Installation and Upgrades

for

DEFINITY ONE™ Communications System Release 9

and

Avaya IP600 Internet Protocol Communications Server

555-233-109
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Preventing Toll Fraud
"Toll fraud" is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or working on your company's behalf). Be aware that there may be a risk of toll fraud associated with your system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

Avaya Fraud Intervention
If you suspect you are being victimized by toll fraud and you need technical support or assistance, call the appropriate BCS National Customer Care Center telephone number. Users of the MERLIN®, PARTNER®, and System 25 products should call 1 800 628-2888. Users of the System 75, System 85, DEFINITY® Generic 1, 2 and 3, and DEFINITY® ECS products should call 1 800 643-2353.

Providing Telecommunications Security
Telecommunications security (of voice, data, and/or video communications) is the prevention of any type of intrusion to (that is, either unauthorized or malicious access to or use of your company's telecommunications equipment) by some party.

Your company's "telecommunications equipment" includes both this Avaya product and any other voice/data/video equipment that could be accessed via this Avaya product (that is, "networked equipment").

An "outside party" is anyone who is not a corporate employee, agent, subcontractor, or working on your company's behalf. Whereas, a "malicious party" is anyone (including someone who may be otherwise authorized) who accesses your telecommunications equipment with either malicious or mischievous intent.

Such intrusions may be either to/through synchronous (time-multiplexed and/or circuit-based) or asynchronous (character-, message-, or packet-based) equipment or interfaces for reasons of:

- Utilization (of capabilities special to the accessed equipment)
- Theft (such as, of intellectual property, financial assets, or toll-facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)
- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there may be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company (including, but not limited to, human/data privacy, intellectual property, material assets, financial resources, labor costs, and/or legal costs).

Your Responsibility for Your Company's Telecommunications Security
The final responsibility for securing both this system and its networked equipment rests with you – an Avaya customer's system administrator, your telecommunications peers, and your managers. Base the fulfillment of your responsibility on acquired knowledge and resources from a variety of sources including but not limited to:

- Installation documents
- System administration documents
- Security documents
- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

To prevent intrusions to your telecommunications equipment, you and your peers should carefully program and configure your:

- Avaya-provided telecommunications systems and their interfaces
- Avaya-provided software applications, as well as their underlying hardware/software platforms and interfaces
- Any other equipment networked to your Avaya products

Avaya does not warrant that this product or any of its networked equipment is either immune from or will prevent either unauthorized or malicious intrusions. Avaya will not be responsible for any charges, losses, or damages that result from such intrusions.

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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. For more information on standing orders, or to be put on a list to receive future issues of this document, contact the Avaya Publications Center.

European Union Declaration of Conformity
The "CE" mark affixed to the equipment means that it conforms to the above directives. Avaya Business Communications Systems declares that XXX equipment specified in this document conforms to the referenced European Union (EU) Directives and Harmonized Standards listed below:
EMC Directive 89/336/EEC
Low-Voltage Directive 73/23/EEC

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

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Any reference within the text to Lucent Technologies Inc. or Lucent should be interpreted as references to Avaya Inc. The exception is cross references to books published prior to April 1, 2001, which may retain their original Lucent titles.

Avaya Inc. formed as a result of Lucent's planned restructuring, designs builds and delivers voice, converged voice and data, customer relationship management, messaging, multi-service networking and structured cabling products and services. Avaya Labs is the research and development arm for the company.

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About This Book

This document provides procedures to install, upgrade, or add to a DEFINITY ONE™ Communications System (hereafter referred to as DEFINITY ONE), using up to 2 compact modular cabinets (CMC) and the TN795 circuit pack.

This documentation also provides procedures to install, upgrade, or add to an IP600 Internet Protocol Communications server (hereafter referred to as IP600), using up to 2 rack mounted cabinets (RMC) and the TN795 circuit pack.

This document is intended for use by trained installation technicians who have Windows NT and local area network (LAN) training.

DEFINITY ONE is a high-functionality communications system for customers in the 25-40 line size or smaller with growth potential of 240 stations and 168 trunks. This offer provides DEFINITY® software, INTUITY® AUDIX® messaging, and DEFINITY Site Administration (DSA) on a single hardware platform.

IP600 is a high-functionality system for customers with similar line requirements and growth potential, from 20 to over 200 stations. IP600 is designed for communications environments that emphasize IP data and IP voice-over-data. This offer also provides DEFINITY® software, INTUITY® AUDIX® messaging, and DEFINITY Site Administration (DSA) on a single hardware platform.

Conventions used in this book

Circuit pack codes (such as TN763D) are shown with the minimum acceptable alphabetic suffix (like the ‘‘D” in the code TN763D).

Generally, an alphabetic suffix higher than that 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 usable vintages of specific circuit pack codes (including the suffix).

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

NOTE:
The release number sequence for DEFINITY ONE has changed with this release to make it consistent with other DEFINITY products. This release, Release 9, would otherwise have been release 3.0 of DEFINITY ONE.

- S*ystem* is a general term encompassing DEFINITY ONE Release 9 and includes references to DEFINITY ONE.
- Information is applicable for DEFINITY ONE Release 9 unless otherwise specified
- DEFINITY ONE Communications System is abbreviated as DEFINITY ONE

Physical dimensions in this book are in inches followed by metric centimeters (cm) in parentheses. Wire gauge measurements are in American Wire Gauge (AWG) followed by the cross-sectional area in squared millimeters (mm^2) in parentheses.

