet carrier slot** and press Enter. For example, 01D03. This takes about 30 minutes.

 **NOTE:**

For some software loads, type **save announcements from cabinet carrier slot**. Type **help** and press Enter for complete command syntax.

## Verify Software Version

If standard reliability:

1. Type **list configuration software-version** and press Enter. Under the UPDATE FILE column, note whether any patches have been applied.

 **NOTE:**

If you restore the system to the old software, you must download these patches onto the system.

If high or critical reliability:

1. Type **list configuration software-version long** and press Enter.

## Shut Down DEFINITY LAN Gateway System

 **WARNING:**

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

1. Log onto the DEFINITY LAN Gateway.
2. On the main menu, select **Maintenance > Reset System > Shutdown**.

## Shut Down DEFINITY AUDIX System

 **WARNING:**

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

1. Shut down the AUDIX assembly and allow the disk to completely spin down. Refer to [“DEFINITY AUDIX Power Procedures” on page 1-26](#).

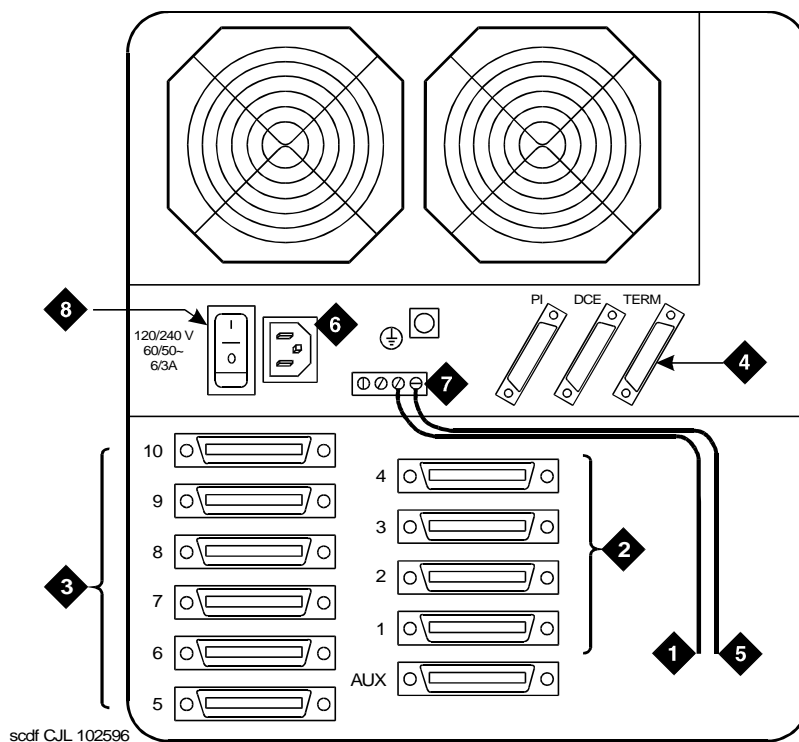
## Power Down Existing System



### CAUTION:

Powering down the control cabinet causes important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup request, and Do Not Disturb requests, to be lost.

1. Behind the G3vs cabinet, set the circuit breaker to OFF. See [Figure 1-2](#).



### Figure Notes

- |  |  |
|--|--|
| 1. 10 AWG (#25) (6 mm <sup>2</sup> ) Wire to Coupled Bonding Conductor (CBC) | 5. 6 AWG (#40) (16 mm <sup>2</sup> ) Wire to Approved Ground |
| 2. Backplane Connectors 1-4  | 6. AC Power Receptacle                                       |
| 3. Backplane Connectors 5-10   | 7. Ground Block  |
| 4. TERM Connector  | 8. Circuit Breaker   |

Figure 1-2. Rear of G3vs System Cabinet



## Remove Ground Connections

1. Remove the 6 AWG (#40) (16 mm<sup>2</sup>) ground wire from the ground block on the rear of the G3vs system. This wire later attaches to the new control cabinet.
2. Remove the 10 AWG (#25) (6 mm<sup>2</sup>) Coupled Bonding Conductor (CBC) wire from the ground block on the rear of the G3vs system. This wire later attaches to the new control cabinet.

## Move 25-Pair Cables from G3vs System to R8si

1. Remove any reusable 25-pair cables from the rear of the G3vs system.

### NOTE:

The distance from the wall-mount G3vs system and the Release 8si system may require that all cables be replaced with longer cables.

2. Attach any reusable 25-pair cables to the required connectors on the rear of the Release 8si system.
3. Attach any *new* 25-pair cables to the required connectors on the rear of the Release 8si system. Route the new cables to the MDF and attach.

## Move Management Terminal Cable from G3vs System to R8si

1. Remove the management terminal cable from the rear of the G3vs system.
2. Attach the management terminal cable to the rear of the Release 8si system.

## Move Circuit Packs from G3vs System to R8si

1. Label each port circuit pack in the G3vs system with its slot number.
2. Remove all circuit packs from the G3vs system. Store the circuit packs in the static-proof packaging.
3. Remove and retain all apparatus blanks.
4. Install the power unit and the remaining control circuit packs into the new control cabinet. See [Table 1-4](#).

Table 1-4. Circuit Packs for R8si

Circuit Pack	Name	New or Used
TN790B	Processor	New
TN794	Network Control/Packet Interface	New
TN765	Processor Interface <sup>1</sup>	Reuse the circuit pack from G3vs system
TN780	Tone-Clock/Generator	Reuse the circuit pack from G3vs system
Other port circuit packs	Various	Reuse the circuit packs from G3vs system

1. Only if BX.25 was administered.

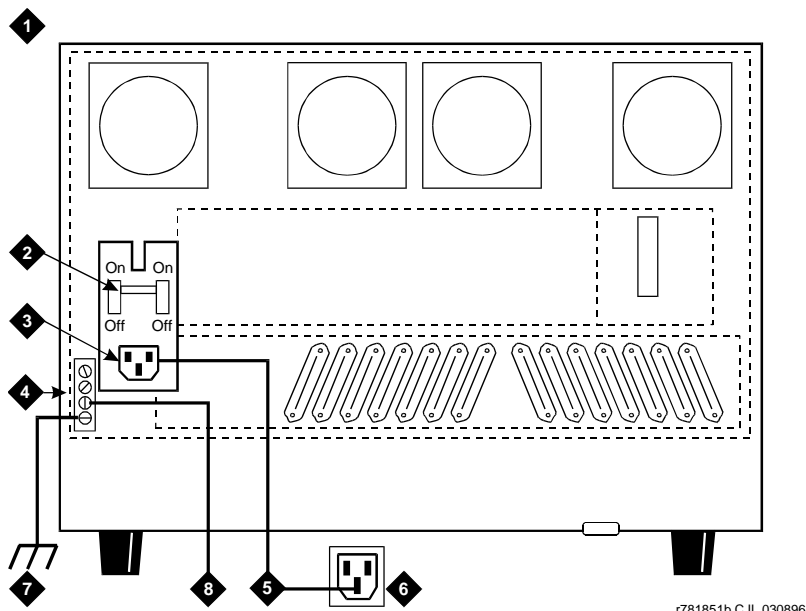
**NOTE:**

A TN2182 Tone-Clock can replace the TN756 Tone-Detector/Generator. If using a TN2182, you do not need a TN748B Tone-Detector.

5. Install the circuit packs into the appropriate port slots in the control cabinet. Because the new control cabinet has more port slots than the G3vs cabinet, you should not need to retranslate these circuit packs.
6. Install apparatus blanks in any vacated slots.
7. Check the load number on the TN790B Processor label. Insert the appropriate flashcard into the TN794 Network Control/Package Interface based on the following parameters:
  - If the load number is the Release 8 load number, insert the new or original translation card as directed in the Save Translation step and Remove ISDN Interface Links step.
  - If the load number is *not* the Release 8 load number, insert the orange-labeled software memory card.

## Connect Control Cabinet Power and Ground

1. Connect the 6 AWG (#40) (16 mm<sup>2</sup>) wire (previously used on the G3vs cabinet) from the single-point ground block on the control cabinet to the approved ground. See [Figure 1-3](#).



r781851b C.J.L 030896

### Figure Notes

- |                              |   |
|------------------------------|---|
| 1. Control Cabinet           | 6. NEMA 5-15 or 5-20 Receptacle or Equivalent                         |
| 2. Circuit Breaker           | 7. 6 AWG (16 mm <sup>2</sup> ) Cabinet Ground Wire to Approved Ground |
| 3. AC Power Receptacle       | 8. 10 AWG (6 mm <sup>2</sup> ) Wire to CBC                            |
| 4. Single-Point Ground Block |   |
| 5. 8-ft (2.5-m) Power Cord   |   |

### Figure 1-3. Typical AC Power and Ground Layout

2. Connect the 10 AWG (#25) (6 mm<sup>2</sup>) wire (previously used on the G3vs cabinet) between the cabinet single-point ground block and the CBC.
3. Connect the supplied cabinet AC power cord to the AC receptacle on the rear of the control cabinet. Plug the opposite end of the cord into the dedicated electrical outlet.

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Upgrade to Release 8si

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## Power Up the System

---

1. Set the cabinet circuit breaker to ON. The system performs the reset level 4 reboot process and loads translations from the translation card, which takes about 10 minutes.

## Administer the System

---

1. Log in as **craft** at the login: prompt.
2. Check for the Translation Corruption Detected message before proceeding with the upgrade. If corruption is detected, refer to "[Translation Corruption Detected](#)" in [Appendix B, "Troubleshooting an Upgrade"](#) to correct the problem.



### CAUTION:

*Do not continue with the upgrade process until the translations errors are corrected.*

3. Type **status system 1** and press Enter to check the SPE Alarms field and verify that the Tone Clock is active.

## Set Daylight Savings Rules

You can set up to 15 customized daylight savings time rules. A daylight savings time rule specifies the exact time when you want to transition to and from daylight savings time. It also specifies the increment at which to transition



### NOTE:

The default daylight savings rule is **0**, no daylight savings.

1. Type **change daylight-savings-rules** and press Enter.

DAYLIGHT SAVINGS RULES						
Rule	Change Day	Month	Date	Time	Increment	
0:	No Daylight Savings					
1:	Start: first <u>Sunday</u>	on or after	<u>April</u>	<u>1</u>	at <u>2:00</u>	<u>01:00</u>
	Stop: first <u>Sunday</u>	on or after	<u>October</u>	<u>25</u>	at <u>2:00</u>	
2:	Start: first _____	on or after	_____	_____	at _____	
	Stop: first _____	on or after	_____	_____	at _____	
3:	Start: first _____	on or after	_____	_____	at _____	
	Stop: first _____	on or after	_____	_____	at _____	
4:	Start: first _____	on or after	_____	_____	at _____	
	Stop: first _____	on or after	_____	_____	at _____	
5:	Start: first _____	on or after	_____	_____	at _____	
	Stop: first _____	on or after	_____	_____	at _____	
6:	Start: first _____	on or after	_____	_____	at _____	
	Stop: first _____	on or after	_____	_____	at _____	
7:	Start: first _____	on or after	_____	_____	at _____	
	Stop: first _____	on or after	_____	_____	at _____	

2. Type the appropriate start and stop information in the Change Day, Month, Date, Time, and Increment (for example, **1:00** equals one hour) fields for each rule.



**NOTE:**

You can change any rule except rule 0 (zero). You cannot delete a daylight savings rule if it is in use on either the Locations or Date and Time screens.

3. When done, press Enter.

## Set Date and Time

1. Type **set time** and press Enter to bring up the Date and Time screen.

```

                                DATE AND TIME
DATE
  Day of the Week: Tuesday      Month: November
  Day of the Month: 7           Year: 2000

TIME
  Hour: 20   Minute: 30   Second: XX   Type: standard
  Daylight Savings Rule: 1
    
```

Screen 1-1. Typical Date and Time Screen

1 Upgrading G3vs (w/Intel 386) to R8si  
 Upgrade to Release 8si

2. Type the day in English (Sunday through Saturday) in the `Day of the Week :` field. See [Table 1-5](#) for English day names. When done, press `Tab` to move to next field.

**Table 1-5. English Day of the Week Names**

---

Day Number	Day Name
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday

---

3. Type the current month in English (January through December) in the `Month :` field. See [Table 1-6](#) for English month names. When done, press `Tab` to move to next field.

**Table 1-6. English Month Names**

---

Number	Name	Number	Name
1	January	7	July
2	February	8	August
3	March	9	September
4	April	10	October
5	May	11	November
6	June	12	December

---

4. Type the day of month (1 through 31) in the `Day of the Month :` field and press `Tab` to move to the next field.
5. Type the current year in the `Year :` field and press `TAB` to move to the next field.
6. Type the current hour for a 24-hour clock in the `Hour :` field and press `Tab` to move to the next field.
7. Type the current minute (0 through 59) in the `Minute :` field (seconds cannot be set). When done, press `Tab` to move to next field

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Upgrade to Release 8si

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8. Type **standard** or **daylight savings** in the `Type` field, according to the current time in the local time zone. For example, if currently on standard time, type **standard**.
9. Type the rule number in the `Daylight Savings Rule` field.
10. When all the information is correct, press `Enter`.
11. Type **display time** and press `Enter` to verify date and time data.

## Set Additional Administration

For standard reliability:

1. Type **list configuration software-version** and press `Enter` to verify the system software version (in the `Memory Resident` field).

For high or critical reliability:

1. Type **list configuration software-version long** and press `Enter` to verify the system software version (in the `Memory Resident` field)

For all reliabilities:

2. Perform a sanity check on the system by executing the following commands to ensure the translations were read in properly:
  - a. **list station**
  - b. **list trunk-group**
  - c. **list hunt-group**

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

3. Notify the switch administrator that for any previous login names and passwords that still exist, the passwords expire in 24 hours. When changed, the new login names and passwords must conform to the following requirements:

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

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

## Enable TTI

---

### NOTE:

Do this step only if the TTI is disabled and you want it enabled.

1. Type **change system-parameters features** and press `Enter` to change the TTI field back to its value before the upgrade.

## Resolve Alarms

---

1. Type **display alarms** and press Enter to examine the alarm log. Resolve any alarms that may exist using *DEFINITY Enterprise Communications Server Maintenance for R8si*.

## Check Link Status

---

1. Type **display communication-interface links** and press Enter.
2. Type **status link number** and press Enter. Repeat this step for each link.



### NOTE:

You can no longer status a link to find out if your ISDN D-channels are up. In R7si and later systems, you must use the **status signaling group** command.

3. Type **status signaling group x** and press Enter to determine if an ISDN-PRI D-Channel is up.

## Enable Scheduled Maintenance

---

1. Type **change system-parameters maintenance** and press Enter to enable the scheduled daily maintenance.
2. Check the time fields.

## Enable Customer Options and Alarm Origination to INADS

---

1. Get the DOSS order number of the upgrade from the project manager and ask the regional Customer Software Administration to complete the steps in the shaded box. See ["Where to Call for Technical Support" on page -xx](#) for telephone numbers.



### NOTE:

As part of the system registration process, the INADS Database Administrator enables Alarm Origination.

2. When administration is completed, log in as **craft** at the Login: prompt.



### "init" login administration:

1. Log in as **init**.
2. Type **change system-parameters customer-options** and press Enter to verify that the customer options are properly set.
3. Go to screen 6, QSIG Optional Features, and set the **Basic Call Setup** field to **y** if the customer was using Supplementary Services Protocol b or d on an ISDN-PRI trunk group before the upgrade.
4. Type **change system-parameters offer-options** and press Enter.
5. If the **Activate Offer** field is **n**, set it to **y** and press Tab. A warning message lets you know whether you need to save translations and reboot to make the change permanent.
6. Press Enter to effect the changes or Cancel if there were no changes.
7. Contact the requester when done.

### Save Translations

1. Type **save translation** and press Enter to copy upgraded translations in memory to the upgraded translation card, which takes about 10 minutes.

### Restore Announcements (if necessary)

1. Type **restore announcements** and press Enter to copy announcements from the upgraded translation flashcard to memory, which takes about 40 minutes.

### Power Up DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway.
2. On the main menu, select **Maintenance > Reset System > Reboot System**.

### Power Up DEFINITY AUDIX System

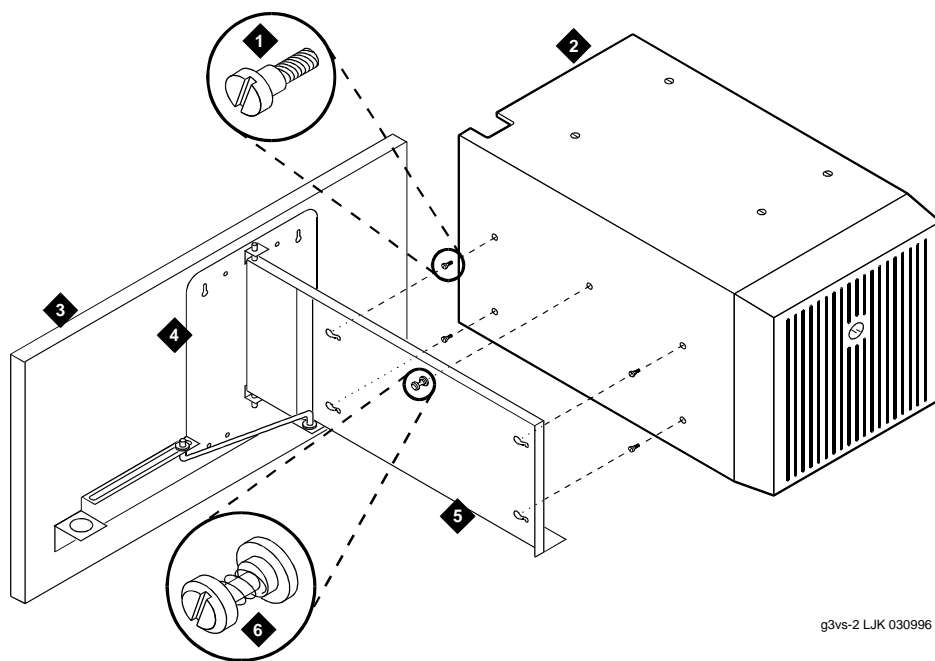
1. To power up the AUDIX assembly, refer to ["DEFINITY AUDIX Power Procedures" on page 1-26](#).

## Display Memory-Configuration

1. Log in as **craft**. If the Translation Corruption Detected message appears, refer to [“Translation Corruption Detected” on page B-5](#).
2. Type **display memory-configuration** and press Enter. Check the total DRAM field. SIMM field “A” must contain a 16.

## Disassemble the G3vs System

1. Remove any unused 25-pair cables from the rear of the system.
2. Loosen the 4 shoulder screws holding the cabinet to the mounting plate. See [Figure 1-4](#).
3. Remove the locking screw holding the cabinet to the center of the mounting plate.
4. Return the system cabinet to its locked operating position.
5. Align the 4 shoulder screws with the keyhole slots and remove the cabinet from the mounting plate.
6. Remove the 5 lower wood screws from the wall plate and loosen the top 2 wood screws. Remove the mounting assembly.
7. Remove the top 2 wood screws.



g3vs-2 LJK 030996

**Figure Notes:**

- |                                   |  |
|-----------------------------------|--|
| 1. Shoulder Screws                | 4. Wall Mounting Plate Showing Keyhole Slots |
| 2. Compact Single-Carrier Cabinet | 5. Cabinet Support Bracket                   |
| 3. Plywood Sheet                  | 6. Spring-Loaded Housing Locking Screws      |

Figure 1-4. Exploded View of G3vs System

**Return Replaced Equipment**

1. Return replaced equipment to Lucent Technologies according to the requirements outlined in:  
*BCS/Material Logistics, MSL/Attended Stocking Locations*  
*Methods and Procedures for Basic Material Returns*
2. If the original translation card is not being used with the Release 8 software, retain it for up to 10 business days to verify that the customer is satisfied and that there is no need to reverse the upgrade.
3. After 10 days, return the translation card to Lucent Technologies.

## DEFINITY AUDIX Power Procedures

---

If the AUDIX System is located in the DEFINITY cabinet, then follow these procedures.

### Power Down the AUDIX System

A yellow caution sticker on the system's power unit notifies technicians to shut down the DEFINITY AUDIX System prior to powering down the system.

1. Log into the AUDIX System as **craft**.
2. Type the **reset system shutdown** and press Enter.
3. Press Enter again to start the shutdown process.
4. The SHUTDOWN Completed message appears when the AUDIX is successfully shutdown. This takes about 2 minutes.
5. You can now shut down the carrier or remove the AUDIX System for service.



#### **CAUTION:**

*If leaving AUDIX System in the carrier, back it out about 2 in. (5 cm) to eliminate the possibility of damage due to power surges.*

### Power Up the AUDIX System

- If the AUDIX was removed from the cabinet:
  1. Re-install the AUDIX and allow it to boot up automatically.
  2. Check for AUDIX System errors.
- If the AUDIX remained in the cabinet but the cabinet was powered down:
  1. Reseat the AUDIX
  2. Power up the cabinet. The AUDIX reboots automatically.
  3. Check for AUDIX System errors.
- If the AUDIX remained in the cabinet and the cabinet was *not* powered down:
  1. At the AUDIX console, hold the `ctrl` key and type **cc**.
  2. Type **5** at the prompt. In about 2 minutes, the AUDIX boots up.
  3. When the system initialization is complete, log in as **craft**.
  4. Check for AUDIX System errors.

## Upgrading R5vs/R6vs to R8si

# 2

---

This chapter provides the information necessary to upgrade a G3vs with a TN790 processor to a Release 8si.

This upgrade requires replacing the existing cabinet with a new Single-Carrier Control Cabinet. The port circuit packs from the present system may be reused only if a site inspection determines that the port circuit pack vintages are usable in the Release 8si.

Some of the interconnect cables from the existing system may be too short to reach from the Release 8si cabinet to the Main Distribution Frame (MDF). If so, the cables must be replaced as part of the upgrade process.

### NOTE:

This chapter assumes that the current system contains an Intel® 386. If the system is not at this level, refer to *DEFINITY Communications System Generic 3vs and Generic 3si Upgrades and Additions*.

Then return to this chapter to upgrade to Release 8.

*DEFINITY Enterprise Communications Server Release 8 Administrator's Guide* lists DEFINITY ECS Release 8 features and functions and also provides the commands, procedures, and screens to initialize and administer the DEFINITY System.

## Read This First

---

### Service Interruption

The upgrade process for a standard reliability system requires a service interruption. Coordinate the service interruption with the customer and the local account team.

### Call Management System (CMS)

The CMS link is dropped and restarted during the upgrade. This causes CMS data to be lost. This data loss can be minimized if the upgrade is performed just after the last CMS measurement interval.

All measurement data is lost during the upgrade (including BCMS). If needed, the reports may be printed before the upgrade begins.

CMS could abort the processing of a call if a measured trunk that was part of the conference dropped off the call before the end of the call. Customers experiencing this symptom and who are running R3V4 CMS should update to r3v4ao.e or higher.

### Contact Network Technicians

Contact the technician for each public and private network before the upgrade begins. Otherwise, it is possible that network access trunk facilities will be busied out at the far end.

### Usable Circuit Packs

Every circuit pack used in the Release 8 system must conform to the minimum usable vintage requirements for that system. At a presale site inspection, the remediation process checks the vintages of existing circuit packs to be reused in the Release 8 system. Replace all unusable vintage circuit packs with current vintages.

Refer to *Technical Quarterly, Reference Guide for Circuit Pack Vintages, Change Notices*, and to the *Software Release Letter* for information about usable circuit pack vintages. For information about usable vintages of non-U.S. circuit packs, refer to the ITAC Tech Alert from your regional distributor.

### Software Upgrade

Although the translations upgrade automatically to Release 8, several features require special attention because of screen changes or potential naming conflicts in the update or upgrade procedure.

Between customer confirmation and the actual update or upgrade, check the screens to ensure the translations meet the customer's needs. After rebooting the system, enter the translations either locally or remotely. If done remotely, Contact Field Support Administration Center (FSAC) for the remote entry. For information to make the required changes, refer to:

- *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*

No administration changes should be made during the upgrade procedure. There can be 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 upgrade process.

## Translation Card Compatibility

An upgrade from a G3V4 requires a Release 8 formatted translation card. A new MIPS formatted translation card ships with each upgrade.

## Required Tools

This upgrade may require the following tools and other items:

- Wrist ground strap
- Flash maintenance kit (MTCE 00037) (from Material Stocking Location)
- Static-proof or original circuit pack packaging for transporting circuit packs
- One copy of each of the following books:
  - *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*
  - *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*

## DC Isolator

Each peripheral connected to a DC-powered system, by the asynchronous EIA RS-232 interface, requires a 116A or 105C isolator. The isolator is inserted at the RS-232 interface between the peripheral and the interface connector to isolate ground between the system and external adjuncts.

## Antistatic Protection



### **CAUTION:**

*When handling circuit packs or any components of a DEFINITY ECS system, always wear an antistatic wrist ground strap. Connect the strap to an approved ground such as ground jack on the DEFINITY ECS system.*

## Required Hardware

The equipment in [Table 2-1](#) 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, or the number provided by your Lucent Technologies representative.

**Table 2-1. Required Hardware**

Equipment	Description	Quantity
J58890L-1 L5	Single Carrier Control Cabinet	1
405970229	WP-91153 Power Unit	1
407780501	TN790B (16 Mbyte) Processor Circuit Pack	1 <sup>1</sup>
103557476 or 848254942	TN794 Network Control/Packet Interface or TN794/2400 Network Controller Interface Assembly	1 <sup>1,2</sup>
105631527	AHF110 TDM/LAN Bus Terminator	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)	1 <sup>3</sup>
846408250	Stiffener (Earthquake mounting only)	1
846408243	Earthquake Front Mounting Angle (Earthquake mounting only)	1
106590953	Apparatus Blanks	up to 10

1. The TN790B and TN794 circuit packs ship inside the Basic Control Cabinet.
2. To determine which circuit pack you need, check the vintage of the control carrier. If your carrier is listed in [Table 2-2](#), use the TN794 circuit pack. If your carrier is NOT listed in [Table 2-2](#), you need the TN794/TN2400 circuit pack.
3. A 4-Mbyte translation card is required for a system that uses recorded announcements. A 10-Mbyte card is required if a DEFINITY Wireless Business System is installed.



**Table 2-2. Carriers that use the TN794 NetCon circuit pack**

<b>DEFINITY R7.1 or later Carrier/Backplane</b>	<b>Equipment</b>	<b>Notes</b>
SCC Processor Cabinet	J58890L-2 List 25	This replaces List 10
SCC Processor Cabinet (Survivable Remote)	J58890L-2 List 31	This replaces List 30
SCC Processor Cabinet (Knock Down)	J58890L-2 List 52	This replaces List 51
Backplane for the J58890L-2 List 25, List 31, and List 52 Cabinets	PWJ58890AL-1 List 3	This backplane replaces List 2
SCC Duplication Processor Cabinet	J58890M-2 List 15	This replaces List 7
SCC Duplication Processor Cabinet (Knock Down)	J58890M-2 List 52	This replaces List 51
Backplane for the J58890M-2 List 15 and List 52 Cabinets	PWJ58890AM-1 List 3	This backplane replaces List 2
MCC SI Processor Carrier	J58890AH-2 List 13	This replaces List 10
MCC SI Processor Carrier (Knock Down)	J58890AH-2 List 55	This replaces List 54
Backplane for the J58890AH-2 List 13 and List 55 Cabinets	PWJ58906AA-1 List 4	This backplane replaces List 3
MCC SI Duplication Processor Carrier	J58890AJ-2 List 12	This replaces List 9
MCC SI Duplication Processor Carrier (Knock Down)	J58890AJ-2 List 55	This replaces List 54
Material required in addition to L55 (Knock Down)	J58890AJ-2 List 56	This replaces List 53
Backplane for the J58890AJ-2 List 12 and List 55 Cabinets	PWJ58906AB-1 List 3	This backplane replaces List 2
Fiber Optic Cable: MCC Dup-Int	848204434	14-in. cable
Fiber Optic Cable: SCC Dup-Int	LL2SC-SC-10 107122640	10-ft cable

## Task Table

---

[Table 2-3](#) provides the high-level tasks to perform the upgrades. Refer to the appropriate page for instructions for each step.

Table 2-3. Tasks to Upgrade to Release 8si

✓	Task Description	Page
	<a href="#">Unpack and Inspect Control Cabinet</a>	<a href="#">2-7</a>
	<a href="#">Install Control Cabinet</a>	<a href="#">2-8</a>
	<a href="#">Add Earthquake Protection</a>	<a href="#">2-8</a>
	<a href="#">Label Existing Cables</a>	<a href="#">2-8</a>
	<a href="#">Install TDM/LAN Bus Terminators</a>	<a href="#">2-9</a>
	<a href="#">Swing Existing System into Maintenance Position</a>	<a href="#">2-9</a>
	<a href="#">Check Health of SPE</a>	<a href="#">2-9</a>
	<a href="#">Disable Scheduled Maintenance and Alarm Origination to INADS</a>	<a href="#">2-10</a>
	<a href="#">Disable TTI</a>	<a href="#">2-10</a>
	<a href="#">Check TTI Status</a>	<a href="#">2-10</a>
	<a href="#">Check Link Status</a>	<a href="#">2-11</a>
	<a href="#">Save Translations</a>	<a href="#">2-11</a>
	<a href="#">Remove ISDN Interface Links</a>	<a href="#">2-11</a>
	<a href="#">Save Announcements (if necessary)</a>	<a href="#">2-13</a>
	<a href="#">Verify Software Version</a>	<a href="#">2-13</a>
	<a href="#">Shut Down DEFINITY LAN Gateway System</a>	<a href="#">2-13</a>
	<a href="#">Shut Down DEFINITY AUDIX System</a>	<a href="#">2-14</a>
	<a href="#">Power Down Existing System</a>	<a href="#">2-14</a>
	<a href="#">Remove Ground Connections</a>	<a href="#">2-15</a>
	<a href="#">Move 25-Pair Cables from G3vs System to R8si</a>	<a href="#">2-16</a>
	<a href="#">Move Management Terminal Cable from G3vs System to R8si</a>	<a href="#">2-16</a>
	<a href="#">Move Circuit Packs from G3vs System to R8si</a>	<a href="#">2-16</a>
	<a href="#">Connect Control Cabinet Power and Ground</a>	<a href="#">2-18</a>
	<a href="#">Power Up the System</a>	<a href="#">2-19</a>
	<a href="#">Administer the System</a>	<a href="#">2-19</a>
	<a href="#">Enable TTI</a>	<a href="#">2-22</a>

---

*Continued on next page*

Table 2-3. Tasks to Upgrade to Release 8si

✓	Task Description	Page
	<a href="#">Check Link Status</a>	<a href="#">2-23</a>
	<a href="#">Enable Scheduled Maintenance</a>	<a href="#">2-23</a>
	<a href="#">Check Link Status</a>	<a href="#">2-23</a>
	<a href="#">Enable Scheduled Maintenance</a>	<a href="#">2-23</a>
	<a href="#">Enable Customer Options and Alarm Origination to INADS</a>	<a href="#">2-23</a>
	<a href="#">Save Translations</a>	<a href="#">2-24</a>
	<a href="#">Restore Announcements (if necessary)</a>	<a href="#">2-24</a>
	<a href="#">Power Up DEFINITY LAN Gateway System</a>	<a href="#">2-24</a>
	<a href="#">Power Up DEFINITY AUDIX System</a>	<a href="#">2-24</a>
	<a href="#">Display Memory-Configuration</a>	<a href="#">2-25</a>
	<a href="#">Disassemble the G3vs System</a>	<a href="#">2-25</a>
	<a href="#">Return Replaced Equipment</a>	<a href="#">2-26</a>

## Upgrade to Release 8si

### Unpack and Inspect Control Cabinet

1. Unpack J58890L-1 L5 Single-Carrier Control Cabinet and verify comcode vintage of the control carrier.

**CAUTION:**

*Take care to avoid injury while cutting and removing bands.*

**NOTE:**

Verify the vintage of the control carrier and check it against [Table 2-2](#). If your carrier is NOT listed, you need a TN794/TN2400 circuit pack.

2. Inspect cabinet for any shipping damage. Report any damage per local procedures.
3. Remove all of the packing material from the cabinet.

## Install Control Cabinet

1. Position the control cabinet at the desired location (as close to the Main Distribution Frame [MDF] as possible).



**CAUTION:**

*The cabinet may weigh as much as 130 pounds (58 kg). Use lifting precautions to avoid injury.*

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

## Add Earthquake Protection

1. If earthquake protection is required, refer to [Chapter 6, "Adding or Removing Hardware"](#).

## Label Existing Cables

1. To make reconnecting the cables simpler and more reliable, label every reusable connector cable in the system.



**NOTE:**

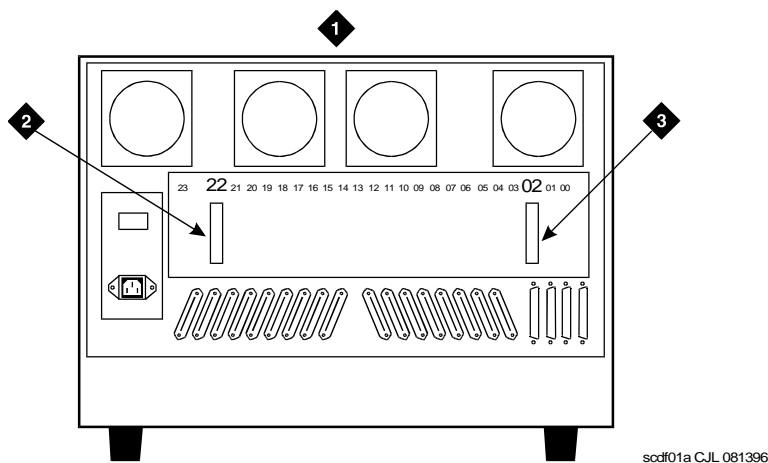
The cables connecting to the existing system are probably too short. Replace these cables with new, longer cables (if necessary).

2. Install new connector cables, as necessary, onto the connectors on the rear of the cabinet.
3. Route the cables to the MDF and cross-connect as necessary.

## Install TDM/LAN Bus Terminators

---

1. Verify that the two AHF110 TDM/LAN bus terminators are installed per [Figure 2-1](#).
- 



### Figure Notes:

1. Rear of Control Cabinet
2. TDM/LAN Bus Terminator in Slot 22
3. TDM/LAN Bus Terminator in Slot 02

---

Figure 2-1. Location of TDM/LAN Bus Terminators

## Swing Existing System into Maintenance Position

---

1. While lifting on the left side of the existing cabinet, allow the left side to swing outward and to the right.

## Check Health of SPE

---

Type **status system 1** and press Enter to check the health of the system.

## Disable Scheduled Maintenance and Alarm Origination to INADS

---

1. Type **change system-parameters maintenance** and press Enter to prevent scheduled daily maintenance from interfering with the update or upgrade.
2. If scheduled maintenance has begun, set the `Stop Time` field to 1 minute after the current time.

or

If scheduled maintenance has **not** begun, set the `Start Time` field to a time after the upgrade is completed. For example, if you start the upgrade at 8:00 p.m. and the upgrade takes 90 minutes, set the `Start Time` field to 21:30.



### CAUTION:

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

3. Type **neither** in the `Alarm Origination to OSS Numbers` field and press Enter.



### NOTE:

For some software loads, set the `Cleared Alarm Notification` and `Restart Notification` fields to disable before pressing Enter.

## Disable TTI

---



### NOTE:

Do this step only if the Terminal Translation Initialization (TTI) is disabled and you want it enabled.



### CAUTION:

If you do not disable the TTI, the translations can be corrupted.

1. Type **change system-parameters features** and press Enter.
2. On the second screen, set the `TTI Enable?` field to **n** to de-activate the TTI feature.

## Check TTI Status

---

1. Type **status tti** and press Enter. Wait until the `Percent Complete` field shows **100%**.

## Check Link Status

---

This optional step is to make sure the settings are the same after the upgrade.

1. Type **display communication-interface links** and press Enter. Write down all enabled links.
2. Type **status link *number*** and press Enter for each enabled link.
3. Write down which links are in service.

## Save Translations

---

1. Type **save translation** and press Enter to write all translation information from memory to the original translation flashcard, which takes about 10 minutes.

When the save translations command is successful, the error code must be a zero; otherwise, the translations are not copied. If the translations were corrupted, the following error message displays when logging in:



### WARNING:

Translation corruption detected; call Lucent Technologies distributor immediately.



### NOTE:

The **save translation** command cannot function if the translation corruption message appears. Refer to [“Translation Corruption Detected” on page B-5](#) to clear the problem.



### NOTE:

This translation card may or not be used in the remainder of the upgrade procedure, depending on the outcome of the Remove ISDN Interface Links step. This card is referred to as the original translation card.

## Remove ISDN Interface Links

---



### NOTE:

ISDN-PRI resides on the new TN794 (NetCon) circuit pack in R7si and later releases. It is no longer on the processor interface circuit pack.

The translations are the same as those in pre-R7 when a packet control circuit pack was used and the System Parameters Customer Options field had the PACCON field set to **yes**. That field was removed with the R7 or later upgrade.

1. Type **display communication-interface *links*** and press Enter.

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Upgrade to Release 8si

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2. Write down all BX.25 links. This information is used in the [“Move Circuit Packs from G3vs System to R8si”](#) section.
3. Write down all ISDN links. If you found no ISDN links, go to [“Save Announcements \(if necessary\)”](#).
4. For each link where the `Prot` field is set to **ISDN**, record the information in all fields (in case you need to back out of the upgrade).
5. For each ISDN link, type **busyout link link number** and press Enter.
6. Type **change communication-interface links** and press Enter.
7. For each link where the `Prot` field is set to **ISDN**, set the `Enable` field to **n** and press Enter.
8. Type **display communication-interface processor-channels** and press Enter.
9. For each processor channel where the `Application` field is set to **ISDN**, record the information in all fields (in case you need to back out of the upgrade).
10. Type **change communication-interface processor-channels** and press Enter.
11. For each processor channel where the `Application` field is set to **ISDN**, clear all fields and press Enter.
12. Type **change communication-interface links** and press Enter.
13. For *each* PI extension where the `Prot` field is set to **ISDN**:
  - a. Set the `Est Conn` field to **n**.
  - b. Set the `Prot` field to **bx25**.
  - c. Set the `DTE/DCE` field to **dte**.
  - d. Leave the `Identification` field blank and press Enter.
14. For *each* PI extension where the `Prot` field was set to **ISDN**:
  - a. Type **display data-module PI Ext number** and press Enter.
  - b. Record the information in each field (in case you need to back out of the upgrade).
  - c. Type **remove data-module PI Ext number** and press Enter.
15. Insert the new translation card, which is formatted for use with Release 5 or later.
16. Type **save translation** and press Enter. Save this card for rebooting after you install the new hardware.

 **NOTE:**

In this case, the original translation card is not be used for the remainder of the upgrade procedure. The original translation card is used only if you need to back out of the upgrade.



## Save Announcements (if necessary)

---

### ⇒ NOTE:

The TN750C Announcement circuit pack stores announcements in nonvolatile memory; saving the announcements is optional.

1. If the PPN contains a TN750/B Announcement circuit pack, type **display announcements** and press Enter.
2. If administered recorded announcements are listed, type **save announcements cabinet carrier slot** and press Enter. For example, 01D03. This takes about 30 minutes.

### ⇒ NOTE:

For some software loads, type **save announcements from cabinet carrier slot**. Type **help** and press Enter for a list of correct commands.

## Verify Software Version

---

If standard reliability:

1. Type **list configuration software-version** and press Enter. Under the `UPDATE FILE` column, note whether any patches have been applied.

### ⇒ NOTE:

If you restore the system to the old software, you must download these patches onto the system.

If high or critical reliability:

1. Type **list configuration software-version long** and press Enter.

## Shut Down DEFINITY LAN Gateway System

---

### ⚠ WARNING:

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

1. Log onto the DEFINITY LAN Gateway.
2. On the main menu, select **Maintenance > Reset System > Shutdown**.

## Shut Down DEFINITY AUDIX System



### **WARNING:**

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

1. Shut down the AUDIX assembly and allow the disk to completely spin down. Refer to "[DEFINITY AUDIX Power Procedures](#)" on page 1-26.

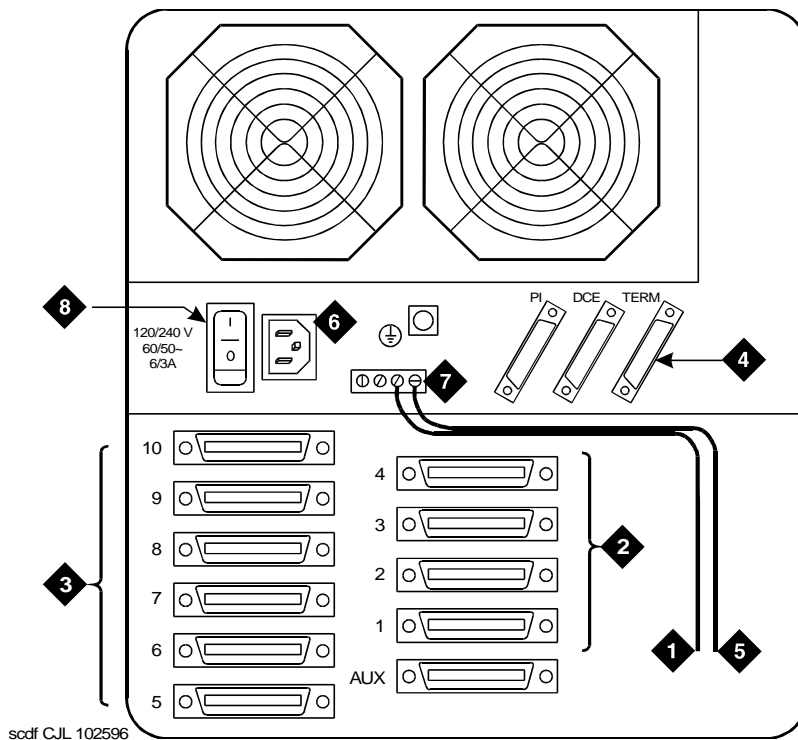
## Power Down Existing System



### **CAUTION:**

Powering down the control cabinet causes important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup request, and Do Not Disturb requests, to be lost.

1. Behind the G3vs cabinet, set the circuit breaker to OFF. See [Figure 2-2](#).



### Figure Notes

- |  |  |
|--|--|
| 1. 10 AWG (#25) (6 mm <sup>2</sup> ) Wire to Coupled Bonding Conductor (CBC) | 5. 6 AWG (#40) (16 mm <sup>2</sup> ) Wire to Approved Ground |
| 2. Backplane Connectors 1-4  | 6. AC Power Receptacle                                       |
| 3. Backplane Connectors 5-10   | 7. Ground Block  |
| 4. TERM Connector  | 8. Circuit Breaker   |

Figure 2-2. Rear of G3vs System Cabinet

### Remove Ground Connections

1. Remove the 6 AWG (#40) (16 mm<sup>2</sup>) ground wire from the ground block on the rear of the G3vs system. This wire later attaches to the new control cabinet.
2. Remove the 10 AWG (#25) (6 mm<sup>2</sup>) Coupled Bonding Conductor (CBC) wire from the ground block on the rear of the G3vs system. This wire later attaches to the new control cabinet.

## Move 25-Pair Cables from G3vs System to R8si

1. Remove any reusable 25-pair cables from the rear of the G3vs system.



**NOTE:**

The distance from the wall-mount G3vs system and the Release 8si system may require that all cables be replaced with longer cables.

2. Attach any reusable 25-pair cables to the required connectors on the rear of the Release 8si system.
3. Attach any *new* 25-pair cables to the required connectors on the rear of the Release 8si system. Route the new cables to the MDF and attach.

## Move Management Terminal Cable from G3vs System to R8si

1. Remove the management terminal cable from the rear of the G3vs system.
2. Attach the management terminal cable to the rear of the Release 8si system.

## Move Circuit Packs from G3vs System to R8si

1. Label each port circuit pack in the G3vs system with its slot number.
2. Remove all circuit packs from the G3vs system. Store the circuit packs in the static-proof packaging.
3. Remove and retain all circuit pack blanks.
4. Install the power unit and the remaining control circuit packs into the new control cabinet. See [Table 2-4](#).

Table 2-4. Circuit Packs for R8si

Circuit Pack	Name	New or Used
TN790B	Processor	New
TN794	Network Control/Package Interface	New
TN765	Processor Interface <sup>1</sup>	Reuse the circuit pack from G3vs system
TN780	Tone-Clock/Generator	Reuse the circuit pack from G3vs system
Other port circuit packs	Various	Reuse the circuit packs from G3vs system

1. Only if BX.25 was administered.

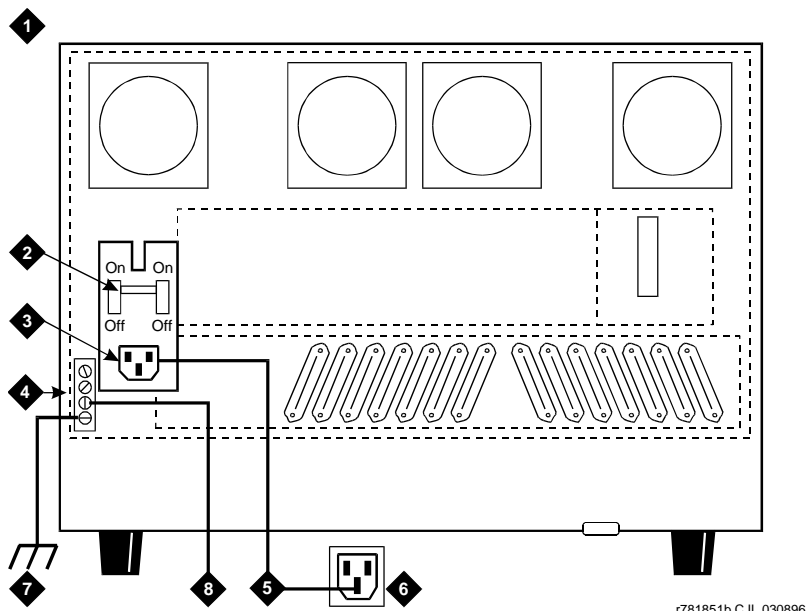
**NOTE:**

A TN2182 Tone-Clock can replace the TN756 Tone-Detector/Generator. If a TN2182 is used, a TN748B Tone-Detector is not required.