Related documents

The following documents provide supplemental information when installing a DEFINITY ONE Release 9 system:

- *BCS Products Security Handbook* (555-025-600)
- *BCS Products Security Handbook Addendum* (555-025-600ADD)
- *DEFINITY Communications System Generic 1 and Generic 3 Main Distribution Field Design* (555-230-630)
- *DEFINITY Communications System Terminals and Adjuncts Reference* (555-015-201)
- *DEFINITY Enterprise Communications Server Release 8.2 Installation for Adjuncts and Peripherals* (555-233-116)
- *DEFINITY Enterprise Communications Server Release 9 Administrator's Guide* (555-233-506)
- *DEFINITY Enterprise Communications System Release 9 Administration for Network Connectivity* (555-233-504)
- *DEFINITY Enterprise Communications Server Release 9 Maintenance for R9csi* (555-233-119)

- *DEFINITY Enterprise Communications Server Release 9 System Description* (555-233-200)
- *DEFINITY ONE Communications System AUDIX Administration Command Line Quick Reference Card* (555-233-737)
- *DEFINITY ONE Communications System Release 9 Installation Quick Reference* (555-233-738)
- *DEFINITY ONE Communications System Release 9 Maintenance* (555-233-111)
- *DEFINITY ONE Communications System Release 9 Overview* (555-233-001)
- *DEFINITY System's Little Instruction Book for Advanced Administration* (555-233-757)
- *DEFINITY System's Little Instruction Book for Basic Administration* (555-233-756)
- *DEFINITY System's Little Instruction Book for Basic Diagnostics* (555-233-758)
- *Getting Started with the Avaya R300 Remote Office* (555-233-769)
- *MAX 3000 Installation and Basic Configuration Guide* (555-233-768)

How to order documentation

You can order documentation directly from the Avaya Business Communications System Publications Fulfillment Center at 1-317-322-6791 or toll free at 1-800-457-1235, or at www.lucent.com/enterprise/documentation.

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If the reader comment card is missing, fax your comments to 1-732-817-4009 or to your Avaya representative, and specify this document's name and number, *DEFINITY ONE Communications System Release 9 Installation and Upgrades* (555-233-109).

Where to call for technical support

	Telephone number
Streamlined Implementation (for missing equipment)	1-800-772-5409
USA/Canada Technical Service Center	1-800-248-1234
Technical Service Center Initialization and Database Administration System (INADS)	1-800-248-1111
International Technical Assistance Center	1-720-444-9990
DEFINITY Helpline (software assistance)	1-800-225-7585
Lucent Technologies Toll Fraud Intervention	1-800-643-2353
Avaya Technical Care Center	1-800-242-2121
DEFINITY Site Administration (DSA) Domestic	1-800-242-2121
INTUITY AUDIX Helpline	1-800-242-2121
TSC Repair	1-800-242-2121
DEFINITY Maintenance and Service	1-800-242-2121
Call Accounting support	1-800-242-2121
UPS support	1-800-242-2121

Security issues

To assist customers with security issues, Avaya offers services that can reduce toll-fraud liabilities. For more information, contact your Avaya representative.

NOTE:
Login security is an attribute of the DEFINITY ONE Release 9 software.

Trademarks

This document contains references to the following Avaya trademarked products:

- AUDIX®
- CallVisor®
- DEFINITY®
- DEFINITY ONE™ Communications System
- INTUITY®
- CentreVu®
- BCMS Vu®

The following products are trademarked by their appropriate vendor:

- LINX™ is a trademark of Illinois Tool Works, Incorporated
- Netscape Navigator® is a registered trademark of Netscape Communications Corporation
- pcAnywhere® is a registered trademark of Dynamic Microprocessor Associates
- Windows NT™ is a trademark, and Windows® is a registered trademark, of Microsoft Corporation.
- Paradyne™ is a trademark of Paradyne Corporation
- U.S. Robotics® is a registered trademark of U.S. Robotics Corporation.

Admonishments

Admonishments used in this book have the following meanings:

CAUTION:
This sign is used to indicate possible harm to software, possible loss of data, or possible service interruptions.

WARNING:
This sign is used where there is possible harm to hardware or equipment.

DANGER:
This sign is used to indicate possible harm or injury to people.

SECURITY ALERT:
This sign is used to draw attention to possible toll-fraud issues.

Safety precautions

When performing maintenance or translation procedures on the system, users must observe certain precautions. Observe all caution, warning, and danger admonishments to prevent loss of service, possible equipment damage, and possible personal injury. In addition, the following precautions regarding electromagnetic interference (EMI) and static electricity must be observed:

Electromagnetic interference

This equipment generates, uses, and can radiate radio frequency energy. Electromagnetic fields radiating from the switch may cause noise in the customer's equipment. If the equipment is not installed and used in accordance with the instruction book, radio interference may result.

WARNING:
To maintain the EMI integrity of the system, maintenance personnel must ensure that all cabinet panels, covers, and so forth, are firmly secured before leaving the customer's premises.

Customer safety responsibilities

The customer has the responsilibity to provide the following:

- Properly installed standard 19" rack
- Adequate AC power
- Approved grounding
- Sufficient ventliation

For more information, see ''Site Requirements'' on page 1-3.

Standards compliance

The equipment presented in this document complies with the following standards:

- ITU-T (Formerly CCITT)
- IPNS
- DPNSS
- National ISDN-1
- National ISDN-2
- ISO-9000
- ANSI
- FCC Part 15 and Part 68
- EN55022
- EN50081
- EN50082
- CISPR22
- IEC 825
- IEC 950

- UL 1459
- UL 1950
- UL19501
- CSA C222 Number 225
- TS001
- Australia AS3548 (AS/NZ3548)
- ECMA

For more information, contact your Avaya representative.

Electromagnetic compatibility standards

This product complies with and conforms to the following standards:

- 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

The system conforms to the following standards:

- Electromagnetic compatibility General Immunity Standard, part 1; residential, commercial, light industry, EN50082-1, CENELEC, 1991
- Issue 1 (1984) and Issue 2 (1992), Electrostatic discharge immunity requirements IEC 1000-4-2
- Radiated radio frequency field immunity requirements IEC 1000-4-3
- Electrical fast transient/burst immunity requirements IEC 1000-4-4
- Power Harmonics IEC 61000-3-2, 1995

Anti-static protection

WARNING:
When handling circuit packs or any components of a DEFINITY ONE system, always wear an anti-static wrist ground strap. Connect the strap to an approved ground such as an unpainted metal surface on the DEFINITY ONE system.

Remove/install circuit packs

WARNING:
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

Part 68: Statement

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 Customer-premises equipment (CPE) user

This equipment returns answer-supervision signals on all Direct Inward Dialing (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

Avaya 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. A label is provided on this equipment that contains, among other information, the Federal Communications Commission (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:
The REN is not required for some types of analog or digital facilities.

Means of Connection (U.S.)

Connection of this equipment to the U.S. 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
Central Office (CO) Trunk	02GS2	0.3A	RJ21X
CO Trunk	02LS2	0.3A	RJ21X
Tie Trunk	TL31M	9.0F	RJ2GX
1.544 Mbps Digital Interface	04DU9-B,C	6.0P	RJ48C, RJ48M
1.544 Mbps Digital Interface	04DU9-BN,KN	6.0P	RJ48C, RJ48M
120A2 Channel Service Unit	04DU9-DN	6.0P	RJ48C

If the terminal equipment (DEFINITY ONE 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 you 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 so you can make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact the Technical Service Center at 1-800-242-2121 for repair or warranty information. 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 Avaya certified technicians.

The equipment cannot be used on public coin phone service or on party-line 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 is hearing-aid compatible when used with a telephone receiver.

Install and Cable the Cabinet

1

This chapter describes the process for installing and cabling the cabinet to physically connect and access the Avaya IP600. The rack mounted cabinet (RMC) houses the Avaya IP600.

NOTE:
Physical installation and cabling of both cabinets are basically the same as the ProLogix cabinet and cabling, with exception of the processor interface cable (multileg cable) and absence of the system access terminal (SAT). Software, such as DEFINITY, should not be accessed until cabling and installation of the cabinet are completed. Your configuration can consist of 1 or 2 cabinets.

This chapter is organized as follows:

"Section I - Avaya IP600 Installation" on page 1-3

- "Site Requirements" on page 1-3
- "Check customer's order" on page 1-4
- "Correct shipping errors" on page 1-4
- "Unpack and inspect" on page 1-4
- "Install the Avaya IP600 system cabinet" on page 1-10
- "Check AC power and ground for Avaya IP600" on page 1-18
- "Cable the Avaya IP600 system" on page 1-26
- "Install RMC patch panels and external modem" on page 1-33
- "Install equipment room hardware for Avaya IP600" on page 1-36
- "Set ringing option for Avaya IP600" on page 1-48

"Section II - DEFINITY ONE Installation" on page 1-50

- "Check customer's order" on page 1-50
- "Correct shipping errors" on page 1-50
- "Unpack and inspect" on page 1-50
- "Install the DEFINITY ONE system cabinet" on page 1-55
- "Check AC power and ground for DEFINITY ONE" on page 1-63
- "Cable the DEFINITY ONE system" on page 1-73
- "Install DEFINITY ONE main distribution frame (MDF) and external modem" on page 1-76
- "Install equipment room hardware for DEFINITY ONE" on page 1-79
- "Set ringing option for DEFINITY ONE" on page 1-94

"Section III - Install Telephones and Make Auxiliary Connections" on page 1-96

- "Install and wire telephones and other equipment" on page 1-96
- "Connect external alarms and auxiliary connections" on page 1-109
- "Install the BRI terminating resistor" on page 1-112
- "Install multi-point adapters" on page 1-116
- "Install off-premises station wiring" on page 1-119
- "Install emergency transfer panel and associated telephones" on page 1-124
- "Connect modem" on page 1-133
- "Connect modem to telephone network" on page 1-132
- "Set neon voltage to prevent ring ping" on page 1-134
- "Complete installation" on page 1-135
- "View LEDs to determine power and fan alarm state" on page 1-135

SECTION I - AVAYA IP600 INSTALLATION

Site Requirements

Avaya IP600 is designed to be mounted in a standard 19-inch (48 cm) data rack that has been properly pre-installed and secured as per the EIA 464 (or equivalent) standards. The customer is responsible for providing the rack and having it installed and secured prior to Avaya IP600 installation. This also applies to providing AC power to the rack and approved grounding. The technicians trained to install the Avaya IP600 do not typically have the tools or proper training for data rack installation

The Avaya IP600 cabinet dimensions are 12 inches (7U) high by 22 inches deep by 19 inches wide. The Avaya IP600 cabinet can be mounted at its midpoint by removing the mounting brackets and remounting them at a medial position.

Installation requires 1 foot (30 cm) of clearance in the rear, and 18 inches (45 cm) of clearance in the front, which is consistent with the EIA 464 data rack standards. In a two-cabinet configuration, the dimensions of the TDM/LAN cable require that one cabinet be mounted directly over the other (flush).

The Avaya IP600 should be installed in a well-ventilated area. Maximum equipment performance is achieved at an ambient temperature between 40 and 120 degrees F (4 and 49 degrees C) for a short-term operation (not more than 72 consecutive hours or 15 days in a year) and up to 110 degrees F (43 degrees C) for a continuous operation. The relative humidity range is 10 to 95% at up to 84 degrees F (29 degrees C). Above this, maximum relative humidity decreases from 95% down to 32% at 120 degrees F (49 degrees C). Installations outside these limits may reduce system life or affect operation. The recommended temperature and humidity range is 65 degrees to 85 degrees F (18 to 29 degrees C) at 20 to 60% relative humidity.

The other Environmental Considerations and System Protection requirements described in the DEFINITY ECS Systems Description under "Site Requirements" apply to the Avaya IP600 as well.

Table 1-1. Cabinet Power Source Information

Cabinet Style and Power Distribution Unit	**Power Sources**	**Power Input Receptacles**
Rack Mount Cabinet. AC power supply (650A integrated power supply) There is no integrated DC power supply. DC rectifiers can be used if desired; follow manufacturer's instructions.	Single phase 120 VAC with neutral Single phase 240 VAC with neutral	120 VAC, 60 Hz NEMA 5-15R 240 VAC, 50 Hz IEC 320 Japan installations use country specific receptacles for 100 and 200 VAC, 50/60 Hz

Table 1-2. Circuit Breakers for AC-Powered Cabinets

Cabinet Type	Circuit Breaker Size
Rack Mount Cabinet (120 VAC) 60 Hz	15 A
Rack Mount Cabinet (240 VAC) 50 Hz	10 A

Check customer's order

1. Check the customer's order and the shipping packing lists to confirm that all equipment is included.
2. Report missing equipment to an Avaya representative.
3. Check the system adjuncts for damage and report all damage according to local shipping instructions.

Correct shipping errors

1. Red-tag all defective equipment and over-shipped equipment and return according to the nearest Material Stocking Location (MSL) instructions.
2. Direct all short-shipped reports to the nearest MSL. Contact the appropriate location for specific instructions. For streamlined implementation, call 1-800-772-5409.

Unpack and inspect

DANGER:
Use lifting precautions. An empty Avaya IP600 RMC weighs 15.8-17.6 kg (35-39 lbs).