5. Install the port circuit packs into the control cabinet. Since the new control cabinet has more port slots than the G3vs cabinet, there should not be a need to retranslate these circuit packs.
6. Install blank faceplates in any vacated slots.
7. Check the load number on the TN790B Processor label. Insert the appropriate flashcard into the TN794 Network Control/Package Interface based on the following parameters:
  - If the load number is the Release 8 load number, insert the new or original translation card as directed in the Save Translation step and Remove ISDN Interface Links step.
  - If the load number is *not* the Release 8 load number, insert the orange-labeled software memory card.

## Connect Control Cabinet Power and Ground

1. Connect a 6 AWG (#40) (16 mm<sup>2</sup>) wire (previously used on the G3vs cabinet) from the single-point ground block on the control cabinet to the approved ground. See [Figure 2-3](#).



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### Figure Notes

- |                              |   |
|------------------------------|---|
| 1. Control Cabinet           | 6. NEMA 5-15 or 5-20 Receptacle or Equivalent                         |
| 2. Circuit Breaker           | 7. 6 AWG (16 mm <sup>2</sup> ) Cabinet Ground Wire to Approved Ground |
| 3. AC Power Receptacle       | 8. 10 AWG (6 mm <sup>2</sup> ) Wire to CBC                            |
| 4. Single-Point Ground Block |   |
| 5. 8-ft (2.5-m) Power Cord   |   |

### Figure 2-3. Typical AC Power and Ground Layout

2. Connect a 10 AWG (#25) (6 mm<sup>2</sup>) wire (previously used on the G3vs cabinet) between the cabinet single-point ground block and the CBC.
3. Connect the supplied cabinet AC power cord to the AC receptacle on the rear of the control cabinet. Plug the opposite end of the cord into the dedicated electrical outlet.

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Upgrade to Release 8si

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## Power Up the System

---

1. Set the cabinet circuit breaker to ON. The system performs the reset level 4 reboot process and loads translations from the translation card. This takes about 10 minutes.
2. Affix the new TN790B circuit pack position label (designation strip) to the front of the cabinet.

## Administer the System

---

1. Log in as **craft** at the login: prompt.
2. Check for the Translation Corruption Detected message before proceeding with the upgrade. If corruption is detected, refer to [“Translation Corruption Detected”](#) in [Appendix B, “Troubleshooting an Upgrade”](#) to correct the problem.



**CAUTION:**

*Do not continue with the upgrade process until the translations errors are corrected.*

3. Type **status system 1** and press Enter to check the SPE Alarms field and verify that the Tone Clock is active.

## Set Daylight Savings Rules

You can set up to 15 customized daylight savings time rules. A daylight savings time rule specifies the exact time when you want to transition to and from daylight savings time. It also specifies the increment at which to transition



**NOTE:**

The default daylight savings rule is **0**, no daylight savings.

1. Type **change daylight-savings-rules** and press Enter.

```

                                DAYLIGHT SAVINGS RULES
Rule          Change Day          Month  Date  Time  Increment
0:   No Daylight Savings
1:   Start: first Sunday   on or after April  1  at 2:00   01:00
     Stop: first Sunday   on or after October 25 at 2:00
2:   Start: first _____ on or after _____ at ____:__
     Stop: first _____ on or after _____ at ____:__
3:   Start: first _____ on or after _____ at ____:__
     Stop: first _____ on or after _____ at ____:__
4:   Start: first _____ on or after _____ at ____:__
     Stop: first _____ on or after _____ at ____:__
5:   Start: first _____ on or after _____ at ____:__
     Stop: first _____ on or after _____ at ____:__
6:   Start: first _____ on or after _____ at ____:__
     Stop: first _____ on or after _____ at ____:__
7:   Start: first _____ on or after _____ at ____:__
     Stop: first _____ on or after _____ at ____:__
    
```

2. Type the appropriate start and stop information in the Change Day, Month, Date, Time, and Increment (for example, **1:00** equals one hour) fields for each rule.

**⇒ NOTE:**

You can change any rule except rule 0 (zero). You cannot delete a daylight savings rule if it is in use on either the Locations or Date and Time screens.

3. When done, press Enter.

### Set Date and Time

1. Type **set time** and press Enter to bring up the Date and Time screen.

```

                                DATE AND TIME
DATE
Day of the Week: Tuesday      Month: November
Day of the Month: 7   Year: 2000

TIME
Hour: 20   Minute: 30   Second: XX   Type: standard
Daylight Savings Rule: 1
    
```

Screen 2-1. Typical Date and Time Screen



2. Type the day in English (Sunday through Saturday) in the `Day of the Week :` field. See [Table 2-5](#) for English day names. When done, press `Tab` to move to next field.

**Table 2-5. English Day of the Week Names**

---

Day Number	Day Name
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday

---

3. Type the current month in English (January through December) in the `Month :` field. See [Table 2-6](#) for English month names. When done, press `Tab` to move to next field.

**Table 2-6. English Month Names**

---

Number	Name	Number	Name
1	January	7	July
2	February	8	August
3	March	9	September
4	April	10	October
5	May	11	November
6	June	12	December

---

4. Type the day of month (1 through 31) in the `Day of the Month :` field and press `Tab` to move to the next field.
5. Type the current year in the `Year :` field and press `TAB` to move to the next field.
6. Type the current hour for a 24-hour clock in the `Hour :` field and press `Tab` to move to the next field.
7. Type the current minute (0 through 59) in the `Minute :` field (seconds cannot be set). When done, press `Tab` to move to next field

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Upgrade to Release 8si

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8. Type **standard** or **daylight savings** in the `Type` field, according to the current time in the local time zone. For example, if currently on standard time, type **standard**.
9. Type the rule number in the `Daylight Savings Rule` field.
10. When all the information is correct, press `Enter`.
11. Type **display time** and press `Enter` to verify date and time data.

**Set Additional Administration**

For standard reliability:

1. Type **list configuration software-version** and press `Enter` to verify the system software version (in the `Memory Resident` field).

For high or critical reliability:

1. Type **list configuration software-version long** and press `Enter` to verify the system software version (in the `Memory Resident` field)

For all reliabilities:

2. Perform a sanity check on the system by executing the following commands to ensure the translations were read in properly:
  - a. **list station**
  - b. **list trunk-group**
  - c. **list hunt-group**

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

3. Notify the switch administrator that for any previous login names and passwords that still exist, the passwords expire in 24 hours. When changed, the new login names and passwords must conform to the following requirements:

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

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

**Enable TTI**

---

**⇒ NOTE:**

Do this step only if the TTI is disabled and you want it enabled.

1. Type **change system-parameters features** and press `Enter` to change the TTI field back to its value before the upgrade.

## Resolve Alarms

---

1. Type **display alarms** and press Enter to examine the alarm log. Resolve any alarms that may exist using *DEFINITY Enterprise Communications Server Maintenance for R8si*.

## Check Link Status

---

1. Type **display communication-interface links** and press Enter.
2. Type **status link *number*** and press Enter. Repeat this step for each link.

## Enable Scheduled Maintenance

---

1. Type **change system-parameters maintenance** and press Enter to enable the scheduled daily maintenance.
2. Check the time fields.

## Enable Customer Options and Alarm Origination to INADS

---

1. Get the DOSS order number of the upgrade from the project manager and ask the regional Customer Software Administration to complete the steps in the shaded box. See [“Where to Call for Technical Support” on page -xx](#) for telephone numbers.



### NOTE:

As part of the system registration process, the INADS Database Administrator enables Alarm Origination.

2. When administration is completed, log in as **craft** at the Login: prompt.

### "init" login administration:

1. Log in as **init**.
2. Type **change system-parameters customer-options** and press Enter to verify that the customer options are properly set.
3. Go to screen 6, QSIG Optional Features, and set the `Basic Call Setup` field to **y** if the customer was using Supplementary Services Protocol b or d on an ISDN-PRI trunk group before the upgrade.
4. Type **change system-parameters offer-options** and press Enter.
5. If the `Activate Offer` field is **n**, set it to **y** and press Tab. A warning message lets you know whether you need to save translations and reboot to make the change permanent.
6. Press Enter to effect the changes or Cancel if there were no changes.
7. Contact the requester when done.

### Save Translations

1. Type **save translation** and press Enter to copy upgraded translations in memory to the upgraded translation card, which takes about 10 minutes.

### Restore Announcements (if necessary)

1. Type **restore announcements** and press Enter to copy announcements from the upgraded translation flashcard to memory, which takes about 40 minutes.

### Power Up DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway.
2. On the main menu, select **Maintenance > Reset System > Reboot System**.

### Power Up DEFINITY AUDIX System

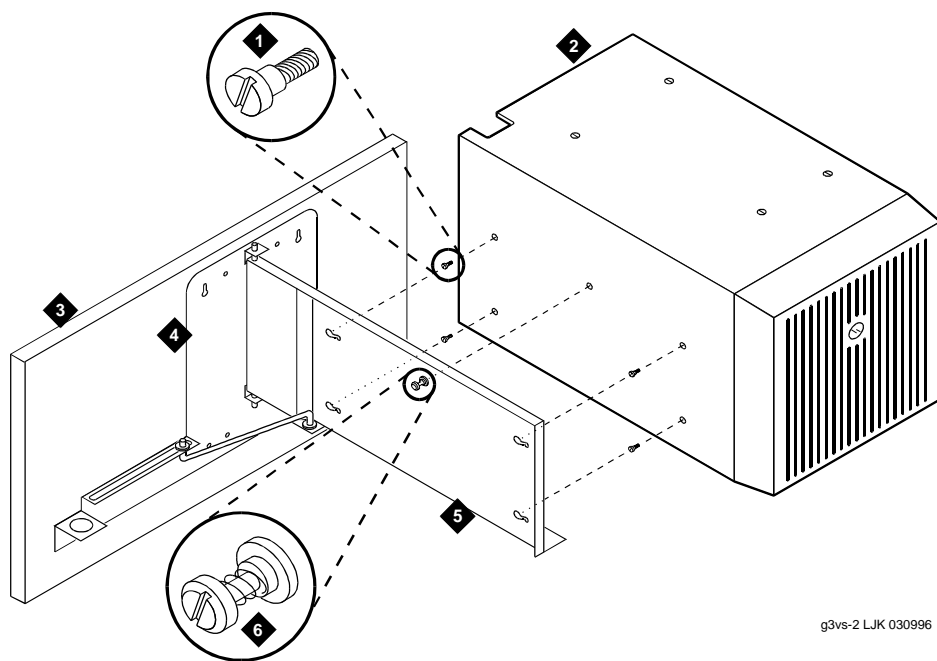
1. To power up the AUDIX assembly, refer to ["DEFINITY AUDIX Power Procedures" on page 1-26](#).

## Display Memory-Configuration

1. Log in as **craft**. If the Translation Corruption Detected message appears, refer to [“Translation Corruption Detected” on page B-5](#).
2. Type **display memory-configuration** and press Enter. Check the total DRAM field. SIMM field “A” must contain a 16.

## Disassemble the G3vs System

1. Remove any unused 25-pair cables from the rear of the system.
2. Loosen the 4 shoulder screws holding the cabinet to the mounting plate. See [Figure 2-4](#).
3. Remove the locking screw holding the cabinet to the center of the mounting plate.
4. Return the system cabinet to its locked operating position.
5. Align the 4 shoulder screws with the keyhole slots and remove the cabinet from the mounting plate.
6. Remove the 5 lower wood screws from the wall plate and loosen the top 2 wood screws. Remove the mounting assembly.
7. Remove the top 2 wood screws.



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**Figure Notes:**

- |                                   |  |
|-----------------------------------|--|
| 1. Shoulder Screws                | 4. Wall Mounting Plate Showing Keyhole Slots |
| 2. Compact Single-Carrier Cabinet | 5. Cabinet Support Bracket                   |
| 3. Plywood Sheet                  | 6. Spring-Loaded Housing Locking Screws      |

Figure 2-4. Exploded View of G3vs System

**Return Replaced Equipment**

1. Return replaced equipment to Lucent Technologies according to the requirements outlined in:  
*BCS/Material Logistics, MSL/Attended Stocking Locations*  
*Methods and Procedures for Basic Material Returns*
2. If the original translation card is not being used with the Release 8 software, retain it for up to 10 business days to verify that the customer is satisfied and that there is no need to reverse the upgrade.
3. After 10 days, return the translation card to Lucent Technologies.

## Upgrading G3s/si (w/Intel 386) to R8si

# 3

---

This chapter provides the information necessary to upgrade a DEFINITY ECS System with a TN786B processor to a Release 8si.

 **NOTE:**

This chapter assumes that the current system contains an Intel 386<sup>®</sup> processor. If the system is not at this level, refer to *DEFINITY Communications System Generic 3vs and Generic 3si Upgrades and Additions*.

Then return to this chapter to upgrade to Release 8.

*DEFINITY Enterprise Communications Server Release 8 Administrator's Guide* lists DEFINITY ECS Release 8 features and functions and also provides the commands, procedures, and forms to initialize and administer the DEFINITY System.

## Read this First

---

### Service Interruption

The upgrade process for a standard reliability system requires a service interruption of about 30 minutes. The service interruption for a high or critical reliability system is about 15 minutes. Closely coordinate the service interruption with the customer and the local account team.

## **Call Management System (CMS)**

The CMS link is dropped and restarted during the upgrade. This causes CMS data to be lost. This data loss can be minimized if the upgrade is performed just after the last CMS measurement interval.

All measurement data is lost during the upgrade (including BCMS). If needed, the reports may be printed before the upgrade begins.

CMS could abort the processing of a call if a measured trunk that was part of the conference dropped off the call before the end of the call. Customers experiencing this symptom and who are running R3V4 CMS should update to r3v4ao.e or higher.

## **Contact Network Technicians**

Contact the technician for each public and private network before the upgrade begins. Otherwise, it is possible that network access trunk facilities will be busied out at the far end.

## **Translation Card Compatibility**

An upgrade from a G3V4 requires a Release 8 formatted translation card. A MIPS formatted translation card ships with each upgrade.

## **Usable Circuit Packs**

Every circuit pack used in the Release 8 system must conform to the minimum usable vintage requirements for that system. At a presale site inspection, the remediation process checks the vintages of existing circuit packs to be reused in the Release 8 system. Replace all unusable vintage circuit packs with current vintages.

Refer to *Technical Quarterly, Reference Guide for Circuit Pack Vintages, Change Notices*, and to the *Software Release Letter* for information about usable circuit pack vintages. For information about usable vintages of non-U.S. circuit packs, refer to the ITAC Tech Alert from your regional distributor.



## Software Upgrade

Although the translations upgrade automatically to Release 8si, several features require special attention because of screen changes or potential naming conflicts in the update or upgrade procedure.

Between customer confirmation and the actual update or upgrade, check the screens to ensure the translations meet the customer's needs. After rebooting the system, enter the translations either locally or remotely. If done remotely, Contact Field Support Administration Center (FSAC) for the remote entry. For information to make the required changes, refer to:

- *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*

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

## Required Tools

This upgrade may require the following tools and other items:

- Wrist ground strap
- Static-proof or original circuit pack packaging for transporting circuit packs
- One copy of each of the following books:
  - *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*
  - *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*

## DC Isolator

Each peripheral connected to a DC-powered system, by the asynchronous EIA RS-232 interface, requires a 116A or 105C isolator. The isolator is inserted at the RS-232 interface between the peripheral and the interface connector to isolate ground between the system and external adjuncts.

## Antistatic Protection



### **CAUTION:**

*When handling circuit packs or any components of a DEFINITY ECS system, always wear an antistatic wrist ground strap. Connect the strap to an approved ground such as ground jack on the DEFINITY ECS system.*

## Required Hardware

The equipment in [Table 3-1](#) 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, or the number provided by your Lucent Technologies representative.

Table 3-1. Required Hardware

Equipment	Description	Quantity	
		Standard	High/Critical
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 <sup>1</sup>	2
847008463	Control Cabinet Label	1	2
407780501	TN790B (16 Mbyte) Processor Circuit Pack	1	2
848254942	Network Controller Interface Assembly (Combination of TN794 and TN2400 Circuit Packs)	1	2

1. A 4-Mbyte translation card is required for a system using recorded announcements. A 10-Mbyte card is required for systems with a DEFINITY Wireless Business System installed.

## Task Table

---

[Table 3-2](#) provide the high-level tasks to perform the upgrades in this chapter. Refer to the appropriate page for instructions for each step. The upgrade procedure is similar for both the standard and high or critical reliability system with a few exceptions. These exceptions are noted as you go through the steps.

**Table 3-2. Tasks to upgrade the software and hardware**

✓	Task Description	Page
	<a href="#">Check SPE</a>	<a href="#">3-6</a>
	<a href="#">Disable Scheduled Maintenance and Alarm Origination to INADS</a>	<a href="#">3-6</a>
	<a href="#">Disable TTI</a>	<a href="#">3-7</a>
	<a href="#">Check TTI Status</a>	<a href="#">3-7</a>
	<a href="#">Check Link Status</a>	<a href="#">3-7</a>
	<a href="#">Save Translations</a>	<a href="#">3-7</a>
	<a href="#">Remove ISDN Interface Links</a>	<a href="#">3-8</a>
	<a href="#">Save Announcements (if necessary)</a>	<a href="#">3-9</a>
	<a href="#">Verify Software Version</a>	<a href="#">3-10</a>
	<a href="#">Shut Down DEFINITY LAN Gateway System</a>	<a href="#">3-10</a>
	<a href="#">Shut Down DEFINITY AUDIX System</a>	<a href="#">3-10</a>
	<a href="#">Power Down the Control Cabinet</a>	<a href="#">3-10</a>
	<a href="#">Remove the Circuit Packs</a>	<a href="#">3-11</a>
	<a href="#">Install Circuit Packs</a>	<a href="#">3-11</a>
	<a href="#">Power Up the System (Standard Reliability)</a>	<a href="#">3-13</a>
	<a href="#">Power Up the System (H/C Reliability)</a>	<a href="#">3-13</a>
	<a href="#">Affix the Label</a>	<a href="#">3-14</a>
	<a href="#">Administer the System</a>	<a href="#">3-14</a>
	<a href="#">Enable TTI</a>	<a href="#">3-17</a>
	<a href="#">Resolve Alarms</a>	<a href="#">3-18</a>
	<a href="#">Check Link Status</a>	<a href="#">3-18</a>
	<a href="#">Enable Scheduled Maintenance</a>	<a href="#">3-18</a>
	<a href="#">Enable Customer Options and Alarm Origination to INADS</a>	<a href="#">3-18</a>

---

*Continued on next page*

Table 3-2. Tasks to upgrade the software and hardware

✓	Task Description	Page
	<a href="#">Restore Announcements (if necessary)</a>	<a href="#">3-19</a>
	<a href="#">Power Up DEFINITY LAN Gateway System</a>	<a href="#">3-19</a>
	<a href="#">Power Up DEFINITY AUDIX System</a>	<a href="#">3-19</a>
	<a href="#">Return Replaced Equipment</a>	<a href="#">3-20</a>

## Upgrade the Software and Hardware

### Check SPE

Type **status system 1** and press Enter to check the health of the system.

### Disable Scheduled Maintenance and Alarm Origination to INADS

1. Type **change system-parameters maintenance** and press Enter to prevent scheduled daily maintenance from interfering with the update or upgrade.
2. If scheduled maintenance has begun, set the `Stop Time` field to 1 minute after the current time.

or

If scheduled maintenance has **not** begun, set the `Start Time` field to a time after the upgrade is completed. For example, if you start the upgrade at 8:00 p.m. and the upgrade takes 90 minutes, set the `Start Time` field to 21:30.



**CAUTION:**

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

3. Type **neither** in the Alarm Origination to OSS Numbers field and press Enter.



**NOTE:**

For some software loads, set the Cleared Alarm Notification and Restart Notification fields to disable before pressing Enter.

## Disable TTI

---



### NOTE:

Do this step only if the Terminal Translation Initialization (TTI) is disabled and you want it enabled.



### CAUTION:

*If you do not disable the TTI, the translations can be corrupted.*

1. Type **change system-parameters features** and press Enter.
2. On the second screen, set the TTI `Enable?` field to **n** to de-activate the TTI feature.

## Check TTI Status

---

1. Type **status tti** and press Enter. Wait until the `Percent Complete` field shows **100%**.

## Check Link Status

---

This optional step is to make sure the settings are the same after the upgrade.

1. Type **display communication-interface links** and press Enter. Write down all enabled links.
2. Type **status link number** and press Enter for each enabled link.
3. Write down which links are in service.

## Save Translations

---

1. Type **save translation** and press Enter to write all translation information from memory to the original translation flashcard, which takes about 10 minutes.

When the save translations command is successful, the error code must be a zero; otherwise, the translations are not copied. If the translations were corrupted, the following error message displays when logging in:



### WARNING:

Translation corruption detected; call Lucent Technologies distributor immediately.

**⇒ NOTE:**

The **save translation** command cannot function if the translation corruption message appears. Refer to [“Translation Corruption Detected” on page B-5](#) to clear the problem.

**⇒ NOTE:**

This translation card may or not be used in the remainder of the upgrade procedure, depending on the outcome of the Remove ISDN Interface Links step. This card is referred to as the original translation card.

## Remove ISDN Interface Links

**⇒ NOTE:**

ISDN-PRI resides on the new TN794 (NetCon) circuit pack in R7si and later releases. It is no longer on the processor interface circuit pack.

The translations are the same as those in pre-R7 when a packet control circuit pack was used and the `System Parameters Customer Options` field had the `PACCON` field set to **yes**. That field was removed with the R7 or later upgrade.

1. Type **display communication-interface links** and press `Enter`.
2. Write down all BX.25 links. This information is used in the [“Remove the Circuit Packs”](#) section.
3. Write down all ISDN links. If you found no ISDN links, go to [“Save Announcements \(if necessary\)”](#).
4. For each link where the `Prot` field is set to **ISDN**, record the information in all fields (in case you need to back out of the upgrade).
5. For each ISDN link, type **busyout link link number** and press `Enter`.
6. Type **change communication-interface links** and press `Enter`.
7. For each link where the `Prot` field is set to **ISDN**, set the `Enable` field to **n** and press `Enter`.
8. Type **display communication-interface processor-channels** and press `Enter`.
9. For each processor channel where the `Application` field is set to **ISDN**, record the information in all fields (in case you need to back out of the upgrade).
10. Type **change communication-interface processor-channels** and press `Enter`.
11. For each processor channel where the `Application` field is set to **ISDN**, clear all fields and press `Enter`.
12. Type **change communication-interface links** and press `Enter`.

13. For *each* PI extension where the `Prot` field is set to **ISDN**:
  - a. Set the `Est Conn` field to **n**.
  - b. Set the `Prot` field to **bx25**.
  - c. Set the `DTE/DCE` field to **dte**.
  - d. Leave the `Identification` field blank and press `Enter`.
14. For *each* PI extension where the `Prot` field was set to **ISDN**:
  - a. Type **display data-module PI Ext number** and press `Enter`.
  - b. Record the information in each field (in case you need to back out of the upgrade).
  - c. Type **remove data-module PI Ext number** and press `Enter`.
15. Insert the new translation card, which is formatted for use with Release 5 or later.
16. Type **save translation** and press `Enter`. Save this card for rebooting after you install the new hardware.

**⇒ NOTE:**

In this case, the original translation card is not be used for the remainder of the upgrade procedure. The original translation card is used only if you need to back out of the upgrade.

### Save Announcements (if necessary)

**⇒ NOTE:**

The TN750C Announcement circuit pack stores announcements in nonvolatile memory; saving the announcements is optional.

1. If the PPN contains a TN750/B Announcement circuit pack, type **display announcements** and press `Enter`.
2. If administered recorded announcements are listed, type **save announcements cabinet carrier slot** and press `Enter`. For example, `01D03`. This takes about 30 minutes.

**⇒ NOTE:**

For some software loads, type **save announcements from cabinet carrier slot**. Type **help** and press `Enter` for a list of correct commands.

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## Verify Software Version

---

If standard reliability:

1. Type **list configuration software-version** and press **Enter**. Under the **UPDATE FILE** column, note whether any patches have been applied.



### NOTE:

If you restore the system to the old software, you must download these patches onto the system.

If high or critical reliability:

1. Type **list configuration software-version long** and press **Enter**.

## Shut Down DEFINITY LAN Gateway System

---



### WARNING:

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

1. Log onto the DEFINITY LAN Gateway.
2. On the main menu, select **Maintenance > Reset System > Shutdown**.

## Shut Down DEFINITY AUDIX System

---



### WARNING:

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

1. Shut down the AUDIX assembly and allow the disk to completely spin down. Refer to "[DEFINITY AUDIX Power Procedures](#)" on page 1-26.

## Power Down the Control Cabinet

---



### CAUTION:

Powering down the control cabinet causes important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup request, and Do Not Disturb requests, to be lost.

1. Set the circuit breaker to OFF.

On a Single-Carrier Cabinet, the breaker is on the back. On a Multicarrier Cabinet, the breaker is on the front.



## Remove the Circuit Packs

---

### ⇒ NOTE:

More detailed information on removing and adding circuit packs is in [Chapter 6, "Adding or Removing Hardware"](#)

### ⇒ NOTE:

If this is a duplicated system, remove the circuit packs in both carriers

1. Remove the TN777/B Network Controller (NETCON) circuit pack and place it in antistatic packing material.
2. Remove the translation card from the TN777 and set it aside for later use.
3. Remove the TN786B processor circuit pack and any attached CPP1 circuit packs and place them in antistatic packing material.
4. Remove the TN778 packet control (PACCON) circuit pack, if present, and cables and place it in antistatic packing material.

### ⇒ NOTE:

Do the following step only if no BX.25 links were administered and the customer does not plan to use the TN765 processor interface circuit pack(s) in the future.

5. Remove the TN765 Processor Interface circuit pack and place it in antistatic packing material.

## Install Circuit Packs

---

### ⇒ NOTE:

If this is a duplicated system, install the circuit packs in both carriers.

1. Insert the TN790B processor circuit pack into the slot labeled PROCR.

### ⇒ NOTE:

To properly seat the circuit pack, push firmly on the front of the faceplate until the latches reach the bottom rail of the carrier. Then close the latches until they are fully engaged.

2. Insert the TN794/TN2400 assembly ([Figure 3-1](#)) into the NET CONT and PACKET CONT slots.

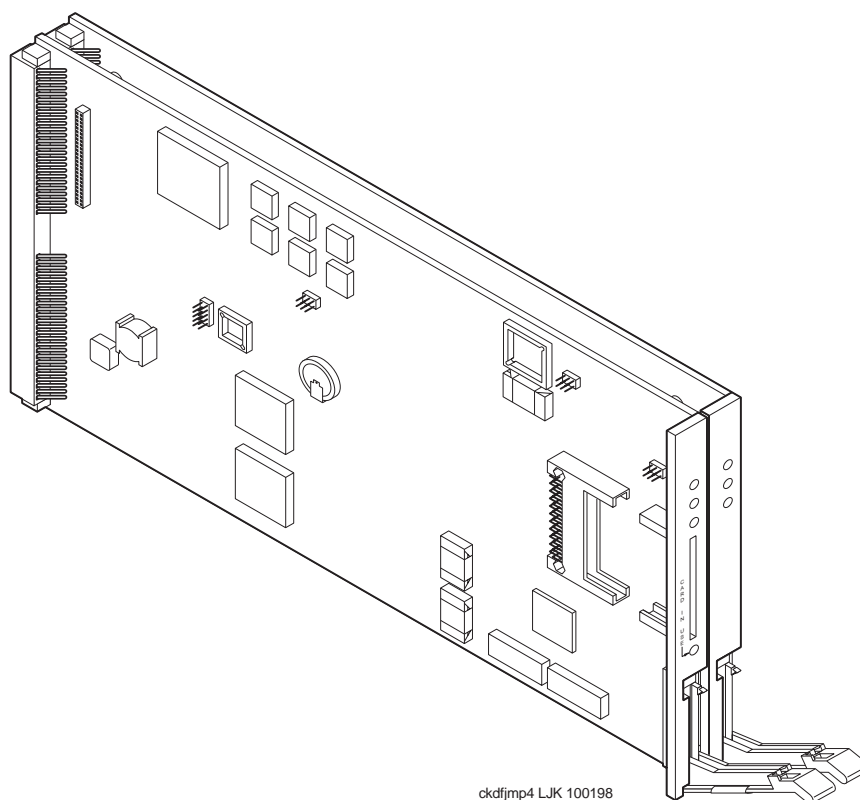


Figure 3-1. TN794/TN2400 Network Controller Interface Assembly

3. Install apparatus blanks in any vacated slots.
4. Check the software load number on the TN790B Processor label. Insert the appropriate flashcard into the TN794/TN2400 assembly based on the following parameters:
  - If the load number is the Release 8 load number, insert the new or original translation card as directed in the Save Translation step and Remove ISDN Interface Links step.
  - If the load number is *not* the Release 8 load number, insert the orange-labeled software memory card.

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## Power Up the System (Standard Reliability)

1. Set the cabinet circuit breaker to ON.

### NOTE:

If the system was rebooted with the software memory flashcard, you hear a beep from the SAT when you need to switch flashcards. This takes about 3 minutes.

2. If applicable, remove the software memory flashcard and insert the new or original translation flashcard as directed in the Save Translation step and Remove ISDN Interface Links step.

## Power Up the System (H/C Reliability)

If powering up with translation cards inserted:

1. Verify that SPE select switches on the TN792 Duplication Interface circuit packs are on AUTO.
2. Set the cabinet circuit breaker to ON and wait for login prompt.

If powering up with software memory flashcard inserted:

1. Set the SPE select switches to the control carrier that has software memory flashcard inserted.
2. Set the cabinet circuit breaker to ON.

### NOTE:

Look for the "Card in Use" LED below the flashcard on the TN794 to go out. This takes about 3 minutes.

3. Remove software memory flashcard and insert the new or original translation flashcard into the same carrier as directed in the Save Translation step and Remove ISDN Interface Links step.
4. Insert the software memory flashcard into the other carrier.

### NOTE:

Wait for `login:` prompt. This takes about 3 minutes.

5. Power down the cabinet.
6. Set the SPE select switches to the control carrier with the software memory card inserted.

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7. Set the cabinet circuit breaker to ON

 NOTE:

Look for the "Card in Use" LED below the flashcard on the TN794 to go out. This takes about 3 minutes.

8. Remove software memory flashcard and insert the new or original translation flashcard into the same carrier as directed in the Save Translation step and Remove ISDN Interface Links step.

 NOTE:

Wait for `login:` prompt. This takes about 3 minutes.

9. Set the SPE select switches to AUTO.

## Affix the Label

1. Affix the new TN790B processor circuit pack position label (designation strip) to the front of the cabinet.
2. Affix the new TN794/TN2400 network controller interface assembly circuit pack position label (designation strip) to the front of the cabinet.

## Administer the System

1. Log in as **craft** at the `login:` prompt.
2. Check for the Translation Corruption Detected message before proceeding with the upgrade. If corruption is detected, refer to ["Translation Corruption Detected"](#) in [Appendix B, "Troubleshooting an Upgrade"](#) to correct the problem.



**CAUTION:**

*Do not continue with the upgrade process until the translations errors are corrected.*

3. Type **status system 1** and press Enter to check the SPE Alarms field and verify that the Tone Clock is active.

## Set Daylight Savings Rules

You can set up to 15 customized daylight savings time rules. A daylight savings time rule specifies the exact time when you want to transition to and from daylight savings time. It also specifies the increment at which to transition



**NOTE:**

The default daylight savings rule is **0**, no daylight savings.

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1. Type **change daylight-savings-rules** and press Enter.

```

DAYLIGHT SAVINGS RULES
Rule          Change Day          Month   Date   Time   Increment
0:   No Daylight Savings
1:   Start: first Sunday    on or after April  1  at 2:00   01:00
     Stop: first Sunday    on or after October 25 at 2:00
2:   Start: first _____ on or after _____ at ____:__
     Stop: first _____ on or after _____ at ____:__
3:   Start: first _____ on or after _____ at ____:__
     Stop: first _____ on or after _____ at ____:__
4:   Start: first _____ on or after _____ at ____:__
     Stop: first _____ on or after _____ at ____:__
5:   Start: first _____ on or after _____ at ____:__
     Stop: first _____ on or after _____ at ____:__
6:   Start: first _____ on or after _____ at ____:__
     Stop: first _____ on or after _____ at ____:__
7:   Start: first _____ on or after _____ at ____:__
     Stop: first _____ on or after _____ at ____:__
    
```

2. Type the appropriate start and stop information in the Change Day, Month, Date, Time, and Increment (for example, **1:00** equals one hour) fields for each rule.



**NOTE:**

You can change any rule except rule 0 (zero). You cannot delete a daylight savings rule if it is in use on either the Locations or Date and Time screens.

3. When done, press Enter.

**Set Date and Time**

1. Type **set time** and press Enter to bring up the Date and Time screen.

```

DATE AND TIME
DATE
Day of the Week: Tuesday    Month: November
Day of the Month: 7        Year: 2000

TIME
Hour: 20   Minute: 30   Second: XX   Type: standard
Daylight Savings Rule: 1
    
```

Screen 3-1. Typical Date and Time Screen

2. Type the day in English (Sunday through Saturday) in the `Day of the Week:` field. See [Table 3-3](#) for English day names. When done, press `Tab` to move to next field.

**Table 3-3. English Day of the Week Names**

Day Number	Day Name
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday

3. Type the current month in English (January through December) in the `Month:` field. See [Table 3-4](#) for English month names. When done, press `Tab` to move to next field.

**Table 3-4. English Month Names**

Number	Name	Number	Name
1	January	7	July
2	February	8	August
3	March	9	September
4	April	10	October
5	May	11	November
6	June	12	December

4. Type the day of month (1 through 31) in the `Day of the Month:` field and press `Tab` to move to the next field.
5. Type the current year in the `Year:` field and press `TAB` to move to the next field.
6. Type the current hour for a 24-hour clock in the `Hour:` field and press `Tab` to move to the next field.
7. Type the current minute (0 through 59) in the `Minute:` field (seconds cannot be set). When done, press `Tab` to move to next field

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8. Type **standard** or **daylight savings** in the `Type` field, according to the current time in the local time zone. For example, if currently on standard time, type **standard**.
9. Type the rule number in the `Daylight Savings Rule` field.
10. When all the information is correct, press `Enter`.
11. Type **display time** and press `Enter` to verify date and time data.

## Set Additional Administration

For standard reliability:

1. Type **list configuration software-version** and press `Enter` to verify the system software version (in the `Memory Resident` field).

For high or critical reliability:

1. Type **list configuration software-version long** and press `Enter` to verify the system software version (in the `Memory Resident` field)

For all reliabilities:

2. Perform a sanity check on the system by executing the following commands to ensure the translations were read in properly:
  - a. **list station**
  - b. **list trunk-group**
  - c. **list hunt-group**

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

3. Notify the switch administrator that for any previous login names and passwords that still exist, the passwords expire in 24 hours. When changed, the new login names and passwords must conform to the following requirements:

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

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

## Enable TTI

---

### NOTE:

Do this step only if the TTI is disabled and you want it enabled.

1. Type **change system-parameters features** and press `Enter` to change the TTI field back to its value before the upgrade.

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## Resolve Alarms

---

1. Type **display alarms** and press Enter to examine the alarm log. Resolve any alarms that may exist using *DEFINITY Enterprise Communications Server Maintenance for R8si*.

## Check Link Status

---

1. Type **display communication-interface links** and press Enter.
2. Type **status link *number*** and press Enter. Repeat this step for each link.

## Enable Scheduled Maintenance

---

1. Type **change system-parameters maintenance** and press Enter to enable the scheduled daily maintenance.
2. Check the time fields.

## Enable Customer Options and Alarm Origination to INADS

---

1. Get the DOSS order number of the upgrade from the project manager and ask the regional Customer Software Administration to complete the steps in the shaded box. See [“Where to Call for Technical Support” on page -xx](#) for telephone numbers.



### NOTE:

As part of the system registration process, the INADS Database Administrator enables Alarm Origination.

2. When administration is completed, log in as **craft** at the Login: prompt.



### "init" login administration:

1. Log in as **init**.
2. Type **change system-parameters customer-options** and press Enter to verify that the customer options are properly set.
3. Go to screen 6, QSIG Optional Features, and set the `Basic Call Setup` field to **y** if the customer was using Supplementary Services Protocol b or d on an ISDN-PRI trunk group before the upgrade.
4. Type **change system-parameters offer-options** and press Enter.
5. If the `Activate Offer` field is **n**, set it to **y** and press Tab. A warning message lets you know whether you need to save translations and reboot to make the change permanent.
6. Press Enter to effect the changes or Cancel if there were no changes.
7. Contact the requester when done.

### Save Translations

1. Type **save translation** and press Enter to copy upgraded translations in memory to the upgraded translation card, which takes about 10 minutes.

### Restore Announcements (if necessary)

1. Type **restore announcements** and press Enter to copy announcements from the upgraded translation flashcard to memory, which takes about 40 minutes.

### Power Up DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway.
2. On the main menu, select **Maintenance > Reset System > Reboot System**.

### Power Up DEFINITY AUDIX System

1. To power up the AUDIX assembly, refer to ["DEFINITY AUDIX Power Procedures" on page 1-26](#).

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## Return Replaced Equipment

1. Return the replaced equipment to Lucent Technologies according to the requirements outlined in the following books:  
*BCS/Material Logistics, MSL/Attended Stocking Locations*  
*Methods and Procedures for Basic Material Returns*
2. If the original translation card is not being used with the Release 8 software, retain it for up to 10 business days to verify that the customer is satisfied and that there is no need to reverse the upgrade.
3. After 10 days, return the translation card to Lucent Technologies.

## Upgrading R5si/R6si/R6 SR EPN to R8si/R8 SR EPN

# 4

This chapter provides the information necessary to upgrade the hardware and software from a DEFINITY ECS Release 5si or Release 6si system with a TN790/B processor to a Release 8si system. This includes the Survivable Remote EPN (SR EPN). You are replacing the following hardware:

- The TN790/B Processor with a new TN790B Processor, which contains the Release 8 software.
- The TN777B Network Control and TN778 Packet Control (if present) with the TN794/TN2400 Network Controller Interface Assembly
- TN772 Duplication Interfaces with the TN792 Duplication Interfaces for high or critical reliability systems.

The procedures step you through a software and hardware upgrade that can be done on either a standard reliability system or a high or critical reliability system.

For more help refer to the following books:

- *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*
- *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*

### NOTE:

Upgrading an SR EPN is similar to upgrading an R8si system. If you are upgrading an SR EPN:

1. Check the link status between the G3r PPN and the associated SR EPN. The link must be up and functioning before you can upgrade. If the system is in survive mode, resolve the alarms and return the link to service before proceeding with the upgrade.

## Read this First

---

### Service Interruption

The upgrade process requires a service interruption of about 15 minutes. Closely coordinate the service interruption with the customer and the local account team.

### Call Management System (CMS)

The CMS link is dropped and restarted during the upgrade. This causes CMS data to be lost. This data loss can be minimized if the upgrade is performed just after the last CMS measurement interval.

All measurement data is lost during the upgrade (including BCMS). If needed, the reports may be printed before the upgrade begins.

CMS could abort the processing of a call if a measured trunk that was part of the conference dropped off the call before the end of the call. Customers experiencing this symptom and who are running R3V4 CMS should update to r3v4ao.e or higher.

### Contact Network Technicians

Contact the technician for each public and private network before the upgrade begins. Otherwise, it is possible that network access trunk facilities will be busied out at the far end.

### Translation Card Compatibility

An upgrade from a G3V4 requires a Release 8 formatted translation card. A MIPS formatted translation card ships with each upgrade.

### Usable Circuit Packs

Every circuit pack used in the Release 8 system must conform to the minimum usable vintage requirements for that system. At a presale site inspection, the remediation process checks the vintages of existing circuit packs to be reused in the Release 8 system. Replace all unusable vintage circuit packs with current vintages.

Refer to *Technical Quarterly*, *Reference Guide for Circuit Pack Vintages*, *Change Notices*, and to the *Software Release Letter* for information about usable circuit pack vintages. For information about usable vintages of non-U.S. circuit packs, refer to the *ITAC Technical Alert* from your regional distributor.

## Software Upgrade

Although the translations upgrade automatically to Release 8, several features require special attention because of screen changes or potential naming conflicts in the update or upgrade procedure.

Between customer confirmation and the actual update or upgrade, check the screens to ensure the translations meet the customer's needs. After rebooting the system, enter the translations either locally or remotely. If done remotely, contact the Field Support Administration Center (FSAC) for the remote entry. For information to make the required changes, refer to:

- *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*

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

## Required Tools

This upgrade may require the following tools and other items:

- Wrist ground strap
- Static-proof or original circuit pack packaging for transporting circuit packs
- One copy of each of the following books:
  - *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*
  - *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*

## DC Isolator

Each peripheral connected to a DC-powered system by the asynchronous EIA RS-232 interface requires a 116A or 105C isolator. The isolator is inserted at the RS-232 interface between the peripheral and the interface connector to isolate ground between the system and external adjuncts.

## Antistatic Protection



### **CAUTION:**

*When handling circuit packs or any components of a DEFINITY ECS system, always wear an antistatic wrist ground strap. Connect the strap to an approved ground such as ground jack on the DEFINITY ECS system.*

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 Read this First

**Required Hardware**

The equipment in [Table 4-1](#) 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, or the number provided by your Lucent Technologies representative.

**Table 4-1. Required Hardware**

Equipment	Description	Quantity	
		Standard	High/Critical
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 <sup>1</sup>	2
847008463 or 847008851	Control Cabinet Label or Duplex Control Cabinet Label	1	2
407780501	TN790B Processor Circuit Pack (16 Mbyte)	1	2
848254942	Network Controller Interface Assembly (Combination of TN794 and TN2400 Circuit Packs)	1	2
103557450	TN792 Duplication Interface Circuit Pack	NA	2
848204434 or 107671182	14-in. Dup-Int Fiber Optic Cable (MCC) or 10-ft Dup-Int Fiber Optic Cable (SCC)	NA	1
848029278	Pass-thru Kit (SCC)	NA	1
106590953	Apparatus Blank	NA	2

1. A 4-Mbyte translation card is required for a system using recorded announcements. A 10-Mbyte card is required for systems with a DEFINITY Wireless Business System installed.

## Task Table

---

[Table 4-2](#) lists the high-level tasks to perform the upgrades. Refer to the appropriate page for instructions for each step.

The upgrade procedure is similar for both the standard and high or critical reliability system with a few exceptions. These exceptions are noted as you go through the steps.

**Table 4-2. Tasks to upgrade the software and hardware**

✓	Task Description	Page
	<a href="#">Check SPE</a>	<a href="#">4-6</a>
	<a href="#">Disable Scheduled Maintenance and Alarm Origination to INADS</a>	<a href="#">4-6</a>
	<a href="#">Disable TTI</a>	<a href="#">4-7</a>
	<a href="#">Check TTI Status</a>	<a href="#">4-7</a>
	<a href="#">Check Link Status</a>	<a href="#">4-7</a>
	<a href="#">Save Translations</a>	<a href="#">4-7</a>
	<a href="#">Remove ISDN Interface Links</a>	<a href="#">4-8</a>
	<a href="#">Save Announcements (if necessary)</a>	<a href="#">4-9</a>
	<a href="#">Verify Software Version</a>	<a href="#">4-10</a>
	<a href="#">Shut Down DEFINITY LAN Gateway System</a>	<a href="#">4-10</a>
	<a href="#">Shut Down DEFINITY AUDIX System</a>	<a href="#">4-10</a>
	<a href="#">Power Down the Control Cabinet</a>	<a href="#">4-11</a>
	<a href="#">Remove the Circuit Packs</a>	<a href="#">4-11</a>
	<a href="#">Install the Circuit Packs</a>	<a href="#">4-12</a>
	<a href="#">Power Up the System (Standard Reliability)</a>	<a href="#">4-15</a>
	<a href="#">Power Up the System (H/C Reliability)</a>	<a href="#">4-15</a>
	<a href="#">Affix the Label</a>	<a href="#">4-16</a>
	<a href="#">Administer the System</a>	<a href="#">4-16</a>
	<a href="#">Enable TTI</a>	<a href="#">4-20</a>
	<a href="#">Resolve Alarms</a>	<a href="#">4-20</a>
	<a href="#">Check Link Status</a>	<a href="#">4-20</a>
	<a href="#">Enable Scheduled Maintenance</a>	<a href="#">4-20</a>

---

*Continued on next page*

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Table 4-2. Tasks to upgrade the software and hardware

✓	Task Description	Page
	<a href="#">Enable Customer Options and Alarm Origination to INADS</a>	<a href="#">4-20</a>
	<a href="#">Save Translations</a>	<a href="#">4-21</a>
	<a href="#">Restore Announcements (if necessary)</a>	<a href="#">4-21</a>
	<a href="#">Power Up DEFINITY LAN Gateway System</a>	<a href="#">4-21</a>
	<a href="#">Power Up DEFINITY AUDIX System</a>	<a href="#">4-21</a>
	<a href="#">Return Replaced Equipment</a>	<a href="#">4-22</a>

## Upgrade the Software and Hardware

### Check SPE

Type **status system 1** and press Enter to check the health of the system.

### Disable Scheduled Maintenance and Alarm Origination to INADS

1. Type **change system-parameters maintenance** and press Enter to prevent scheduled daily maintenance from interfering with the update or upgrade.
2. If scheduled maintenance has begun, set the `Stop Time` field to 1 minute after the current time.

or

If scheduled maintenance has **not** begun, set the `Start Time` field to a time after the upgrade is completed. For example, if you start the upgrade at 8:00 p.m. and the upgrade takes 90 minutes, set the `Start Time` field to 21:30.



#### **CAUTION:**

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



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3. Type **neither** in the Alarm Origination to OSS Numbers field and press Enter.



**NOTE:**

For some software loads, set the Cleared Alarm Notification and Restart Notification fields to disable before pressing Enter.

## Disable TTI

---



**NOTE:**

Do this step only if the Terminal Translation Initialization (TTI) is disabled and you want it enabled.



**CAUTION:**

If you do not disable the TTI, the translations can be corrupted.

1. Type **change system-parameters features** and press Enter.
2. On the second screen, set the TTI Enable? field to **n** to de-activate the TTI feature.

## Check TTI Status

---

1. Type **status tti** and press Enter. Wait until the Percent Complete field shows **100%**.

## Check Link Status

---

This optional step is to make sure the settings are the same after the upgrade.

1. Type **display communication-interface links** and press Enter. Write down all enabled links.
2. Type **status link number** and press Enter for each enabled link.
3. Write down which links are in service.