1. Verify the equipment received. See Figure 1-1 on page 1-5. Actual equipment may vary in appearance and may ship in separate packages. Equipment comcodes are listed in Table 1-3 on page 1-7.
2. Before mounting the cabinet, remove the RMC door by opening and then lifting it straight up and off the hinge pins.

NOTE:
The Avaya IP600 power cord, software and documentation CDs, processor interface cable, wrist strap, and cabinet feet are shipped inside the cabinet accessory compartment. See Figure 1-2 on page 1-6. The optional Avaya IP600 port cabinet is shipped with AC power cord or international power cord kit, mounting kit, TDM/LAN bus cable, and EMI Gasket.

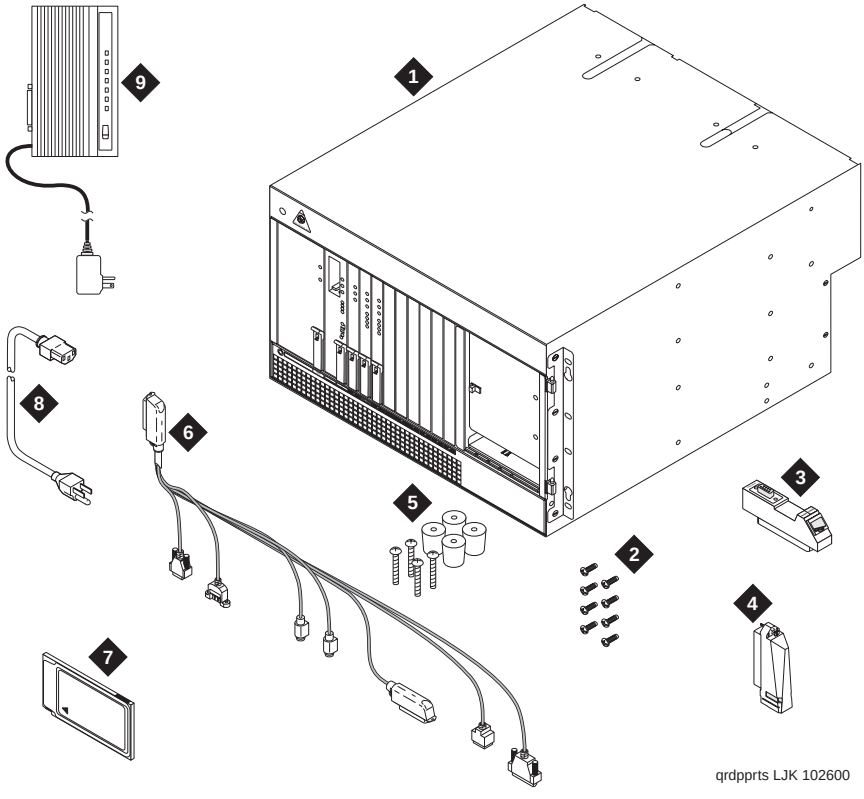


Figure notes

1. RMC cabinet with 650A power supply
2. Screws (for rack mounting)
3. IP Media Processor adapter (may be pre-installed)
4. 259A adapter for C-LAN
5. Cabinet feet and screws
6. Processor interface cable
7. Flash card (backup)
8. AC power cord (NEMA 5-15P or IEC 320) or international power cord kit
9. External modem (not shipped with all systems)

The following circuit packs are shipped with the Avaya IP600:

- TN795 Processor
- TN744 Call Classifier/Detector
- TN2302 Media Processor
- TN799B C-LAN

The network interface card (NIC) and remote modem shelf are also included with the packaging

Figure 1-1. Equipment packed with a single rack mounted cabinet (RMC)

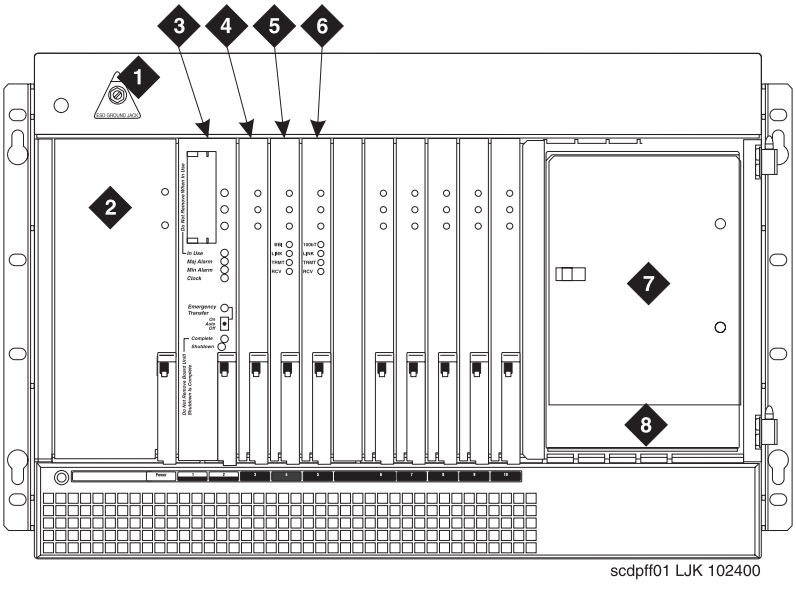


Figure notes

1. ESD Ground Jack
2. 650A Power Supply
3. TN795 Processor Circuit Pack
4. TN744D Call Classifier/Detector
5. TN2302 Media Processor
6. TN799C C-LAN
7. Accessory compartment
8. Fiber-optic pass-through

Figure 1-2. Front view of RMC

Table 1-3 lists the comcodes for equipment used with the RMC. If “Optional” is checked, the equipment may or may not be necessary, depending on the site configuration.

Table 1-3. Comcodes for equipment used with Avaya IP600

Comcode	Description	Optional
848627204	Door	
848627147	Bottom Panel	
700017932	Mounting Kit (Screws)	
	Time-division multiplexing/local area network (TDM/LAN) Bus Cable	X
848525887	IP Media Processor Adapter	
102631413	259A Adapter for C-LAN	
700017916	Rack Mounting Guide	
700018021	EMI Gasket	X
700017924	EMI Gasket Installation Instructions	X
848627188	Fan Assembly	
700012925	Remote Modem Shelf	X
700012909	24 Port Patch Panel	X
70012917	8 Port Patch Panel	X
601929763	Processor Interface Cable (Multileg cable), TN795	
103557484	TN795 Processor Circuit Pack	
848320800	Hard Disk Programmed	
40763399	External Modem	X
601929920	Software CDs	
408276897	NIC Ethernet Adapter Card	
408166783	PCMCIA Flash Card (For Backup)	
105631527	Time-division multiplexing/local area network (TDM/LAN) Bus Terminator (AHF110)	
407676691	120 VAC Power Distribution Unit (145D 6-AC)	
107949364	650A Power Supply	
848477634	LAN Crossover Cable (RJ45), 12-foot	
405362641	120 VAC Power Cord	

Continued on next page

Table 1-3. Comcodes for equipment used with Avaya IP600 — *Continued*

Comcode	Description	Optional
106278062	Apparatus Blank (Circuit Pack Blank) (158P)	
106606536	Integrated Channel Service Unit (ICSU) (120A2)	X
107988867	DS1 Loopback Jack (T1 Only) (700A)	X
848477634	Crossover Cable for NIC	X
107152969	75 Ohm DS1 Coaxial Adapter (888B)	X
403613003	157B Connecting Block (“sneak current protectors”)	X
406948976	6SCP-110 Protector	X
107435091	507B Sneak Current Fuse Panel	X
407216316	220029 Sneak Current Fuse	X
104307327	C6C cable — 50-foot (15.2 m) shielded Digital Signal Level 1 (DS1) cable with 50-pin male to 15-pin male	X
104307376	C6D cable — 50-foot (15.2 m) shielded DS1 cable with 50-pin male on each end	X
104307434	C6E cable — 100-foot (30.5 m) shielded DS1 cable with 50-pin male to 50-pin female	X
104307475	C6F cable — 50-foot (15.2 m) shielded DS1 cable with 50-pin male to 3 inch (7.62 cm) stub	X
102381779	3B1A Carbon Block	X
104410147	3B1E-W Wide Gap Gas Tube	X
105514756	3C1S Analog Line Protector - Solid State	X
102904893	4B1C Carbon Block with Heat Coil	X
104401856	4B1E-W Wide Gap Gas Tube w/Heat Coil	X
104386545	4C1S Analog Line Protector - Solid State with Heat Coil	X
105581086	4C3S-75 Digital Voice Circuit Protector - Solid State	X
406144907	ITW LINX Gas Tube, Avalanche Suppress	X
901007120	ITW Linx Ground Bar (used with above)	X
406304816	ITW Linx Replacement Fuse	X
103972758	Data Link Protector (1 circuit)	X

Continued on next page

Table 1-3. Comcodes for equipment used with Avaya IP600 — *Continued*

Comcode	Description	Optional
103972733	Data Link Protector (8 circuits)	X
407063478	Electrostatic Discharge (ESD) Wrist Strap	
407691401	Z3A2 Alarm Adapter (required with UPS)	X

Install the Avaya IP600 system cabinet

WARNING:
Make sure there is adequate ventilation in the area. The internal operating temperature of the RMC must not exceed 50° C (122° F).

Avaya IP600 cabinets can be shelf-mounted or rack-mounted. Set the Carrier Address ID either before installing each RMC cabinet or after installation.

Verify the carrier address ID on RMC cabinets

1. Loosen the thumb screws on the fan assembly and pull it straight out as shown in Figure 1-3.

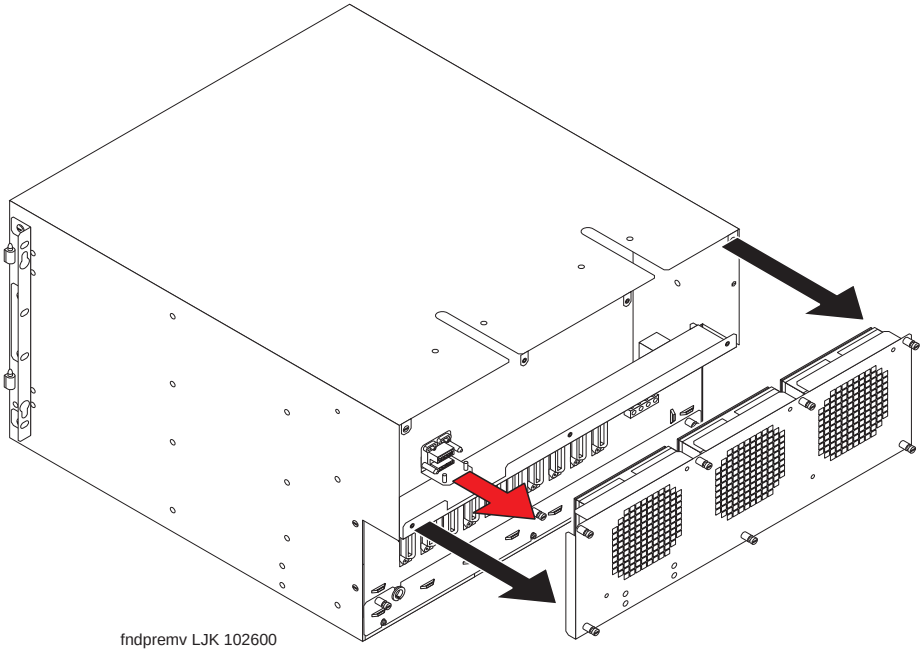


Figure 1-3. Fan assembly removal

2. Verify and, if necessary, set the carrier address ID for each cabinet as shown in Figure 1-4. Cabinet A settings are for the processor cabinet. Cabinet B settings are for the optional port carrier cabinet.