## Save Translations

---

1. Type **save translation** and press Enter to write all translation information from memory to the original translation flashcard, which takes about 10 minutes.



**NOTE:**

When the save translations command is successful, the error code must be a zero; otherwise, the translations are not copied. If the translations were corrupted, the following error message displays when logging in:



**WARNING:**

Translation corruption detected; call Lucent Technologies distributor immediately.



**NOTE:**

The **save translation** command cannot function if the translation corruption message appears. Refer to [“Translation Corruption Detected” on page B-5](#) to clear the problem.



**NOTE:**

This translation card may or not be used in the remainder of the upgrade procedure, depending on the outcome of the Remove ISDN Interface Links step. This card is referred to as the original translation card.

## Remove ISDN Interface Links



**NOTE:**

ISDN-PRI resides on the new TN794 (NetCon) circuit pack in R7si and later releases. It is no longer on the processor interface circuit pack.

The translations are the same as those in pre-R7 when a packet control circuit pack was used and the `System Parameters Customer Options` field had the `PACCON` field set to **yes**. That field was removed with the R7 or later upgrade.

1. Type **display communication-interface links** and press Enter.
2. Write down all BX.25 links. This information is used in the [“Remove the Circuit Packs”](#) section.
3. Write down all ISDN links. If you found no ISDN links, go to [“Save Announcements \(if necessary\)”](#).
4. For each link where the `Prot` field is set to **ISDN**, record the information in all fields (in case you need to back out of the upgrade).
5. For each ISDN link, type **busyout link link number** and press Enter.
6. Type **change communication-interface links** and press Enter.
7. For each link where the `Prot` field is set to **ISDN**, set the `Enable` field to **n** and press Enter.
8. Type **display communication-interface processor-channels** and press Enter.
9. For each processor channel where the `Application` field is set to **ISDN**, record the information in all fields (in case you need to back out of the upgrade).

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10. Type **change communication-interface processor-channels** and press Enter.
11. For each processor channel where the `Application` field is set to **ISDN**, clear all fields and press Enter.
12. Type **change communication-interface links** and press Enter.
13. For *each* PI extension where the `Prot` field is set to **ISDN**:
  - a. Set the `Est Conn` field to **n**.
  - b. Set the `Prot` field to **bx25**.
  - c. Set the `DTE/DCE` field to **dte**.
  - d. Leave the `Identification` field blank and press Enter.
14. For *each* PI extension where the `Prot` field was set to **ISDN**:
  - a. Type **display data-module PI Ext number** and press Enter.
  - b. Record the information in each field (in case you need to back out of the upgrade).
  - c. Type **remove data-module PI Ext number** and press Enter.
15. Insert the new translation card, which is formatted for use with Release 5 or later.
16. Type **save translation** and press Enter. Save this card for rebooting after you install the new hardware.

**⇒ NOTE:**

In this case, the original translation card is not to be used for the remainder of the upgrade procedure. The original translation card is used only if you need to back out of the upgrade.

### Save Announcements (if necessary)

**⇒ NOTE:**

The TN750C Announcement circuit pack stores announcements in nonvolatile memory; saving the announcements is optional.

1. If the PPN contains a TN750/B Announcement circuit pack, type **display announcements** and press Enter.
2. If administered recorded announcements are listed, type **save announcements cabinet carrier slot** and press Enter. For example, `01D03`. This takes about 30 minutes.

**⇒ NOTE:**

For some software loads, type **save announcements from cabinet carrier slot**. Type **help** and press Enter for a list of correct commands.

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## Verify Software Version

---

If standard reliability:

1. Type **list configuration software-version** and press `Enter`. Under the `UPDATE FILE` column, note whether any patches have been applied.



### NOTE:

If you restore the system to the old software, you must download these patches onto the system.

Check `Translations Date` field to verify `SaveTranslations` was successful.

If high or critical reliability:

1. Type **list configuration software-version long** and press `Enter`.

## Shut Down DEFINITY LAN Gateway System

---



### WARNING:

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

1. Log onto the DEFINITY LAN Gateway.
2. On the main menu, select **Maintenance > Reset System > Shutdown**.

## Shut Down DEFINITY AUDIX System

---



### WARNING:

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

1. Shut down the AUDIX assembly and allow the disk to completely spin down. Refer to [“DEFINITY AUDIX Power Procedures” on page 1-26](#).

## Power Down the Control Cabinet

---



### CAUTION:

Powering down the control cabinet causes important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup request, and Do Not Disturb requests, to be lost.

1. Set the circuit breaker to OFF.



### NOTE:

On a Single-Carrier Cabinet, the breaker is on the back. On a Multicarrier Cabinet, the breaker is on the front.

## Remove the Circuit Packs

---



### NOTE:

More detailed information on removing and adding circuit packs is in [Chapter 6, "Adding or Removing Hardware"](#).



### NOTE:

If this is a duplicated system, remove the circuit packs in both carriers

1. Remove the translation card from the TN777 and set it aside for later use.
2. Remove the TN777/B Network Controller (NETCON) circuit pack and place it in antistatic packing material.
3. Remove the TN790 or old TN790B Processor Circuit pack and place it in antistatic packing material.
4. Remove the TN778 Packet Control (PACCON) circuit pack, if present, and place it in antistatic packing material.



### NOTE:

Do the following step only if no BX.25 links were administered and the customer does not plan to use the TN765 processor interface circuit pack(s) in the future.

5. Remove the TN765 Processor Interface circuit pack and place it in antistatic packing material.

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For high or critical reliability:

6. Remove the TN772 Duplication Interface circuit packs and place them in antistatic packing material.

 **NOTE:**

Leave the existing duplication cables connected to the backplane. The fiber optic cable connecting the new TN792 Duplication Interface circuit packs does not replace these cables.

## Install the Circuit Packs

 **NOTE:**

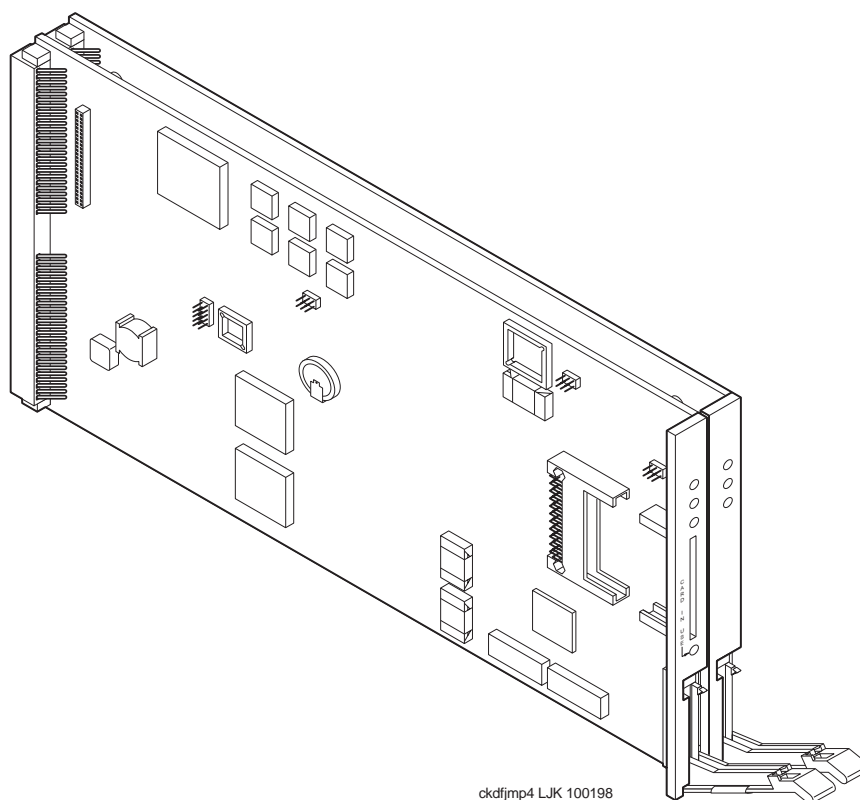
If this is a duplicated system, install the circuit packs in both carriers.

1. Insert the TN790B processor circuit pack into the slot labeled PROCR.

 **NOTE:**

To properly seat the circuit pack, push firmly on the front of the faceplate until the latches reach the bottom rail of the carrier. Then close the latches until they are fully engaged.

2. Insert the TN794/TN2400 assembly ([Figure 4-1](#)) into the NET CONT and PACCON slots.



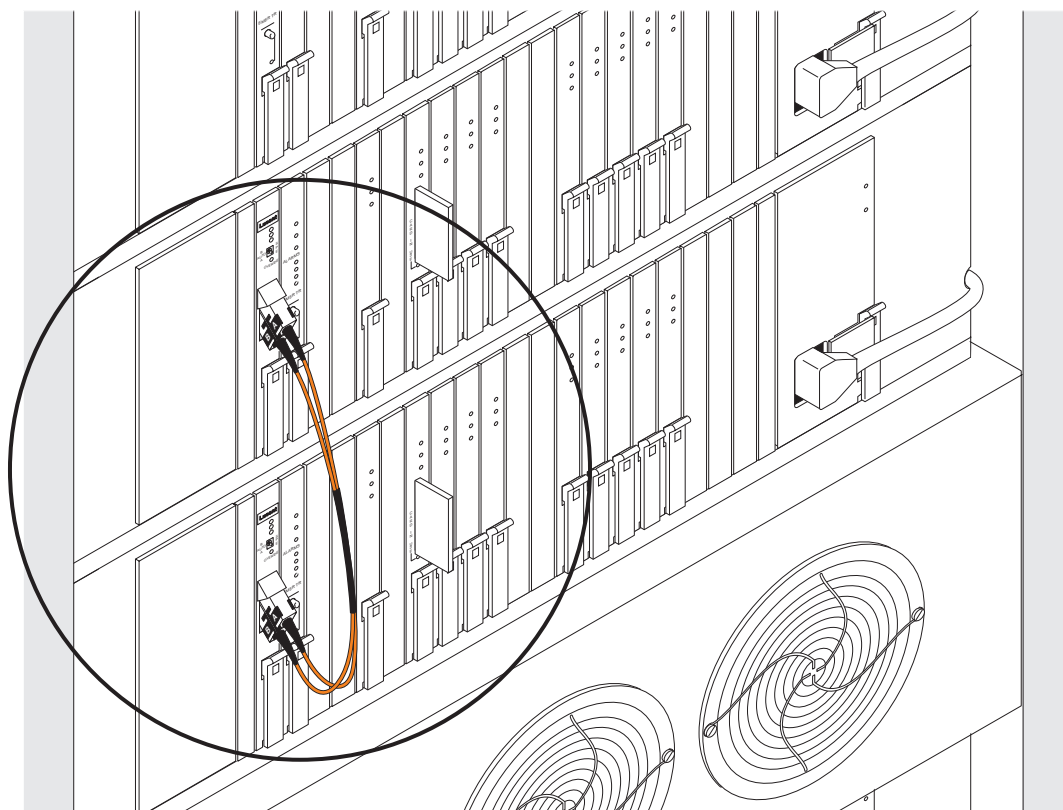
**Figure 4-1. TN794/TN2400 Network Controller Interface Assembly**

For high or critical reliability:

3. Insert the TN792 Duplication Interface circuit packs into the slots labeled DUPN INTFC.
4. If the R8si carrier is located in a Multicarrier Cabinet, attach the 14-in. fiber optic cable to the faceplates of the installed TN792 Duplication Interface circuit packs (see [Figure 4-2](#)).

or

If the R8si carrier is in a Single-Carrier Cabinet, then attach the 10-ft fiber optic cable to the faceplates of the installed TN792 Duplication Interface circuit packs using the fiber optic pass-thru kit.



fodf792 KLC 090399

**Figure 4-2. Fiber optic cable connecting the two TN792 duplication interface circuit packs (multicarrier cabinet only)**

5. Install apparatus blanks over any vacated slots.
6. Check the software load number on the TN790B Processor label. Insert the appropriate flashcard into the TN794/TN2400 assembly based on the following parameters:
  - If the load number is the Release 8 load number, insert the new or original translation card as directed in the Save Translation step and Remove ISDN Interface Links step.
  - If the load number is *not* the Release 8 load number, insert the orange-labeled software memory card.



## Power Up the System (Standard Reliability)

1. Set the cabinet circuit breaker to ON.



### NOTE:

If the system was rebooted with the software memory flashcard, switch flashcards when prompted. This takes about 3 minutes.

2. If applicable, remove the software memory flashcard and insert the new or original translation flashcard as directed in the Save Translation step and Remove ISDN Interface Links step.

## Power Up the System (H/C Reliability)

If powering up with translation cards inserted:

1. Verify that SPE select switches on the TN792 Duplication Interface circuit packs are on AUTO.
2. Set the cabinet circuit breaker to ON and wait for login prompt.

If powering up with software memory flashcard inserted:

1. Set the SPE select switches to the control carrier that has software memory flashcard inserted.
2. Set the cabinet circuit breaker to ON.



### NOTE:

Look for the "Card in Use" LED below the flashcard on the TN794 to go out. This takes about 3 minutes.

3. Remove software memory flashcard and insert the new or original translation flashcard into the same carrier as directed in the Save Translation step and Remove ISDN Interface Links step.
4. Insert the software memory flashcard into the other carrier.



### NOTE:

Wait for `login:` prompt. This takes about 3 minutes.

5. Power down the cabinet.
6. Set the SPE select switches to the control carrier with the software memory card inserted.

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7. Set the cabinet circuit breaker to ON

 NOTE:

Look for the “Card in Use” LED below the flashcard on the TN794 to go out. This takes about 3 minutes.

8. Remove software memory flashcard and insert the new or original translation flashcard into the same carrier as directed in the Save Translation step and Remove ISDN Interface Links step.

 NOTE:

Wait for `login:` prompt. This takes about 3 minutes.

9. Set the SPE select switches to AUTO.

## Affix the Label

1. Affix the new TN790B processor circuit pack position label (designation strip) to the front of the cabinet.
2. Affix the new TN794/TN2400 network controller interface assembly circuit pack position label (designation strip) to the front of the cabinet.

## Administer the System

1. Log in as **craft** at the `login:` prompt.
2. Check for the Translation Corruption Detected message before proceeding with the upgrade. If corruption is detected, refer to [“Translation Corruption Detected”](#) in [Appendix B, “Troubleshooting an Upgrade”](#) to correct the problem.



**CAUTION:**

*Do not continue with the upgrade process until the translations errors are corrected.*

3. Type **status system 1** and press Enter to check the SPE Alarms field and verify that the Tone Clock is active.

## Set Daylight Savings Rules

You can set up to 15 customized daylight savings time rules. A daylight savings time rule specifies the exact time when you want to transition to and from daylight savings time. It also specifies the increment at which to transition



**NOTE:**

The default daylight savings rule is **0**, no daylight savings.

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1. Type **change daylight-savings-rules** and press Enter.

```

DAYLIGHT SAVINGS RULES
Rule          Change Day          Month   Date   Time   Increment
0:   No Daylight Savings
1:   Start: first Sunday    on or after April  1  at 2:00   01:00
     Stop: first Sunday    on or after October 25 at 2:00
2:   Start: first _____ on or after _____ at ____:___
     Stop: first _____ on or after _____ at ____:___
3:   Start: first _____ on or after _____ at ____:___
     Stop: first _____ on or after _____ at ____:___
4:   Start: first _____ on or after _____ at ____:___
     Stop: first _____ on or after _____ at ____:___
5:   Start: first _____ on or after _____ at ____:___
     Stop: first _____ on or after _____ at ____:___
6:   Start: first _____ on or after _____ at ____:___
     Stop: first _____ on or after _____ at ____:___
7:   Start: first _____ on or after _____ at ____:___
     Stop: first _____ on or after _____ at ____:___
    
```

2. Type the appropriate start and stop information in the Change Day, Month, Date, Time, and Increment (for example, **1:00** equals one hour) fields for each rule.



**NOTE:**

You can change any rule except rule 0 (zero). You cannot delete a daylight savings rule if it is in use on either the Locations or Date and Time screens.

3. When done, press Enter.

## Set Date and Time

1. Type **set time** and press Enter to bring up the Date and Time screen.

```

DATE AND TIME
DATE
Day of the Week: Tuesday    Month: November
Day of the Month: 7        Year: 2000

TIME
Hour: 20   Minute: 30   Second: XX   Type: standard
Daylight Savings Rule: 1
    
```

Screen 4-1. Typical Date and Time Screen

2. Type the day in English (Sunday through Saturday) in the `Day of the Week :` field. See [Table 4-3](#) for English day names. When done, press `Tab` to move to next field.

**Table 4-3. English Day of the Week Names**

Day Number	Day Name
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday

3. Type the current month in English (January through December) in the `Month :` field. See [Table 4-4](#) for English month names. When done, press `Tab` to move to next field.

**Table 4-4. English Month Names**

Number	Name	Number	Name
1	January	7	July
2	February	8	August
3	March	9	September
4	April	10	October
5	May	11	November
6	June	12	December

4. Type the day of month (1 through 31) in the `Day of the Month :` field and press `Tab` to move to the next field.
5. Type the current year in the `Year :` field and press `TAB` to move to the next field.
6. Type the current hour for a 24-hour clock in the `Hour :` field and press `Tab` to move to the next field.
7. Type the current minute (0 through 59) in the `Minute :` field (seconds cannot be set). When done, press `Tab` to move to next field

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8. Type **standard** or **daylight savings** in the `Type` field, according to the current time in the local time zone. For example, if currently on standard time, type **standard**.
9. Type the rule number in the `Daylight Savings Rule` field.
10. When all the information is correct, press `Enter`.
11. Type **display time** and press `Enter` to verify date and time data.

## Set Additional Administration

For standard reliability:

1. Type **list configuration software-version** and press `Enter` to verify the system software version (in the `Memory Resident` field).

For high or critical reliability:

1. Type **list configuration software-version long** and press `Enter` to verify the system software version (in the `Memory Resident` field)

For all reliabilities:

2. Perform a sanity check on the system by executing the following commands to ensure the translations were read in properly:
  - a. **list station**
  - b. **list trunk-group**
  - c. **list hunt-group**

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

3. Notify the switch administrator that for any previous login names and passwords that still exist, the passwords expire in 24 hours. When changed, the new login names and passwords must conform to the following requirements:

 **NOTE:**

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

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

 **NOTE:**

You must have init login and password to change any login information or to add a login.

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## Enable TTI

---

### NOTE:

Do this step only if the TTI is disabled and you want it enabled.

1. Type **change system-parameters features** and press `Enter` to change the TTI field back to its value before the upgrade.

## Resolve Alarms

---

1. Type **display alarms** and press `Enter` to examine the alarm log. Resolve any alarms that may exist using *DEFINITY Enterprise Communications Server Maintenance for R8si*.

## Check Link Status

---

1. Type **display communication-interface links** and press `Enter`.
2. Type **status link number** and press `Enter`. Repeat this step for each link.

## Enable Scheduled Maintenance

---

1. Type **change system-parameters maintenance** and press `Enter` to enable the scheduled daily maintenance.
2. Check the time fields.

## Enable Customer Options and Alarm Origination to INADS

---

1. Get the DOSS order number of the upgrade from the project manager and ask the regional Customer Software Administration to complete the steps in the shaded box. See [“Where to Call for Technical Support” on page -xx](#) for telephone numbers.

### NOTE:

As part of the system registration process, the INADS Database Administrator enables Alarm Origination.

2. When administration is completed, log in as **craft** at the `Login:` prompt.

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### "init" login administration:

1. Log in as **init**.
2. Type **change system-parameters customer-options** and press Enter to verify that the customer options are properly set.
3. Go to screen 6, QSIG Optional Features, and set the `Basic Call Setup` field to **y** if the customer was using Supplementary Services Protocol b or d on an ISDN-PRI trunk group before the upgrade.
4. Type **change system-parameters offer-options** and press Enter.
5. If the `Activate Offer` field is **n**, set it to **y** and press Tab. A warning message lets you know whether you need to save translations and reboot to make the change permanent.
6. Press Enter to effect the changes or Cancel if there were no changes.
7. Contact the requester when done.

### Save Translations

1. Type **save translation** and press Enter to copy upgraded translations in memory to the upgraded translation card, which takes about 10 minutes.

### Restore Announcements (if necessary)

1. Type **restore announcements** and press Enter to copy announcements from the upgraded translation flashcard to memory, which takes about 40 minutes.

### Power Up DEFINITY LAN Gateway System

1. Log onto the DEFINITY LAN Gateway.
2. On the main menu, select **Maintenance > Reset System > Reboot System**.

### Power Up DEFINITY AUDIX System

1. To power up the AUDIX assembly, refer to ["DEFINITY AUDIX Power Procedures" on page 1-26](#).

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## Return Replaced Equipment

1. Return the replaced equipment to Lucent Technologies according to the requirements outlined in the following books:  
*BCS/Material Logistics, MSL/Attended Stocking Locations*  
*Methods and Procedures for Basic Material Returns*
2. If the original translation card is not being used with the Release 8 software, retain it for up to 10 business days to verify that the customer is satisfied and that there is no need to reverse the upgrade.
3. After 10 days, return the translation card to Lucent Technologies.



## Upgrading R7si to R8si

# 5

---

This chapter provides the information to upgrade from a DEFINITY ECS Release with 16 Mbytes of memory, to a DEFINITY ECS Release 8 as a software upgrade only.

*DEFINITY Enterprise Communications Server Release 8 Administration and Feature Description* lists DEFINITY ECS Release 8 features and functions and provides the commands, procedures, and screens to initialize and administer the system.

### **Read This First**

---

#### **Service Interruption**

The upgrade process requires a service interruption of about 10 minutes and must be closely coordinated with the customer and the local account team.

#### **Call Management System (CMS)**

The CMS link is dropped and restarted during the upgrade. This causes CMS data to be lost. This data loss can be minimized if the upgrade is performed just after the last CMS measurement interval.

All measurement data is lost during the upgrade (including BCMS). If needed, the reports may be printed before the upgrade begins.

CMS could abort the processing of a call if a measured trunk that was part of the conference dropped off the call before the end of the call. Customers experiencing this symptom and who are running R3V4 CMS should update to r3v4ao.e or higher.

## Contact Network Technicians

Contact the technician for each public and private network before the update or upgrade begins. Otherwise, it is possible that network access trunk facilities will be busied out at the far end.

## Translation Card Compatibility

Release 7 formatted translation cards are compatible with Release 8 systems and, therefore, can be reused. It is not necessary to obtain new Release 8 formatted translation cards.

## Usable Circuit Packs

Every circuit pack used in the Release 8 system must conform to the minimum usable vintage requirements for that system. At a presale site inspection, the remediation process checks the vintages of existing circuit packs to be reused in the Release 8 system. Replace all unusable vintage circuit packs with current vintages.

Refer to *Technical Quarterly, Reference Guide for Circuit Pack Vintages, Change Notices*, and to the *Software Release Letter* for information about usable circuit pack vintages. For information about usable vintages of non-U.S. circuit packs, refer to the ITAC Tech Alert from your regional distributor.

## Software Upgrade

Although the translations upgrade automatically to Release 8, several features require special attention because of screen changes or potential naming conflicts in the update or upgrade procedure.

Between customer confirmation and the actual update or upgrade, check the screens to ensure the translations meet the customer's needs. After rebooting the system, enter the translations either locally or remotely. If done remotely, Contact Field Support Administration Center (FSAC) for the remote entry. For information to make the required changes, refer to:

- *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide, 555-233-502*

No administration changes should be made during the upgrade procedure. There can be 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 upgrade process.

## Required Tools

This upgrade requires one copy of each of the following books:

- *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si 555-233-105*
- *DEFINITY Enterprise Communications Server Release 8 Administration and Feature Description*

## DC Isolator

Each peripheral connected to a DC-powered system by the asynchronous EIA RS-232 interface requires a 116A or 105C isolator. The isolator is inserted at the RS-232 interface between the peripheral and the interface connector to isolate ground between the system and external adjuncts.

## Antistatic Protection



### **CAUTION:**

*When handling circuit packs or any components of a DEFINITY ECS system, always wear an antistatic wrist ground strap. Connect the strap to an approved ground such as ground jack on the DEFINITY ECS system.*

## Required Hardware

Ensure that the following items are available before proceeding:

- Generic program card with the current software release running in the system
- Generic program card with the Release 8 software release (orange card)
- Original translation card on which the system translations are to be saved
- Software patch (if it exists) that is currently applied to the system (download this patch if a software backout is necessary)

## Task Table

---

[Table 5-1](#) provides the high-level tasks to perform the upgrades in this chapter. Refer to the appropriate page for instructions for each step

The upgrade procedure is similar for both the standard and high or critical reliability system with a few exceptions. These exceptions are noted as you go through the steps.

**Table 5-1. Tasks to upgrade the software**

✓	Task Description	Page
	<a href="#">Check SPE</a>	<a href="#">5-5</a>
	<a href="#">Resolve Alarms</a>	<a href="#">5-5</a>
	<a href="#">Disable Scheduled Maintenance and Alarm Origination to INADS</a>	<a href="#">5-5</a>
	<a href="#">Disable TTI</a>	<a href="#">5-6</a>
	<a href="#">Check Link Status</a>	<a href="#">5-6</a>
	<a href="#">Save Translations</a>	<a href="#">5-6</a>
	<a href="#">Save Announcements (if necessary)</a>	<a href="#">5-7</a>
	<a href="#">Resolve Alarms</a>	<a href="#">5-7</a>
	<a href="#">Verify Software Version</a>	<a href="#">5-7</a>
	<a href="#">Upgrade Software (Standard Reliability)</a>	<a href="#">5-7</a>
	<a href="#">Upgrade Software (H/C Reliability)</a>	<a href="#">5-8</a>
	<a href="#">Verify Both SPEs Are Running Release 8 (H/C Reliability)</a>	<a href="#">5-8</a>
	<a href="#">Administer the System</a>	<a href="#">5-9</a>
	<a href="#">Enable TTI</a>	<a href="#">5-12</a>
	<a href="#">Enable Scheduled Maintenance</a>	<a href="#">5-13</a>
	<a href="#">Enable Customer Options and Alarm Origination</a>	<a href="#">5-13</a>
	<a href="#">Resolve Alarms</a>	<a href="#">5-14</a>
	<a href="#">Check Link Status</a>	<a href="#">5-14</a>
	<a href="#">Resolve Alarms</a>	<a href="#">5-13</a>
	<a href="#">Restore Announcements (if necessary)</a>	<a href="#">5-14</a>
	<a href="#">Return Replaced Equipment</a>	<a href="#">5-14</a>

## Upgrade the Software

---

### Check SPE

---

Type **status system1** and press Enter to check the health of the system.

### Resolve Alarms

---

1. Type **display alarms** and press Enter to examine the alarm log. Resolve any alarms that may exist using *DEFINITY Enterprise Communications Server Maintenance for R8si*.

### Disable Scheduled Maintenance and Alarm Origination to INADS

---

1. Type **change system-parameters maintenance** and press Enter to prevent scheduled daily maintenance from interfering with the update or upgrade.
2. If scheduled maintenance has begun, set the `Stop Time` field to 1 minute after the current time.

or

If scheduled maintenance has **not** begun, set the `Start Time` field to a time after the upgrade is completed. For example, if you start the upgrade at 8:00 p.m. and the upgrade takes 90 minutes, set the `Start Time` field to 21:30.



**CAUTION:**

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

3. Type **neither** in the Alarm Origination to OSS Numbers field and press Enter.



**NOTE:**

For some software loads, set the Cleared Alarm Notification and Restart Notification fields to disable before pressing Enter.

## Disable TTI

---



**NOTE:**

Do this step only if the Terminal Translation Initialization (TTI) is enabled.



**CAUTION:**

*If you do not disable the TTI, the translations can be corrupted.*

1. Type **change system-parameters features** and press Enter.
2. On the second screen, set the TTI Enable? field to **n** to de-activate the TTI feature.

## Check Link Status

---

This optional step is to make sure the link status is the same after the upgrade.

1. Type **display communication-interface links** and press Enter. Write down all enabled links.
2. Type **status link number** and press Enter for each enabled link.
3. Write down which links are in service.

## Save Translations

---

1. Type **save translation** and press Enter to write all translations from memory to the original translation flashcard, which takes about 10 minutes.

When the save translations is successful, the error code must be a zero; otherwise, the translations are not copied. If the translations were corrupted, the following error message displays when logging in:



**WARNING:**

Translation corruption detected; call Lucent Technologies distributor immediately.



**NOTE:**

The **save translation** command cannot function if translations are corrupt. Refer to [“Translation Corruption Detected” on page B-5](#) to clear the problem.

## Save Announcements (if necessary)

---

### NOTE:

The TN750C Announcement circuit pack stores announcements in nonvolatile memory; saving the announcements to a flashcard is optional.

1. If the PPN contains a TN750/B Announcement circuit pack, type **display announcements** and press Enter.
2. If administered recorded announcements are listed, type **save announcements cabinet carrier slot** and press Enter. For example, 01D03. This takes about 30 minutes.

### NOTE:

For some software loads, type **save announcements from cabinet carrier slot**. Type **help** and press Enter for complete command syntax.

## Verify Software Version

---

1. Type **list configuration software-version** and press Enter. Under the UPDATE FILE column, note whether any patches have been applied.

### NOTE:

If the system must be restored to the old software, the patch must be downloaded onto the system.

## Resolve Alarms

---

1. Type **display alarms** and press Enter to examine the alarm log. Resolve any alarms that may exist using *DEFINITY Enterprise Communications Server Maintenance for R8si*.

## Upgrade Software (Standard Reliability)

---

### CAUTION:

*All calls are dropped—this is a service interruption.*

1. Insert the Release 8 generic program card (orange card) into the TN794.
2. Type **list configuration software-version** and press Enter to verify that the system is running the updated release.
3. Type **upgrade software** and press Enter. The system loads the Release 8 software.

5 Upgrading R7si to R8si  
*Upgrade the Software*

5-8

4. When prompted, replace the orange card with the original translation card. When the `login:` prompt appears, the software is loaded onto the TN790B processor board.

### Verify SPE Is Running Release 8 (Standard Reliability)

---

1. Log in as **craft** at the `login:` prompt.
2. Type **list configuration software-version long** and press Enter to verify that the system is running the updated release.

### Upgrade Software (H/C Reliability)

---



**CAUTION:**

*All calls are dropped—this is a service interruption.*

1. Replace the translation card in the standby SPE with the generic program (orange) flashcard.
2. Type **upgrade software** and press Enter. The system loads the Release 8 software.
3. When prompted, replace the generic program (orange) card with the original translation card; and replace the translation card in the active SPE with the generic program (orange) card.
4. When prompted, replace the generic program (orange) card with the original translation card. When the `login:` prompt appears, the software and translations are loaded onto the TN790B processor boards..

### Verify Both SPEs Are Running Release 8 (H/C Reliability)

---

1. Log in as **craft** at the `login:` prompt.
2. Type **list configuration software-version long** and press Enter to verify that the system is running the updated release on both SPEs.

If you cannot access the SPE:

3. Type **status system 1** to verify the standby SPE is in the standby mode.
4. If the system is not in the standby mode:
  - a. Type **busyout spe-standby** and press Enter.
  - b. Type **refresh spe-standby** and press Enter
  - c. Type **release spe-standby** and press Enter



- d. Type **status system 1** and press `Enter` to verify that the standby SPE is in the standby mode.



**NOTE:**

You may need to repeat this several times during the upgrade.

## Administer the System

---

1. Check for the `Translation Corruption Detected` message before proceeding with the upgrade. If corruption is detected, refer to [Translation Corruption Detected](#) in [Appendix B, "Troubleshooting an Upgrade"](#) to correct the problem.



**CAUTION:**

*Do not continue with the upgrade process until the translations errors are corrected.*

High or critical reliability only:

2. Type **status system 1** and press `Enter` to check the `SPE Alarms` field and verify that the `Tone Clock` is active.

## Set Daylight Savings Rules

You can set up to 15 customized daylight savings time rules. A daylight savings time rule specifies the exact time when you want to transition to and from daylight savings time. It also specifies the increment at which to transition



**NOTE:**

The default daylight savings rule is **0**, no daylight savings.

1. Type **change daylight-savings-rules** and press `Enter`.

```

                                DAYLIGHT SAVINGS RULES
Rule          Change Day          Month  Date  Time  Increment
0:  No Daylight Savings
1:  Start: first Sunday    on or after April  1  at 2:00    01:00
    Stop: first Sunday    on or after October 25 at 2:00
2:  Start: first _____ on or after _____ at ____:__
    Stop: first _____ on or after _____ at ____:__
3:  Start: first _____ on or after _____ at ____:__
    Stop: first _____ on or after _____ at ____:__
4:  Start: first _____ on or after _____ at ____:__
    Stop: first _____ on or after _____ at ____:__
5:  Start: first _____ on or after _____ at ____:__
    Stop: first _____ on or after _____ at ____:__
6:  Start: first _____ on or after _____ at ____:__
    Stop: first _____ on or after _____ at ____:__
7:  Start: first _____ on or after _____ at ____:__
    Stop: first _____ on or after _____ at ____:__
    
```

2. Type the appropriate start and stop information in the Change Day, Month, Date, Time, and Increment (for example, **1:00** equals one hour) fields for each rule.

**⇒ NOTE:**

You can change any rule except rule 0 (zero). You cannot delete a daylight savings rule if it is in use on either the Locations or Date and Time screens.

3. When done, press Enter.

### Set Date and Time

1. Type **set time** and press Enter to bring up the Date and Time screen.

```

                                DATE AND TIME
DATE
Day of the Week: Tuesday    Month: November
Day of the Month: 7        Year: 2000

TIME
Hour: 20    Minute: 30    Second: XX    Type: standard
Daylight Savings Rule: 1
    
```

Screen 5-1. Typical Date and Time Screen

2. Type the day in English (Sunday through Saturday) in the `Day of the Week :` field. See [Table 5-2](#) for English day names. When done, press `Tab` to move to next field.

**Table 5-2. English Day of the Week Names**

---

Day Number	Day Name
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday

---

3. Type the current month in English (January through December) in the `Month :` field. See [Table 5-3](#) for English month names. When done, press `Tab` to move to next field.

**Table 5-3. English Month Names**

---

Number	Name	Number	Name
1	January	7	July
2	February	8	August
3	March	9	September
4	April	10	October
5	May	11	November
6	June	12	December

---

4. Type the day of month (1 through 31) in the `Day of the Month :` field and press `Tab` to move to the next field.
5. Type the current year in the `Year :` field and press `TAB` to move to the next field.
6. Type the current hour for a 24-hour clock in the `Hour :` field and press `Tab` to move to the next field.
7. Type the current minute (0 through 59) in the `Minute :` field (seconds cannot be set). When done, press `Tab` to move to next field

8. Type **standard** or **daylight savings** in the `Type` field, according to the current time in the local time zone. For example, if currently on standard time, type **standard**.
9. Type the rule number in the `Daylight Savings Rule` field.
10. When all the information is correct, press `Enter`.
11. Type **display time** and press `Enter` to verify date and time data.

## Verify Additional Administration

For standard reliability:

1. Type **list configuration software-version** and press `Enter` to verify the system software version (in the `Memory Resident` field).

For high or critical reliability:

1. Type **list configuration software-version long** and press `Enter` to verify the system software version (in the `Memory Resident` field)

For all reliabilities:

2. Perform a sanity check on the system by executing the following commands to ensure the translations were read in properly:
  - a. **list station**
  - b. **list trunk-group**
  - c. **list hunt-group**

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

3. Notify the switch administrator that for any previous login names and passwords that still exist, the passwords expire in 24 hours. When changed, the new login names and passwords must conform to the following requirements:

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

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

## Enable TTI

---



### NOTE:

Do this step only if the TTI is disabled and you want it enabled.

1. Type **change system-parameters features** and press `Enter` to change the TTI field back to its value before the upgrade.

## Enable Scheduled Maintenance

1. Type **change system-parameters maintenance** and press Enter to enable the scheduled daily maintenance.
2. Check the `Start Time` and `Stop Time` fields.

## Enable Customer Options and Alarm Origination

1. Get the DOSS order number of the upgrade from the project manager and ask the regional Customer Software Administration to complete the steps in the shaded box. See ["Where to Call for Technical Support" on page -xx](#) for telephone numbers.

### NOTE:

As part of the system registration process, the INADS Database Administrator enables Alarm Origination.

2. When administration is completed, log in as **craft** at the `Login:` prompt.

### "init" login administration:

1. Log in as **init**.
2. Type **change system-parameters customer-options** and press Enter to verify that the customer options are properly set.
3. Go to screen 6, QSIG Optional Features, and set the `Basic Call Setup` field to **y** if the customer was using Supplementary Services Protocol b or d on an ISDN-PRI trunk group before the upgrade.
4. Type **change system-parameters offer-options** and press Enter.
5. If the `Activate Offer` field is **n**, set it to **y** and press Tab. A warning message lets you know whether you need to save translations and reboot to make the change permanent.
6. Press Enter to effect the changes or Cancel if there were no changes.
7. Contact the requester when done.

## Resolve Alarms

1. Type **display alarms** and press Enter to examine the alarm log. Resolve any alarms that may exist using *DEFINITY Enterprise Communications Server Maintenance for R8si*.

## Check Link Status

---

1. Type **display communication-interface links** and press Enter.
2. Type **status link *number*** and press Enter. Verify that the `service` status field is set to **in service**. Repeat this step for each link.

## Save Translations

---

1. Type **save translation** and press Enter to copy upgraded translations in memory to the translation card, which takes about 10 minutes.

## Restore Announcements (if necessary)

---

1. Type **restore announcements** and press Enter to copy announcements from the translation card to memory, which takes about 40 minutes.

## Return Replaced Equipment

---

1. Return replaced equipment to Lucent Technologies according to the requirements outlined in:  
*BCS/Material Logistics, MSL/Attended Stocking Locations*  
*Methods and Procedures for Basic Material Returns*
2. Return the old translation card to Lucent Technologies.

## Adding or Removing Hardware

# 6

---

This chapter details the information required to install some equipment associated with upgrading an existing system.

For more information about installing cabinets, refer to *DEFINITY Enterprise Communications Server Release 8 Installation and Test for Single-Carrier Cabinets*.

For more information about installing adjuncts and peripheral devices, refer to *DEFINITY Enterprise Communications Server Release 8 Installation for Adjuncts and Peripherals*.

### Add Circuit Packs

---

When installing additional features or equipment, it may be necessary to install additional circuit packs. This is a general procedure to use when adding features or equipment that require adding circuit packs.

1. Log onto the system and answer **y** to the *Suppress Alarm Origination* question during login.
2. Install the circuit pack into the carrier.
3. Log off the system after the addition (and any required administration) is complete.

For information about administering circuit packs and other equipment, refer to *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*.

## List of Circuit Packs

[Table 6-1](#) lists the circuit packs sorted by apparatus code, including circuit packs used in non-United States installations.

**Table 6-1. 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 Unit	Power
676B/C	DC Power Supply	Power
982LS	Current Limiter	Power
CFY1B	Current Limiter	Power
CPP1	Memory Expansion	Control
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
J58890M1 TN801)	CallVisor ASAI/CallVisor PC/LAN over the DEFINITY LAN Gateway R2	Port Assembly
TN417	Auxiliary Trunk	Port
TN419B	Tone-Clock	Control
TN420B/C	Tone Detector	Service
TN429B/C/D	Direct Inward/Outward Dialing (DIOD) Trunk	Port
TN433	Speech Synthesizer	Service
TN436B	Direct Inward Dialing Trunk	Port
TN437	Tie Trunk - Australia	Port
TN438B	Central Office Trunk	Port
TN439	Tie Trunk	Port
TN447	Central Office Trunk	Port
TN457	Speech Synthesizer	Service

*Continued on next page*



Table 6-1. Circuit Packs and Circuit Modules — Continued

Apparatus Code	Name	Type
TN458	Tie Trunk - U.K.	Port
TN459B	Direct Inward Dialing Trunk	Port
TN464C/D/E/F	DS1 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 - Italy	Port
TN553	Packet Data Line	Port
TN556B/C/D	ISDN-BRI 4-Wire S/T-NT Interface	Port
TN570/B/C	Expansion Interface	Port
TN722B	DS1 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
TN747/B	Central Office Trunk	Port
TN748/B/C/D	Tone Detector	Service
TN750/B/C	Announcement	Service
TN753/B	Direct Inward Dialing Trunk	Port
TN754/B/C	Digital Line 4-Wire DCP	Port
TN755/B	Neon Power Unit	Power
TN758	Pooled Modem	Port
TN760B/C/D/E	Tie Trunk	Port
TN762/B	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
TN771/D	Maintenance/Test	Service

*Continued on next page*

Table 6-1. Circuit Packs and Circuit Modules — *Continued*

Apparatus Code	Name	Type
TN773	Processor	Control
TN775/B/C	Maintenance	Service
TN776	Expansion Interface	Port
TN780	Tone-Clock	Control
TN786/B	Processor	Control
TN787F/G/H/J/K	Multimedia Interface	Service
TN788B	Multimedia Voice Conditioner	Service
TN789	Radio Controller	Control
TN790/B	Processor	Control
TN792	Duplication Interface (DUPINT)	Control
TN793	Analog Line (24-port)	Port
TN794	Network Control/Packet Interface	Control
TN794/TN2400	Network Control Interface Assembly (combination of the TN794 and TN2400 circuit packs)	Control
TN796B	Processor	Control
TN797	Analog CO Trunk and Line Combo	Port
TN799B	Control-LAN (C-LAN)	Port
TN802B	IP Interface Assembly	Port
TNPRI/BRI	PRI to BRI Converter	Port
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 - Hungary, Italy	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

*Continued on next page*

Table 6-1. Circuit Packs and Circuit Modules — *Continued*

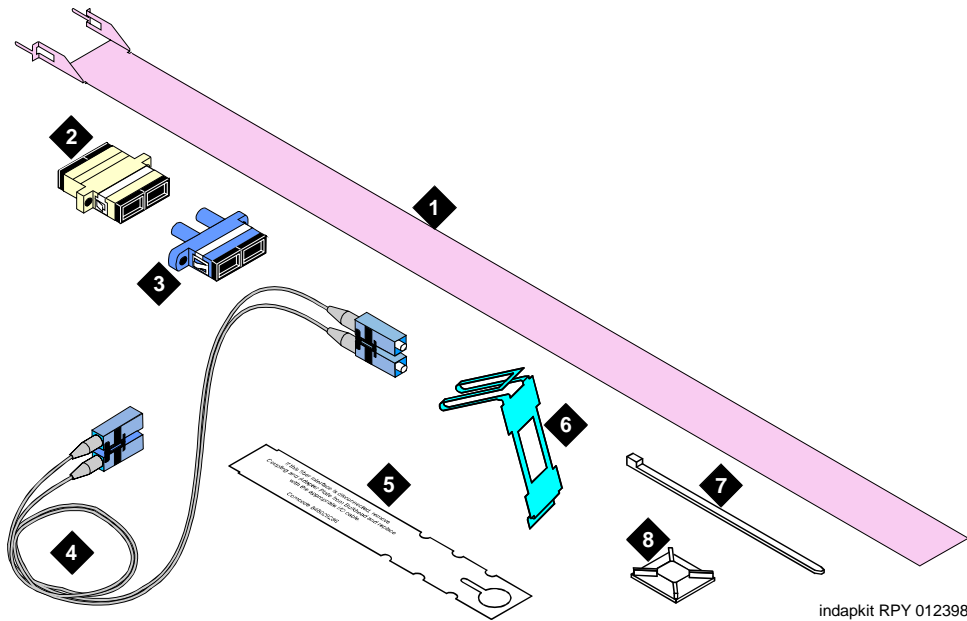
Apparatus Code	Name	Type
TN2202	Ring Generator	Power
TN2224/B	Digital Line, 24-Port, 2-Wire DCP	Port
TN2305	ATM Interface (Multimode)	Port
TN2306	ATM Interface (Single Mode)	Port
TN2313	DS1 Interface	Port
WP-91153	AC Power Supply (Single-Carrier Cabinet)	Power

## Installing Fiber Optic Cable Pass-Thru Kit (SCC)

This section details the installation of the DEFINITY fiber optic pass-thru kit for Single-Carrier Cabinets (SCC) only. This kit (comcode 848029278) provides the equipment necessary to install the fiber optic connectors and associated cabling.

### Unpack and Inspect

1. Verify the equipment received. See [Figure 6-1](#). Actual equipment may vary in appearance and may ship in separate packages.
2. See [Table 6-2](#) for a list of part comcodes.



**Figure Notes**

- |                              |                                       |
|------------------------------|---------------------------------------|
| 1. Pass-thru Tool            | 5. Fiber Optic Cable Disconnect Label |
| 2. SC-SC Fiber Optic Adapter | 6. I/O Connector Adapter Bracket      |
| 3. ST-SC Fiber Optic Adapter | 7. Cable Tie                          |
| 4. Fiber Optic Cable         | 8. Cable Tie Mount                    |

**Figure 6-1. Fiber Pass-Thru Kit Equipment**

Table 6-2. List of Parts Comcodes

Quantity	Description	Comcode
1	Pass-thru Tool	847978715
1	Beige SC-SC Fiber Optic Adapter (multimode)	107118903
1	Beige ST-SC Fiber Optic Adapter (multimode)	107087967
1	Ten-foot (3 m) Fiber Optic Cable (single-mode)	107122640
1	I/O Connector Adapter Plate	847978673
1	Fiber Optic Cable Disconnect Label	848029286
10	Cable Ties	407814672
6	Cable Tie Mounts	403053150

## LASER Product

### CLASS 1 LASER PRODUCT IEC 825 1993

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:

- Maximum Power Output: -5dBm
- Wavelength: 1310 nm
- Mode Field Diameter: 8.8  $\mu$ m

#### CAUTION:

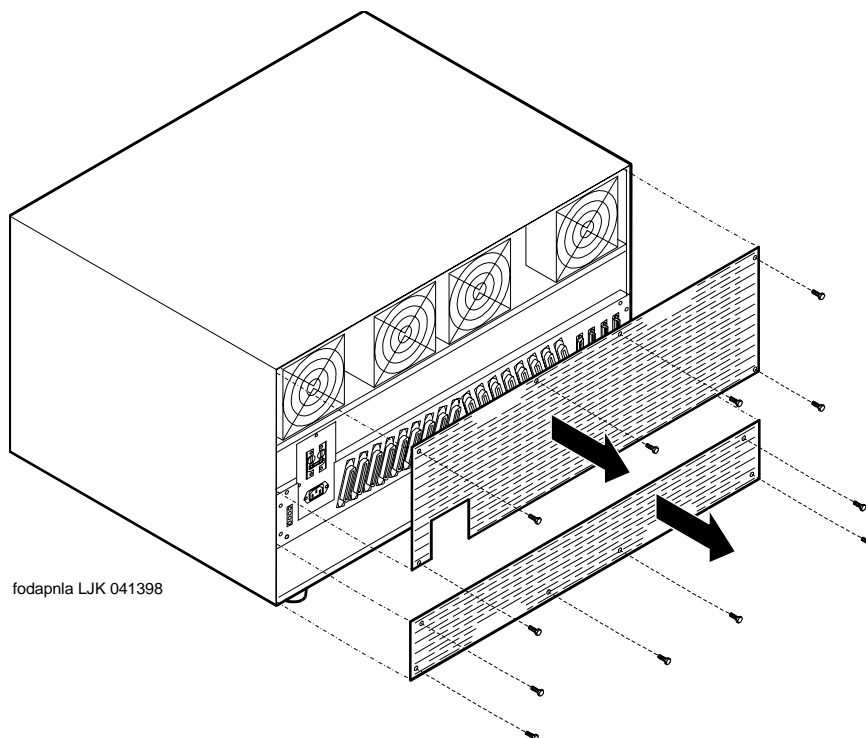
*Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.*

Contact your Lucent Technologies representative for more information.