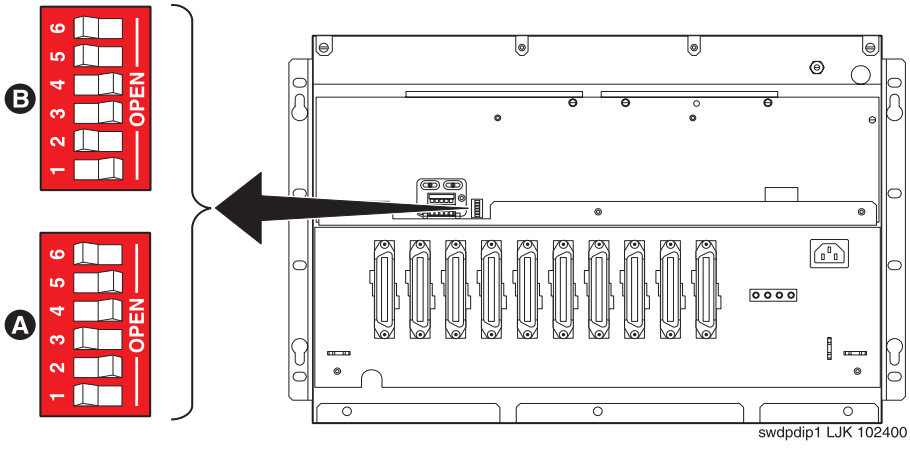


Figure 1-4. Setting RMC carrier address ID

3. Proceed to either "Floor-mount the Avaya IP600 cabinet" on page 1-12 or "Rack-mount the Avaya IP600 cabinet" on page 1-13.

Floor-mount the Avaya IP600 cabinet

NOTE:
A single RMC can be floor-mounted or rack-mounted (preferred). Double RMC systems must be rack-mounted.

WARNING:
Do not stack one RMC on top of another on the floor.

1. Screw in the feet at the base of the cabinet as shown in Figure 1-5.

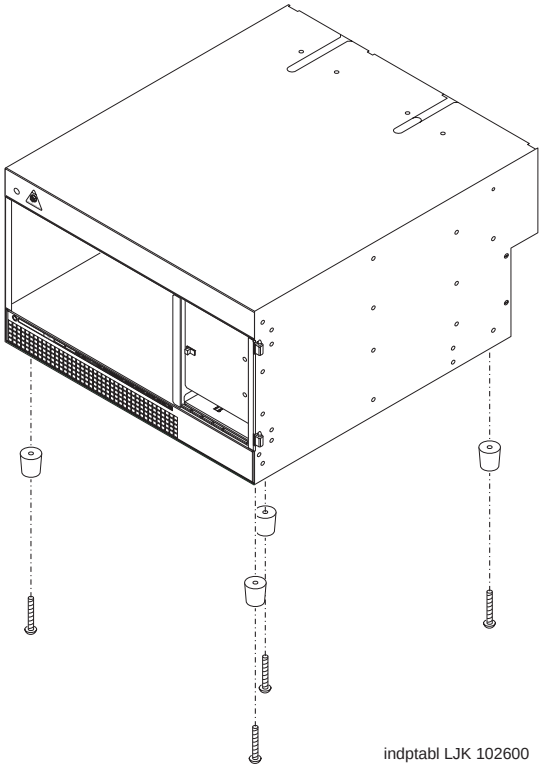


Figure 1-5. Shelf-mounting the RMC

2. Locate the cabinet on the floor.
3. Proceed to "Check AC power and ground for Avaya IP600" on page 1-18.

Rack-mount the Avaya IP600 cabinet

WARNING:
Make sure the standard 19" rack supplied by the customer is properly installed and solidly secured to the floor. If the rack is not secured to the floor, do not proceed with installation.

1. Make sure the door has been removed.
2. Remove all circuit packs and the power supply.

WARNING:
When handling circuit packs or any components of the Avaya IP600, always wear an authorized wrist ground strap connected the ground connector provided on the system cabinet. Store circuit packs during cabinet installation such that they will not be damaged by electrostatic discharge.

3. If necessary, prepare the RMC for mounting in the medial position by removing the screws on the mounting brackets, moving the brackets to a position midway on the cabinet, and installing the screws through the mounting bracket and into the cabinet holes.
4. Using the Rack Mounting Guide, locate a set of rack holes to be used for mounting. Note the position of the upper key-hole shaped slots on each rail.

   NOTE:
   19" mounting screw holes are not evenly spaced. Make sure the holes selected for mounting the RMC are such that the rack holes match the all mounting bracket slots on the Guide. See Figure 1-6 on page 1-14.

   WARNING:
   Installing the RMC higher than shoulder level on the rack is not recommended.

5. Insert two mounting screws into the left and right rails of the rack in the holes noted in step 4. Leave enough space between the screw head and the rail surface to accept the mounting bracket. See Figure 1-6 on page 1-14.
6. Lift the RMC and slide the key-hole slots on the mounting brackets onto the two mounting screws.

   DANGER:
   Use lifting precautions! An empty Avaya IP600 RMC weighs 15.8-17.6 kg (35-39 lbs).

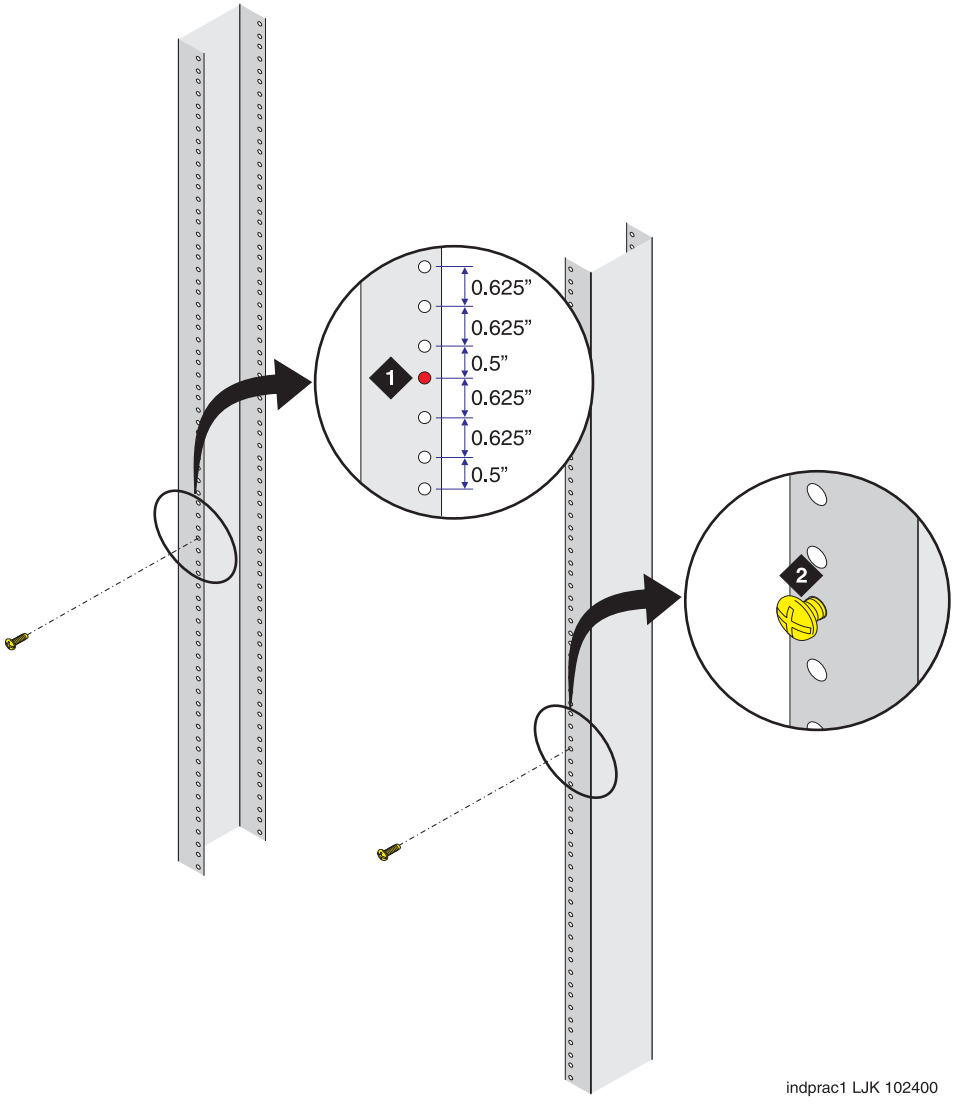


Figure notes

1. Rack mounting hole spacing
2. Mounting screw

Figure 1-6. Rack hole spacing and first mounting screw placement

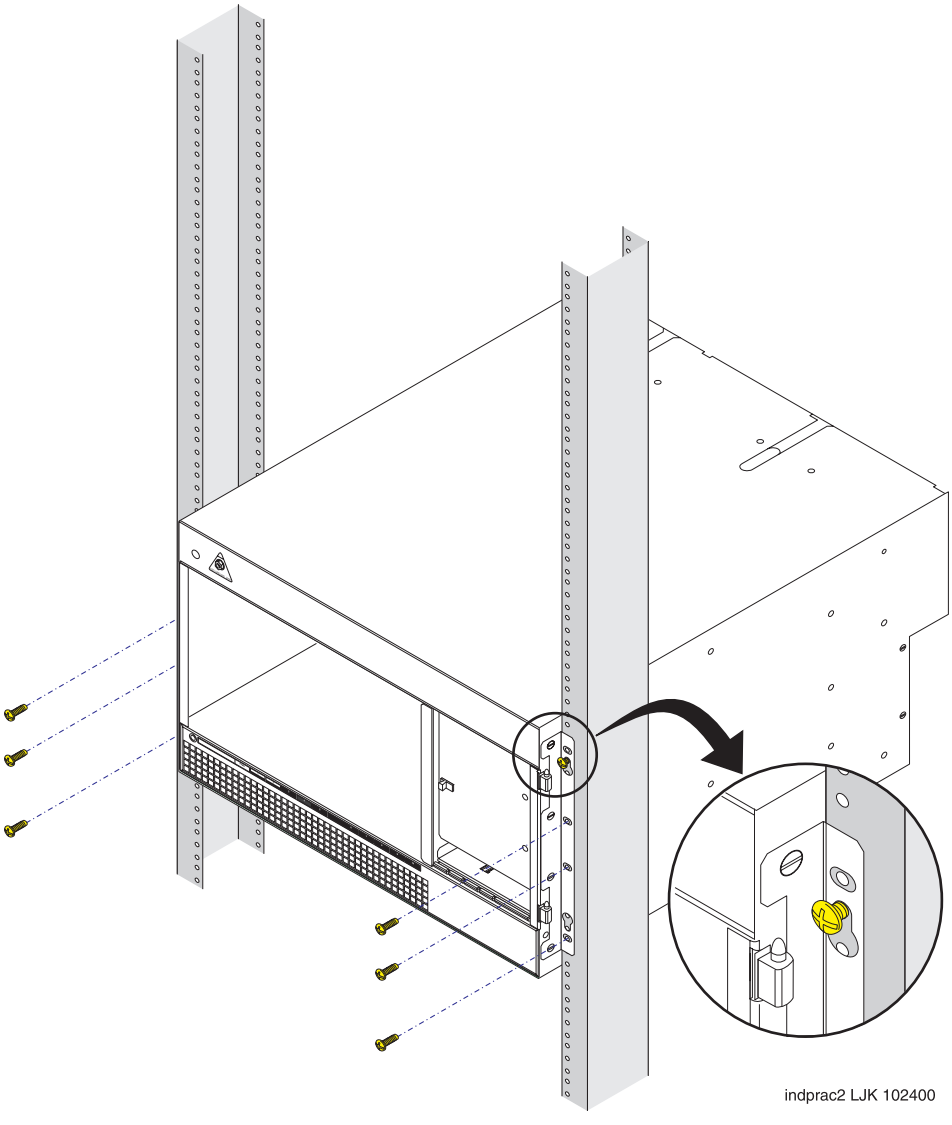


Figure 1-7. Rack-mounting the RMC

7. Tighten the two top mounting screws.
8. Install and tighten the remaining screws. See Figure 1-7.

NOTE:
Follow the same steps to install the RMC with mounting bracket in the medial position. See Figure 1-8 on page 1-16.