## Cabinet Preparation

---

1. Remove the 2 perforated metal panels from the rear of the cabinet. See [Figure 6-2](#).



---

**Figure 6-2. Remove the Rear Panels**

2. Remove the front door.



**NOTE:**

Administration may be required before removing the circuit pack in the following step.

3. Determine which slot (1 or 2) will contain the new fiber optic circuit pack. Remove the circuit pack or the blanking plate from this slot.



**NOTE:**

If a circuit pack is removed from the required slot, it must be installed into a different slot in the cabinet. All translations associated with this circuit pack must also be moved.

6 Adding or Removing Hardware

Installing Fiber Optic Cable Pass-Thru Kit (SCC)

6-9

4. Remove the circuit pack or the blanking plate from the slot next to the slot determined in step 3. Two consecutive open slots are required to install the fiber optic adapter.

⇒ NOTE:

If a circuit pack was removed in step 4, it will be replaced into the same slot, later in this section.

5. From the rear, remove the I/O cable connector plate associated with the slot that will contain the new fiber optic circuit pack.
6. Using a supplied cable tie, secure the removed I/O connector plate to the back of the cabinet or to nearby cabling. This will keep it from moving loosely inside the cabinet.
7. From the rear, remove the I/O cable connector associated with the slot that will contain the new fiber optic circuit pack. See [Figure 6-3](#).

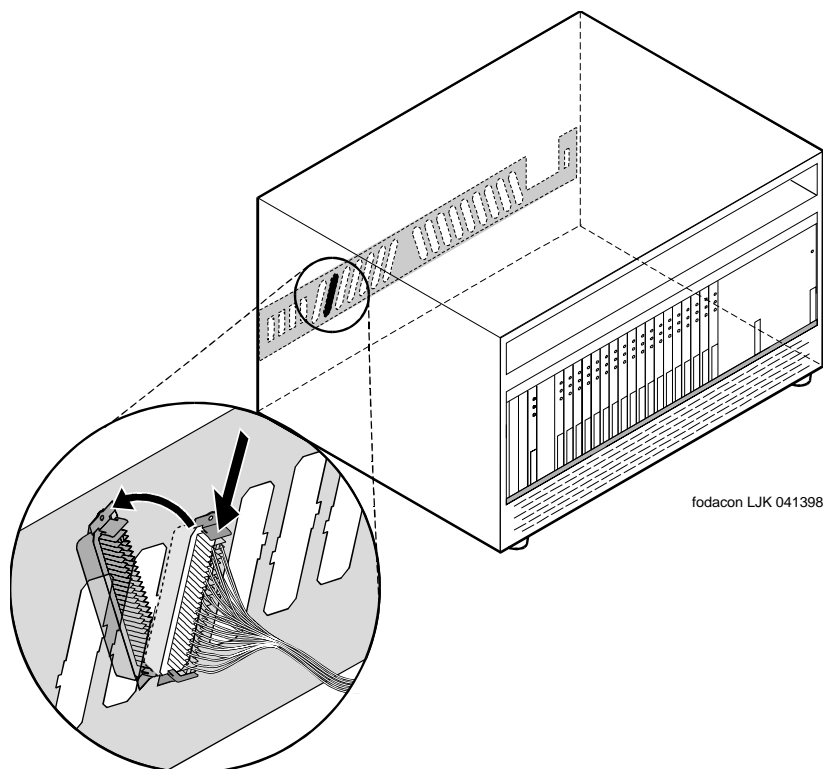
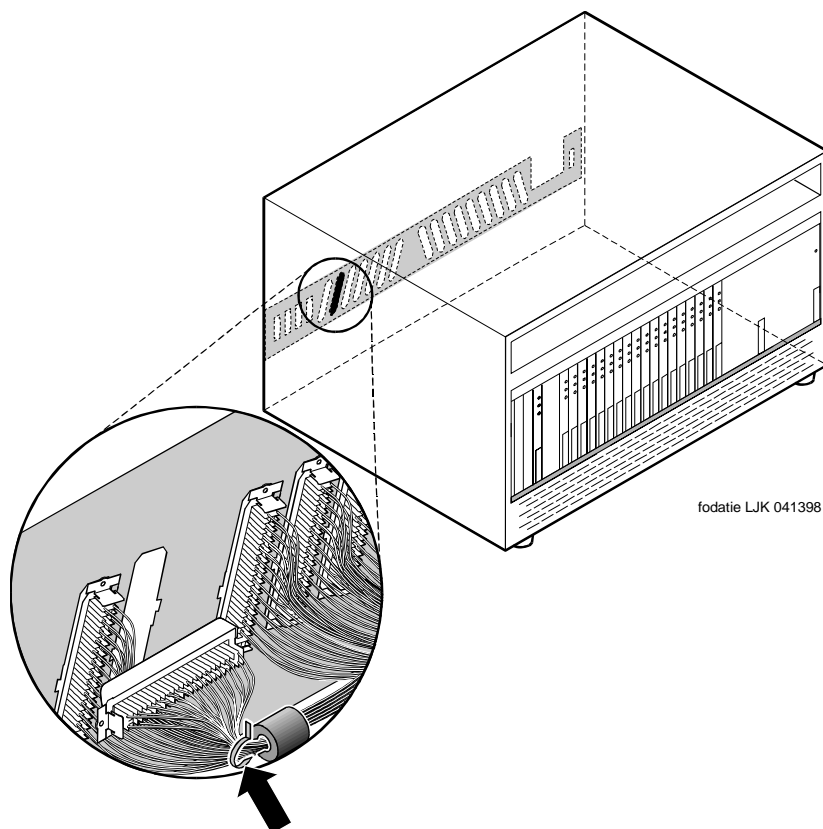


Figure 6-3. Remove the I/O Cable Connector

- Using a supplied cable tie, secure the removed I/O connector to nearby cabling. See [Figure 6-4](#).



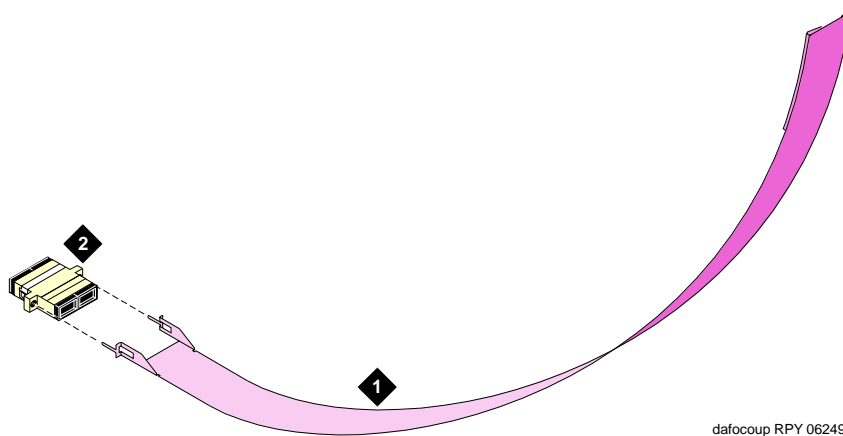
---

Figure 6-4. Secure the I/O Cable Connector



## Install the Pass-thru Kit

---



### Figure Notes

1. Pass-thru Tool
2. Beige SC-SC Fiber Optic Adapter

---

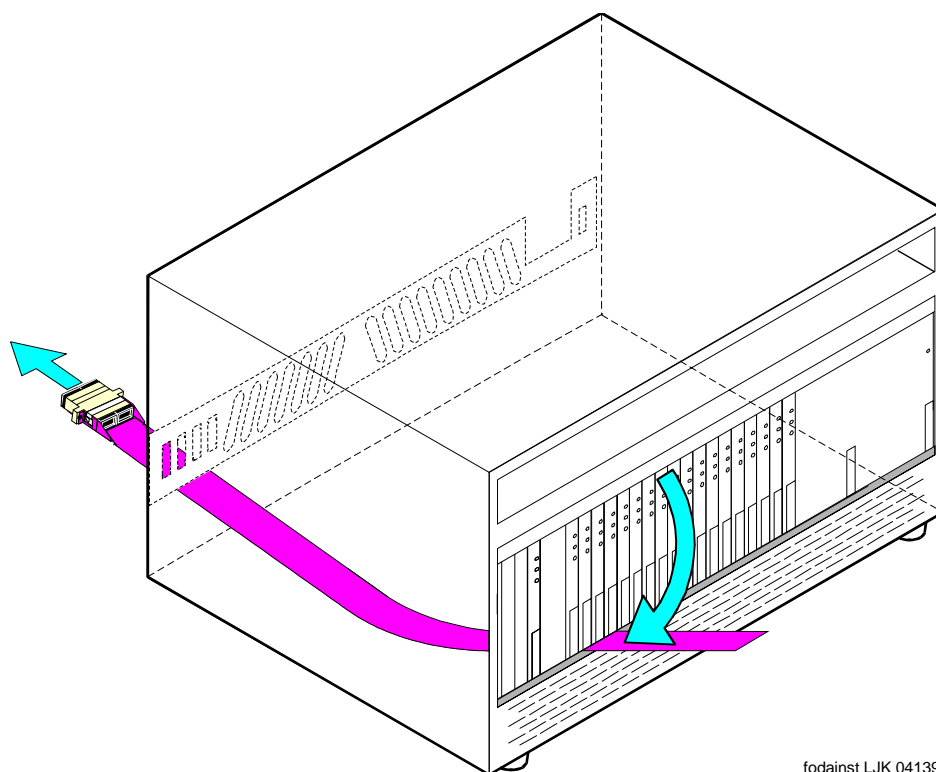
Figure 6-5. Fiber Optic Adapter and Pass-Thru Tool

1. Snap the beige SC-SC fiber optic adapter onto the pass-thru tool. See [Figure 6-5](#). Use the beige adapter even if single-mode fiber is being installed. The beige adapter is better suited for cable routing in the next steps.



#### NOTE:

If single-mode fiber is being installed, the beige adapter will be replaced with a blue adapter, later in this section.



fodainst LJK 041398

**Figure 6-6. Insert the Pass-thru Tool**

1. From the front of the cabinet, insert the pass-thru tool into the opening between the bottom of the circuit packs and the circuit pack label. See [Figure 6-6](#).
2. Slide the tool to the rear of the cabinet.

**CAUTION:**

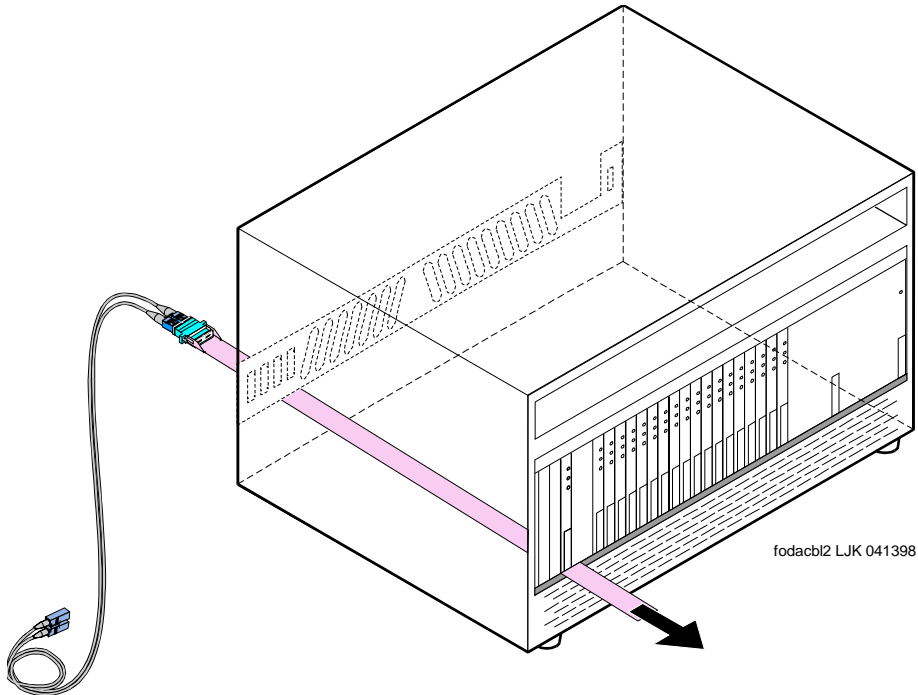
*Avoid bending fiber optic cables to a radius smaller than 1.5 inches (3.8 cm), to prevent mechanical stress on the cables.*

**CAUTION:**

*During the actual installation of fiber optic components, use either all beige or all blue adapters. Beige denotes multimode fiber and blue denotes single-mode fiber. Do not mix beige with blue.*

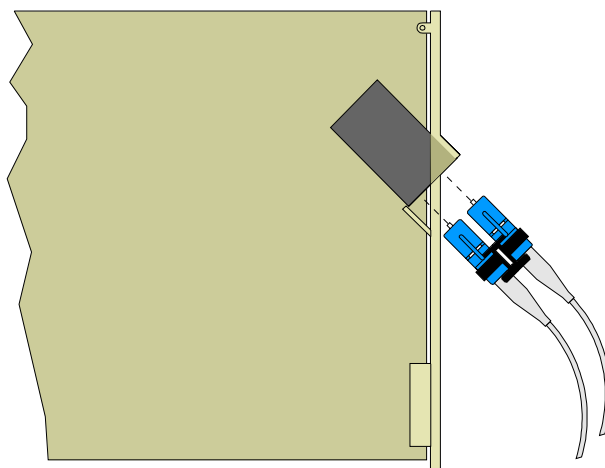
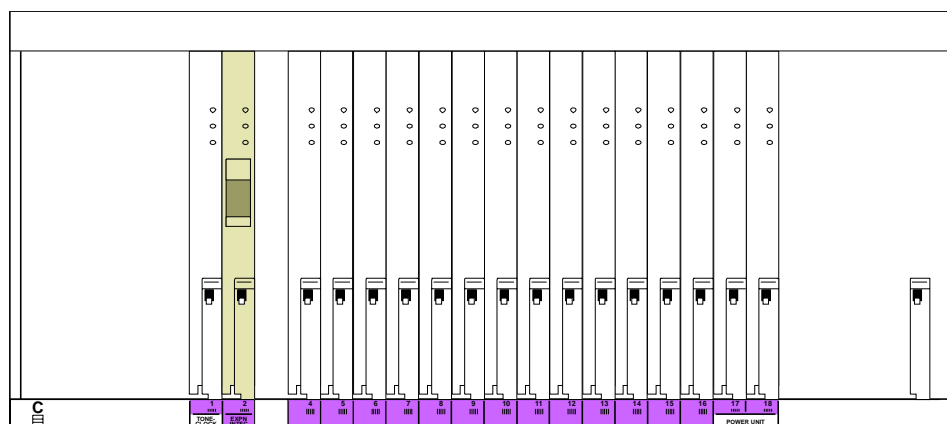
3. Attach the supplied fiber optic cable to the adapter.

4. Pull the tool (with adapter and cable attached) out through the front of the cabinet. See [Figure 6-7](#).



**Figure 6-7. Fiber Optic Cable and Adapter**

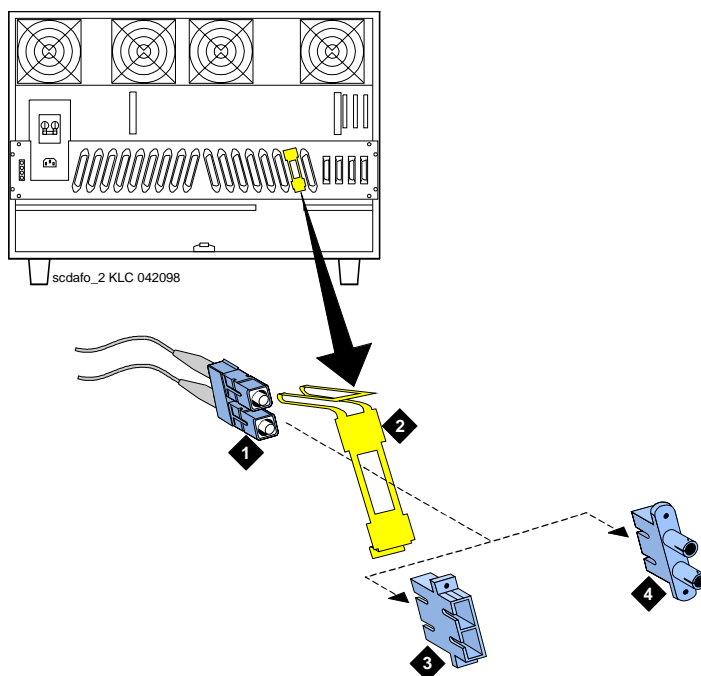
5. Install the new circuit pack.
6. Connect the fiber cable to the angled connector on the front of the new circuit pack. See [Figure 6-8](#).



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Figure 6-8. Connect Fiber Cable to Circuit Pack

7. Route the fiber optic cable through the opening vacated by the I/O cable connector plate.
8. If necessary, remove the beige fiber adapter from the tool and plug the fiber optic cable into the SC-SC (single-mode) or SC-ST (multimode) adapter. See [Figure 6-9](#).



**Figure Notes:**

- |                                  |                  |
|----------------------------------|------------------|
| 1. Fiber cable                   | 3. SC-SC adapter |
| 2. I/O connector adapter bracket | 4. SC-ST adapter |

**Figure 6-9. Bracket Attachments**

9. From the front of the I/O connector adapter bracket (with fiber cable), snap the adapter into the supplied I/O connector adapter bracket.
10. Snap the I/O connector adapter bracket into the I/O connector opening.
11. Attach the outside fiber plant to the I/O connector on the rear of the cabinet.
12. Wrap the cable disconnect label around the fiber optic cable. See [Figure 6-10](#).

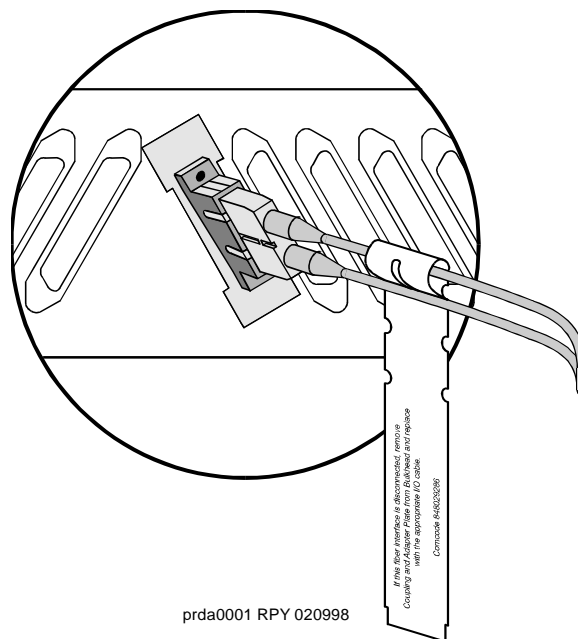
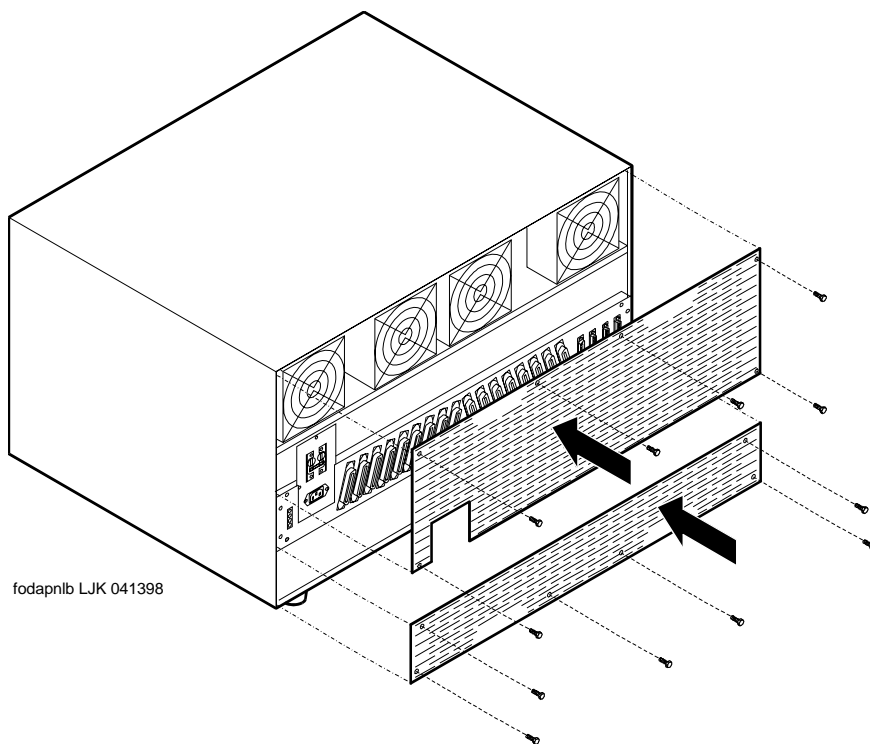


Figure 6-10. Cable Disconnect Label

**⚠ CAUTION:**

*Avoid bending fiber optic cables to a radius smaller than 1.5 inches (3.8 cm), to prevent mechanical stress on the cables. Plan the use of cable ties to avoid crimping the cable or creating a fixed stress point where, at a later time, movement of the cable causes it to exceed the minimum bend radius.*

13. If a circuit pack was removed to access 2 open slots (from [“Cabinet Preparation” on page 6-8](#)), replace the circuit pack into its original slot.
14. Replace the 2 perforated metal panels onto the rear of the cabinet. See [Figure 6-11](#).



**Figure 6-11. Install the Rear Panels**

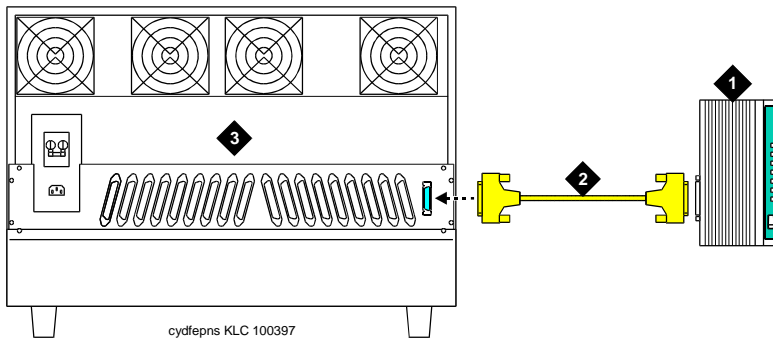
15. Replace the front cover panel.
16. Discard the pass-thru tool.

### **Test the Installation**

1. Log into the management terminal.
2. Administer the system by referring to the ATM section.
3. Type **list configuration all** and press Enter to determine if the new circuit pack appears in the correct slot and that there are no circuit pack conflicts.

## Adding External Modem to EPN

### U.S. Robotics Model 839 External Modem



#### Figure Notes:

1. U.S. Robotics External Modem
2. RS-232 Cable
3. Expansion Port Network

#### Figure 6-12. Connect External Modem to EPN

1. Connect an RS-232 cable to the modem. See [Figure 6-12](#).



#### NOTE:

The following steps refer to a PC or laptop with Windows 95 or Windows NT 4.0. Use the Hyperterminal (terminal emulation) application.

2. Connect the opposite end of the RS-232 cable to a PC.
3. Set the PC to full duplex mode.
4. Type **AT&N6** to set the baud rate to 9600.



#### NOTE:

The modem connects at 9600 baud but throughput is at 1200 baud.

5. Type **AT&W0** to save the setting into non-volatile RAM.
6. Set Switch 5 to the OFF (up) position to disable auto answer.
7. Disconnect the RS-232 cable from the PC and connect it to the TERM connector on the rear of the system cabinet.



## Add CO, FX, WATS, and PCOL

---

### Requirements

---

Each Central Office (CO), Foreign Exchange (FX), Personal Central Office Line (PCOL), or Wide Area Telecommunications Service (WATS) trunk connects to 1 port of either an 8-port TN747B or TN797 or to 1 of several CO trunk circuit packs.

### Installation

---

1. Determine the port assignment of the trunk from the Trunk Group form.

<b>EXAMPLE:</b>	3	A	07	01
	Cabinet (Port Network)	Carrier	Slot Number	Port Number

2. Install a TN747B or a CO Trunk circuit pack in the assigned carrier slot (if an additional circuit pack is required).
3. Administer the forms listed under CO, FX, WATS, or PCOL Trunk Group in *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*.

## Add DID Trunks

---

### Requirements

---

Each Direct Inward Dial (DID) trunk connects to 1 port DID Trunk circuit pack or to 1 port of an assortment of DID trunk circuit packs.

### Installation

---

1. Determine the port assignment of the trunk from the Trunk Group form.

<b>EXAMPLE:</b>	3	A	07	01
	Cabinet (Port Network)	Carrier	Slot Number	Port Number

2. Install a 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 8 Administrator’s Guide*.

## Add Tie Trunks

---

### Requirements

---

Each tie trunk connects to 1 port of a 4-port tie trunk circuit pack or to an assortment of international tie trunk circuit packs.

### Installation

---

1. Determine the port assignment of the trunk from the trunk group screen.

<b>EXAMPLE:</b>	3	A	07	01
	Cabinet (Port Network)	Carrier	Slot Number	Port Number

2. Install the tie trunk 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), tie trunk circuit packs provide signaling capabilities beyond those specified by the industry-wide E&M standard. Use [Figure 6-13](#) and [Table 6-3](#) to choose the preferred signaling format, set switches on the circuit pack, and administer the port.
4. Administer forms listed under “Tie Trunk Group” in the *DEFINITY Enterprise Communications Server Release 8 Administrator’s Guide*.

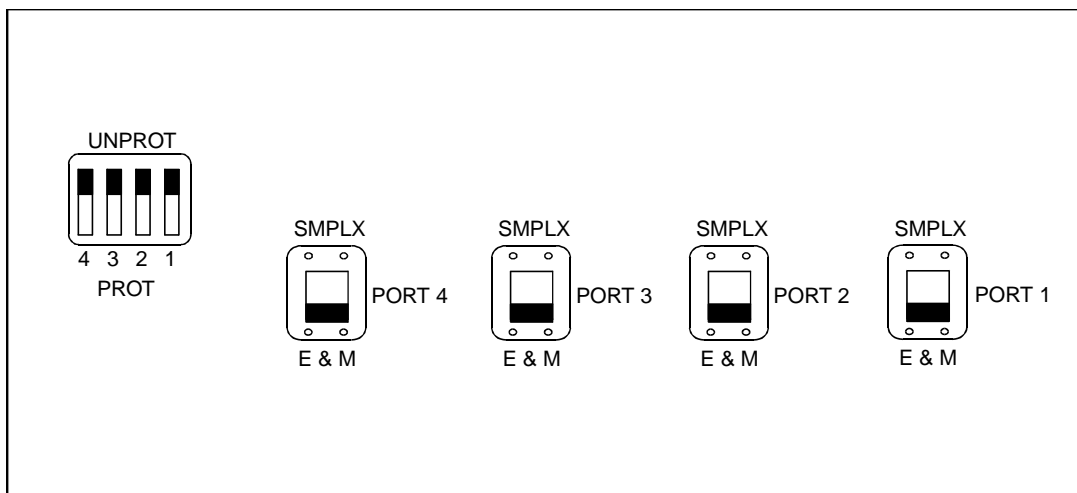


Figure 6-13. Tie Trunk Circuit Packs (Component Side)

Table 6-3. Tie Trunk Option-Switch Settings and Administration

Installation Situation		Preferred Signaling Format		E&M/SMPLX Switch	Prot/Unprot Switch	Administered Port
Circumstance	To	System	Far-End			
Collocated	DEFINITY	E&M Type 1 Compatible	E&M Type 1 Standard	E&M	Unprotected	Type 1 Compatible
Inter-Building	DEFINITY	Protected Type 1 Compatible	Protected Type 1 Standard Plus Protection Unit	E&M	Protected	Type 1 Compatible
Collocated	Net Integrated	E&M Type 1  Standard	Any PBX	E&M	Unprotected	Type 1

## Add DS1 Tie and OPS

The TN722B DS1 Tie Trunk and TN767B (or later) DS1 Interface circuit packs provide connections to a 1.544-Mbps DS1 facility (T1) as 24 independent 64-kbps trunks.

The TN722B DS1 Tie Trunk, and TN464C (or later) DS1 Interface circuit packs provide connections to a 2.048-Mbps DS1 facility (E1) as 32 independent 64-kbps trunks.

## Service Interruption

---

1. Since the addition of DS1 tie-trunk service may require a service interruption, notify the customer in advance as to when the addition will occur.
2. For information about administering DS1 Tie Trunks, refer to *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*.

## Add Speech Synthesis

---

The Speech Synthesizer circuit pack is required when the Voice Message Retrieval, Automatic Wakeup, or Do Not Disturb features are activated. The circuit pack does not require administration.

1. Determine the port assignment of the Speech Synthesizer circuit pack being added.
2. Install the Speech Synthesizer circuit pack in the designated carrier slot.

## Add Code Calling Access

---

The tones for the Code Calling feature are generated by the Tone-Clock circuit packs in the port networks.

1. Install an Auxiliary Trunk circuit pack or a Speech Synthesizer circuit pack and connect for Loudspeaker Paging. The Code Calling Access feature shares the same ports as Loudspeaker Paging. An Auxiliary Trunk circuit pack provides 4 ports for Loudspeaker Paging and Code Calling Access.
2. Administer the form listed under "Code Calling Access" in *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*.

## Add Pooled Modem

---

Modem pooling supports two types of conversion resources: integrated and combined.

An integrated conversion requires a Pooled Modem circuit pack for each 2 conversion resources provided.

A combined conversion requires a port of a TN745B or TN2136 Digital Line circuit pack and a port of either an 8-port TN742, TN769, a 16-port TN746B, or a 24-port TN793/B, TN2793/B Analog Line circuit pack for each conversion resource provided.

The pooled modem requires a Lucent WP90110 L7 power supply. Although integrated conversion can use either the L5 or L7, the combined only works with an L7.

 **CAUTION:**

*The L5 and L7 power supplies look identical. Check the label to be sure you have the L7 before installing.*

1. Determine the port assignment of the circuit packs to be added (if required).
2. Install the appropriate circuit packs in assigned carrier slot (if required).
3. For Paradyne 3800 series modems:
  - a. Type **AT&F&D2&S4\D3S2=128x7V2S7=60S85=1** and press Enter.
  - b. Type **ATY0S10=100S78=2M0E0\N1&W** and press Enter.
4. For other types of modems, refer to the vendor's documentation.

### Settings for Modem Connected to Data Module

1. Type **add data-module next** and press Enter.
2. Type **pdm** in the `Type` field.
3. Type **x** in the `Port` field.
4. Type **dte** in the `Connected to` field and press Enter.
5. Type **add station next** and press Enter.
6. Type **2500** in the `Type` field.
7. Type **x** in the `Port` field.
8. Type **n** in the `Tests` field and press Enter.
9. Type **add modem-pool next** and press Enter.
10. Type **combined** in the `Group Type` field.
11. Type **5** in the `Hold Time (min)` field.
12. Type **two-way** in the `Direction` field.
13. Type **9600** in the `Speed` field.
14. Type **Full** in the `Duplex` field.
15. Type **async** in the `Synchronization` field.
16. Type the port pair assignments in the `Analog` and `Digital` fields and press Enter.

## Settings for Modem Connected to the Data Terminal Equipment (DTE)

---

1. Type **add station next** and press Enter.
2. Type **2500** in the `Type` field.
3. Type the port assignment in the `Port` field and press Enter.

## Add Multiple Integrated Recorded Announcement

---

TN750C circuit packs are required if the system has multiple announcement circuit packs. Up to 5 TN750Cs are allowed in a Release 8.

The announcements from a TN750 or TN750B can be copied to a TN750C.

### CAUTION:

*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. Install the TN750C circuit pack into any port or service (TDM) slot.

### NOTE:

Only 1 TN750 or TN750B can reside in the system with a TN750C. The TN750C need not reside in a control carrier for extra power holdover.

## TN750C Announcement Circuit Pack

The TN750C circuit pack contains on-board flash memory that provides internal backup of announcements. Thus, the TN750C circuit pack does not need the save and restore processes.

The TN750C circuit pack can replace a TN750 or TN750B. The difference in operation is that the TN750C automatically restores and reports the availability of announcements from its own internal flash memory in 5 minutes, rather than the 40 minutes for the TN750 or TN750B.

If a circuit pack already has announcements in its flash memory, the yellow LED flashes as the announcements copy to the voice RAM.

## Save and Restore Recorded Announcements

---

### CAUTION:

*If the yellow LED is flashing, do not remove the circuit pack, as this will corrupt the announcement data.*

1. Type **save announcements <port network> <carrier> <slot>** and press Enter.
2. To restore announcements, type **restore announcements <disk> to <port network> <carrier> <slot>** and press Enter.

After 5 minutes (with no alterations to the announcements), the TN750C automatically copies the announcements from the voice RAM to the internal flash memory. The yellow LED on the front of the TN750C flashes.

You can only save the announcement contents of 1 circuit pack at a time. For the contents of every circuit pack, save to separate translation cards. Label each translation card so that it matches the circuit pack.

## TN750 and TN750B Announcement Circuit Packs

To save the recorded announcements in the system, type **save announcements** and press Enter. Use these codes 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 translation card. During this time, the management terminal cannot be used to administer the system; however, all other administration terminals, if provided, are allowed to perform administration procedures.

Type **restore announcements** and press Enter to restore the recorded announcements from the translation card to system memory.

## Replace a TN750/B with a TN750C or Move all Announcements from a TN750/B to a TN750C

Use this procedure to replace a TN750/B circuit pack with a TN750C circuit pack or to move every announcement from a TN750/B to a TN750C.

### CAUTION:

*Do not copy or restore announcements from a TN750C to a TN750 or TN750B circuit pack, as this may corrupt the announcement data.*

1. Save announcements from the TN750/B to the translation card.
2. Insert the TN750C into a vacant slot of a carrier.

6 Adding or Removing Hardware  
Add Multiple Integrated Recorded Announcement

6-26

3. Type **add data-module next** and press Enter to administer a new data module on the TN750C.
4. Type **announcement** in the `Type` field.
5. Type the location in the `Board` field and submit the form.
6. Type **restore announcements <location>** for the TN750C.  
Wait until announcements copy from voice RAM to flash memory (yellow LED on the TN750C stops flashing). This may take about 10 minutes.
7. Type **busyout board <location>** and press Enter for the TN750/B.
8. Type **change integrated announcements** and press Enter. This modifies the translations for the TN750/B to reference the TN750C circuit pack.
9. Verify proper playback of the announcements from the TN750C.
10. Type **release board <location>** and press Enter for the TN750/B.
11. Remove the TN750/B circuit pack if it is no longer necessary.

### Add TN750C Circuit Packs

1. Insert the TN750C into a vacant slot in a carrier and administer a new data module on the TN750C, as described in *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*.
2. To administer new announcements to that TN750C slot, type **change announcements <location>** and press Enter.
3. Record the announcements, as described in *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*.

Wait until the announcements copy from voice RAM to the onboard flash memory (the yellow LED on the TN750C starts and then stops flashing). This takes about 10 minutes.

### Move a Single Announcement to Another Announcement Circuit Pack

1. Type **change announcements** and press Enter to change the circuit pack locations of a particular announcement. (You may also change the compression rate at this time.)
2. Move the announcement, as described in *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*.



## Add ISDN — PRI

---

### North American

---

1. Install a TN767E (or later) DS1 or a TN464F DS1/E1 circuit pack for a signaling link and up to 23 ISDN — PRI Trunk Group members.
2. Install a Tone-Clock circuit pack to provide synchronization for the DS1 circuit pack.

If using a TN464F, then packet bus support has not been added, requiring more than 8 PRI signaling groups in an MCC or 4 PRI signaling groups in an SCC. See [“Add Packet Bus Support” on page 6-28](#) for adding circuit packs for packet bus support.

As an option to the TN768 or TN2182B Tone-Clock, a TN780 Tone-Clock (installed in the PPN) can interface external Stratum 3 synchronization for DS1.

### International

---

1. Install a TN464C (or later) DS1/E1 circuit pack for the assignment of the 2 signaling channels and up to 30 ISDN — PRI Trunk Group members. Each E1 span provides 32 ports.
2. Install a Tone-Clock circuit pack to provide synchronization for the DS1/E1 circuit pack.

If using a TN464F, then packet bus support has not been added, requiring more than 8 PRI signaling groups. See [“Add Packet Bus Support” on page 6-28](#) for adding circuit packs for packet bus support.

As an option to the TN768 or TN2182B Tone-Clock, a TN780 Tone-Clock (installed in the PPN) can interface external Stratum 3 synchronization for DS1.

### Service Interruption

---

1. If packet bus support must be added and TN750s must be installed as part of that support, then adding ISDN — PRI requires a service interruption. Notify the customer in advance as to when the addition will be carried out. See [“Add Packet Bus Support” on page 6-28](#) for further information.

### Add Packet Bus Support

---

1. If packet bus support is not already installed, see [“Add Packet Bus Support” on page 6-28](#) and perform the steps.

## Add Circuit Packs

---

1. Determine port assignment of circuit packs to be added.
2. Install the DS1 Interface circuit pack in the assigned carrier slot.
3. Remove an existing TN756 Tone Detector/Generator circuit pack and install the TN768, TN780, TN2182B, or TN419B Tone-Clock circuit pack in assigned carrier slots, if required.
4. Install a Tone Detector circuit pack if required.

## Install Cables

---

1. Install cables from the TN464F to the MDF as required.

## Enter Added Translations

---

1. Administer the forms listed under “Integrated Services Digital Network — Primary Rate Interface” in *DEFINITY Enterprise Communications Server Release 8 Administrator’s Guide*.

## Resolve Alarms

---

1. Examine the alarm log. Resolve any alarms that may exist using *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*.

## Save Translations

---

1. If the system is high or critical reliability, type **status system 1** and press Enter to verify that the system is in the active or standby mode.
2. Type **save translation** and press Enter. This instructs the system to take all translation information in memory and write it to the translation cards.
3. Update backup cards, if necessary.

## Add Packet Bus Support

---

### Service Interruption

---

If no TN570s need to be installed for packet bus support, skip to and perform only the Install Circuit Packs section. This procedure does not interrupt service in this case.

## Disable Alarm Origination

---

1. Type **change system-parameters maintenance** and press Enter.
2. Set the Alarm Origination Activated field to **n**.



### CAUTION:

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

3. For some releases of software, disable Cleared Alarm Notification and Restart Notification before submitting the form.

## Save Translations

---

1. If the system is high or critical reliability, type **status system 1** and press Enter to verify that the system is in the active or standby mode.
2. Type **save translation** and press Enter. This instructs the system to take all translation information in memory and write it to the translation card.
3. If the system contains a TN750/B Announcement circuit pack, type **display announcements** and press Enter. If administered recorded announcements are listed, type **list configuration software-version long** and press Enter. To save the announcements, type **save announcements** and press Enter.

## Power Down Cabinet

---

1. At the PPN, set the main circuit breaker to OFF.
2. At an EPN, set the main circuit breaker to OFF.

## Install Circuit Packs

---

1. Install the appropriate circuit packs. See [Table 6-4](#).

**Table 6-4. Circuit Pack Locations for Packet Bus in PPN**

Circuit Pack	Carrier	Quantity	Slot
TN570	Control Carrier A	1 or 2 <sup>1</sup>	EXPN INTFC/1 and /2
	Control Carrier B (H/C only)	1 or 2	EXPN INTFC/1 and /2
TN771C	Control Carrier A	1 <sup>2</sup>	Any Available Port Slot

1. Quantity of this pack should equal the number of EPNs.
  2. Required for critical-reliability EPNs and PPN. Optional for digital trunk testing in high-reliability PPN.
- 

## Power Up System

---

1. At the EPN, set the main circuit breaker to ON.
2. At the PPN, set the main circuit breaker to ON.
3. The system performs a level 4 reboot, loading the system translations from the translation cards. Rebooting takes about 10 minutes.
4. After all trouble is cleared, verify the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

## Test the Packet Bus and C-LAN Circuit Pack

---

1. Type **test pkt port-network 1 long** and press Enter. For more detail about these tests, refer to the test pkt command section in the *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*.

## Resolve Alarms

---

1. Examine the alarm log. Resolve any alarms using *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*.

## Enable Customer Options and Alarm Origination

1. Get the DOSS order number of the upgrade from the project manager and ask the regional Customer Software Administration to complete the steps in the shaded box. See ["Where to Call for Technical Support" on page -xx](#) for telephone numbers.



### NOTE:

As part of the system registration process, the INADS Database Administrator enables Alarm Origination.

2. When administration is completed, log in as **craft** at the `Login:` prompt.

### "init" login administration:

1. Log in as **init**.
2. Type **change system-parameters customer-options** and press `Enter` to verify that the customer options are properly set.
3. Go to screen 6, QSIG Optional Features, and set the `Basic Call Setup` field to **y** if the customer was using Supplementary Services Protocol b or d on an ISDN-PRI trunk group before the upgrade.
4. Type **change system-parameters offer-options** and press `Enter`.
5. If the `Activate Offer` field is **n**, set it to **y** and press `Tab`. A warning message lets you know whether you need to save translations and reboot to make the change permanent.
6. Press `Enter` to effect the changes or `Cancel` if there were no changes.
7. Contact the requester when done.

## Save Translations

1. If high or critical reliability system, type **status system 1** and press `Enter` to verify that the system is in the "active/standby" mode.
2. Type **save translation** and press `Enter`. This instructs the system to take all translation information in memory and write it to the translation flashcards.
3. If the system contains a TN750/B/C Announcement circuit pack, type **restore announcements** and press `Enter`.  
Update backup flashcards, if necessary.

## Add CallVisor ASAI

---

### Service Interruption

---

1. If adding the packet bus support and TN570s must be installed as part of that support, then adding CallVisor ASAI requires a service interruption. Notify the customer in advance as to when the addition will take place. See [“Add Packet Bus Support” on page 6-28](#) for further information.

### Enter Added Translations

---

1. On the System-Parameters Customer-Options form, disable the Calling Party Number/Billing Number (CPN/BN) option, and enable the CallVisor ASAI Interface option.
2. See *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*, for details on disabling and enabling these options.

### Save Translations

---

1. If the system is high or critical reliability, type **status system 1** and press Enter to verify that the system is in the active or standby mode.
1. Type **save translation** and press Enter. This instructs the system to take all translation information in memory and write it to the translation cards.

### Add Packet Bus Support

---

1. If packet bus support is not already installed, see [“Add Packet Bus Support” on page 6-28](#) and perform the steps.

### Add Circuit Packs

---

1. Determine port assignment of circuit packs to be added.
2. Install the appropriate circuit packs in assigned carrier slot (as required).

<b>EXAMPLE:</b>	3	A	07	01
	Cabinet (Port Network)	Carrier	Slot Number	Port Number

The TN748B (or later) or TN744/C/D Call Classifier circuit pack is required. The TN744/C/D is required for those customers who want switch call classification.

A vacant port is required on a TN556/B/C ISDN—BRI circuit pack.

## Install Cables

---

1. Install cables from TN464F to the MDF as required.

## Enter Added Translations

---

1. Administer the required translation data using the forms listed under "Adjunct/Switch Applications Interface (ASAI)" in *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*.

## Resolve Alarms

---

1. Examine the alarm log. Resolve any alarms that may exist using *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*.

## Save Translations

---

1. If the system is high or critical reliability, type **status system 1** and press Enter to verify that the system is in the active or standby mode.
1. Type **save translation** and press Enter. This instructs the system to take all translation information in memory and write it to the translation cards.
2. Update backup translation cards, if required.

## Add DCS Interface

---

Systems in a Distributed Communications System (DCS) network are interconnected by both tie trunks (for voice communications) and data links (for control and transparent feature information). These data links, also called DCS signaling links, support the feature transparency.

Various subsets (depending on the specific configuration) of DS1 Interface circuit packs (including TN464C, TN767C, TN722, and TN760) provide the voice-communications interface.

Meanwhile, the data link interface (between the processor and the physical signaling link) is provided by (or through) a TN799 Control-LAN circuit pack. In some configurations, the TN799 passes the signaling information over a separate 10BaseT TCP/IP network (usually via a hub). For use with 10BaseT, connect the appropriate pins of the I/O field to the hub. For pinouts and diagrams, refer to the installation manual. In other configurations, the TN799 circuit pack carries signaling over point-to-point protocol (PPP) for subsequent inclusion (via the switching fabric) in the same DS1 bit stream as the DSC voice transmissions.

As an option to the TN768 Tone-Clock, a TN780 Tone-Clock circuit pack (installed in the PPN) can interface external Stratum 3 synchronization for DS1 connections.

For further information about DCS, refer to the following documents:

- *AT&T System 75/85 Network and Data Services Reference Manual*
- *System 75 Application Notes Network Services*
- *DEFINITY ECS Release 8 Administration for Network Connectivity*

## Add Circuit Packs

---

A TN464C, TN767C, TN722, or TN760 DS1 circuit pack is required for PPP connections. A TN799 C-LAN circuit pack is required.

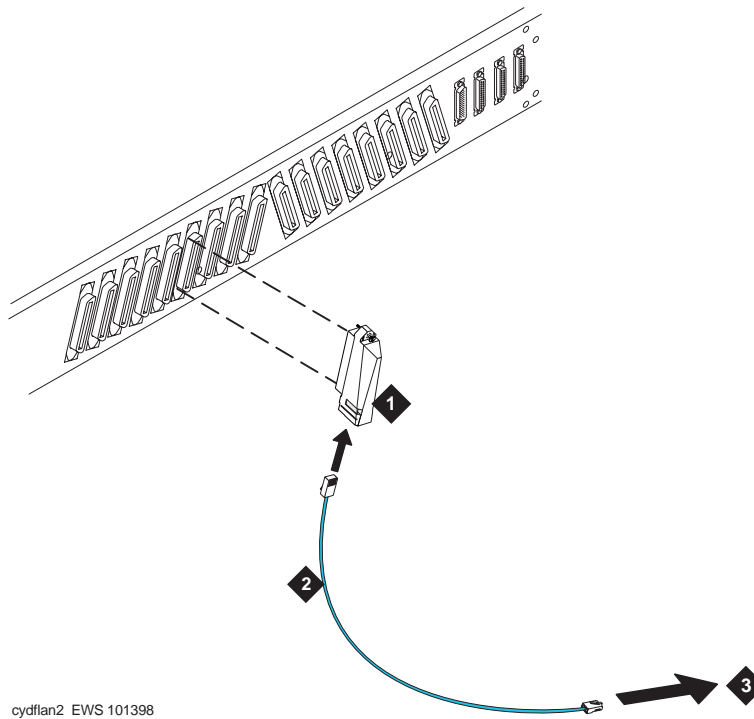
1. Determine the port assignments of the circuit packs to be added. If the processor cabinet has no available port slots for the C-LAN circuit pack, place it in an EPN cabinet port slot.

## Install Cables

---

1. Install cable from the cabinet to a hub or 110 (purple) wall field as required. Connect the 259A connector to the port slot containing the Control-LAN circuit pack. See [Figure 6-14](#). For a pinout of TN799, see [Table 6-5](#).





**Figure Notes**

- 1. 259A Connector
- 2. DW8 Cable
- 3. Hub or 110 (purple) wall field

**Figure 6-14. Cable Connection for C-LAN**

**Table 6-5. TN799 Pinout**

Backplane Pin	25-Pair Wire Color	Lead Name	Peripheral Connector Pin
103	White/Orange	TD+	27
003	Orange/White	TD-	2
104	White/Green	RD+	28
004	Green/White	RD-	3

## Enter Added Translations

---

1. Get the DOSS order number of the upgrade. Call the regional CSA to perform the steps in this section.
2. To enable DCS, set the DCS field on the System Parameters-Customer Options form to **y**.
3. Administer the other required translation data using the forms listed under Distributed Communications System (DCS) in *DEFINITY Communications System Administration for Networking Connectivity*.

## Save Translations

---

1. If the system is high- or critical-reliability, type **status system 1** and press Enter to verify that the standby SPE is refreshed and that the standby disk is in service.
2. Type **save translation [spe-a or both]** and press Enter to instruct the system to copy the translation information to the disk(s).

## Resolve Alarms

---

1. Examine the alarm log. Resolve any alarms that may exist using *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*.

## Remove TN771

---

1. If you added TN771 to the PPN only (for the packet bus support in the DCS feature), remove it from the PPN.

## Add ISDN—BRI

---

### Service Interruption

---

1. If adding the packet bus support and TN570s must be installed as part of that support, adding ISDN—BRI requires a service interruption. Notify the customer in advance as to when the addition will be carried out. See [“Add Packet Bus Support” on page 6-28](#) for further information.

### Add the Packet Bus Support

---

1. If packet bus support is not already installed, see [“Add Packet Bus Support” on page 6-28](#) and perform the steps.

## Add Circuit Packs

---

1. Determine port assignment of circuit packs to be added.
2. Install the appropriate circuit packs in assigned cabinet slot (as required).

<b>EXAMPLE:</b>	3	A	07	01
	Cabinet (Port Network)	Carrier	Slot Number	Port Number

The TN794 Packet Interface circuit pack and the TN556 or TN2198 ISDN BRI circuit pack are required. The TN794 Packet Interface circuit pack should be added first. If an EPN is present, a TN570/B/C Expansion Interface circuit pack is required.

## Install Cables

---

1. Install cables from cabinet to the MDF as required.

**NOTE:**

BRI requires a 12-port backplane cable terminator (breakout connector). Connect this terminator to the 25-pair cable. This is different from the 8-port connector used for DCP.

## Enter Added Translations

---

1. Administer the required translation data using the forms listed under 7500D voice terminals and 8500 voice terminals in *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*.

## Resolve Alarms

---

1. Examine the alarm log. Resolve any alarms using *DEFINITY Enterprise Communications Server Release 8 Maintenance for R7si*.

## Save Translations

---

1. If the system is high or critical reliability, type **status system 1** and press Enter to verify that the system is in the active or standby mode.
2. Type **save translation** and press Enter to instruct the system copy translation information to the translation flashcards removable media.
3. If the system contains a TN750/B/C Announcement circuit pack, type **list configuration software-version** and press Enter. These announcements can be restored using **restore announcements** and press Enter.

Update backup cards, if required.

## Add IP Interface Assembly

---

DEFINITY ECS IP Solutions allows you to send voice and fax from the DEFINITY ECS through an Internet protocol (IP) network to other DEFINITY ECSs having this feature or to other H.323 V2 compliant endpoints. It is implemented using the TN802/B IP Interface, which is a Windows NT server residing on the IP Interface Assembly inside the DEFINITY ECS.

The IP Interface is an assembly composed of a TN802B circuit board, a processor card, and DSP resource card. For ordering purposes, the assembly is identified as a J58890MA-1 L30, but for simplicity, we refer to it in this book as the TN802B IP Interface.

The TN802B IP Interface operates in two modes: IP Trunk, available with Release 7 or later, and Media Processor (MedPro), available with Release 8. The IP Trunk mode is Internet Telephone Server—Enterprise (ITS-E) compatible, and the MedPro mode is H.323 V2 compatible. The TN802B IP Interface is backwards compatible and defaults to IP Trunk mode. You must administer it to use it in MedPro mode.

For more information on the IP Interface capabilities and limitations, refer to the *DEFINITY Enterprise Communications Server Release 8 Overview*.

The following sections describe the process for

- [Installing in Media Processor Mode](#)
- [Installing in IP Trunk Mode](#)
- [Upgrading a TN802 V3 \(or later\) to a TN802B \(MedPro mode\)](#)

### **WARNING:**

When connected remotely via pcANYWHERE, only use the pcANYWHERE Restart Host Computer button on the toolbar to restart Windows NT.

## Installing in Media Processor Mode

---

To operate in MedPro mode, you must install the TN802B IP Interface and, if the system does not have one, you must also install and administer a TN799B C-LAN circuit pack. For C-LAN administration, refer to *DEFINITY Enterprise Communications Server Administration for Network Connectivity*.

If you have existing TN802 IP Interface circuit packs, you can upgrade them either by replacing the circuit pack with a TN802B or by downloading the TN802B firmware onto the circuit packs (see [“Upgrade to TN802B \(R8\)” on page 6-67](#)).

## Prepare for Installation

Have the following equipment on site before your shipment arrives:

- AC power outlets for the modem and monitor.
- Three unoccupied and adjoining port slots in the DEFINITY ECS for the TN802B IP Interface, if needed.  
  
The TN802B occupies only one slot, but it needs the two slots to its left for clearance.
- An additional unoccupied port slot for the TN799B, if needed. If you have an existing TN799 circuit pack, replace it with the TN799B.
- A 10 BaseT or 10/100 BaseT Ethernet connection into your local area network for the TN802B.
- A 10 BaseT Ethernet connection into your local area network for the TN799B.
- Two or more valid, unused IP addresses on your network (one for MedPro and one for C-LAN) that can be assigned to the IP Interface server. You also need the subnet mask and default gateway.
- An analog telephone line reserved (DID is okay) for the IP Interface diagnostic modem
- A valid telephone number reserved for the IP Interface diagnostic modem

In addition if non-U.S. customer:

- Modem comparable to a U.S. Robotics Sportster Model USR 33.6 EXT.
- Cable from modem to TN802B external cable assembly.

We recommend that you protect your cabinet with an uninterruptible power system (UPS).

## Check your Shipment

When your DEFINITY Media Processor order arrives at your site, check the contents (see [Table 6-6](#)).

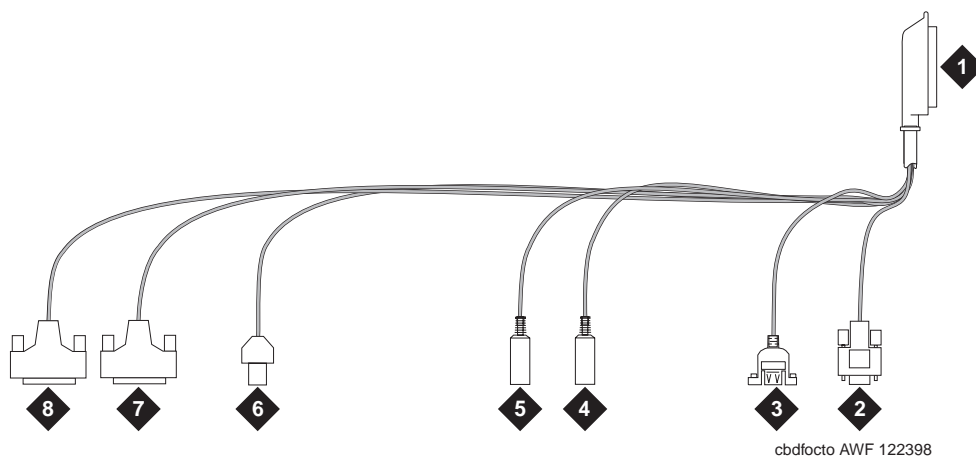
1. Inspect the shipping carton for damage before opening it. If the box is damaged, *do not open it*. Inform the shipping company, and ask for instructions on filing a claim.
2. If the box is undamaged, check the contents against the packing slip. Check the condition of each component, and note any damage or shortages on the packing slip. The carton should contain the following for each IP Interface ordered:

Table 6-6. Required Hardware

Comcode/Code	Description	Quantity
108525528	TN799B C-LAN circuit pack. One TN799B supports more than one TN802B.	1
J58890MA-1 L30	TN802B IP Interface Assembly	1 or more
601939804	H600-512,G1 external cable assembly	1 or more
	259A connector	1
	CAT5 or better cable	1
407633999	U.S. Robotics Sportster external modem, Model USR 33.6 EXT (U.S. customers only). Non-U.S. customers must provide a modem comparable to this model.	1
601087091	20-ft DB-25 serial cable from modem to TN802B external cable assembly (U.S. customers only). Non-U.S. customers must provide a serial cable.	1

3. Read and follow any directions inserted into the package by the factory.

The TN802B external cable assembly is a bundle of cables with an amphenol connector at the end of the bundle and various PC-type connectors (VGA, Universal Serial Bus [USB], mouse, keyboard, Ethernet, modem, and COM2) at the ends of the individual cables. See [Figure 6-15](#). Look for the label where the bundle enters the amphenol connector.



**Figure Notes**

- |   |                                   |
|---|-----------------------------------|
| 1. Amphenol connector to connector corresponding to TN802B slot | 5. To mouse                       |
| 2. To VGA monitor   | 6. To ethernet                    |
| 3. To USB (not used)  | 7. 25-pin male connector to modem |
| 4. To keyboard  | 8. 25-pin male connector to COM2  |

**Figure 6-15. TN802B IP Interface External Cable Assembly**

**Connect the Cables**

1. Determine into which port slots you are putting the TN799B C-LAN and TN802B IP Interface circuit packs.



**NOTE:**

Make sure that at least 3 adjacent slots are free for the TN802B.

From the rear of the cabinet:

2. If adding a new TN799B, connect the 259A connector to the backplane connector corresponding to the TN799B slot.
3. If adding a new TN799B, connect one end of the DW8 cable to the 259A connector. Connect the other end to the customer's network.
4. Connect the amphenol connector on the external cable assembly to the backplane connector corresponding to the TN802B slot (the highest numbered connector of the 3 slots required)

## Connect the Modem

### ⇒ NOTE:

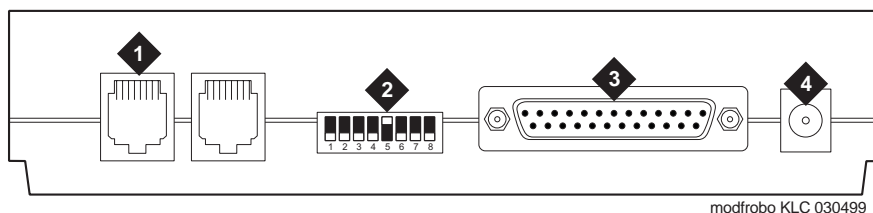
These instructions are for connecting the U.S. Robotics modem supplied to U.S. customers only. If using a different modem, follow the manufacturer's instructions on connecting the modem.

1. Connect the RS232 port of the modem to the MODEM connector of the TN802B external cable assembly.

### ⇒ NOTE:

Check the labels near the connectors; the MODEM and COM2 connectors look the same.

2. Connect an analog telephone line to the left most analog-line port on the modem as shown in [Figure 6-16](#).
3. Make sure that the modem's DIP switches are set as shown in [Figure 6-16](#) and [Table 6-7](#).
4. Plug the modem into an AC power outlet.
5. Turn on the modem using the switch on the front of the modem.



### Figure Notes

1. Connect analog line here.
2. DIP switch 5 must be up.
3. Connect MODEM connector here.
4. Connect power connector here.

Figure 6-16. External Modem Connections for U.S. Robotics Modem



Table 6-7. U.S. Robotics Modem Dip Switch Settings

Dip Switch	Setting	Description
1	UP DOWN	Data Terminal Ready normal Data Terminal Ready override
2	UP DOWN	Verbal result codes Numeric result codes
3	UP DOWN	Suppress result codes Display result codes
4	UP DOWN	Echo offline commands No echo, offline commands
5	<b>UP</b> DOWN	<b>Auto answer on first ring or higher if specified in NVRAM</b> Auto answer off
6	UP DOWN	Carrier detect normal Carrier detect override
7	UP DOWN	Load NVRAM defaults Load factory defaults
8	UP DOWN	Dumb mode Smart mode

## Connect the Ethernet

1. Connect the network cable to the ETHERNET connector on the TN802B external cable assembly.

**NOTE:**

You need a CAT5 or better cable for 100-Mbyte operation.

## Install the Circuit Packs

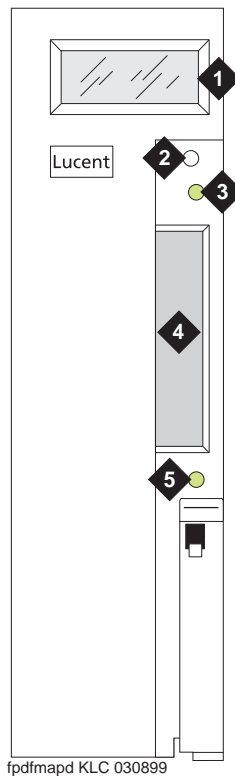
**CAUTION:**

*When adding or replacing any hardware, be sure to ground yourself against electrostatic discharge (ESD) by wearing a grounded wrist strap.*

**⇒ NOTE:**

The TN799B and TN802B circuit packs are hot-swappable, so you do not need to power down the carrier to install them.

If you need to remove the TN802B IP Interface from the carrier at a later time, shut down Windows NT first by pressing the recessed reset button on the faceplate (see [Figure 6-17](#)) of the TN802B IP Interface until the LCD shows a flashing **MSHUT \***. When the flashing stops and the asterisk disappears (about 2 min), it is safe to remove the circuit pack.

**Figure Notes**

- |                            |                                  |
|----------------------------|----------------------------------|
| 1. LCD display             | 4. PCMCIA card slot              |
| 2. Reset button (recessed) | 5. Yellow PCMCIA disk-in-use LED |
| 3. Red board status LED    |                                  |

**Figure 6-17. TN802B IP Interface faceplate**

 NOTE:

If replacing the existing TN799 circuit pack, remove it first and replace it with the new one.

1. Insert the TN799B circuit pack into the port slot identified earlier.

 NOTE:

To properly seat the circuit pack, push firmly on the front of the faceplate until the latch reaches the bottom rail of the carrier. Then close the latch until it is fully engaged.

2. Insert the TN802B IP Interface into the right most of the three slots you reserved for it (see [Figure 6-18](#)) and seat it properly.

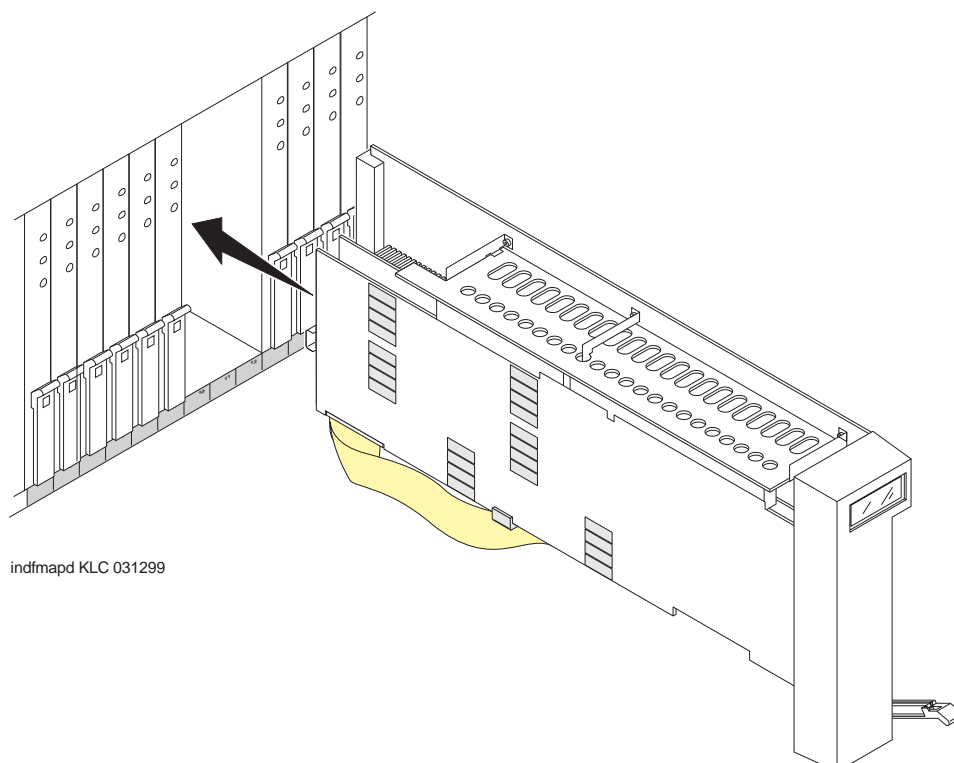
When you plug in the TN802B IP Interface Assembly, the circuit pack starts to boot and the LCD reads **PC Boot**. The circuit pack reboots automatically, and after about 3 to 4 minutes the LCD changes to **IPTRK\***, the default mode, or **MEDPRO\***.

If the TN802B is pre-administered at the factory, it reboots several times to initialize to MedPro mode.

If the TN802B is not pre-administered, go to [“Administration Steps” on page 6-47](#)

 NOTE:

For an initial installation, the TN802B IP Interface needs to be administered first (see [“Administer the IP Interface” on page 6-46](#)).



indfmapd KLC 031299

Figure 6-18. J58890MA-1 L30 IP Interface Assembly

### Administer the TN799B C-LAN

Refer to the *DEFINITY Enterprise Communications Server Administration for Network Connectivity*.

### Administer the IP Interface

Administration is usually done remotely; call your service representative to start the process.

## Administration Steps



### NOTE:

Refer to the *DEFINITY Enterprise Communications Server Administration for Network Connectivity for Release 8* for specific information.

1. Log in as **craft**.
2. Type **change node-names** and press Enter.
3. On screen 2, type in the node name and IP address for the TN802B.

```
change node-names                                     Page 2 of 6
```

NODE NAMES			
Name	IP Address	Name	IP Address
clan-a1	192.168.1 .31	.	.
clan-b1	192.168.2 .31	.	.
default	0 .0 .0 .0	.	.
med-a1	192.168.1 .81	.	.
	.	.	.
	.	.	.
	.	.	.

4. Type **change circuit-pack** and press Enter.
5. Check the Code column to see if the slots above the TN802B say DSMAPD or MEDPRO.

```
change circuit-packs                                 Page 1 of 5
```

CIRCUIT PACKS			
Slot Code	Sf	Mode	Name
Cabinet: 1			
Carrier: A			
Carrier Type: processor			
01: TN754			DIGITAL LINE
02: TN758			POOLED MODEM
03: TN2144			ANALOG LINE
04: TN746	B		ANALOG LINE
05			
06: TN771	C		MAINTENANCE/TEST
07: TN464	F		DSL INTERFACE
08: TN2140			E&M TIE TRUNK
09: TN767	E		DSL INTERFACE
10: TN799	B		CONTROL-LAN
11: MEDPRO			RESERVED-IP
12: MEDPRO			RESERVED-IP
13: TN802	B		MAPD BOARD
14:			
15:			
16:			

'#' indicates circuit pack conflict.

- If not, type MEDPRO in the slot just above TN802B slot and press Enter. Changing the one entry automatically changes the entry above it. If it is in IP Trunk mode, you get the following error message:

```
MedPro type requires TN802 with application. Type
MEDPRO on circuit-packs form.
```

- Type **change ip-interfaces** and press Enter.
- Type in the information for the TN802B IP Interface,
- Set the Enabled field to **y**, and press Enter.

**NOTE:**

The customer provides the IP address, subnet mask, and gateway address.

At this time the TN802B LCD reads **PC BOOT \***, and about 3 to 4 minutes later reads **MEDPRO \*** with the asterisk flashing

```
change ip-interfaces                                     Page 1 of 2

Network regions are interconnected? n
En-
abled Type      Slot  Code Sfx Node Name      Subnet Mask      Bcast/Gway      Net
Addr Rgn
n  C-LAN  01A09 TN799  clan-a1      255.255.255.0    192.168.1.100 1
y  MEDPRO 01A13 TN802  B med-a1      255.255.255.0    192.168.1.21  1
n
n  255.255.255.0    . . .
n  255.255.255.0    . . .
n  255.255.255.0    . . .
n  255.255.255.0    . . .
n  255.255.255.0    . . .
n  255.255.255.0    . . .
n  255.255.255.0    . . .
n  255.255.255.0    . . .
n  255.255.255.0    . . .
n  255.255.255.0    . . .
n  255.255.255.0    . . .
n  255.255.255.0    . . .
```

## Test the External Connection to the LAN

To test the external IP connections, ping the IP Interface server, and ping a known computer connected to your network. If everything is configured correctly, the Result column on the Ping Results screen reads **pass**. If it reads **abort**, verify the IP-address information and check the connectivity, including the cabling.

- Type **ping ip-address nnn.nnn.nnn.nnn board UUCSS** and press Enter. The variable **nnn.nnn.nnn.nnn** is the IP address of the TN802B IP Interface and **UUCSS** is the cabinet, carrier, and slot of the TN802B IP Interface.

```
ping ip-address 192.168.10.21
```

## PING RESULTS

End-pt IP	Port	Port Type	Result	Time(ms)	Error Code
192.168.10.21	01A13	MEDPRO	PASS	10	1124

2. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press Enter. The variable ***nnn.nnn.nnn.nnn*** is the IP address of the customer's gateway and ***UUCSS*** is the cabinet, carrier, and slot of the TN802B IP Interface.
3. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press Enter. The variable ***nnn.nnn.nnn.nnn*** is the IP address of another computer beyond the gateway and ***UUCSS*** is the cabinet, carrier, and slot of the TN802B IP Interface.

The TN802B IP Interface is now installed in the DEFINITY carrier and connected to the IP network.

## Installing in IP Trunk Mode

---

### NOTE:

IP Trunk mode should only be used to maintain compatibility with existing Release 7 IP Trunk or ITS-E installations. We strongly recommend that MedPro mode be used whenever possible.

## Prepare for Installation

Have the following equipment on site before your shipment arrives:

- A mouse, keyboard, and VGA monitor for use during the installation of the server. You also need AC power outlets for the modem and monitor.
- Three adjoining, unoccupied port slots in the DEFINITY ECS  
The TN802B IP Interface slides into only 1 slot, but its faceplate occupies 3 slots.
- A 10 BaseT or 10/100 BaseT Ethernet connection into the customer's local area network (LAN)
- A valid, unused IP address on the customer's LAN that can be assigned to the IP Interface server. You also need the subnet mask, default gateway, domain name, and so forth from the customer's network administrator.

- An analog telephone line reserved for the IP Interface diagnostic modem
- A valid telephone number reserved for the IP Interface diagnostic modem

If non-U.S. customer:

- Modem comparable to a U.S. Robotics, Inc. Sportster Model USR 33.6 EXT.
- A cable from the modem to the TN802B external cable assembly.

We recommend that you protect the cabinet where the IP Interface is installed with an uninterruptible power system (UPS).

## Check your Shipment

When your DEFINITY Media Processor order arrives at the customer's site, check the contents (see [Table 6-8](#)).

1. Inspect the shipping carton for damage before opening it. If the box is damaged, *do not open it*. Inform the shipping company, and ask for instructions on filing a claim.
2. If the box is undamaged, check the contents against the packing slip. Check the condition of each component, and note any damage or shortages on the packing slip. The carton should contain the following for each IP Interface ordered:

**Table 6-8. Required Hardware**

Comcode/Code	Description	Quantity
J58890MA-1 L30	TN802B IP Interface Assembly	1
601939804	H600-512,G1 external cable assembly	1
407633999	U.S. Robotics Sportster external modem, model number USR 33.6 EXT (U.S. customers only) <sup>1</sup>	1
601087091	20-ft DB-25 serial cable from modem to TN802B external cable assembly (U.S. customers only) <sup>2</sup>	1

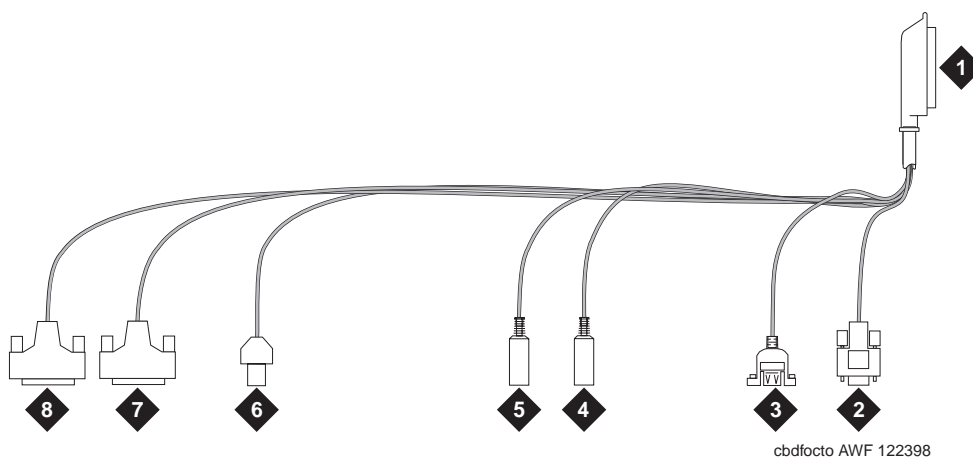
---

1. For non-U.S. customers, you need a modem comparable to the U.S. Robotics Sportster and a serial cable.

---



The TN802B external cable assembly is a bundle of cables with an amphenol connector at the end of the bundle and various PC-type connectors (VGA, Universal Serial Bus [USB], mouse, keyboard, Ethernet, modem, and COM2) at the ends of the individual cables. See [Figure 6-19](#). Look for the label where the bundle enters the amphenol connector.



### Figure Notes

- |   |                                   |
|---|-----------------------------------|
| 1. Amphenol connector to connector corresponding to TN802B slot | 5. To mouse                       |
| 2. To VGA monitor   | 6. To ethernet                    |
| 3. To USB (not used)  | 7. 25-pin male connector to modem |
| 4. To keyboard  | 8. 25-pin male connector to COM2  |

Figure 6-19. TN802B IP Interface External Cable Assembly

3. Read and follow any directions inserted into the package by the factory.

### Connect the Cables

1. Determine into which port slot you are putting the TN802B IP Interface.

#### ⇒ NOTE:

Make sure that at least 3 adjoining slots are free.

2. From the rear of the cabinet, connect the amphenol connector on the external cable assembly to the backplane connector corresponding to that slot (the highest numbered connector of the 3 slots required).

## Connect the Modem

### ⇒ NOTE:

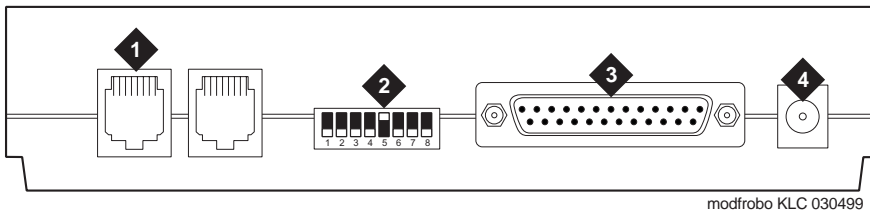
These instructions are for connecting the U.S. Robotics modem supplied to U.S. customers only. If using a different modem, follow the manufacturer's instructions on connecting the modem.

1. Connect the RS232 port of the modem to the MODEM connector of the TN802B external cable assembly.

### ⇒ NOTE:

Check the labels near the connectors; the MODEM and COM2 connectors look the same.

2. Connect an analog telephone line to the leftmost analog-line port on the modem as shown in [Figure 6-20](#).
3. Make sure that the modem's DIP switches are set as shown in [Figure 6-20](#) and [Table 6-9](#).
4. Plug the modem into an AC power outlet.
5. Turn on the modem using the switch on the front of the modem.



### Figure Notes

- |                              |                                  |
|------------------------------|----------------------------------|
| 1. Connect analog line here. | 3. Connect MODEM connector here. |
| 2. DIP switch 5 must be up.  | 4. Connect power connector here. |

Figure 6-20. External Modem Connections for U.S. Robotics Sporster

Table 6-9. U.S. Robotics Modem Dip Switch Settings

Dip Switch	Setting	Description
1	UP DOWN	Data Terminal Ready normal Data Terminal Ready override
2	UP DOWN	Verbal result codes Numeric result codes
3	UP DOWN	Suppress result codes Display result codes
4	UP DOWN	Echo offline commands No echo, offline commands
5	<b>UP</b> DOWN	<b>Auto answer on first ring or higher if specified in NVRAM</b> Auto answer off
6	UP DOWN	Carrier detect normal Carrier detect override
7	UP DOWN	Load NVRAM defaults Load factory defaults
8	UP DOWN	Dumb mode Smart mode

## Connect the Monitor, Keyboard, and Mouse



### NOTE:

Only make these connections if administered locally. Not necessary if administered remotely.

You must connect these before inserting the TN802B IP Interface.

1. Attach a VGA monitor to the VGA connector of the TN802B IP Interface external cable assembly.
2. Attach the keyboard to the KEYBOARD connector of the external cable assembly.
3. Attach the mouse to the MOUSE connector of the external cable assembly.
4. Plug the monitor into an AC power receptacle and turn it on.

## Connect the Ethernet

1. Connect the network cable to the ETHERNET connector on the TN802B external cable assembly.



**NOTE:**

You need a CAT5 or better cable for 100-Mbyte operation.

## Install the Circuit Pack



**CAUTION:**

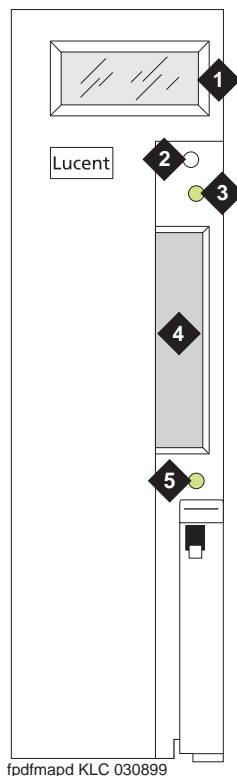
*When adding or replacing any hardware, be sure to ground yourself against electrostatic discharge (ESD) by wearing a grounded wrist strap.*



**NOTE:**

The TN802B IP Interface is hot-swappable, so you do not need to power down the carrier to install it.

If you need to remove the TN802B IP Interface from the carrier at a later time, shut down Windows NT first by pressing the recessed reset button on the faceplate (see [Figure 6-21](#)) of the TN802B IP Interface until the LCD shows a flashing **MSHUT** \*. When the flashing stops and the asterisk disappears (about 2 min), it is safe to remove the circuit pack.



**Figure Notes**

- |                            |                                  |
|----------------------------|----------------------------------|
| 1. LCD display             | 4. PCMCIA card slot              |
| 2. Reset button (recessed) | 5. Yellow PCMCIA disk-in-use LED |
| 3. Red board status LED    |                                  |

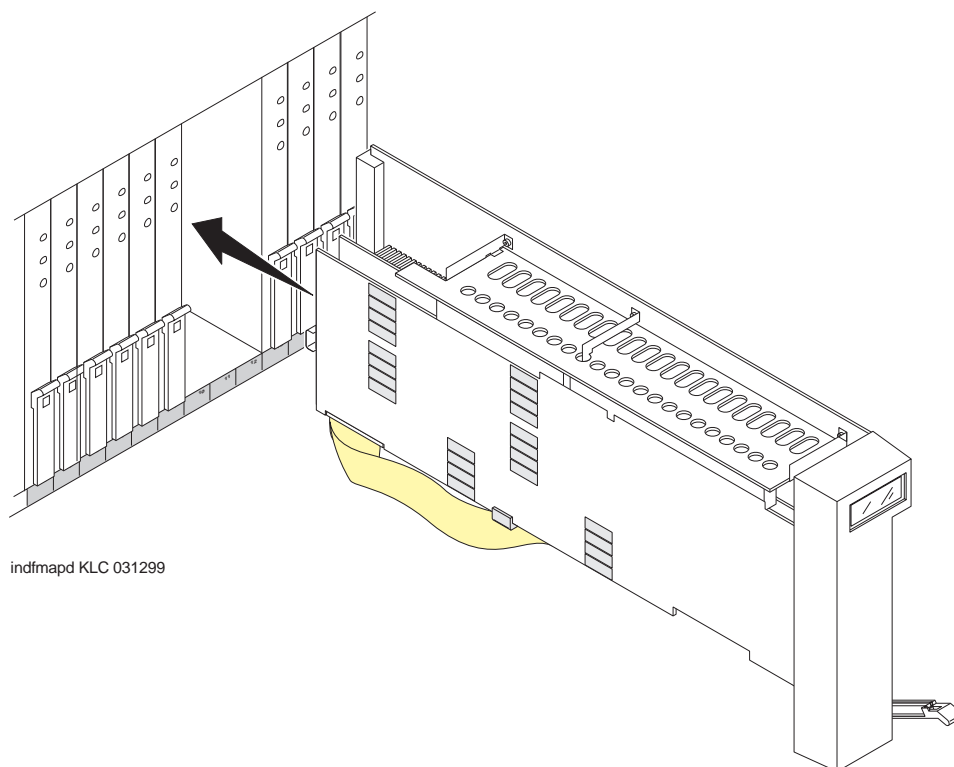
**Figure 6-21. TN802B IP Interface faceplate**

**NOTE:**

To properly seat the circuit pack, push firmly on the front of the faceplate until the latch reaches the bottom rail of the carrier. Then close the latch until it is fully engaged.

1. Insert the TN802B IP Interface into the rightmost of the three slots you reserved for it (see [Figure 6-22](#)).

When you plug in the TN802B IP Interface, the circuit pack starts to boot and the LCD reads **PC Boot** then after about 3 to 4 minutes it changes to **IP TRK \***, the default mode.



indfmapd KLC 031299

Figure 6-22. J58890MA-1 L30 IP Interface Assembly

### Test the Modem

1. Check for dial tone.
2. Contact Lucent Technologies Customer Support and ask a representative to dial into your IP Interface server.

### Administer the IP Interface

Administration is done either locally or remotely. If administered locally, proceed with the following administration steps on the attached keyboard, mouse, and monitor. If administered remotely, call your service representative to start the process.

### Administration Steps

1. Log in as **craft**.
2. Type **change circuit-pack** and press Enter.

3. Check the Code column to see if the slots above the TN802B say DSMAPD or MEDPRO.

```
change circuit-packs                               Page 1 of 5
          CIRCUIT PACKS
          Cabinet: 1                               Carrier: A
          Carrier Type: processor

Slot Code  Sf Mode  Name                               Slot Code  Sf Mode  Name
01: TN754          DIGITAL LINE                               11: DSMAPD          RESERVED-IP
02: TN758          POOLED MODEM                               12: DSMAPD          RESERVED-IP
03: TN2144         ANALOG LINE                               13: TN802 B         MAPD BOARD
04: TN746 B       ANALOG LINE                               14:
05:                                                         15:
06: TN771 C       MAINTENANCE/TEST                               16:
07: TN464 F       DS1 INTERFACE
08: TN2140        E&M TIE TRUNK
09: TN767 E       DS1 INTERFACE
10: TN799 B       CONTROL-LAN

'#' indicates circuit pack conflict.
```

4. If MEDPRO, go to the entry just above the TN802B that says MEDPRO.
5. Type DSMAPD, and press Enter. Changing the one entry automatically changes the entry above it. If it is in IP Trunk mode, you get the following error message:

```
MedPro type requires TN802 with application. Type
MEDPRO on circuit-packs form.
```

## Log onto the TN802B Interface Server

If administered remotely through pcANYWHERE:

1. Dial in to the server through pcANYWHERE using the dialup number supplied.
2. Click on the pcANYWHERE Remote Host Computer button on the toolbar to send CTRL ALT DEL to the host.
3. Type **administrator** in the User Name field.
4. Type **iptrunk** in the Password field and click **OK**.
5. After logging on for the first time, change the administrator password and, if desired, the user name, to ensure security. See your Windows NT server documentation for details.

If administered locally on a monitor, keyboard, and mouse:

1. Press CTRL, ALT, and DEL simultaneously.
2. Type **administrator** in the User Name field.

3. Type **iptrunk** in the `Password` field and click **OK**.
4. After logging on for the first time, change the administrator password and, if desired, the user name, to ensure security. See your Windows NT server documentation for details.

### A-Law versus Mu-Law

For systems using A-Law companding, an additional procedure is necessary.

On the SAT:

1. Busyout the trunk group associated with the IP trunk by typing **busyout board UUCSS** and pressing `Enter`.

In the Windows interface to TN802B:

1. Click on **Control Panel > Services**.
2. Highlight **IP Trunk Service**, then click on **Stop**.
3. In the lower left-hand corner, right-click **Start > Explore**.
4. Go to the c: drive and click on its, then bin.
5. Double-click on the its.ini file to open it in Notepad.
6. Under the [MediaLib] section, go to `COMPANDING=MLAW`. Change **MLAW** to **ALAW**.
7. Click on **File > Save** to save the file.
8. Click on **File > Exit** to exit Notepad.
9. Click on **Control Panel > Services**.
10. Highlight **IP Trunk Service**, then click on **Start**.



#### NOTE:

Do not select Startup.

After service has started, go to the SAT:

1. Release the trunk group associated with the IP trunk by typing **release board UUCSS** and pressing `Enter`.

### Assign Server and Domain Names

The Windows NT server identifies servers using a server name plus a domain name that locates the named server in a particular part of the network. The TN802B IP Interface is shipped with generic server and domain names. Assign replacement names that are meaningful within your network.

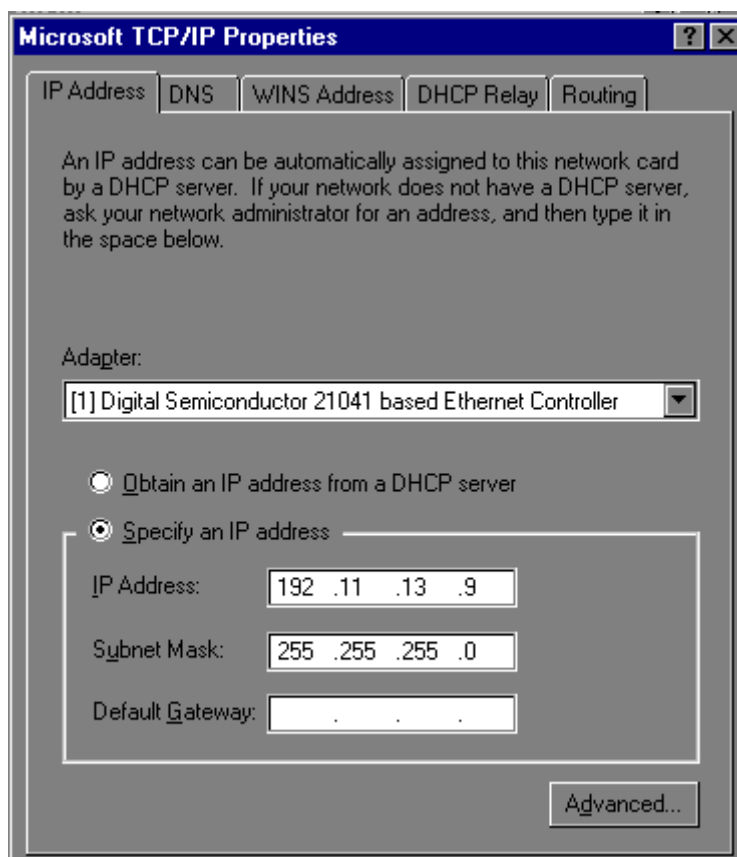
1. Click on **My Computer > Control Panel > Network**.
2. Select the **Identification** tab, then click **Change**.
3. Type the new server name in the `Computer Name` field.



4. Type the new domain name in the `Domain` field and click **OK > OK > Close**.
5. When prompted to reboot the computer, select one of the following options:
  - **No** if you have not assigned IP addresses then go to [“Assign an IP Address”](#)
  - **Yes** if you have assigned IP addresses.

### Assign an IP Address

1. Click on **My Computer > Control Panel > Network**.
2. Click the **Protocols** tab.
3. Select **TCP/IP Protocol** from the list.
4. Click the **Properties** option in the Network window.



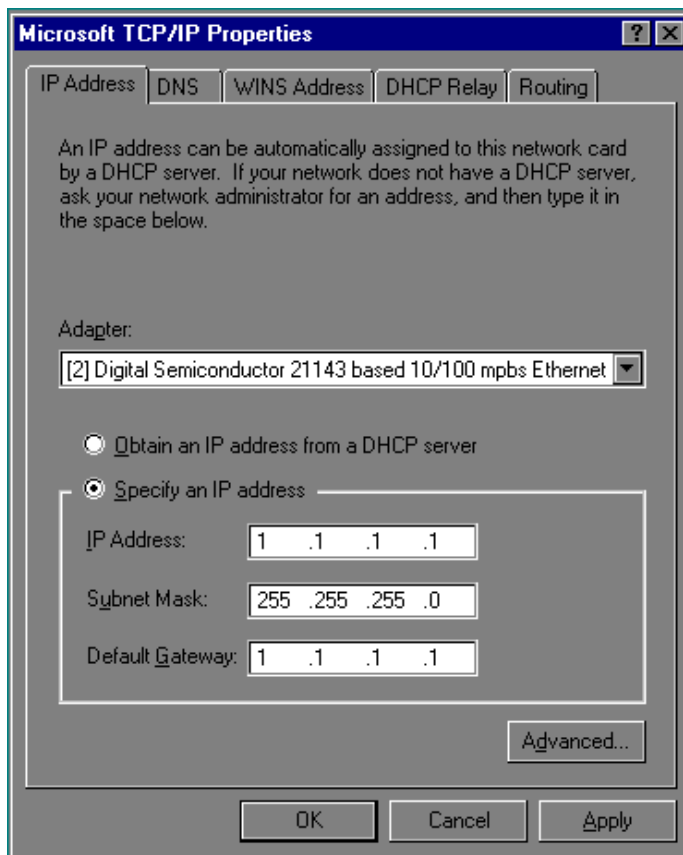
5. Verify that the `Adapter` drop down menu lists 2 DEC Ethernet adapters.



#### **CAUTION:**

*Do not change any settings on the adapter labeled [1] for any reason.*

6. Select the DEC Ethernet adapter labeled [2].

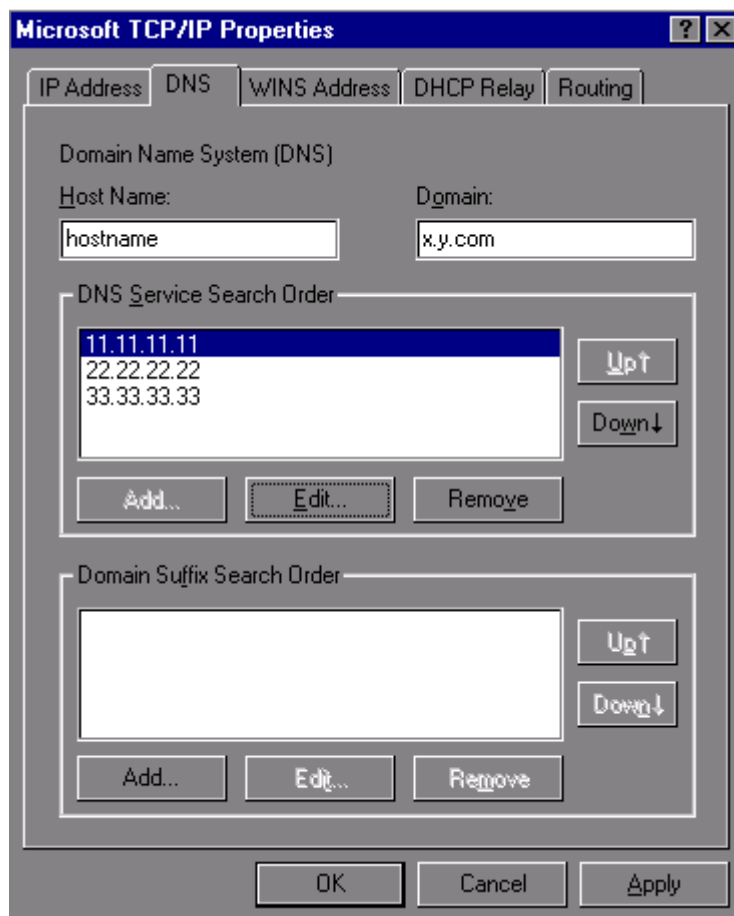


7. Type a valid IP address for the IP Interface server in the `IP Address:` field.
8. Type the appropriate subnet mask in the `Subnet Mask:` field.

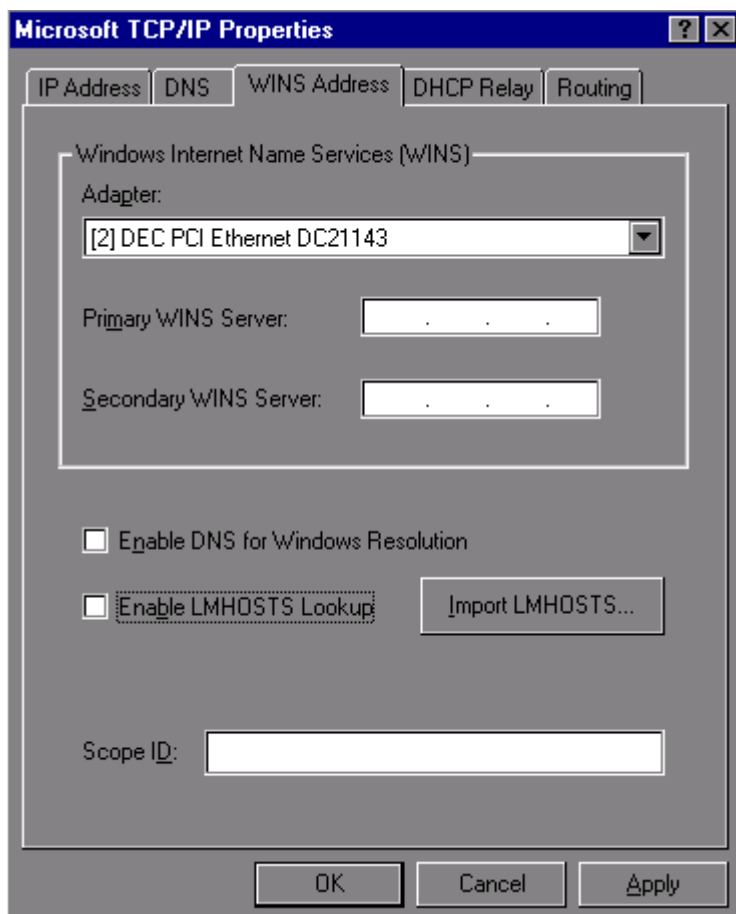
**⇒ NOTE:**

Not all networks require steps 9 through 18. Check with the local network administrator to determine which are required.

9. If you use gateways, type the IP address of the default gateway for the IP Interface server in the `Default Gateway:` field.
10. Click on the DNS tab and verify that the domain DNS server is correct.



11. Type domain name in the Domain field.
12. If using DNS, click Add under the DNS Service Search Order field and type its IP address.
13. Click on the WINS Address tab.



14. Make sure the [2] DEC shows in the Adapter field.
15. If WINS server is available, type its IP address in the Primary WINS Server field.
16. If DNS is available, select Enable DNS for Windows Resolution.
17. If the network uses an imported LMHOSTS file, select Enable LMHOSTS Lookup and Import LMHOSTS and click **OK**.
18. If the following dialog box opens, click **Yes**:

At least one of the adapter cards has an empty primary WINS address. Do you want to continue?
19. Click the **Bindings** tab to effect the changes.

NetBIOS Interface, Server, and Workstation should now be enabled. If any are disabled (a red circle with a line through it), review the previous network-configuration steps for omissions or errors.
20. Click **Close**.

If administered remotely through pcANYWHERE:

21. Click on the pcANYWHERE Restart Host Computer button on the toolbar to restart the computer.

If administered locally on a monitor, keyboard, and mouse:

21. Click **Yes** in the dialog box to restart the computer.

### **WARNING:**

When connected remotely via pcANYWHERE, only use the pcANYWHERE Restart Host Computer button on the toolbar to restart Windows NT.

## Check Network Services

When the server restarts, make sure that the required network services have started correctly. If you see an error dialog box, then the network services did not start correctly. Also, check the NT Event Log.

1. Click on **My Computer > Control Panel > Network > Services**. Make sure that the following services are listed:
  - Computer Browser
  - Microsoft Internet Information Server 2.0
  - NetBIOS Interface
  - RPC Configuration
  - Server
  - Workstation
2. Click the **Protocols** tab, and examine the Network Protocols. TCP/IP protocol should be the only one listed.
3. Click **OK**.

## Test the External Connection to the LAN

To test the external IP connections, ping the IP Interface server and ping a known computer connected to your network.

1. Click **Start > Programs > Command Prompt**.
2. Type **ping nnn.nnn.nnn.nnn** (which is your IP address).
  - If everything is configured correctly, the system responds with the following message:

```
Reply from nnn.nnn.nnn.nnn: bytes=32 time<##ms  
TTL=###
```
  - If no response, verify the IP-address information and check the connectivity, including the cabling.

3. At the command prompt, type **ping nnn.nnn.nnn.nnn** (which is the IP address of your gateway).
  - If everything is configured correctly, the system responds with the following message:

```
Reply from nnn.nnn.nnn.nnn: bytes=32 time<##ms  
TTL=###
```
  - If no response, verify the IP address information and check the connectivity, including the cabling.
  - If all else fails, click on **Start > Settings > Control Panel > Network**. Select the **Adapters** tab and highlight the [2] DEC adapter.
  - Click **Properties > Change**.
  - From the Duplex Mode dropdown menu, select a setting that matches the switch/hub that the TN802B connects to. For example, 10BaseT Full Duplex or 10BaseT No Link Test
4. At the command prompt, type **ping nnn.nnn.nnn.nnn** (which is the IP address of another external computer beyond the gateway).
  - If you have connectivity, the system responds with the following message:

```
Reply from nnn.nnn.nnn.nnn: bytes=32 time<##ms  
TTL=###
```
  - If no response, verify the IP address information and check the connectivity, including the cabling. Consult your IP network administrator.
5. Type **exit** and press Enter.

### Test the IP Interface Onboard LAN Connections

To test the onboard LAN connections, ping the IP Interface server and the processor on the TN802B IP Interface.

1. Click **Start > Programs > Command Prompt**.
2. Type **ping 192.11.13.9** (which is the IP address of the internal IP Interface server).
  - If everything is configured correctly, the system responds with the following message:

```
Reply from 192.11.13.9: bytes=32 time<##ms TTL=###
```
  - If no response, verify the IP address information and check the connectivity, including the cabling.

3. At the command prompt, type **ping 192.11.13.8** (which is the IP address of the internal processor).
  - If you have connectivity, the system responds with the following message:  

```
Reply from 192.11.13.8: bytes=32 time<##ms TTL=###
```
  - If no response, verify the IP settings for Adapter [1].
4. Type **exit** and press Enter.

The TN802B IP Interface is now installed in the DEFINITY carrier and connected to the IP network. You can now use the Configuration Manager software (preinstalled on the TN802B hard disk) and DEFINITY ECS switch administration to administer connections to other IP Trunk and ITS-E equipment.

## Upgrading a TN802 V3 (or later) to a TN802B (MedPro mode)

---

If you have a TN802 V3 (or later) IP Interface, you must either replace it with a TN802B circuit pack or upgrade the existing TN802 circuit pack to operate in MedPro mode. Also, to operate in the MedPro mode, the DEFINITY ECS switch must be Release 8 or later.

### NOTE:

The TN802 IP Interface must be V3 or later to upgrade to TN802B.

To upgrade the TN802 to a TN802B, you need the following hardware:

- Monitor, keyboard, and mouse to access the IP Interface's Windows NT environment or pcANYWHERE software.
- 10-Mbyte SanDisk PCMCIA flashcard loaded with the MedPro NT Application Install Wizard
- TN802B label

The upgrade adds or modifies the following directories or files on your computer's hard drive:

- c:\dolan\\*
- c:\mapd\dnld\medpro.img
- c:\mapd\dnld\tmp.img

## Connect the Monitor, Keyboard, and Mouse

1. Attach a VGA monitor to the VGA connector of the TN802 IP Interface external cable assembly.
2. Attach the keyboard to the KEYBOARD connector of the external cable assembly.
3. Attach the mouse to the MOUSE connector of the external cable assembly.

4. Plug the monitor into an AC power receptacle and turn it on.
5. If upgrading locally, reboot Windows NT by pressing the recessed reset button on the faceplate (see [Figure 6-21](#)) of the TN802B IP Interface until the LCD shows a flashing **MSHUT \***. When the flashing stops and the asterisk disappears (about 2 min), it is safe to remove the circuit pack.
6. After the TN802B is shut down, reseal the circuit pack to restart the system.
7. Log in using **ctrl alt del**

### Upgrading IP trunks (R7) to H.323 trunks

If there are existing IP trunk connections that you want to upgrade to H.323 trunk connections, do the following steps. Otherwise, go to [“Upgrade to TN802B \(R8\)” on page 6-67](#)

To upgrade an existing IP trunk (R7) to an H.323 trunk (R8) requires first getting IP information from the existing TN802 before upgrading the TN802 to TN802B.

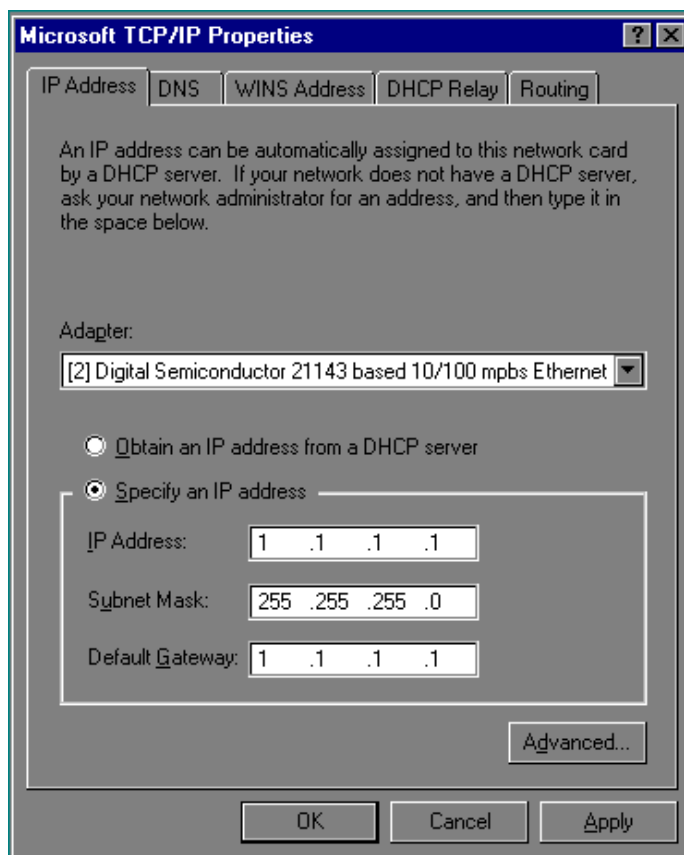
1. Click on **My Computer > Control Panel > Network**.
2. Click the **Protocols** tab.
3. Select **TCP/IP Protocol** from the list.
4. Click the **Properties** option in the Network window. Write down the IP address, subnet address, and gateway address shown for adaptor [2] (see example below).



**NOTE:**

Do not use the addresses for adaptor [1].





5. When done, click **OK, OK**.

## Upgrade to TN802B (R8)

### ⇒ NOTE:

The upgrade takes about 20 minutes.

1. Insert the flash disk into the right most slot on the TN802 IP trunk. On the monitor, a dialog box assigns a drive letter with the removable media designation; the default is D:.
2. Right click on **Start > Explore** to open the Windows NT Exploring pane and select the drive letter indicated in step 1.
3. Double-click on **Medpro** and select the Setup icon.

4. Follow the Install Shield procedure to transfer all the necessary files to the TN802 IP Interface.

 NOTE:

In the Finish dialog box, select `I will restart later`. Do not select `Restart computer`.

This would be a good time to read the Readme.txt file.

5. Click on **Start > Settings > Control Panel > Services**.
6. Select **IP Trunk** and click on **Startup**.

 NOTE:

Do not click on Start.

7. Under Startup Type, select **Disabled** and click **OK** to disable IP Trunk mode.

 NOTE:

If IP trunk and MedPro services are both set to automatic, the TN802B defaults to IP Trunk and MedPro features cannot be used.

8. Select **MedPro** and click on **Startup**.

 NOTE:

Do not click on Start.

9. Under Startup Type, select **Automatic** and click **OK** to enable MedPro mode.
10. Click **Start > Shut Down** and select `Restart the computer?`

or on the TN802:

Press the recessed reset button on the faceplate (see [Figure 6-21](#)) until the LCD shows a flashing **MSHUT \***. When the flashing stops and the asterisk disappears (about 2 min), reseal the circuit pack to restart the system.

or on the SAT:

- a. Type **busyout board UUCSS** and press Enter .
- b. Type **reset board UUCSS** and press Enter.
- c. Type **release board UUCSS** and press Enter.

Once the system is completely initialized, the LCD reads **MEDPRO \***.

**WARNING:**

When connected remotely via pcANYWHERE, only use the pcANYWHERE Restart Host Computer button on the toolbar to restart Windows NT.

11. Affix the new TN802B label to the circuit pack.
12. Disconnect the monitor, keyboard, and mouse.

**Circuit Pack Verification**

1. Type **change circuit-pack** and press Enter.
2. Check the Code column to see if it says DSMAPD or MedPro.

```
change circuit-packs                               Page 1 of 5
                CIRCUIT PACKS

      Cabinet: 1                                Carrier: A
                Carrier Type: processor

Slot Code  Sf Mode  Name                      Slot Code  Sf Mode  Name
01: TN754           DIGITAL LINE                      11: MEDPRO      RESERVED-IP
02: TN758           POOLED MODEM                       12: MEDPRO      RESERVED-IP
03: TN2144          ANALOG LINE                          13: TN802 B     MAPD BOARD
04: TN746 B         ANALOG LINE                          14:
05:                                                         15:
06: TN771 C         MAINTENANCE/TEST                     16:
07: TN464 F         DS1 INTERFACE
08: TN2140          E&M TIE TRUNK
09: TN767 E         DS1 INTERFACE
10: TN799 B         CONTROL-LAN

'#' indicates circuit pack conflict.
```

3. To correct it, go to the entry just above the TN802B that says DSMAPD.
4. Type MEDPRO, and press Enter. Changing the one entry automatically changes the entry above it. If it is in IP Trunk mode, you get the following error message:

```
MedPro type requires TN802 with application. Type
MEDPRO on circuit-packs form.
```

5. To complete the administration, refer to the *DEFINITY ECS Release 8 Network Connectivity* book.

## Add TTC Japanese 2-Mbit Trunks

---

The TN2242 Japan 2-Mbit trunk interconnects DEFINITY to other vendor equipment in Japan as well as to other DEFINITY switches through the Time Division Multiplexor (TDM).

### Installing the trunks

---

Determine the port assignment of the trunk from the Trunk Group form.

<b>EXAMPLE:</b>	3	A	07	01
	Cabinet (Port Network)	Carrier	Slot Number	Port Number

1. Install a TN2242 circuit pack in assigned carrier slot.
2. Connect the H600-513 cable from the DEFINITY cabinet to the Time Division Multiplexor device.
3. To administer forms, see the following sections in the *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*.
  - For ISDN applications, see ISDN Service.
  - For non-ISDN applications, see Managing Trunks.

## Adding SCC Port Cabinets

---

Up to 3 port cabinets may be stacked on a Release 8si PPN's basic control cabinet or EPN's expansion control cabinet.



### CAUTION:

*A port cabinet may weigh as much as 125 pounds. Use lifting precautions to avoid injury.*

### Unpack and Inspect for Damage

---

1. Unpack the cabinets.
2. Inspect the cabinets for any damage caused during shipping. Report any damage per local procedures.

### Service Interruption

---

1. Since the addition of port cabinets requires a service interruption, notify the customer in advance when the addition will take place.

## Disable Alarm Origination

---

1. Type **change system-parameters maintenance** and press Enter.
2. Set the *Alarm Origination* field to **n**.



### CAUTION:

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

3. For some releases of software, disable *Cleared Alarm Notification* and *Restart Notification* before submitting the form.

## Save Translations and Announcements

---

1. If the system is high or critical reliability, type **status system 1** and press Enter to verify that the system is in the "active" mode.
2. Type **save translation** and press Enter. This instructs the system to take all translation information in memory and write it to the translation cards.
3. If the SCC port network contains a TN750/B/C Announcement circuit pack, type **display announcements** and press Enter.
4. If administered recorded announcements are listed, type **list configuration software-version** and press Enter. To save the announcements, type **save announcements** and press Enter.

## Shut Down DEFINITY AUDIX System

---



### WARNING:

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

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

## Power Down SCC Cabinet Stack

---

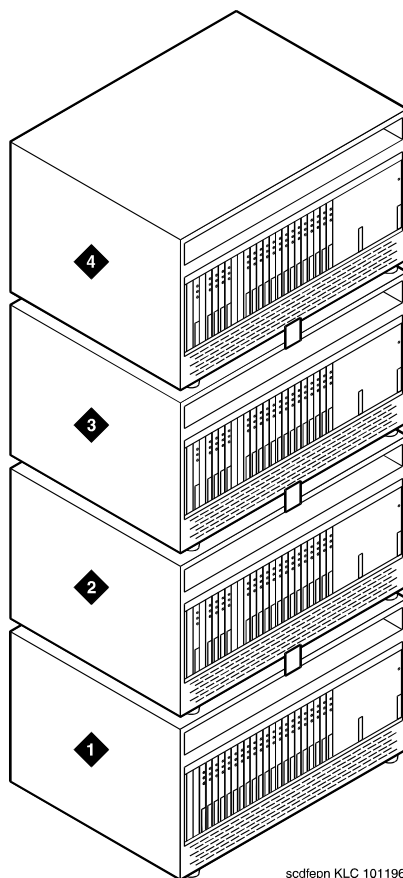
1. At the cabinet stack being upgraded, set the circuit breaker to OFF.
2. Unplug the power cord from the receptacle of each cabinet.

## Position Port Cabinets

---

1. Stack the port cabinets on top of the control cabinet (A) or expansion control cabinet (B, if present). See [Figure 6-23](#).

2. Install cabinet labels on the front and rear of cabinets to the left of the circuit pack labels. Label the second cabinet "B", the third cabinet "C", and the fourth cabinet "D".



### Figure Notes

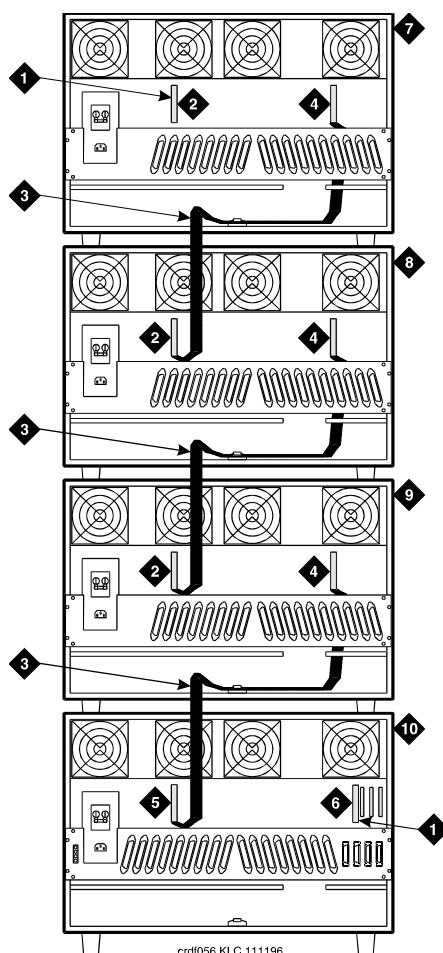
- |  |                                |
|--|--------------------------------|
| 1. Control Cabinet or Expansion Control Cabinet ("A" Position) | 3. Port Cabinet ("C" Position) |
| 2. Port Cabinet ("B" Position)                                 | 4. Port Cabinet ("D" Position) |

Figure 6-23. PPN Cabinet — Front View

### Connect TDM or TDM/LAN Cables

1. Disconnect the TDM or TDM/LAN bus terminator from Slot 22 of the control cabinet, or from Slot "18" of an expansion control cabinet, or from Slot "17" of a port cabinet.

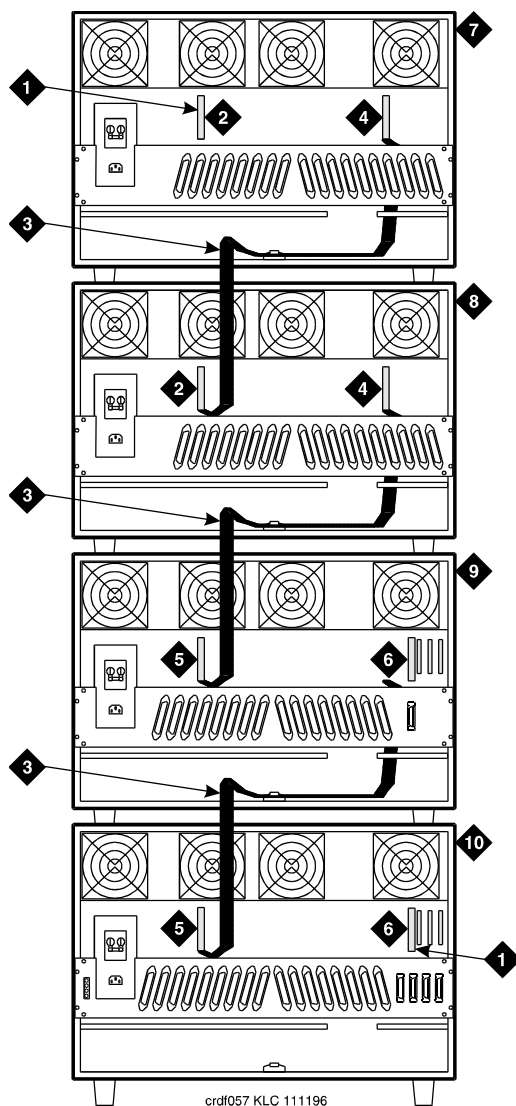
2. Move the terminator to slot "17" of the top port cabinet. See [Figure 6-24](#), [Figure 6-25](#), or [Figure 6-26](#).
3. Connect the TDM/LAN cables behind the lower rear cover.



**Figure Notes**

- |                                  |                                    |
|----------------------------------|------------------------------------|
| 1. AHF110 TDM/LAN Bus Terminator | 6. Slot 02                         |
| 2. Slot 17                       | 7. Port Cabinet ("D" Position)     |
| 3. TDM/LAN Cable (WP91716 L3)    | 8. Port Cabinet ("C" Position)     |
| 4. Slot 00                       | 9. Port Cabinet ("B" Position)     |
| 5. Slot 22                       | 10. Control Cabinet ("A" Position) |

**Figure 6-24. TDM/LAN Connections for Standard or High Reliability PPN or EPN**

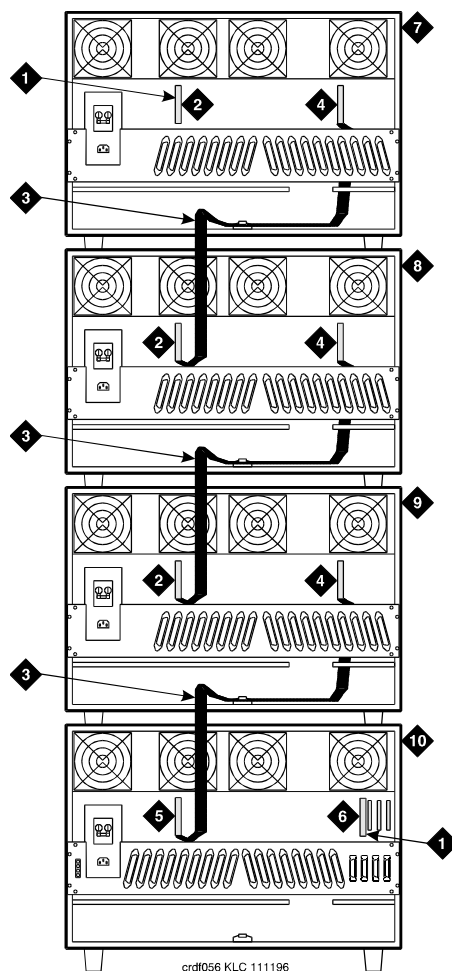


### Figure Notes

- |                                  |  |
|----------------------------------|--|
| 1. AHF110 TDM/LAN Bus Terminator | 6. Slot 02                                   |
| 2. Slot 17                       | 7. Port Cabinet ("D" Position)               |
| 3. TDM/LAN Cable (WP91716 L3)    | 8. Port Cabinet ("C" Position)               |
| 4. Slot 00                       | 9. Duplicated Control Cabinet ("B" Position) |
| 5. Slot 22                       | 10. Control Cabinet ("A" Position)           |

Figure 6-25. TDM/LAN Connections High or Critical Reliability PPN





**Figure Notes**

- |                                  |  |
|----------------------------------|--|
| 1. AHF110 TDM/LAN Bus Terminator | 6. Slot 01 (TDM/LAN Bus Terminator)          |
| 2. Slot 17                       | 7. Port Cabinet ("D" Position)               |
| 3. TDM/LAN Cable (WP91716 L3)    | 8. Port Cabinet ("C" Position)               |
| 4. Slot 00                       | 9. Port Cabinet ("B" Position)               |
| 5. Slot 18                       | 10. Expansion Control Cabinet ("A" Position) |

**Figure 6-26. TDM/LAN Connections for Critical Reliability EPN**

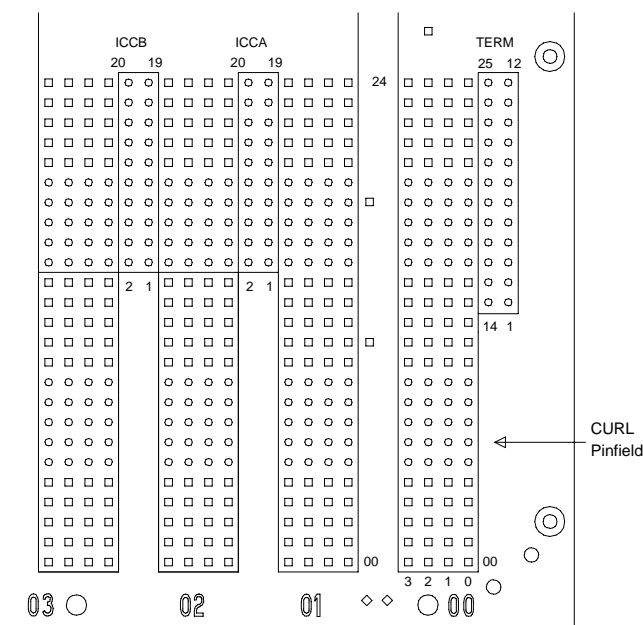
## Connect ICC Cables

If the new port cabinet is cabinet "B" of a critical reliability EPN, install ICC cables.

1. Connect the cables to the "ICC" block on expansion control cabinet A and port cabinet B. Install each cable so the dark stripe on the cable is on the bottom. See [Table 6-10](#), [Figure 6-27](#), and [Figure 6-28](#).

**Table 6-10. Intercabinet Cable Connections**

Connect ICC Cables				
	From		To	
	Carrier	Pin-Field Block	Carrier	Pin-Field Block
EPN	J58890N	ICCA	J58890H	ICCA
		ICCB		ICCB



**Figure 6-27. ICC Pin-Field Blocks on J58890N Expansion Control Cabinet**

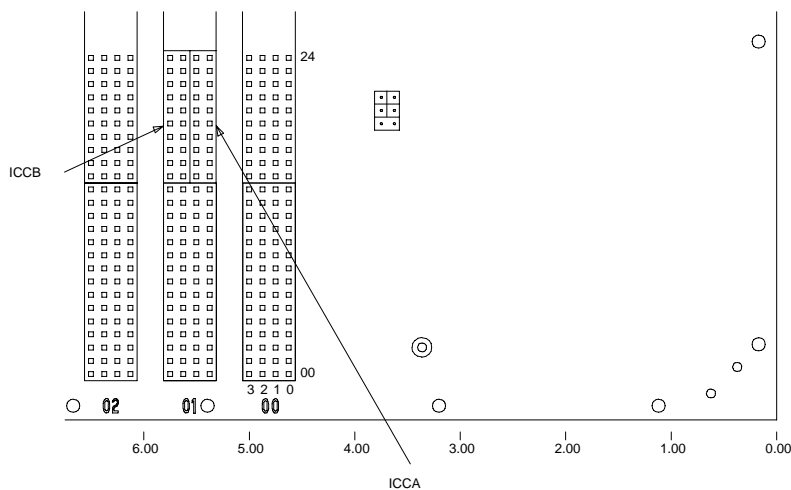
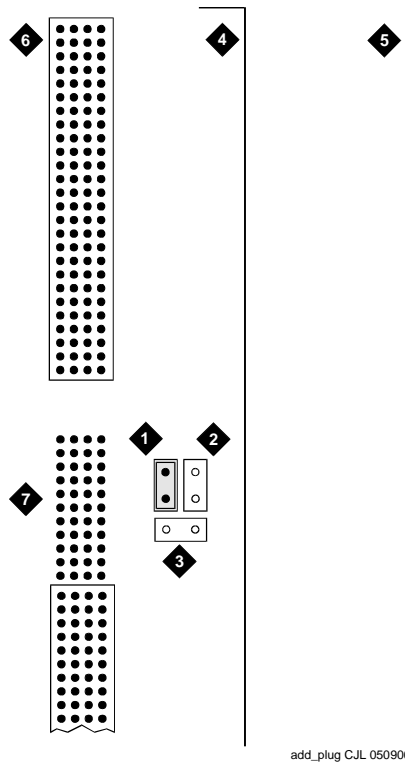


Figure 6-28. ICC Pin-Field Blocks on J58890H Port Cabinet

## Verify Port Cabinet Address Plugs

The address plug is a jumper field on port cabinets only. The address plug is located on the far right hand side of the backplane, to the right of slot 00.

1. A group of 6 pins is labeled for the cabinet (carrier) jumper connections. Verify the address plug for *each* port carrier is in the correct location for that carrier. See [Figure 6-29](#). The factory default setting is "B" (Callout 2 in [Figure 6-29](#)).



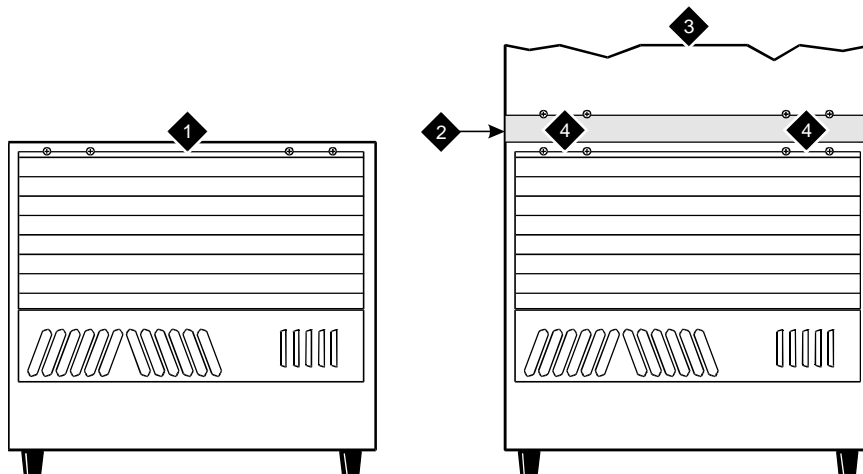
### Figure Notes

1. Address Plug (Shown Set to Carrier D)
2. Carrier B Jumper Location (Default)
3. Carrier C Jumper Location
4. Right Edge of Backplane
5. Right Edge of Cabinet
6. Backplane Slot 00
7. To Connector Panel

Figure 6-29. Port Cabinet Address Plug Location — Cabinet Rear

## Install Rear Panels

---



grnd\_plt C/JL 030696

### Figure Notes

1. Cabinet in A Position (No Ground Plate is Installed on an Unstacked Cabinet)
2. Rear Ground Plate (Attach Between Stacked Cabinets)
3. Cabinet in B Position
4. Screws to Loosen

---

### Figure 6-30. Rear Panel Screw Locations

1. Install the rear panels and loosely thread each screw. See [Figure 6-30](#).
2. For *unstacked* cabinets, tighten the screws securely.  
For a *stack* of cabinets, allow the screws labeled Callout 4 to remain loose. These screws are tightened when the ground plates are installed.
3. Be sure the TDM bus cables and the Inter-Cabinet Cables (ICC) are not pinched by the panels. Also be sure the cables are routed through the channels provided on the rear panels.

## Install Ground Plates

1. Install ground plates between stacked cabinets to provide the ground connection between cabinets, provide radio frequency (RF) radiation protection, and help stabilize the cabinets.

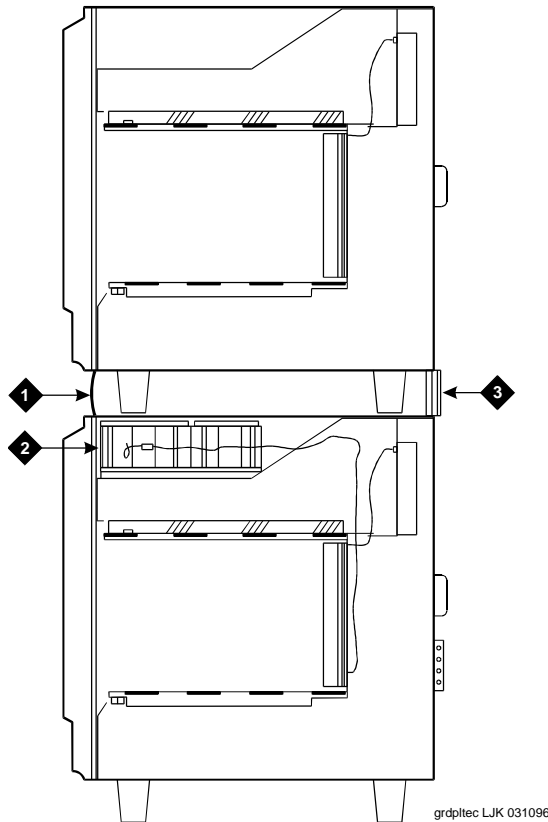
## Install Rear Ground Plates (Systems with Earthquake Protection)

1. Loosen the 4 screws at the bottom of the top cabinet and at the top of the cabinet underneath the top cabinet. See [Figure 6-30](#).
2. Align the mounting holes in the rear ground plate over the bottom screws in the top cabinet.
3. Align the mounting holes in the ground plate with the 4 holes at the top of the cabinet below the top cabinet. Slide the mounting plate down to seat on the screws.
4. Check all TDM bus cables and the Inter-Cabinet Cables (ICC) to be sure they are not pinched by the plates.
5. Repeat Steps 1-3 until the rear ground plates are installed between all stacked cabinets.
6. Do not tighten the screws yet.

## Install Front Ground Plates (Systems with Radiation Shielding and Earthquake Protection)

Use the front ground plate instead of the cabinet clip to attach the cabinets to each other. Use one front ground plate between two *stacked* cabinets.

1. At the front of the cabinets, align the holes in the top of the front ground plate with the holes at the bottom of the upper cabinet, and insert the 4 screws. Do not tighten the screws yet. See [Figure 6-31](#).
2. At the front of the cabinets, align the holes in the bottom of the front ground plate with the holes at the top of the lower cabinet. Insert the 4 supplied #12-24 x 1/2-inch (1.27 cm) thread-forming screws. Do not tighten the screws yet.
3. Repeat Steps 1 and 2 until all stacked cabinets are fastened together.
4. Tighten all screws securely.



**Figure Notes**

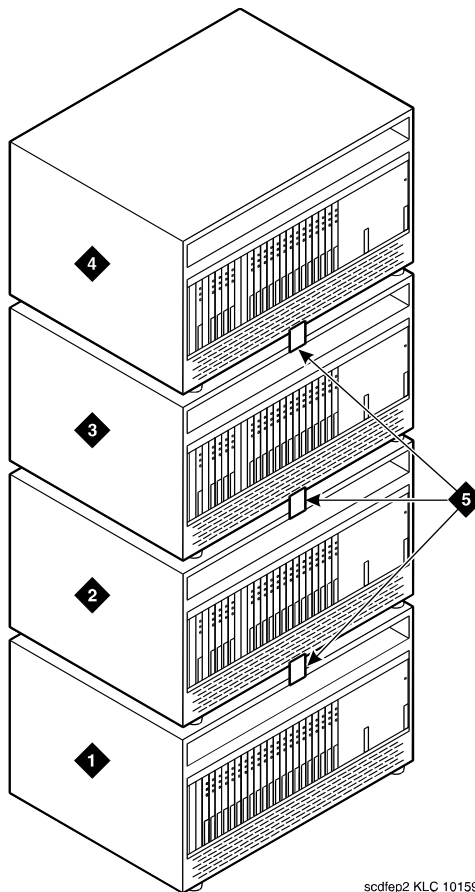
- 1. Front Ground Plate or Cabinet Clip
- 2. Battery
- 3. Rear Ground Plate

**Figure 6-31. Rear Ground Plate and Front Plate or Cabinet Clip — Side View**

## Install Cabinet Clips (Systems without Earthquake Protection)

A cabinet clip is required between each pair of stacked cabinets.

1. At the front of the cabinets, install a cabinet clip between each pair of 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 6-32](#).



sctlep2 KLC 101596

### Figure Notes

- |   |                  |
|---|------------------|
| 1. Control Cabinet A or Expansion Control Cabinet | 3. Port Cabinet  |
| 2. Port Cabinet or Duplicated Control Cabinet     | 4. Port Cabinet  |
|   | 5. Cabinet Clips |

Figure 6-32. Location of Cabinet Clips



## **Install Cable Clamps**

---

1. At the rear of the cabinets, install 2 cable clamps on each ground plate. These clamps hold the port cables.

## **Install Port Circuit Packs**

---

1. Install circuit packs in the slots specified by the Customer Service Document and Port Assignment Worksheet.

## **Install Cables**

---

1. Install cables from the port cabinets to the MDF, as required.

## **Connect Cabinet Power**

---

### **Connect AC Power**

1. Connect an AC power cord to each added cabinet.
2. Connect the AC power cord from each cabinet to the power receptacles.

### **Connect DC Power**

1. Connect DC power to the cabinets using the instructions earlier in this chapter.

## **Power Up SCC Cabinet Stack**

---

1. At the cabinet stack, behind each cabinet power supply, set the circuit breaker to ON.
2. The system performs the level 4 rebooting process, loading the translations from the translation cards. This takes about 10 minutes.
3. After the system reboot is finished and all trouble is cleared, set the EMERGENCY TRANSFER CONTROL switch to AUTO. This restores the system to the normal operating mode.

## **Enter Added Translations**

---

1. Enter added translation data using *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*.

## Resolve Alarms

1. Examine the alarm log. Resolve any alarms that may exist using *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*.

## Enable Customer Options and Alarm Origination

1. Get the DOSS order number of the upgrade from the project manager and ask the regional Customer Software Administration to complete the steps in the shaded box. See ["Where to Call for Technical Support" on page -xx](#) for telephone numbers.



### NOTE:

As part of the system registration process, the INADS Database Administrator enables Alarm Origination.

2. When administration is completed, log in as **craft** at the `Login:` prompt.

### "init" login administration:

1. Log in as **init**.
2. Type **change system-parameters customer-options** and press `Enter` to verify that the customer options are properly set.
3. Go to screen 6, QSIG Optional Features, and set the `Basic Call Setup` field to **y** if the customer was using Supplementary Services Protocol b or d on an ISDN-PRI trunk group before the upgrade.
4. Type **change system-parameters offer-options** and press `Enter`.
5. If the `Activate Offer` field is **n**, set it to **y** and press `Tab`. A warning message lets you know whether you need to save translations and reboot to make the change permanent.
6. Press `Enter` to effect the changes or `Cancel` if there were no changes.
7. Contact the requester when done.

## Save Translations

1. If the system is high or critical reliability, type **status system 1** and press `Enter` to verify that the system is in the "active/standby" mode.
2. Type **save translation** and press `Enter`. This instructs the system to take all translation information in memory and write it to the translation cards.

6 Adding or Removing Hardware  
*Adding Control Cabinet to Release 8si*

6-85

3. If the SCC cabinet stack contains a TN750/B/C Announcement circuit pack, type **list configuration software-version** and press Enter. If Page 2 of this form shows that recorded announcements were saved, these announcements can be restored by typing **restore announcements** and pressing Enter.

## Adding Control Cabinet to Release 8si

For 1 cabinet stack, upgrade a simplex system to a duplex system by setting the J58890M Duplicated Control Cabinet on top of the basic control cabinet.

For 2 cabinet stacks, upgrade a simplex system to a duplex system by setting a J58890M Duplicated Control Cabinet on top of the basic control cabinet. Set a J58890N Expansion Control Cabinet on the floor, next to the first cabinet stack. Remove the top port cabinet from the existing cabinet stack and place it on top of the expansion control cabinet.

For 3 cabinet stacks, upgrade a simplex system to a duplex system by setting a J58890M Duplicated Control Cabinet on top of the basic control cabinet. Set a J58890N Expansion Control Cabinet on the floor, next to the first cabinet stack. Set a second J58890N on the floor, next to the second cabinet stack.

## Follow Routine Preventive Maintenance

1. Follow routine preventive maintenance procedures on the system to be upgraded. Refer to the "Preventive Maintenance" section in *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*.

## Remove Translations

1. If the existing system is pre-G3V4 and contains TN768 Tone-Clock circuit packs, remove the NETCON, PE, and tone translations before starting the upgrade. The active tone clock in 0x1c cannot be properly inserted while PI translations exist from the old carrier. Re-add the translations after the upgrade.

## Label Cables

1. To make reconnecting the cables simpler and more reliable, label every connector cable associated with the system.

## Service Interruption

1. Since the addition of the second control cabinet requires a service interruption, notify the customer in advance as to when the addition will take place.

## Disable Alarm Origination

---

1. Type **change system-parameters maintenance** and press Enter.
2. Set the *Alarm Origination* field to **n**.



### CAUTION:

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

3. For some releases of system software, disable *Cleared Alarm Notification* and *Restart Notification* before submitting the form.

## Save Translations

---

1. Type **save translation** and press Enter. This command instructs the system to take all translation information in memory and write it to the translation cards.
2. If the system contains a TN750/B/C Announcement circuit pack, type **display announcements** and press Enter.

If administered recorded announcements are listed, type **list configuration software-version** and press Enter. To save the announcements, type **save announcements** and press Enter.

3. Update backup card, if required.

## Shut Down DEFINITY AUDIX System

---



### WARNING:

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

1. 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.

## Shut Down DEFINITY LAN Gateway System

### CAUTION:

Before shutting down the DEFINITY LAN Gateway, 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. Log onto the DEFINITY LAN Gateway.
2. When the main menu appears, select *Maintenance*.
3. Select *Reset System* from the *Maintenance* menu.
4. Select *Shutdown* from the *Reset System* menu.

## Power Down System

1. Behind each PPN cabinet's power supply, set the circuit breaker to OFF.
2. Behind each EPN cabinet's power supply, set the circuit breaker to OFF.

### CAUTION:

*Powering down the control cabinet causes important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup requests, and Do Not Disturb requests to be lost. BCMS data cannot be stored to or retrieved from optical disk.*

## Install Power Failure Transfer Ground Wire

### CAUTION:

*To avoid contaminating single-point ground, do not connect the ground wire while the system is powered up.*

1. Connect a 10 AWG (#25) (6 mm<sup>2</sup>) wire 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 end of the wire to an approved ground and connect.

## Disconnect Cables

1. Disconnect all of the previously labeled connector cables.
2. Disconnect the management terminal from the TERM connector.
3. Remove the ground plates from between all of the stacked cabinets.
4. Remove the top and bottom rear covers from all of the cabinets.

## Disconnect Power and Ground

1. Disconnect the cabinet power cords from the rear of each cabinet.
2. Disconnect the 10 AWG (#25) (2.6 mm) coupled bonding conductor wire.
3. Disconnect the 6 AWG (#40) (4.1 mm) cabinet ground wire from the single-point ground block on the rear of the cabinet.

## Remove the Existing Port Cabinets

If the PPN stack contains 3 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 a duplicated control cabinet (containing 16 port slots) leads to a net loss of at least 2 available port slots.

1. Remove the cabinet clip from between each cabinet.
2. Remove the port cabinets from the stack and place them aside.



**CAUTION:**

*A port cabinet may weigh as much as 125 pounds. Use lifting precautions.*

## Unpack and Inspect Duplicated Control Cabinet



**CAUTION:**

*Take care to avoid injury while cutting and removing bands.*

1. Unpack and inspect the J58890M Duplicated Control Cabinet.
2. Report any damage per local procedures.

## Install Duplicated Control Cabinet

---

1. Set the duplicated control cabinet above cabinet "A" (in the "B" position). See [Figure 6-23](#).

## Install Port Cabinets

---

1. Set port cabinets "C" and "D" into their original positions. See [Figure 6-23](#).

## Verify Usable Circuit Pack Vintages

---

1. Verify each reused circuit pack conforms to the usable vintages for a Release 8 system. See *Reference Guide for Circuit Pack Vintages and Change Notices*.

## Install Circuit Packs

---

1. Install the new TN790B Processor circuit pack into the "PROCR" slot in the duplicated control cabinet.
2. Install a new TN792 Duplication Interface circuit pack into the "DUPN INTFC" slot in control cabinet "A."



**NOTE:**

Currently, both TN768 Tone-Clock circuit packs reside in port slots of the basic control cabinet. Relocate one of these circuit packs to the "TONE-CLOCK" slot of the duplicated control cabinet. Lucent recommends upgrading to the TN2182/B Tone-Clock.

3. For a critical reliability system, install the other TN768 Tone-Clock and either a TN776 or TN570/B/C EI in slots "1" and "2" of port cabinet "C." See [Table 6-11](#).



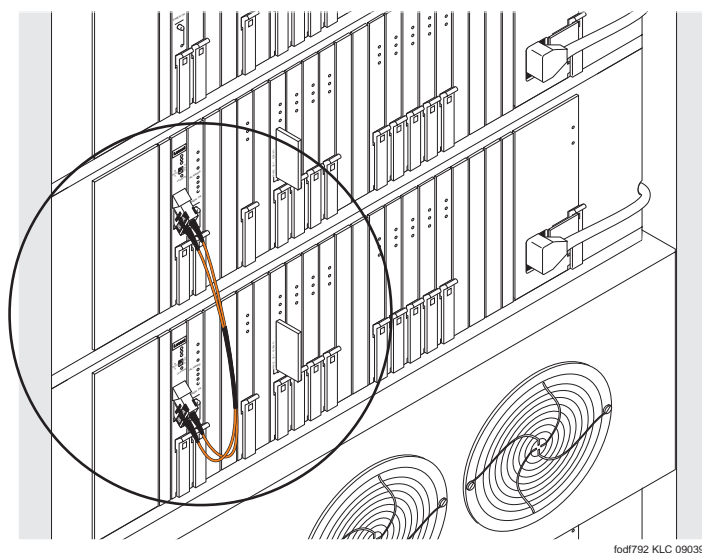
**NOTE:**

Installing these circuit packs may require moving a port circuit pack to an available slot now. Retranslate its port circuits after rebooting the system (with the Release 8 translation card).

Table 6-11. TN776 or TN570/B/C 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

4. Install the new control circuit packs into control cabinet "B."
5. Install the new TN776 or TN570/B/C Expansion Interface circuit packs into cabinets "A" and "B."
6. For a critical reliability system with optional packet bus, install a new TN771D Maintenance/Test circuit pack into an available port slot of each port network (if not already present).
7. Install circuit pack blanks in slots not equipped with circuit packs.
8. Interconnect the port networks with the fiber optic cables. See [Figure 6-33](#).



fodf792 KLC 090399

Figure 6-33. Fiber optic cable connecting the two DUPINT circuit packs.



## Verify Port Cabinet Address Plugs

1. Behind each port cabinet, locate the address plug attaching to two of the six backplane pins to the right of the pin-field block for slot "00."
2. Verify the location of each port cabinet address plug matches the cabinet's current position. See [Figure 6-29](#).

## Relocate Port Cabinet B

### PPN Cabinet Stack Only

1. If the PPN stack contained 3 port cabinets and this installation is for a PPN cabinet stack *only* (no EPN cabinets), return the port cabinet to Lucent Technologies according to the requirements outlined in:

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

### PPN and EPN Cabinet Stack

1. If the PPN stack contained three port cabinets, relocate the port cabinet to the last EPN stack.
2. Behind the port cabinet, locate the address plug attaching to two of the six backplane pins to the right of the pin-field block for slot "00."
3. Change the location of the port cabinet address plug to match the cabinet's current position. See [Figure 6-29](#).

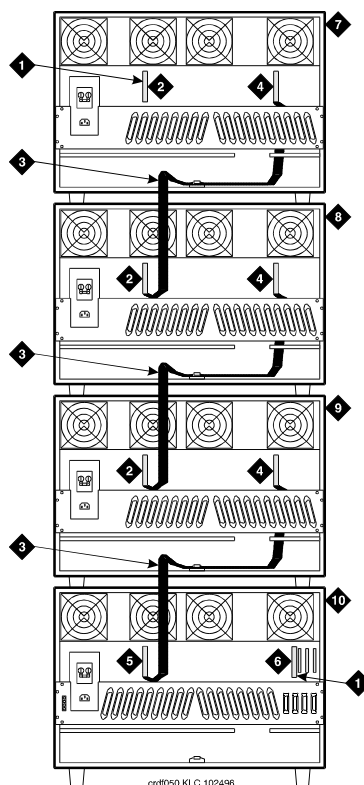
## Install TDM/LAN Bus Terminators

1. Install the TDM/LAN bus terminator in Slot "01" on the right side of the control cabinet as shown in [Figure 6-34](#).
2. Install the TDM/LAN bus terminator in Slot "17" on the top port cabinet.

## Connect TDM/LAN Cables and ICC Cables

1. If any port cabinets were 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 the two left connector panel screws, then remove the other two connector panel screws.

- b. Attach the TDM/LAN cable to the backplane. 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). See [Figure 6-35](#) and [Figure 6-36](#).



**Figure Notes**

- |                                  |                                   |
|----------------------------------|-----------------------------------|
| 1. AHF110 TDM/LAN Bus Terminator | 6. Slot 01                        |
| 2. Slot 17                       | 7. Control Cabinet ("D" Position) |
| 3. TDM/LAN Cable (WP91716 L3)    | 8. Port Cabinet ("C" Position)    |
| 4. Slot 00                       | 9. Port Cabinet ("B" Position)    |
| 5. Slot 18                       | 10. Port Cabinet ("A" Position)   |

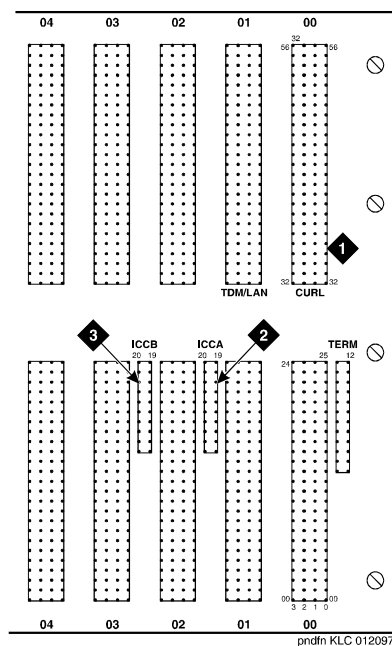
**Figure 6-34. TDM/LAN Connections for Release 8 EPN**

## Reconnect Remaining Cables

1. Install the CFY1 current limiter (CURL) on the "A" carrier, to pin-field block "00." See [Figure 6-35](#). The CURL's components are on the left side.
2. Replace all cables that were labeled and removed.
3. Install the front door on each cabinet. Install the top and bottom rear covers on the new expansion control cabinet. Do not use these rear covers on the port cabinets.

**Table 6-12. Intercabinet Cable Connections**

Connect ICC Cables				
	From		To	
	Control Cabinet	Pin-Field Block	Port Cabinet	Pin-Field Block
EPN	J58890N	ICCA ICCB	J58890H	ICCA ICCB



**Figure Notes**

- 1. CURL (Current Limiter) Connector
- 2. ICCA Connectors
- 3. ICCB Connectors

**Figure 6-35. ICC Pin-Field Blocks on Expansion Control Cabinet**

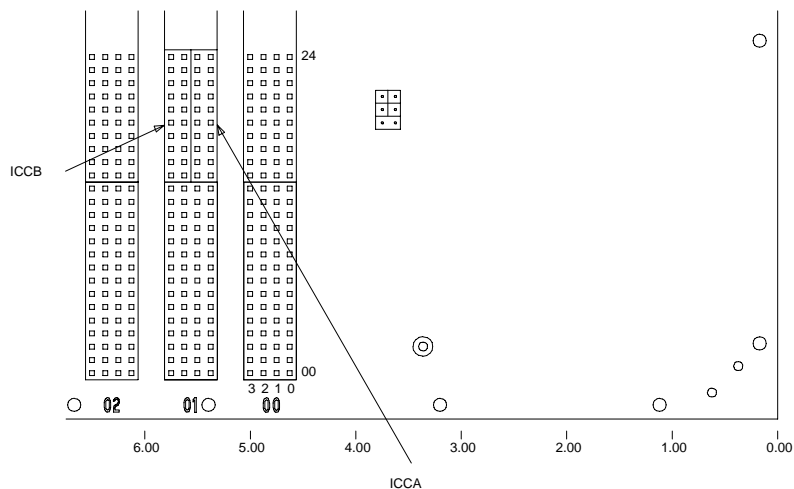


Figure 6-36. ICC Pin-Field Blocks on Port Cabinet

## Install Rear Panels

1. Install the rear panels and loosely thread each screw. See [Figure 6-30](#).
2. For *unstacked* cabinets, tighten the screws securely.  
For a *stack* of cabinets, allow the screws labeled Callout 4 to remain loose. These screws are tightened when the ground plates are installed.
3. Be sure the TDM bus cables and the ICC are not pinched by the panels. Be sure the cables route through the channels on the rear panels.

## Install Ground Plates (Systems with Earthquake Protection)

The ground plates provide the ground connection between cabinets, provide radio frequency (RF) radiation protection, and help stabilize the cabinets.

1. Refer to [“Install Rear Ground Plates \(Systems with Earthquake Protection\)”](#) earlier in this chapter.

## Install Cabinet Clips (Systems without Earthquake Protection)

A cabinet clip is required between each pair of stacked cabinets.

1. Refer to [“Install Cabinet Clips \(Systems without Earthquake Protection\)”](#) earlier in this chapter.

## Connect Power and Ground

---

1. Reconnect the 6 AWG (#40) (16 mm<sup>2</sup>) cabinet ground wire to the single-point ground block on the cabinet.
2. Reconnect the 10 AWG (#25) (6 mm<sup>2</sup>) coupled bonding conductor wire.
3. Reconnect the cabinet power cords behind each cabinet.

## Remove Power-Failure Ground Wire

---

1. Remove the previously installed ground wire from the power-failure transfer unit.

## Reconnect Cables (Systems without Earthquake Protection)

---

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 top and bottom rear covers on the new control cabinets. Do not use these rear covers on the port cabinets.

## Reconnect Cables (Systems with Earthquake Protection)

---

1. Replace all cables that were labeled and removed.
2. 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 (1 for the TDM/LAN cable and another for the ICC cables).

3. Align the 4 holes in the ground plate with the four holes at the bottom of the lower rear cover of the upper cabinet. Loosely install the screws.
4. Align the ground plate with the top holes of the upper rear cover of the lower cabinet. Install the 4 screws but do not tighten.
5. Align the earthquake front plate with the holes at the top and bottom of the cabinet. Install the eight screws.
6. Tighten all screws.
7. Repeat the above steps for the remaining cabinets.
8. Install the front door on each cabinet.
9. Install a DEFINITY label on each existing port cabinet.

## Reboot the System

1. Connect the management terminal to the "TERMINAL" connector behind PPN control carrier "A," or install the G3-MA according to *DEFINITY Communications System Generic 3 Management Applications — Operations*, 585-229-202.
2. Verify that the translation cards are inserted in the TN794 circuit packs.
3. At each cabinet set the main circuit breaker to ON. The system performs the reset level 4 reboot process, loading the default system translations from the translation cards. This takes 10 minutes.

## Set Daylight Savings Rules

You can set up to 15 customized daylight savings time rules. If you have switches in several different time zones, you can set up rules for each. A daylight savings time rule specifies the exact time when you want to transition to and from daylight savings time. It also specifies the increment at which to transition.



### NOTE:

The default daylight savings rule is **0**, no daylight savings.

1. Type **change daylight-savings-rules** and press Enter.

```

                                DAYLIGHT SAVINGS RULES
Rule          Change Day          Month   Date   Time   Increment
0:   No Daylight Savings
1:   Start: first Sunday   on or after April   1   at 2:00   01:00
     Stop:  first Sunday   on or after October 25  at 2:00
2:   Start: first _____ on or after _____ at _____
     Stop:  first _____ on or after _____ at _____
3:   Start: first _____ on or after _____ at _____
     Stop:  first _____ on or after _____ at _____
4:   Start: first _____ on or after _____ at _____
     Stop:  first _____ on or after _____ at _____
5:   Start: first _____ on or after _____ at _____
     Stop:  first _____ on or after _____ at _____
6:   Start: first _____ on or after _____ at _____
     Stop:  first _____ on or after _____ at _____
7:   Start: first _____ on or after _____ at _____
     Stop:  first _____ on or after _____ at _____
    
```

**6** Adding or Removing Hardware  
Adding Control Cabinet to Release 8si

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2. Type the appropriate start and stop information in the Change Day, Month, Date, Time, and Increment (for example, **1:00** equals one hour) fields for each rule.

**⇒ NOTE:**

You can change any rule except rule 0 (zero). You cannot delete a daylight savings rule if it is in use on either the Locations or Date and Time screens.

3. Press Enter.

**Set Date and Time**

1. Type **set time** and press Enter.
2. Verify the screen displays the Date and Time screen. See [Screen 6-1](#). The cursor is positioned on the Day of the Week: field.

```

                                DATE AND TIME
DATE
Day of the Week: Tuesday      Month: November
Day of the Month: 7          Year: 2000

TIME
Hour: 20   Minute: 30   Second: XX   Type: standard
Daylight Savings Rule: 1
```

**Screen 6-1. Typical Date and Time Screen**

3. Type the day of the week in English (Sunday through Saturday). See [Table 6-13](#) for English day of the week names.

**Table 6-13. English Day of the Week Names**

Day Number	Day Name
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday



- The cursor is positioned on the `Month:` field. Type the current month in English (January through December). See [Table 6-14](#) for English month names. After the month is entered, press `Tab` to move to next field.

**Table 6-14. English Month Names**

---

Month Number	Month Name
1	January
2	February
3	March
4	April
5	May
6	June
7	July
8	August
9	September
10	October
11	November
12	December

---

- The cursor is positioned on the `Day of the Month:` field. Type the day of month (1 through 31) and press `Tab` to move to the next field.
- The cursor is positioned on the `Year:` field. Type the current year and press `TAB` to move to the next field.
- The cursor is positioned on the `Hour:` field. Type the current hour for a 24-hour clock. Press `Tab` to move to the next field.
- The cursor is positioned on the `Minute:` field. Type current minute (0 through 59). Seconds cannot be set.
- Type **standard** or **daylight savings** in the `Type` field.
- Type the rule (number) in the `Daylight Savings Rule` field.
- Press `Enter` when the information is correct.
- Type **display time** and press `Enter` to verify date/time data.

## Set Additional Administration

1. Type **list configuration software-version long** and press Enter to compare the version number of the Release 8 software program (displayed on the terminal or G3-MA) with the TN790B version number (written on a label on the TN790B's faceplate). If the version numbers are not the same, change the version number on the TN790B label so that they agree.
2. Get the order number of the upgrade and call the regional CSA to request an "init" login so that the right-to-use options can be enabled.
3. Type **change system-parameters customer-options** and press Enter. Use this form to enable the customer's other right-to-use options on the Release 8 upgrade order.
4. Type **change site-data** and press Enter. Use this form to assign system-specific information (such as building, floor, and stations).
5. Type **status system 1** and press Enter to verify that the system is in the "active/standby" mode.
6. Type **save translation** and press Enter. This instructs the system to write all translation information from memory to the translation cards.



### CAUTION:

*If the terminal displays "translation corruption detected; call Lucent distributor immediately", an error was detected in the translations.*



### NOTE:

The **save translation** command cannot function if the translation corruption message appears. Refer to ["Translation Corruption Detected" on page B-5](#) to clear the problem.

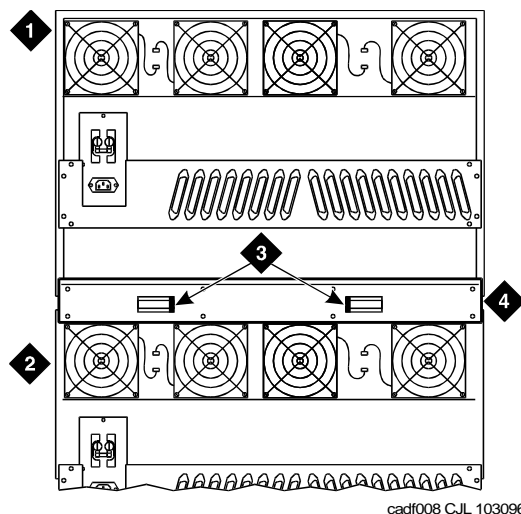
## Add Translations

---

1. If the system was upgraded from G3V4 or earlier and contains TN768 Tone-Clock circuit packs, the NETCON, PE, and tone translations were removed before starting the upgrade. Re-add the translations now.

## Install Cable Clamps

1. Behind the cabinets using screws provided, install 2 cable clamps on each ground plate. See [Figure 6-37](#). These clamps hold the port cables.



### Figure Notes

- |                    |                 |
|--------------------|-----------------|
| 1. Port Cabinet    | 3. Cable Clamps |
| 2. Control Cabinet | 4. Ground Plate |

Figure 6-37. Locations of Ground Plate and Cable Clamps

## Retranslate Port Circuits

If port circuit packs in the control cabinet were relocated to put one of the following into a slot in the duplicated control cabinet:

- A critical port circuit pack, requiring longer nominal battery holdover (such as a DS1 or an Announcement circuit pack), in a port slot
- A TN755B power supply in port slots "16" and "17"
- A TN776 or TN570/B/C Expansion Interface in port slot "1" or in port slot "2" (for a second directly-connected EPN)

1. Verify retranslations during the off-site software upgrade. If not, retranslate them now. Refer to *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*.

## Enable Customer Options and Alarm Origination

1. Get the DOSS order number of the upgrade. Call the regional CSA to perform the steps in this section.
2. To use Access Security Gateway (ASG), see [Chapter A, "Administering and Using ASG"](#).
3. Type **change system-parameters customer-options** and press Enter. Use these forms to verify the customer options are properly set.

### NOTE:

If the customer was using Supplementary Services Protocol "b" or "d" on an ISDN-PRI trunk group before the upgrade, set the `Basic Call Setup` field on the QSIG Optional Features page to **y**.

4. Type **display system-parameters offer** and press Enter.
5. Set the `Offer Category` field to **A**, if not already set.
6. Set the `Activate Offer` field to **y**.
7. Be sure the system is part of the existing INADS database by calling the INADS Database Administrator at the Technical Service Center (TSC). Verify that INADS can dial into the system and that the system can dial out to INADS.

As part of the system registration process, the INADS Database Administrator enables Alarm Origination and customer options.

## Resolve Alarms

1. Examine the alarm log. Resolve any alarms that may exist using *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*.

## Save Translations

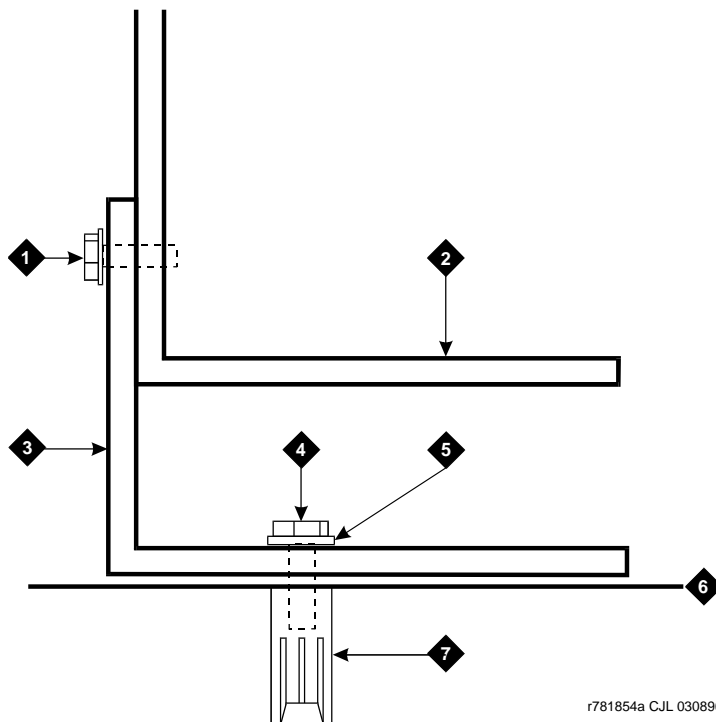
1. If the system is high or critical reliability, type **status system 1** and press Enter to verify that the system is in the "active/standby" mode.
2. Type **save translation** and press Enter. This instructs the system to take all translation information in memory and write it to the translation cards.
3. If the SCC cabinet stack contains a TN750/B/C Announcement circuit pack, type **list configuration software-version** and press Enter. To restore these announcements, type **restore announcements** and press Enter.

## Return Replaced Equipment

1. Return equipment to Lucent according to the requirements outlined in:  
*BCS/Material Logistics, MSL/Attended Stocking Locations  
Methods and Procedures for Basic Material Returns*

## Installing Earthquake Protection

Earthquake protection only installs on Single-Carrier Cabinets.



### Figure Notes

- |   |                            |
|---|----------------------------|
| 1. #12-24x1/2-inch Thread Forming Screw | 5. Nylon Insulating Washer |
| 2. Control Cabinet                      | 6. Concrete Floor          |
| 3. Front Mounting Angle                 | 7. Concrete Floor Anchor   |
| 4. Hex Head Bolt                        |                            |

### Figure 6-38. Front Mounting Angle Location

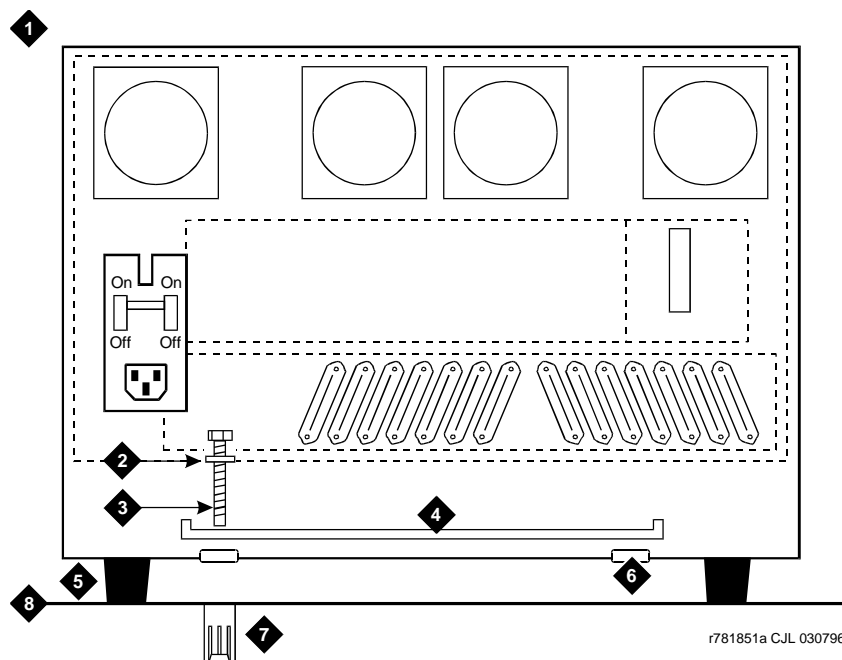
1. Position the Control Cabinet (J58890L) in the position it is to occupy when the installation is complete. Be sure the cabinet is level.
2. Using a pencil or marker and using the Front Mounting Angle as a template, mark the locations of the 2 floor mounting holes.
3. Move the cabinet out of the way and drill a hole 1/2-inch (1.3 cm) in diameter and 1.5 inches (3.8 cm) deep at the locations marked in Step 2.

4. Insert a concrete floor anchor (STARR part number 3425) into each hole.
5. Secure the Front Mounting Angle to the floor using the short hex head bolts provided.
6. Move the cabinet back into place.
7. At the rear of the cabinet, remove the 2 hole plugs from the bottom of the cabinet. See [Figure 6-39](#).
8. Insert a pencil or marker through the holes in the bottom of the cabinet and mark the floor directly beneath each hole.
9. Move the cabinet out of the way and drill a hole 1/2-inch (1.3 cm) in diameter and 1.5 inches (3.8 cm) deep at the locations marked in Step 9.
10. Insert a concrete floor anchor (STARR part number 3425) into each hole.
11. Move the cabinet back into place and align with the Front Mounting Angle.
12. Attach the cabinet to the Front Mounting Angle using the 4 supplied #12-24 x 1/2-inch (1.27 cm) thread-forming screws. See [Figure 6-38](#).
13. Lay the supplied Stiffener on the bottom rear of the cabinet and align with the holes in the bottom of the cabinet. See [Figure 6-39](#).
14. Slide a nylon washer onto each of the 2 supplied long hex head bolts.
15. Insert the bolts through the Stiffener and thread into the concrete floor anchor. Tighten securely.



**NOTE:**

If critical reliability is installed, the Expansion Control Cabinet sets on the floor, next to Control Cabinet A. Repeat the above procedures.



r781851a CJL 030796

### Figure Notes

- |   |                          |
|---|--------------------------|
| 1. Cabinet                              | 5. Cabinet Foot          |
| 2. Nylon Insulating Washer (2 Required) | 6. Floor Plugs (Remove)  |
| 3. Long Hex Head Bolt (2 Required)      | 7. Concrete Floor Anchor |
| 4. Stiffener                            | 8. Concrete Floor        |

Figure 6-39. Cabinet Earthquake Mounting — Rear View

## Installing an Integrated Channel Service Unit (ICSU) Module

The integrated channel service unit (ICSU) is a combination of a 120A CSU module integrated with a DS1 circuit pack. Use this device with the 700A DS1 loopback jack when testing the DS1 span.

## Checking for required components

The integrated channel service unit (ICSU) package contains:

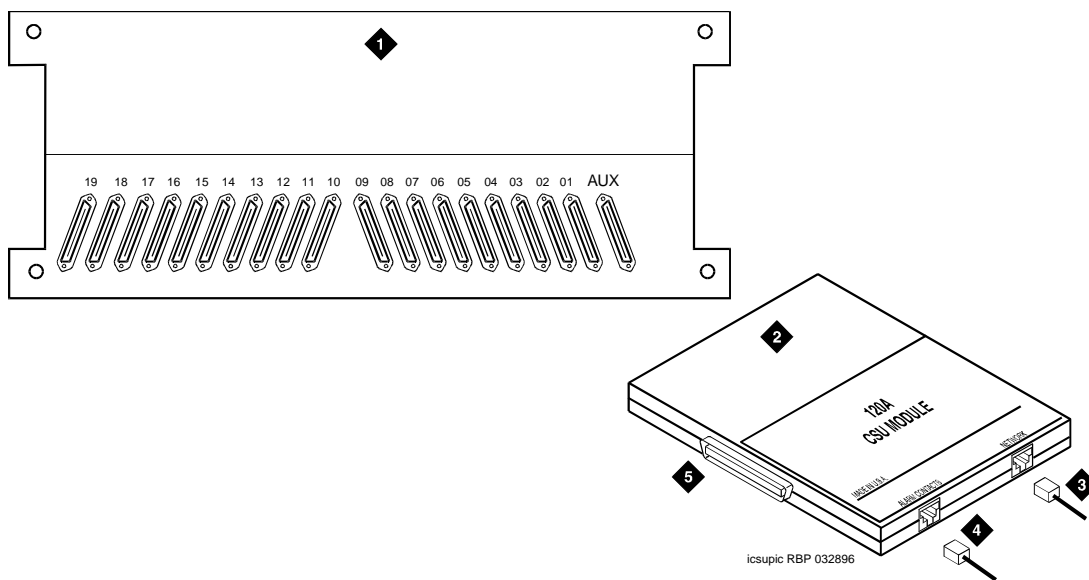
- 120A CSU module
- Cable H600-383  
 4-pair modular cord  
 Group 2, 50-ft (15.2-m) cable (standard)
- Cord DW8A-DE  
 4-pair modular cord to alarm contacts

- DS1 circuit pack

The basic ICSU requires a TN474E or TN777D or later suffix. The enhanced integrated channel service unit requires a TN474F or TN777E or later suffix.

## Installing the 120A CSU

See [Figure 6-40](#).



1. Rear of carrier containing DS1 circuit pack
2. 120A CSU
3. 4-pair cord to network interface (H600-383)

4. DW8A-DE 4-pair cord to alarm contacts (optional)
5. To 25-pair connector on rear of carrier

Figure 6-40. 120A Channel Service Unit Module (Figure changes for R8si)



 **CAUTION:**

*Do not plug the 120A into any circuit pack other than a TN474F or TN777E or later release/vintage. Do not connect the 120A to any interface other than a network smart jack.*

*Be sure the DS1 circuit pack is set for 24-channel operation (1.544 Mbps). The 120A does not operate with the 32-channel interface. A switch on the circuit pack or administration sets this option.*

 **CAUTION:**

*Always wear an antistatic wrist strap when installing a 120A module. Do not touch the external alarm cable when it is connected to the 120A. Static discharge can damage connector terminals and relays.*

1. Unplug the DS1 circuit pack from its slot.
2. Install a 4C retainer in the 50-pin plug associated with the DS1 circuit pack slot.
3. Plug the 120A's 25-pair connector directly into the plug associated with the DS1 circuit pack slot.
4. Secure the 4C retainer around the 120A.
5. Attach the supplied H600-383 cable to the 120A and to the network smart jack.

This cable is directional. To determine the end that connects to the 120A, perform a continuity test between pins 3 and 7. The end with this continuity is the 120A end. The shield is grounded only at the 120A end.

Use the cable provided. If cabling other than that provided with the 120A is used, observe the following guidelines:

- Use 24-gauge wire that provides individually shielded, twisted pairs for transmit and receive signals. Use the cable between the network interface and the 120A. Ground the shields of this cable only at the 120A end to avoid ground loops.
- Cabling between the network interface and 120A can have no bridge taps.
- If using standard house riser cable for connections between the network interface and the 120A, maintain a 100-pair separation between the receive and transmit twisted pairs.
- If using standard house riser cable for connections between the network interface and the 120A, allow no more than 2 cross connects to 110-type cross connect blocks.

6 Adding or Removing Hardware

Installing an Integrated Channel Service Unit (ICSU) Module

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- Never use quad cable (untwisted two pair telephone cable) in a DS1 line.
  - Avoid mixing wires of different gauges in a DS1 line.
6. If using external alarm equipment, attach the supplied DW8 cable to the 120A and the external equipment. The maximum length of this cable depends on the alarm equipment.
  7. If a TN474F is used, make sure the circuit pack is set for 24-channel operation. Set the switch on the circuit pack as shown in Figure 2-1.
  8. From the DS1 circuit-pack form of the system administration console, set the line compensation field to 0-133 ft (40.6 m).
  9. Reset the 120A by reseating the DS1 circuit pack.

When you reinsert the DS1 circuit pack after installing a 120A CSU the 120A resets. The DS1 circuit pack initializes and tests the 120A. When initialization and testing is complete, the green LED goes off. If the RED indicator is OFF after the test, the ICSU is working.

10. If the circuits do not pass the self test, troubleshoot the 120A as instructed in *Integrated CSU Module Installation and Operation*.

[Table 6-15](#) provides the H600-383 cable pinouts. [Table 6-16](#) provides the cable lengths for each cable group number.

**Table 6-15. H600-383 Cable Pin Assignments**

Pin	Color	Channel Service Unit Designation	Network Designation	Function
1	BK	Line in 0	R1	RCV
2	Y	Line in 1	T1	
3	Shield			
4	R	Line out 0	R	XMT
5	G	Line out 1	T	
7	Shield			
7				Not assigned
8				Not assigned

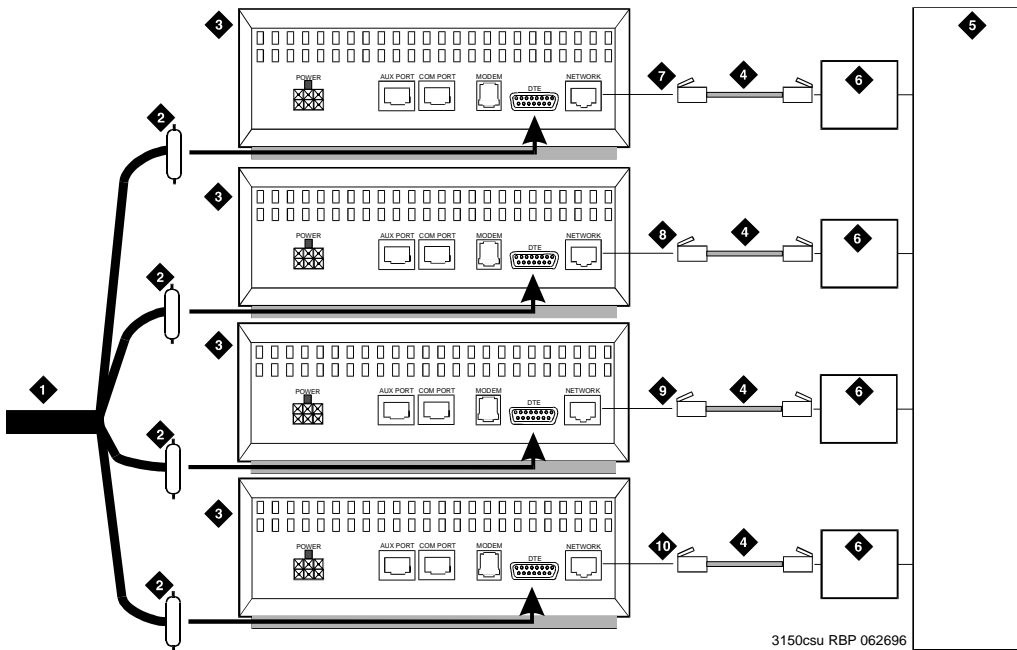
**Table 6-16. H600-383 Cable Lengths by Group Number**

Group	Length	Group	Length
1	25 feet (7.7 m)	5	125 ft (38.1 m)
2	50 feet (15.2 m)	7	200 ft (71 m)
3	75 feet (22.9 m)	7	400 ft (122 m)
4	100 feet (30.5 m)	8	750 ft (198.1 m)

## Installing a 3150/3170 Channel Service Unit

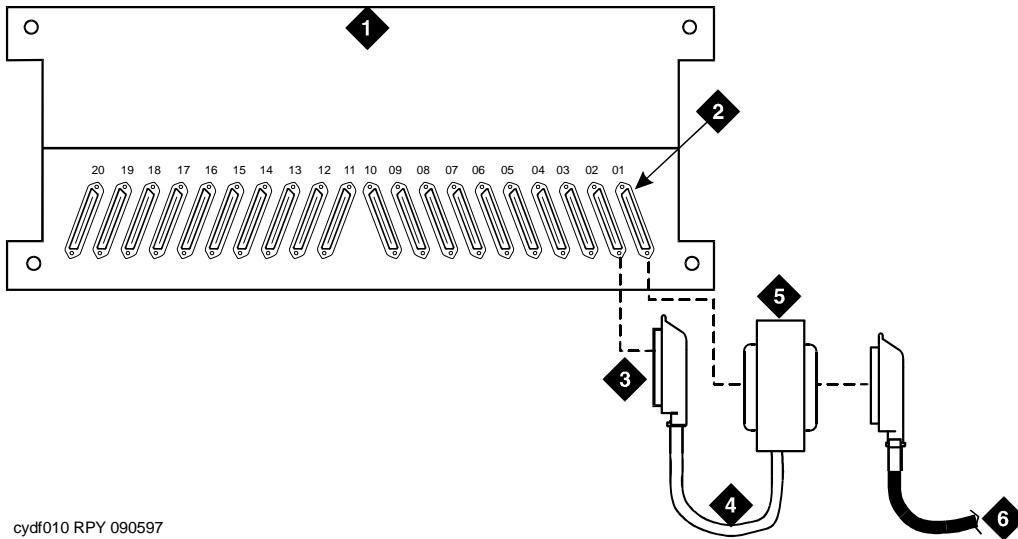
1. Install the CSU as shown in [Figure 6-41](#). For some installations (such as a DS1 converter), use a Y-cable to connect the DEFINITY System to the quad cable. [Table 6-17](#) shows the Y-cable lengths. Be sure to label all cables.

[Figure 6-41](#) shows a typical connection from the H600-348 Quad cable to the CSU, through the H600-307 network cable, and to the network interface through the smart jacks. The quad cable provides up to four connections using a 15-pin connector that plugs into the DTE jack on each CSU. The H600-348 quad cable may require an adapter cable.



- |   |                             |             |
|---|-----------------------------|-------------|
| 1. H600-348 quad cable                              | 5. Network interface        | 9. Cable C  |
| 2. 15-pin male "D" connectors (to DTE jacks on CSU) | 6. Smart jack (if provided) | 10. Cable D |
| 3. Channel service unit (CSU)                       | 7. Cable A                  |             |
| 4. H600-307 cable (RJ-48C to RJ-48C)                | 8. Cable B                  |             |

Figure 6-41. 3150/3170 Channel Service Unit Connections



cydf010 RPY 090597

1. Port carrier
2. DS1 converter connector
3. 50-pair female connector to DEFINITY System
4. 14-Inch (35.57 cm) "Y" cable
5. 50-Pin Male/50-pin female double-headed connector cable
6. Quad cable (with 50-pin male connector) connects to the channel service unit.

Figure 6-42. DS1 Converter Connections Using Double-Headed cable

Table 6-17. "Y" cable Lengths (DS1 converter Only)

Length (in/cm)	Description	Comcode
14/35.5	TN1754 to adjacent expansion interface circuit pack or TN573B switch node interface circuit pack in same carrier	847245750
70/177.8	TN1754 to expansion interface circuit pack or switch node interface in another carrier	847245778
14/35.5	TN1754 to fiber optic transceiver (DC-powered cabinets only). This cable is for intercabinet cabling only.	847245777
14/35.5	TN1754 to adjacent TN570/B/C expansion interface circuit pack	847747741

**6** Adding or Removing Hardware  
*Installing a 3150/3170 Channel Service Unit*

6-112

# Administering and Using ASG



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This appendix provides information on how to administer and use the Access Security Gateway (ASG). ASG employs a challenge/response protocol to confirm the validity of a user and reduce the opportunity for unauthorized access. ASG authentication is imposed for Lucent services logins as indicated below:

- init - all types of access require ASG authentication
- inads - all types of access require ASG authentication
- craft - if accessing remotely, ASG authentication is required.

**⇒ NOTE:**

Craft login sessions from a direct connect management terminal continue to rely on password authentication.

## Using the ASG Mobile

---

1. Double click on the ASG Mobile V1.1 on your desktop and an ASG Mobile V1.1 Login window appears.
2. In the `Tech ID` field, type your login ID, which is the name of the attached file (without the ".asg"). Your login ID is the same as your Lucent login (or an abbreviated part of it).
3. Type the password twice. Note that the password is case-sensitive.

**⇒ NOTE:**

Your new password will be sent to you in a separate email.

4. Click the OK button and an ASG Mobile V1.1 Authentication window appears.

5. Use your communications package (for example, DNA, ProComm, or TerraNova) to dial the switch you need to contact.
6. Log into your communications package window as either **init**, **inads**, or **craft**. Instead of a password prompt, a seven-digit (challenge) number appears in the window of your communications package.
7. Move to the ASG Mobile V1.1 Authentication window.
8. Type the 10-digit Product ID in the `Equipment ID` field. The default ID is 10 zeros (0000000000).
9. Type **init**, **inads**, or **craft** in the `Equipment Login` field. The **craft** login ID is the default.
10. Type the challenge number (from your communications package window) into the `Challenge` field. Do not use the "-" character.
11. Type the trouble ticket number in the `Ticket Number` field. If there is no ticket number, you can use this field as a one-word comment field or leave it blank.
12. Click the `Start` button. The `Activity Status` field displays "Started" and the `Response` field displays a new seven-digit number.
13. Move to your communications package window.
14. Type the new seven-digit (response) number in the `Response` field. Do not use the "-" character.

DEFINITY ECS verifies the response. If correct, DEFINITY logs you on. If the response is incorrect, return to step 1. If this is the third rejection, see the maintenance book for your system.



## Troubleshooting an Upgrade

# B

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This appendix provides information to correct some problems when upgrading a system. The information in this appendix is a compilation of the most commonly reported troubles received by Tier 4 Support at Lucent Technologies. For general information on troubleshooting associated with maintenance procedures, see one of the following references:

- Chapter 5, Routine Maintenance Procedures, of the Release 8.2, Maintenance for R8si manual

This appendix may be updated with new information at each product/document release. If you have troubleshooting or error recovery information that you think would be valuable to other technicians, please FAX your comments to us at 1-303-538-1741 (United States).

This appendix is organized into three main sections, as described below:

- [New for Release 8](#) – provides information on introductions for Release 8 that might result in upgrade problems
- [Troubleshooting Release 8 Upgrades](#) – provides specific troubleshooting procedures for common upgrade problems

### **New for Release 8**

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- [ATM Expansion Interface \(ATM-EI\)](#)
- [Translation Copy Protection \(TRANS-ID\) \(SCC only\)](#)
- [Control LAN \(C-LAN\)](#)
- [System Links \(SYS-LINK\)](#)

## ATM Expansion Interface (ATM-EI)

---

The ATM-EI maintenance object covers the ATM circuit pack administered as an ATM-Port Network Connectivity (PNC) Expansion Interface (ATM-EI). The ATM-EI provides PNC between a DEFINITY PPN and all the EPNs through the ATM switch.

The circuit packs listed below are ATM-EI boards *if they are administered to serve the ATM Port Network Connectivity (ATM-PNC) for DEFINITY.*

Circuit pack	Fiber	Echo cancellation
TN2305B	Multi mode	Y
TN2306B	Single mode	Y

## Translation Copy Protection (TRANS-ID) (SCC only)

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Both the system processor and the PCMCIA translation card have matching ID numbers. When the system detects a mismatch between the two numbers, the system:

- raises a MAJOR off-board alarm (TRANS-ID) against ports 01A or 01B.
- displays the warning: `TRANS-ID INTERVAL EXPIRATION: x days; call Lucent distributor immediately.` x days is the grace period during which only Lucent Services logins can save translations.
- disables the add, change, remove, and duplicate commands if the translation ID is not reset prior to the expiration of the grace period (**reset translation-id** )

The **reset translation-id** command resets the translation-ID on the translation card(s) to match the processor(s), saves translations to the memory card, and restores use of the add, change, remove, and duplicate commands.

### NOTE:

This command can be executed only by Lucent Services.

## Control LAN (C-LAN)

---

The TN799 Control LAN (C-LAN) packet port circuit pack provides TCP/IP connection to adjuncts applications such as CMS, Intuity, and DCS Networking. The C-LAN circuit pack has 1 10baseT Ethernet connection and up to 16 DS0 physical interfaces for PPP connections. Putting multiple C-LAN circuit packs into a -system gives additional TCP/IP capacity. In addition to the TCP/IP functionality, CLAN extends the ISDN capabilities for csi models by providing Packet bus access.

A remote socket control link (RSCL) links the C-LAN and the SPE to pass call control and other management information. Since one link serves all the ports on the circuit pack, maintenance of the RSCL is part of the C-LAN circuit pack maintenance.

The C-LAN TN799 circuit pack combines the functions of the PGATE and PI circuit packs into one circuit pack. The PGATE or PI can be used with the C-LAN to create an X.25-to-TCP/IP bridge for adjunct and DCS connectivity.

Maintenance objects associated under the Control LAN area include **CLAN-BD** (Control LAN Circuit Pack), **ETH-PT** (Control LAN Ethernet), and **PPP-PT** (Control LAN Packet/Port).

## System Links (SYS-LINK)

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System Links are packet links that originate at the Packet Interface board and traverse various hardware components to specific endpoints. The hardware components involved on the forward and reverse routes can be different, depending upon the configuration and switch administration. Various types of links are defined by their endpoints:

EAL	Expansion Archangel Link terminating at an Expansion Interface board. This link carries CCMS messages.
INL	Indirect Neighbor Link terminating at a Switch Node Interface board
PACL	PNC ATM Control Link terminating at a PNC ATM EI board. This link carries ATM signaling commands from CaPro to the remote TN2238 (ATM-EI) boards.
PGC	Packet Gateway Call-Control Link terminating at a Packet Gateway board
PRI	ISDN PRI D-Channel Link terminating at a Universal DS1 board
RSCL	Remote Socket Control Link terminating at a C-LAN board
RSL	Remote Socket Link terminating at a C-LAN board
SAP	System (Access) Port Link terminating at a Packet Data port
X.25	BX.25 Link terminating at a Packet Gateway port

The system links (**SYS-LINK**) maintenance object records all errors encountered on the links. Most of these events are not extraordinary unless they occur with an alarming frequency. The events are logged as they occur, leaving a "trail" to help analyze abnormal behavior exhibited by the endpoints attached to the links or the links themselves.

When a link goes down, an alarm is raised immediately. For EAL, INL, and PACL link types a MINOR alarm is raised; for all other link types a WARNING alarm is raised. Other alarming conditions that do not cause the link to go down get a WARNING alarm, regardless of the link type.

## Troubleshooting Release 8 Upgrades

The subsections to follow present specific procedures for common upgrade problems, listed below:

- [No Translation After Upgrade \(si/csi\)](#)
- [Message Waiting Lamps On \(After Removing an EPN\)](#)
- [Tone Clock Does Not Function in New EPN](#)
- [Translation Corruption Detected](#)
  - [Unsuccessful Translation Read on System Restart \(If Upgrading From Pre-R7.1\)](#)
  - [Software Incompatibility](#)
- [Re-install the ISDN-PRI Links \(Only for Failed Upgrades\)](#)

### No Translation After Upgrade (si/csi)

This problem usually means that the translation flashcard was not present when the system expected it to be present. This can occur if the translation card is not fully inserted, or in some cases when the technician is distracted from monitoring the progress of the **upgrade software** command and fails to insert the translation card when prompted. To recover, perform the following:

1. Verify that the translation card is inserted (on duplicated SPE systems, it should be inserted in the active SPE).
2. Login as *craft*.
3. Verify format and content of flashcard by typing **status card-mem**, and observe that the output indicates that a translation file is present.
4. Type **reset system 3** and press Enter.
5. If the above fails, escalate the problem.

### Message Waiting Lamps On (After Removing an EPN)

All affected port-related translations were not unadministered before removing an EPN cabinet.

1. Type **clear amw all <extension>** and press Enter. This clears the message waiting lamp for the specified extension.
2. Repeat the command for each extension with a lit message waiting lamp.

## Tone Clock Does Not Function in New EPN

1. If the existing system is pre-G3V4 and contains TN768 Tone-Clock circuit packs, remove the NETCON, PI, and tone translations before starting the upgrade. The active tone clock in 0x1c cannot be properly inserted while PI translations exist from the old carrier.
2. Add the translations again after the upgrade.

## Translation Corruption Detected

This usually means that the translations were not successfully backed up to the translation card or that the current software version may not be compatible with the new software version.



### NOTE:

The Terminal Translation Initialization (TTI) should be disabled before you save translations prior to an upgrade.

1. Repeat the upgrade with the TTI disabled.

## **Unsuccessful Translation Read on System Restart (If Upgrading From Pre-R7.1)**

1. Set the PPN circuit breaker to OFF.
2. Install all old circuit packs: TN790, TN777B, TN765(s), and TN778.
3. Insert the original translation card (or backup translation card) into the TN777B.
4. Set the PPN circuit breaker to ON. This should correct the translation corruption problem.
5. Contact your Lucent Technologies representative for help in repeating the upgrade.

## **Software Incompatibility**

If these procedures do not clear the corruption problem, then the software versions may be incompatible. You may need to upgrade to an interim software version before upgrading to the final software version.

1. Consult the remediation that came with the upgrade software.
2. Contact your Lucent Technologies representative for this information.

## Re-install the ISDN-PRI Links (Only for Failed Upgrades)

If your upgrade failed and you need to re-install the ISDN-PRI links, use this procedure.

1. Type **add data-module [PI ext]** and press Enter.
2. Type the information in the fields based on the information that you entered earlier.
3. Type **change communication-interface links** and press Enter.
4. Type the information in the fields based on the information that you entered earlier with one exception. Leave the `Enable` field setting as it is.
5. Type **change communication-interface processor-channels** and press Enter.
6. Type the information in the fields based on the information that you entered earlier.
7. Type **change communication-interface links** and press Enter.
8. Type the information in the `Enable` field based on the information that you entered earlier.
9. Type **save translation** and press Enter.

## Software Upgrade on Standby SPE Only (si only)

If you need to upgrade 1 SPE in a duplicated system because of software corruption or you replaced a TN790 processor circuit pack, use this procedure:

1. Type **upgrade software**.
2. At the terminal prompt, replace the software memory (orange) card with the translation memory (white) card.
3. At the terminal prompt, move the SPE-select switches on both TN794 circuit packs to the active SPE (locking the active side online). After about 2 minutes, the upgrade software command completes.
4. Move the SPE-select switches on both TN794 circuit packs to AUTO.

### NOTE:

Wait for standby to refresh. This takes about 3 minutes

5. Type **status system 1**. The non-active SPE should be in the standby mode.

# Translation Copy Protection



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This appendix provides information about translation copy protection.

## Overview of Translation Copy Protection

---

Every processor circuit pack has a unique code that is common to all flash cards associated with the system. If you try to use a card that is not compatible with the processor, an alarm is generated and access to the save translations command is disabled.

## Time Limit

---

The Translation ID Number Mismatch Interval field on the System-Parameters Security form specifies the number of days (Default = 5 days) that the system allows a mismatch between the translation ID stored in the processor circuit pack and the flash card.

## Restrictions During the Time Allotted

---

Between the time when the system recognizes the mismatch and the end of the time allotted, you cannot save translations. You can add, change, duplicate, or remove a station and continue to make calls.

## Restrictions After the Time Allotted

If the alarm is not resolved within the time allotted, you cannot save translations, add, change, duplicate, or remove a station. You can continue to make calls.

## Alarm Resolution

Only init login is allowed after a mismatch is detected.

1. Log in as **init**.
2. Type **reset translation-id** and press `Enter` to resolve the alarm. The translation ID between the flash card(s) and the processor circuit pack (packs in a duplicated system) is re-synchronized. Access to the save translations command is restored. If appropriate, access to the commands that modify the translation data is restored.



# Glossary and Abbreviations

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## Numerics

### 800 service

A service in the United States that allows incoming calls from certain areas to an assigned number for a flat-rate charge based on usage.

---

## A

### AA

Archangel. See [angel](#).

### AAC

ATM access concentrator

### AAR

See [Automatic Alternate Routing \(AAR\)](#).

### abandoned call

An incoming call in which the caller hangs up before the call is answered.

### Abbreviated Dialing (AD)

A feature that allows callers to place calls by dialing just one or two digits.

### AC

1. Alternating current.
2. See [Administered Connection \(AC\)](#).

### AAR

Automatic Alternate Routing

### ACA

See [Automatic Circuit Assurance \(ACA\)](#).

### ACB

See [Automatic Callback \(ACB\)](#).

### ACD

See [Automatic Call Distribution \(ACD\)](#).

### ACD agent

See [agent](#).

### ACU

See [Automatic calling unit \(ACU\)](#)

### ACW

See [after-call work \(ACW\) mode](#).

### access code

A 1-, 2-, or 3-digit dial code used to activate or cancel a feature, or access an outgoing trunk.

**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.

**access trunk**

See [access tie trunk](#).

**ACCUNET**

A trademarked name for a family of digital services offered by AT&T in the United States.

**ACD**

See [Automatic Call Distribution \(ACD\)](#). ACD also refers to a work state in which an agent is on an ACD call.

**ACD work mode**

See [work mode](#).

**active-notification association**

A link that is initiated by an adjunct, allowing it to receive event reports for a specific switch entity, such as an outgoing call.

**active-notification call**

A call for which event reports are sent over an active-notification association (communication channel) to the adjunct. Sometimes referred to as a monitored call.

**active notification domain**

VDN or ACD split extension for which event notification has been requested.

**ACU**

See [Automatic calling unit \(ACU\)](#).

**AD**

See [Abbreviated Dialing \(AD\)](#).

**ADAP**

AUDIX Data Acquisition Package

**ADC**

See [analog-to-digital converter \(ADC\)](#).

**adjunct**

A processor that does one or more tasks for another processor and that is optional in the configuration of the other processor. See also [application](#).

**adjunct-control association**

A relationship initiated by an application via *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 call**

Call that can be controlled using an adjunct-control association. Call must have been originated via *Third Party Make Call* or *Domain (Station) Control* capabilities or must have been taken control of via *Third Party Take Control* or *Domain (Station) Control* capabilities.

**adjunct-controlled split**

An ACD split that is administered to be under adjunct control. Agents logged into such splits must do all telephony work, ACD login/ logout, and changes of work mode through the adjunct (except for auto-available adjunct-controlled splits, whose agents may not log in/out or change work mode).

**adjunct-monitored call**

An adjunct-controlled call, active-notification call, or call that provides event reporting over a domain-control association.

**Adjunct-Switch Application Interface (ASAI)**

A recommendation for interfacing adjuncts and communications systems, based on the CCITT Q.932 specification for layer 3.

**ADM**

Asynchronous data module

**administer**

To access and change parameters associated with the services or features of a system.

**Administered Connection (AC)**

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 group**

See [capability group](#).

**administration terminal**

A terminal that is used to administer and maintain a system. See also [terminal](#).

**Administration Without Hardware (AWOH)**

A feature that allows administration of ports without associated terminals or other hardware.

**ADU**

See [asynchronous data unit \(ADU\)](#).

**AE**

See [access endpoint](#).

**after-call work (ACW) mode**

A mode in which agents are unavailable to receive ACD calls. Agents enter the ACW mode to perform ACD-related activities such as filling out a form after an ACD call.

**AG**

ASAI Gateway

**agent**

A person who receives calls directed to a split. A member of an ACD hunt group or ACD split. Also called an ACD agent.

**agent report**

A report that provides historical traffic information for internally measured agents.

**AIM**

Asynchronous interface module

**AIOD**

Automatic Identification of Outward Dialing

**ALBO**

Automatic Line Build Out

**All trunks busy (ATB)**

The state in which no trunks are available for call handling.

**ALM-ACK**

Alarm acknowledge

**American Standard Code for Information Interchange**

See [ASCII \(American Standard Code for Information Interchange\)](#).

**AMW**

Automatic Message Waiting

**AN**

Analog

**analog**

The representation of information by continuously variable physical quantities such as amplitude, frequency, and phase. See also [digital](#).

**analog data**

Data that is transmitted over a digital facility in analog (PCM) 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 \(DAC\)](#).

**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.

**ANI**

See [Automatic Number Identification \(ANI\)](#).

**ANSI**

American National Standards Institute. A United States professional/technical association supporting a variety of standards.

**answerback code**

A number used to respond to a page from a code-calling or loudspeaker-paging system, or to retrieve a parked call.

**AOL**

Attendant-offered load

**AP**

Applications processor

**APLT**

Advanced Private-Line Termination

**appearance**

A software process that is associated with an extension and whose purpose is to supervise a call. An extension can have multiple appearances. Also called call appearance, line appearance, and occurrence. See also [call appearance](#).

**application**

An adjunct 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**

A micro-computer 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.

**application service element**

See [capability group](#).

**architecture**

The organizational structure of a system, including hardware and software.

**ARS**

See [Automatic Route Selection \(ARS\)](#).

**ASAI**

See [Adjunct-Switch Application Interface \(ASAI\)](#)

**ASCII (American Standard Code for Information Interchange)**

The standard code for representing characters in digital form. Each character is represented by an 8-bit code (including parity bit).

**association**

A communication channel between adjunct and switch for messaging purposes. An active association is one that applies to an existing call on the switch or to an extension on the call.

**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](#).

**asynchronous data unit (ADU)**

A device that allows direct connection between RS-232C equipment and a digital switch.

**asynchronous Transfer Mode (ATM)**

A packet-like switching technology in which data is transmitted in fixed-size (53-byte) cells. ATM provides high-speed access for data communication in LAN, campus, and WAN environments.

**ATB**

See [All trunks busy \(ATB\)](#).

**ATD**

See [Attention dial \(ATD\)](#).

**attendant**

A person at a console who provides personalized service for incoming callers and voice-services users by performing switching and signaling operations. See also [attendant console](#).

## ATM

See [asynchronous Transfer Mode \(ATM\)](#).

## 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](#).

## Attention dial (ATD)

A command in the Hayes modem command set for asynchronous modems.

## Audio Information Exchange (AUDIX)

A fully integrated voice-mail system. Can be used with a variety of communications systems to provide call-history data, such as subscriber identification and reason for redirection.

## AUDIX

See [Audio Information Exchange \(AUDIX\)](#).

## auto-in trunk group

Trunk group for which the CO processes all of the digits for an incoming call. When a CO seizes a trunk from an auto-in trunk group, the switch automatically connects the trunk to the destination — typically an ACD split where, if no agents are available, the call goes into a queue in which callers are answered in the order in which they arrive.

## Auto-In Work mode

One of four agent work modes: the mode in which an agent is ready to process another call as soon as the current call is completed.

## Automatic Alternate Routing (AAR)

A feature that routes calls to other than the first-choice route when facilities are unavailable.\*\*\*

## Automatic Callback (ACB)

A feature that enables internal callers, upon reaching a busy extension, to have the system automatically connect and ring both parties when the called party becomes available.

## Automatic Call Distribution (ACD)

A feature that answers calls, and then, depending on administered instructions, delivers messages appropriate for the caller and routes the call to an agent when one becomes available.

## Automatic Call Distribution (ACD) split

A method of routing calls of a similar type among agents in a call center. Also, a group of extensions that are staffed by agents trained to handle a certain type of incoming call.

## Automatic calling unit (ACU)

A device that places a telephone call.

## Automatic Circuit Assurance (ACA)

A feature that tracks calls of unusual duration to facilitate troubleshooting. A high number of very short calls or a low number of very long calls may signify a faulty trunk.

## Automatic Number Identification (ANI)

Representation of the calling number, for display or for further use to access information about the caller. Available with Signaling System 7.

**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). Restoration is done within seconds of a service disruption so that critical data applications can remain operational.

**Automatic Route Selection (ARS)**

A feature that allows the system to automatically choose the least-cost way to send a toll call.

**automatic trunk**

A trunk that does not require 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.

**AUX**

Auxiliary

**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**

A work mode in which agents are unavailable to receive ACD calls. Agents enter Aux-Work mode when involved in non-ACD activities such as taking a break, going to lunch, or placing an outgoing call.

**AVD**

Alternate voice/data

**AWOH**

See [Administration Without Hardware \(AWOH\)](#).

**AWG**

American Wire Gauge

**AWT**

Average work time

---

**B**

**B8ZS**

Bipolar Eight Zero Substitution.

**bandwidth**

The difference, expressed in hertz, between the defined highest and lowest frequencies in a range.

**barrier code**

A security code used with the Remote Access feature to prevent unauthorized access to the system.

**baud**

A unit of transmission rate equal to the number of signal events per second. See also [bit rate](#) and [bits per second \(bps\)](#).

**BCC**

See [Bearer capability class \(BCC\)](#).

**BCMS**

Basic Call Management System

**BCT**

See [business communications terminal \(BCT\)](#).

**Bearer capability class (BCC)**

Code that identifies the type of a call (for example, voice and different types of data). Determination of BCC is based on the caller's characteristics for non-ISDN endpoints and on the Bearer Capability and Low-Layer Compatibility Information Elements of an ISDN endpoint. Current BCCs are 0 (voice-grade data and voice), 1 (DMI mode 1, 56 kbps data transmission), 2 (DMI mode 2, synchronous/asynchronous data transmission up to 19.2 kbps) 3 (DMI mode 3, 64 kbps circuit/packet data transmission), 4 (DMI mode 0, 64 kbps synchronous data), 5 (temporary signaling connection, and 6 (wideband call, 128–1984 kbps synchronous data).

**BER**

Bit error rate

**BHCC**

Busy-hour call completions

**bit (binary digit)**

One unit of information in binary notation, having two possible 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 \(bps\)](#).

**BLF**

Busy Lamp Field

**BN**

Billing number

**BOS**

Bit-oriented signaling

**BPN**

Billed-party number

**bps**

See [bits per second \(bps\)](#).

**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.

**BTU**

British Thermal Unit

**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 that is 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)**

A digital data terminal used for business applications. A BCT can function via a data module as a special-purpose terminal for services provided by a processor or as a terminal for data entry and retrieval.

**BX.25**

A 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 ISO reference model.

**bypass tie trunks**

A 1-way, outgoing tie trunk from a tandem switch to a main switch in an 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.

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**C**

**CACR**

Cancellation of Authorization Code Request

**cabinet**

Housing for racks, shelves, or carriers that hold electronic equipment.

**cable**

Physical connection between two pieces of equipment (for example, data terminal and modem) or between a piece of equipment and a termination field.

**cable connector**

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.

**CAG**

Coverage answer group

**call appearance**

1. For the attendant console, six buttons, labeled a–f, used to originate, receive, and hold calls. Two lights next to the button show the status of the call appearance.
2. For the voice terminal, a button labeled with an extension 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.

**call-control capabilities**

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 (CDR)**

A feature that uses software and hardware to record call data (same as CDRU).

**Call Detail Recording utility (CDRU)**

Software that collects, stores, optionally filters, and outputs call-detail records.

**Call Management System (CMS)**

An application, running on an adjunct processor, that collects information from an 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 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 associates a related sequence of messages. In ASAI, 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 automatically returns 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 seconds (in the United States). Call-waiting ringback tone notifies the attendant that the Attendant Call Waiting feature is activated and that the called party is aware of the waiting call. Tones in international countries may sound different.

**call work code**

A number, up to 16 digits, entered by ACD agents to record the occurrence of customer-defined events (such as account codes, social security numbers, or phone numbers) on ACD calls.

**CAMA**

Centralized Automatic Message Accounting

**carrier**

An enclosed shelf containing vertical slots that hold circuit packs.

**carried load**

The amount of traffic served by traffic-sensitive facilities during a given interval.

**CARR-POW**

Carrier Port and Power Unit for AC Powered Systems

**CAS**

Centralized Attendant Service or Call Accounting System

### CCS or hundred call seconds

A unit of call traffic. Call traffic for a facility is scanned every 100 seconds. If the facility is busy, 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 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 request or indication of an operation. For example, *Third Party Make Call* is a request for setting up a call; *event report* is an indication that an event has occurred.

### capability group

Set of capabilities, determined by switch administration, that can be requested by an application. Capability groups denote association types. For example, *Call Control* is a type of association that allows certain functions (the ones in the capability group) to be performed over this type of association. Also referred to as administration groups or application service elements (ASEs).

### CA-TSC

Call-Associated Temporary Signaling Connection

### cause value

A value is returned in response to requests or in event reports when a denial or unexpected condition occurs. 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; 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. Example: CS0/100 is coding standard 0, cause value 100.

### CBC

Call-by-call or coupled bonding conductor

### CC

Country code

### CCIS

Common-Channel Interoffice Signaling

### CCITT

CCITT (Comite Consultatif International Telephonique et Telegraphique), now called *International Telecommunications Union* (ITU). See [International Telecommunications Union \(ITU\)](#).

### CCMS

Control-Channel Message Set

### CCS

See [CCS or hundred call seconds](#).

### CCSA

Common-Control Switching Arrangement

### CDM

Channel-division multiplexing

### CDOS

Customer-dialed and operator serviced

### CDR

See [Call Detail Recording \(CDR\)](#).

**CDRP**

Call Detail Record Poller

**CDRR**

Call Detail Recording and Reporting

**CDRU**

See [Call Detail Recording utility \(CDRU\)](#).

**CEM**

Channel-expansion multiplexing

**center-stage switch (CSS)**

The central interface between the processor port network and expansion port networks 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 United States.

**central office (CO) trunk**

A telecommunications channel that provides access from the system to the public network through the local CO.

**CEPT1**

European Conference of Postal and Telecommunications Rate 1

**channel**

1. A circuit-switched call.
2. A communications path for transmitting voice and data.
3. In wideband, all of the time slots (contiguous or noncontiguous) necessary to support a call. Example: an H0-channel uses six 64-kbps time slots.
4. A DS0 on a T1 or E1 facility not specifically associated with a logical circuit-switched call; analogous to a single trunk.

**channel negotiation**

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 that receives the SETUP message and ultimately to the switch that sent the SETUP. Negotiation is attempted only if the CIIE is encoded as *Preferred*. Channel negotiation is not attempted for wideband calls.

**CI**

Clock input

**circuit**

1. An arrangement of electrical elements through which electric current flows.
2. A channel or transmission path between two or more points.

**circuit pack**

A card on which electrical circuits are printed, and IC chips and electrical components are installed. A circuit pack is installed in a switch carrier.

**CISPR**

International Special Committee on Radio Interference

**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 to specify if voice-terminal users can activate the Automatic Callback, Call Forwarding All Calls, Data Privacy, or Priority Calling features. See also [Class of Restriction \(COR\)](#).

**cm**

Centimeter

**CM**

Connection Manager

**CMDR**

Centralized Message Detail Recording

**CMS**

Call Management System

**CO**

See [central office \(CO\)](#).

**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 keyboard characters and makes the proper connections 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 connections. A communications system provides voice and 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 feature activation, deactivation, or cancellation has been accepted.

**connectivity**

The connection of disparate devices within a single system.

**console**

See [attendant console](#).

**contiguous**

Adjacent DS0s within one T1 or E1 facility or adjacent TDM or fiber time slots. 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 multicarrier cabinet that contains the SPE circuit packs and, unlike an R5r control carrier, port circuit packs. Also called control cabinet in a single-carrier cabinet. See also [switch-processing element \(SPE\)](#).

**controlled station**

A station that is monitored and controlled via a domain-control association.

**COR**

See [Class of Restriction \(COR\)](#).

**COS**

See [Class of Service \(COS\)](#).

**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 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, VDN, or 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.

**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

**critical-reliability system**

A system that has the following duplicated items: control carriers, tone clocks, EI circuit packs, and cabling between port networks and center-stage switch in a CSS-connected system. See also [duplicated common control](#), and [duplication](#).

**CSA**

Canadian Safety Association

**CSCC**

Compact single-carrier cabinet

**CSCN**

Center-stage control network

**CSD**

Customer-service document

**CSM**

Centralized System Management

**CSS**

See [center-stage switch \(CSS\)](#).

**CSSO**

Customer Services Support Organization

**CSU**

Channel service unit

**CTS**

Clear to Send

**CWC**

See [call work code](#).

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**D**

**DAC**

1. Dial access code or Direct Agent Calling
2. See [digital-to-analog converter \(DAC\)](#).

**data channel**

A communications path between two points used to transmit digital signals.

**data-communications equipment (DCE)**

The equipment (usually a modem, data module, or packet assembler/disassembler) on the network side of a communications link that makes 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 BRI or DCP interface of the switch and data terminal equipment or data communications equipment.

**data path**

The end-to-end connection used for a data communications link. A data path is the combination of all elements of an interprocessor communication in a 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 that transmits 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 a processor interface.

**data terminal equipment (DTE)**

Equipment consisting of the endpoints in a connection over a data circuit. In a connection between a data terminal and host, the terminal, the host, and their associated modems or data modules make up the DTE.

**dB**

Decibel

**dBA**

Decibels in reference to amperes.

**dBrnC**

Decibels above reference noise with C filter.

**DC**

Direct current

**DCE**

Data-communications equipment

**D-channel backup**

Type of backup used with Non-Facility Associated Signaling (NFAS). A primary D-channel provides signaling for an NFAS D-channel group (two or more PRI facilities). A second D-channel, on a separate PRI facility of the NFAS D-channel group, is designated as backup for the D-channel. Failure of the primary D-channel causes automatic transfer of call-control signaling to the backup D-channel. The backup becomes the primary D-channel. When the failed channel returns to service, it becomes the backup D-channel.

**DCO**

Digital central office

**DCP**

Digital Communications Protocol

**DCS**

Distributed Communications System

**DDC**

Direct Department Calling

**DDD**

Direct Distance Dialing

**delay-dial trunk**

A trunk that allows dialing directly into a communications system (digits are received as they are dialed).

**denying a request**

Sending a negative acknowledgement (NAK), done by sending an FIE with a *return error* component (and a cause value). It should not be confused with the denial event report that applies to calls.

**designated voice terminal**

The specific voice terminal to which calls, originally directed to a certain extension, are redirected. Commonly used to mean the forwarded-to terminal when Call Forwarding All Calls is active.

**dial-repeating trunks**

A PBX tie trunk that is capable of handling PBX station-signaling information without attendant assistance.



**dial-repeating tie trunk**

A tie trunk that transmits called-party addressing information between two communications systems.

**DID**

Direct Inward Dialing

**digit conversion**

A process used to convert specific dialed numbers into other dialed numbers.

**digital**

The representation of information by discrete steps. See also [analog](#).

**digital communications protocol (DCP)**

A 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 DEFINITY ECS, 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 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 microseconds.

**digital signal level 1 (DS1)**

A single 1.544-Mbps (United States) or 2.048-Mbps (outside the United States) digital signal carried on a T1 transmission facility. A DS1 converter complex consists of a pair, one at each end, of DS1 converter circuit packs and the associated T1/E1 facilities.

**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 PDM and MPDM in that it converts RS-232C signals to DCP signals.

**digital-to-analog converter (DAC)**

A device that converts data in digital form to the corresponding analog signals. See also [analog-to-digital converter \(ADC\)](#).

**digital transmission**

A mode of transmission in which information to be transmitted is first converted to digital form and then transmitted as a serial stream of pulses.

**digital trunk**

A circuit that carries digital voice and/or digital data in a telecommunications channel.

**DIOD**

Direct Inward and Outward Dialing

**direct agent**

A feature, accessed only via ASAI, that allows a call to be placed in a split queue but routed only to a specific agent in that split. The call receives normal ACD call treatment (for example, announcements) and is 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.

**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.

**DIVA**

Data In/Voice Answer

**DLC**

Data line circuit

**DLDM**

Data-line data module

**DMI**

Digital-multiplexed interface

**DND**

Do not disturb

**DNIS**

Dialed-Number Identification Service

**DOD**

Direct Outward Dialing

**domain**

VDNs, ACD splits, and stations. The VDN domain is used for active-notification associations. The ACD-split domain is for active-notification associations and domain-control associations. The station domain is used for the 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 that is active on a call, and which provides event reports over one or two domain-control associations.

**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

**DS1 CONV**

Digital Signal Level-1 converter

**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 multifrequency

**DTS**

Disk-tape system

**duplicated common control**

Two processors ensuring continuous operation of a communications system. While one processor is online, the other functions as a backup. The backup processor goes online periodically or when a problem 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: control carrier containing the SPE, EI circuit packs in carriers, fiber-optic cabling between port networks, and center-stage switch in a CSS-connected system.

**DWBS**

DEFINITY Wireless Business System

**DXS**

Direct extension selection

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**E**

**E1**

A digital transmission standard that carries traffic at 2.048 Mbps. The E1 facility is divided into 32 channels (DS0s) of 64 kbps information. Channel 0 is reserved for framing and synchronization information. A D-channel occupies channel 16.

**E & M**

Ear and mouth (receive and transmit)

**EA**

Expansion archangel

**EAL**

Expansion archangel link

**ear and mouth (E & M) signaling**

Trunk supervisory signaling, used between two communications systems, whereby signaling information is transferred through 2-state voltage conditions (on the E and M leads) for analog applications and through a single bit for digital applications.

**EEBCDIC**

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

**EIA-232**

A physical interface specified by the EIA. EIA-232 transmits and receives asynchronous data at speeds of up to 19.2 kbps over cable distances of up to 50 feet. EIA-232 replaces RS-232 protocol in some DEFINITY 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. Each switch in the network is assigned a unique private network office code (RNX), and each voice terminal is assigned a unique extension.

**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, automatic transfer is initiated to a group of telephones 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.

**EMI**

Electromagnetic interference

**end-to-end signaling**

The transmission of touch-tone signals generated by dialing from a voice terminal to remote computer equipment. These digits are sent over the trunk as DTMF digits whether the trunk signaling type is marked as tone or rotary and whether the originating station is tone or rotary. Example: a call to a voice-mail machine or automated-attendant service. A connection is first established over an outgoing trunk. Then additional digits are 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.

**EPN**

Expansion-port network

**EPROM**

Erasable programmable read-only memory

**EPSCS**

Enhanced Private Switched Communications Services

**ERL**

Echo return loss

**Erlang**

A unit of traffic intensity, or load, used to express the amount of traffic needed to keep one facility busy for one hour. One Erlang is equal to 36 CCS. See also [CCS or hundred call seconds](#).

**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

**expansion archangel (EAA)**

A network-control microprocessor located on an expansion interface (EI) port circuit pack in an expansion port network. The EA provides an interface between the EPN and its controlling switch-processing element.

**expansion-archangel link (EAL)**

A link-access function on the D-channel (LAPD) logical link that exists between a switch-processing element 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.

**expansion control cabinet**

See [expansion control carrier](#).

**expansion control carrier**

A carrier in a multicarrier 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 that provides the interface between a PN's TDM bus/ 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 communicates with the master maintenance circuit pack to provide the EPN's environmental and alarm status to the switch-processing element.

**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 \(PN\)](#).

**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**

The work state that agents go into when they place (originate) a non-ACD call.

**external measurements**

Those ACD measurements that are made by the External CMS adjunct.

**extension**

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.

**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.

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**F**

**FAC**

Feature Access Code

**facility**

A telecommunications transmission pathway and associated equipment.

**facility-associated signaling (FAS)**

Signaling for which a D-channel carries signaling only for those channels on the same physical interface.

**FAS**

Facility-associated signaling

**FAT**

Facility access trunk

**FAX**

Facsimile

**FCC**

Federal Communications Commission

**FEAC**

Forced Entry of Account Codes

**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.

**FEP**

Front-end processor

**FIC**

Facility interface codes

**fiber optics**

A technology using materials that transmit ultrawideband electromagnetic light-frequency ranges for high-capacity carrier systems.

**fixed**

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**

A trunk allocation term. In the flexible allocation scheme, the time slots of a wideband call can occupy noncontiguous positions within a single T1 or E1 facility.

**floating**

A trunk allocation term. In the floating allocation scheme, the time slots of a wideband call are contiguous, but the position of the first time slot is not fixed.

**FNPA**

Foreign Numbering-Plan Area

**foreign-exchange (FX)**

A 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, that must be dialed to call outside the local geographical area.

## FRL

Facilities Restriction Level

## FX

Foreign exchange

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## G

### G3-MA

Generic 3 Management Applications

### G3-MT

Generic 3 Management Terminal

### G3r

Generic 3, RISC (Reduced Instruction Set Computer)

### 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 2-way trunk by two communications systems, resulting in a standoff.

### GM

Group manager

### GPTR

General-purpose tone receiver

### 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.

### GRS

Generalized Route Selection

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## H

### 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.

## handshaking logic

A format used to initiate a data connection between two data module devices.

## 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 R5r 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](#).

## HNPA

See [home numbering-plan area code \(HNPA\)](#).

## holding time

The total length of time in minutes and seconds that a facility is used during a call.

## home numbering-plan area code (HNPA)

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 reroutes to an idle extension in the group. See also [ACD work mode](#).

## Hz

See [hertz \(Hz\)](#).

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# I

## I1

The first information channel of DCP.

## I2

The second information channel of DCP.

## I2 Interface

A proprietary interface used for the DEFINITY Wireless Business System for the radio-controller circuit packs. Each interface provides communication between the radio-controller circuit pack and up to two wireless fixed bases.

## I3 Interface

A proprietary interface used for the DEFINITY Wireless Business System for the cell antenna units. Each wireless fixed base can communicate to up to four cell antenna units.

**IAS**

Inter-PBX Attendant Service

**ICC**

Intercabinet cable or intercarrier cable

**ICD**

Inbound Call Director

**ICDOS**

International Customer-Dialed Operator Service

**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

**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.

**IMT**

Intermachine trunk

**in**

Inch

**INADS**

Initialization and Administration System

**incoming gateway**

A PBX that routes an incoming call on a trunk *not* administered for Supplementary Services Protocol B to a trunk *not* administered for Supplementary Services Protocol B.

**information exchange**

The exchange of data between users of two different systems, such as the switch and a host computer, over a LAN.

**Information Systems Network (ISN)**

A WAN and 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.

**INS**

ISDN Network Service

**inside call**

A call placed from one telephone to another within the local communications system.

**Integrated Services Digital Network (ISDN)**

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 \(ISDN-BRI\)](#) and [Integrated Services Digital Network Primary Rate Interface \(ISDN-PRI\)](#).

**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 \(ISDN\)](#) and [Integrated Services Digital Network Primary Rate Interface \(ISDN-PRI\)](#).

**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 Mbps. The most common arrangement of channels in ISDN-PRI is 23 64-kbps B-channels for transmitting voice and data and 1 64-kbps D-channel for transmitting associated B-channel call control and out-of-band signaling information. With nonfacility-associated signaling (NFAS), ISDN-PRI can include 24 B-channels and no D-channel. See also [Integrated Services Digital Network \(ISDN\)](#) and [Integrated Services Digital Network Basic Rate Interface \(ISDN-BRI\)](#).

**intercept tone**

A 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 Telecommunications 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 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**

The ability for calls to forward to other splits on the same PBX or a different PBX using the Call Forward All Calls feature.

**intraflow**

The ability for calls to redirect 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**

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 lights 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.

**INWATS**

Inward Wide Area Telephone Service

**IO**

Information outlet

**ISDN**

See [Integrated Services Digital Network \(ISDN\)](#).

**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 ISDN-PRI. Also called ISDN facility.

**ISDN-PRI terminal adapter**

An 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.

**IS/DTT**

Integrated Services/digital tie trunk

**ISN**

Information Systems Network

**ISO**

International Standards Organization

**ISV**

Independent software vendor

**ITP**

Installation test procedure

**ITU**

International Telecommunications Union

**IXC**

Interexchange carrier code

---

## K

### 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 buildout

### LDN

Listed directory number

### LDS

Long-distance service

### LEC

Local exchange carrier

### LED

See [light-emitting diode \(LED\)](#).

### 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, 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 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 appearance**

See [appearance](#).

**line buildout**

A selectable output attenuation is generally required of DTE equipment because T1 circuits require the last span to lose 15–22.5 dB.

**line port**

Hardware that provides the access point to a communications system for each circuit associated with a telephone 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 ISDN-BRI and 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.

**LINL**

Local indirect neighbor link

**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 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.

**LSU**

Local storage unit

**LWC**

Leave Word Calling

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**M**

**MAC**

Medium access

**MADU**

Modular asynchronous data unit

**main distribution frame (MDF)**

A device that mounts to the wall inside the system equipment room. The MDF provides a connection point from 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 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 has its own attendant positions and LDN.

**maintenance**

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**

One of four agent work modes: the mode in which an agent is ready to process another call manually. See [Auto-In Work mode](#) for a contrast.

**MAP**

Maintenance action process

**MAPD**

Multiapplication platform for DEFINITY

**MA-UUI**

Message-Associated User-to-User Signaling

**Mbps**

Megabits per second

**M-Bus**

Memory bus

**Mbyte**

Megabyte

**MCC**

Multicarrier 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

**memory**

A device into which information can be copied and held, and from which information can later be obtained.

**memory shadowing link**

An operating-system condition that provides a method for memory-resident programs to be more quickly accessed, allowing a system to reboot faster.

**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.

**MET**

Multibutton electronic telephone

**MF**

Multifrequency

**MFB**

Multifunction board

**MFC**

Multifrequency code

**MHz**

Megahertz

**MIM**

Management information message

**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.

**MIPS**

Million instructions per second

**MIS**

Management information system

**MISCID**

Miscellaneous identification



**MMCS**

Multimedia Call Server

**MMCH**

Multimedia call handling

**MMI**

Multimedia interface

**MMS**

Material Management Services

**MO**

Maintenance object

**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 (RS-232C, RS-449, and V.35) to customer-provided data terminal equipment (DTE). See also [processor data module \(PDM\)](#).

**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.

**modulator-demodulator**

See [modem](#).

**monitored call**

See [active-notification call](#).

**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

**MSL**

Material stocking location

**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**

Multitasking terminal

**multiappearance voice terminal**

A terminal equipped with several call-appearance buttons for the same extension, allowing the user to handle more than one call on that same extension at the same time.

**Multicarrier cabinet**

A structure that holds one to five carriers. See also [single-carrier cabinet](#).

**Multifrequency Compelled (MFC) Release 2 (R2) signaling**

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 States and in 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 \(TDM\)](#).

**multirate**

The new N x DS0 service (see N x DS0).

**MWL**

Message-waiting lamp

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## N

### N+1

Method of determining redundant backup requirements. Example: if four rectifier modules are required for a DC-powered single-carrier cabinet, a fifth rectifier module is installed for backup.

### 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.

### NANP

North American Numbering Plan

### narrowband

A circuit-switched call at a data rate up to and including 64 kbps. All nonwideband switch calls are considered narrowband.

### native terminal support

A predefined terminal type exists in switch software, eliminating the need to alias the terminal (that is, manually map call appearances and feature buttons onto some other natively supported terminal type).

### NAU

Network access unit

### NCA/TSC

Noncall-associated/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-control circuit pack

### 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.

**NFAS**

See [Nonfacility-associated signaling \(NFAS\)](#).

**NI**

Network interface

**NID**

Network Inward Dialing

**NM**

Network management

**NN**

National number

**node**

A switching or control point for a network. Nodes are either tandem (they receive signals and pass them on) or terminal (they originate or terminate a transmission path).

**Nonfacility-associated signaling (NFAS)**

A method that allows multiple T1 and/or E1 facilities to share a single D-channel to form an ISDN-PRI. If D-channel backup is not used, one facility is configured with a D-channel, and 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), and the other facilities that share the D-channels are configured without D-channels.

**NPA**

Numbering-plan area

**NPE**

Network processing element

**NQC**

Number of queued calls

**NSE**

Night-service extension

**NSU**

Network sharing unit

**null modem cable**

Special wiring of an RS-232-C cable such that a computer can talk to another computer (or to a printer) without a modem.

**NXX**

Public-network office code

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**O**

**OA**

Operator assisted

**occurrence**

See [appearance](#).

**OCM**

Outbound Call Management

**offered load**

The traffic that would be generated by all the requests for service occurring within a monitored interval, usually one hour.

**ONS**

On-premises station

**OPS**

Off-premises station

**OPX**

Off-premises extension

**OQT**

Oldest queued time

**OSHA**

Occupational Safety and Health Act

**OSI**

Open Systems Interconnect

**OSS**

Operations Support System

**OSSI**

Operational Support System Interface

**OTDR**

Optical time-domain reflectometer

**othersplit**

The work state that indicates that an agent is currently active on another split's call, or in ACW for another split.

**OTQ**

Outgoing trunk queuing

**outgoing gateway**

A PBX that routes an incoming call on a trunk administered for Supplementary Services Protocol B to a trunk *not* administered for Supplementary Services Protocol B.

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**P**

**PACCON**

Packet control

**packet**

A group of bits (including a message element, which is the data, and a control information element (IE), which is the header) 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](#).

**PAD**

Packet assembly/disassembly

**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 he or she 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.

**PBX**

Private branch exchange

**PC**

See [personal computer \(PC\)](#).

**PCM**

See [pulse-code modulation \(PCM\)](#).

**PCOL**

Personal central-office line

**PCOLG**

Personal central-office line group

**PCS**

Permanent switched calls

**PDM**

See [processor data module \(PDM\)](#).

**PDS**

Premises Distribution System

**PE**

Processing element

**PEC**

Price element code

**PEI**

Processor element interchange

**personal computer (PC)**

A personally controllable microcomputer.

**PGATE**

Packet gateway

**PGN**

Partitioned group number

**PI**

Processor interface

**PIB**

Processor interface board

**pickup group**

A group of individuals authorized to answer any call directed to an extension within the group.

**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

**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 multicarrier 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 DEFINITY ECS. Each PN is controlled either locally or remotely by a switch processing element (SPE). See also [expansion port network \(EPN\)](#) and [processor port network \(PPN\)](#).

**port-network connectivity**

The interconnection of port networks (PNs), regardless of whether the configuration uses direct or switched connectivity.

**PPM**

1. Parts per million
2. Periodic pulse metering

**PPN**

See [processor port network \(PPN\)](#).

**PRI**

See [Primary Rate Interface \(PRI\)](#).

**primary extension**

The main extension associated with the physical voice or data terminal.

**Primary Rate Interface (PRI)**

A standard 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. Endpoint applications have call-control capabilities over PRI endpoints.

**principal**

A terminal that has its primary extension bridged on one or more other terminals.

**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.

**PROCR**

Processor

**processor carrier**

See [control carrier](#).

**processor data module (PDM)**

A device that provides an RS-232C DCE interface for connecting to data terminals, applications processors (APs), and host computers, and provides a DCP interface for connection to a communications system. See also [modular processor data module \(MPDM\)](#).

**processor port network (PPN)**

A port network controlled by a switch-processing element that is directly connected to that PN's TDM bus and LAN bus. See also [port network \(PN\)](#).

**processor port network (PPN) control carrier**

A carrier containing the maintenance circuit pack, tone/clock circuit pack, and 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 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.

**PSC**  
Premises service consultant

**PSDN**  
Packet-switch public data network

**PT**  
Personal terminal

**PTC**  
Positive temperature coefficient

**PTT**  
Postal Telephone and Telegraph

**public network**  
The network that can be openly accessed by all customers for local and 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.

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**Q**  
**QPPCN**  
Quality Protection Plan Change Notice

**quadrant**  
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).

**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.

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**R**  
**RAM**  
See [random-access memory \(RAM\)](#).

**random-access memory (RAM)**  
A storage arrangement whereby information can be retrieved at a speed independent of the location of the stored information.

**RBS**

Robbed-bit signaling

**RC**

Radio controller

**RCL**

Restricted call list

**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**

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 (RHNPA)**

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 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.

**Remote Operations Service Element (ROSE)**

A CCITT and ISO standard that defines a notation and services that support interactions between the various entities that make up a distributed application.

**REN**

Ringer equivalency number

**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.

**report scheduler**

Software that is used in conjunction with the system printer to schedule the days of the week and time of day that the desired reports are to be printed.

**RFP**

Request for proposal

**RHNPA**

See [remote home numbering-plan area code \(RHNPA\)](#).

**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**

See [read-only memory \(ROM\)](#).

**RPN**

Routing-plan number

**RS-232C**

A physical interface specified by the Electronic Industries Association (EIA). RS-232C transmits and receives asynchronous data at speeds of up to 19.2 kbps over cable distances of up to 50 feet.

**RS-449**

Recommended Standard 449

**RSC**

Regional Support Center

**ROSE**

See [Remote Operations Service Element \(ROSE\)](#).

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**S**

**S1**

The first logical signalling channel of DCP. The channel is used to provide signaling information for DCP's I1 channel.

**S2**

The second logical signaling channel of DCP. The channel is used to provide signaling information for DCP's I2 channel.

**SABM**

Set Asynchronous Balance Mode

**SAC**

Send All Calls

**SAKI**

See [sanity and control interface \(SAKI\)](#).

**sanity and control interface (SAKI)**

A custom 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.

**SAT**

System access terminal

**SCC**

1. See [single-carrier cabinet](#).
2. 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**

See [small computer system interface \(SCSI\)](#).

**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

**simplex system**

A system that has no redundant hardware.

**simulated bridged appearance**

The same as a temporary bridged appearance; allows the terminal user (usually the principal) to bridge onto a call that had been answered by another party on his or her behalf.

**single-carrier cabinet**

A combined cabinet and carrier unit that contains one carrier. See also [Multicarrier cabinet](#).

**single-line voice terminal**

A voice terminal served by a single-line tip and ring circuit (models 500, 2500, 7101A, 7103A).

**SIT**

Special-information tones

**small computer system interface (SCSI)**

An ANSI bus standard that provides a high-level command interface between host computers and peripheral devices.

**SMDR**

Station Message Detail Recording

**SN**

Switch Node

**SNA**

Systems Network Architecture

**SNC**

Switch Node Clock

**SNI**

Switch Node Interface

**SNMP**

Simple Network Management Protocol

**software**

A set of computer programs that perform one or more tasks.

**SPE**

Switch Processing Element

**SPID**

Service Profile Identifier

**split**

See [ACD work mode](#).

**split condition**

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**

A report that provides historical traffic information for internally measured splits.

**split (agent) status report**

A report that provides real-time status and measurement data for internally measured agents and the split to which they are assigned.

**SSI**

Standard serial interface

**SSM**

Single-site management

**SSV**

Station service

**ST3**

Stratum 3 clock board

**staffed**

Indicates that an agent position is logged in. A staffed agent functions in one of four work modes: Auto-In, Manual-In, ACW, or AUX-Work.

**STARLAN**

Star-Based Local Area Network

**Station Message Detail Recording (SMDR)**

An obsolete term now called CDR — a switch feature that uses software and hardware to record call data. See [Call Detail Recording \(CDR\)](#).

**standard serial interface (SSI)**

A communications protocol developed for use with 500-type business communications terminals (BCTs) and 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 ACD agents to record up to nine customer-defined events per call when CMS is active.

**SVN**

Security-violation notification

**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 DS1 converter circuit packs. An SN carrier is located in a center-stage switch.

**switch-node (SN) clock**

The circuit pack in an SN carrier that provides clock and maintenance alarm functions and environmental monitors.

**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 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, 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 (processor, memory, disk controller, and bus-interface cards) mounted in a PPN control carrier. The SPE serves as the control element for that PPN and, optionally, for one or more EPNs.

**SXS**

Step-by-step

**synchronous data transmission**

A method of sending data in which discrete signal elements are sent at a fixed and continuous rate and specified times. See also [association](#).

**SYSAM**

System Access and Administration

**system administrator**

The person who maintains overall customer responsibility for system administration. Generally, all administration functions are performed from the Management Terminal. The switch requires a special login, referred to as the system administrator login, to gain access to system-administration capabilities.

**system printer**

An optional printer that may be used to print scheduled reports via the report scheduler.

**system report**

A report that provides historical traffic information for internally measured splits.

**system-status report**

A report that provides 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 DS1 rate of 1.544 Mbps. A T1 facility is divided into 24 channels (DS0s) of 64 kbps. 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.

**TAAS**

Trunk Answer from Any Station

**TABS**

Telemetry asynchronous block serial

**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 (TTTN)**

A private network that interconnects several customer switching systems.

**TC**

Technical consultant

**TCM**

Traveling class mark

**TDM**

See [time-division multiplexing \(TDM\)](#).

**TDR**

Time-of-day routing

## 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.

## time slice

See [time interval](#).

## time slot

64 kbps of digital information structured as eight bits every 125 microseconds. 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

The situation whereby 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

An application can invoke *Third Party Call Control* capabilities using either an adjunct-control or domain-control association.

## to monitor

An application can receive *event reports* on an active-notification, adjunct-control, or domain-control association.

## TOD

Time of day

## tone ringer

A device with a speaker, used in electronic voice terminals to alert the user.

## TOP

Task-oriented protocol

## trunk

A dedicated telecommunications channel between two communications systems or COs.

## trunk allocation

The manner in which trunks are selected to form wideband channels.

## trunk-data module

A device that connects off-premises private-line trunk facilities and DEFINITY ECS. The trunk-data module converts between the RS-232C and the DCP, and can connect to 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 COs.

**TSC**

Technical Service Center

**TTI**

Terminal translation initialization

**TTR**

Touch-tone receiver

**TTT**

Terminating trunk transmission

**TTTN**

See [tandem tie-trunk network \(TTTN\)](#).

**TTY**

Teletypewriter

---

**U**

**UAP**

Usage-allocation plan

**UART**

Universal asynchronous transmitter

**UCD**

Uniform call distribution

**UCL**

Unrestricted call list

**UDP**

See [Uniform Dial Plan \(UDP\)](#).

**UL**

Underwriter Laboratories

**UM**

User manager

**Uniform Dial Plan (UDP)**

A feature that allows a unique 4- or 5-digit number assignment for each terminal in a multiswitch configuration such as a DCS or main-satellite-tributary system.

**UNMA**

Unified Network Management Architecture

**UNP**

Uniform numbering plan

**UPS**

Uninterruptible power supply

## USOP

User service-order profile

## UUCP

UNIX-to-UNIX Communications Protocol

## UUI

User-to-user information

---

## V

### VAR

Value-added reseller

### VDN

See [vector directory number \(VDN\)](#).

### 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 a split is possible only by dialing a VDN extension.

### VIS

Voice Information System

### VLSI

Very-large-scale integration

### VM

Voltmeter

### VNI

Virtual nodepoint identifier

### voice terminal

A single-line or multiappearance telephone.

---

## W

### WATS

See [Wide Area Telecommunications Service \(WATS\)](#).

### WCC

World-Class Core

### WCR

World-Class Routing

### WCTD

World-Class Tone Detection

**WFB**

Wireless fixed base

**Wide Area Telecommunications Service (WATS)**

A service in the United States that allows calls to certain 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 wideband.

**wideband access endpoint**

Access endpoints, extended with wideband switching 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. 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 mode**

One of four states (Auto-In, Manual-In, ACW, AUX-Work) that an ACD agent can be in. Upon logging in, an agent enters AUX-Work mode. To become available to receive ACD calls, the agent enters Auto-In or Manual-In mode. To do work associated with a completed ACD call, an agent enters ACW mode.

**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 of which it is a member. 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 (example: when a call is answered or abandoned, or the agent changes work modes). The BCMS feature monitors work states and uses this information to provide BCMS reports.

**write operation**

The process of putting information onto a storage medium, such as a hard disk.

**WSA**

Waiting session accept

**WSS**

Wireless Subscriber System

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**Z**

**ZCS**

Zero Code Suppression



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