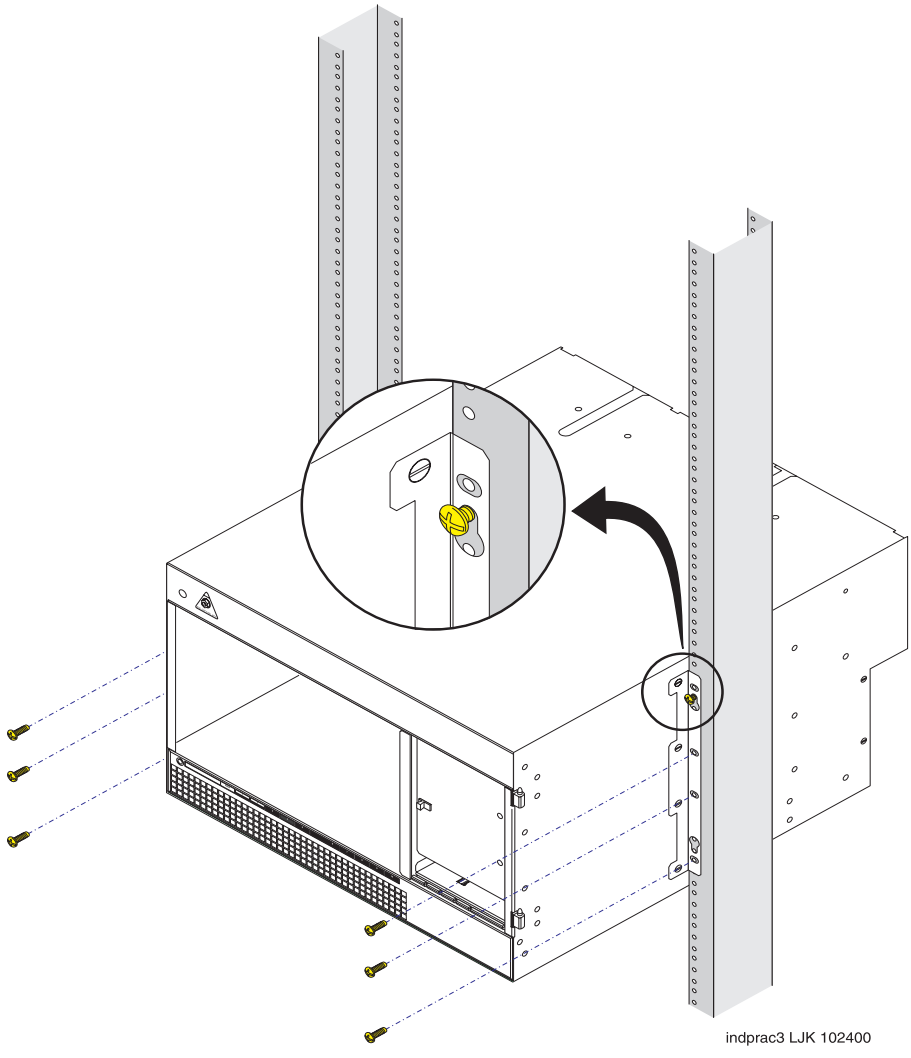


Figure 1-8. Rack-mounting the RMC in medial position.

9. Reinstall the circuit packs and power supply.
10. Proceed to "Check AC power and ground for Avaya IP600" on page 1-18.

Rack-mount two Avaya IP600 cabinets

Mount port Cabinet B directly above processor Cabinet A.

1. Install the rectangular EMI Gasket over the right TDM/LAN bus cable routing slot on the top of Cabinet A. Make sure open corner of the gasket faces the rear of the cabinet. Once installed, cabinet B should rest on and compress the gasket. See Figure 1-14 on page 1-29.

1. Follow the steps to "Rack-mount the Avaya IP600 cabinet" on page 1-13.

2. Proceed to "Check AC power and ground for Avaya IP600" on page 1-18.

Check AC power and ground for Avaya IP600

WARNING:
The alternating current (AC) power circuit must be dedicated to the system. The circuit must not be shared with other equipment and must not be controlled by a wall switch. The AC receptacle must not be located under the CMC Main Distribution Frame and must be easily accessible.

DANGER:
The latch only removes direct current (DC) power from the cabinet. Unseating the power supply removes AC power from the power supply, but not from the cabinet. To remove AC power from the cabinet and pull the AC power cord from the AC appliance connector on the rear of the cabinet.

WARNING:
System grounding must comply with the general rules for grounding provided in Article 250 of the National Electrical Code (NEC), National Fire Protection Agency (NFPA) 70, or the applicable electric code in the country of installation.

WARNING:
AC mains wiring and testing must be performed by a qualified electrician and must conform to Article 250 of the NEC, NFPA 70, or the applicable electric code in the country of installation.

WARNING:
Make sure that, with the other equipment installed in the rack, the RMC will not generate an overcurrent or over load condition. Verify that the customer's branch circuit and/or power distribution strip are adequate with respect to overload and overcurrent protection.

Check AC power

Each RMC uses an auto-ranging (85 to 264 VAC) power supply, 47 to 63 Hz, 330 Watts, 4.5 Amps (100 to120 VAC) or 2.3 Amps (200 to 240 VAC), at 500 VoltAmps (VA).

The AC power source can be 1 phase of 120 VAC with neutral (100 VAC for Japan) with 15-Amp circuit breaker, or 1 phase of 220 or 240 VAC (200 VAC for Japan) with 10-Amp circuit breaker. The AC cord uses a NEMA 5-15P plug or an IEC 320 plug.

Before powering up the system, check the AC power in the equipment room using a KS-20599 digital voltmeter (DVM) (or equivalent).

To check AC power:

1. Measure the AC voltage between the hot and neutral sides of the receptacle.
2. Depending on the AC power source, verify that the meter reads 90 to 132 VAC or 180 to 264 VAC. If not, have a qualified electrician correct the problem.
3. Measure the voltage between the neutral and ground sides of the receptacle.
4. Verify that the meter reads 0 VAC. If not, have a qualified electrician correct the problem.
5. When finished, set the AC main circuit breakers to ***OFF***.

Approved grounds

An approved ground is the closest acceptable medium for grounding the building entrance protector, entrance cable shield, or single-point ground of electronic telephony equipment. If more than one type of approved ground is available on the premises, the grounds must be bonded together as required in Section 250-81 of the National Electrical Code.

WARNING:
Make sure that the RMC has a reliable earth ground connection, whether the RMC is connected directly to a branch circuit or to a power distribution strip. In addition, the RMC requires a cabinet ground connection directly to an approved ground.

Grounded Building Steel — The metal frame of the building where it is effectively grounded by 1 of the following grounds: acceptable metallic water pipe, concrete encased ground, or a ground ring.

Acceptable Water Pipe — A metal underground water pipe, at least 1/2 inch (1.3 cm) in diameter, in direct contact with the earth for at least 10 feet (3 m). The pipe must be electrically continuous (or made electrically continuous by bonding around insulated joints, plastic pipe, or plastic water meters) to the point where the protector ground wire connects. A metallic underground water pipe must be supplemented by the metal frame of the building, a concrete-encased ground, or a ground ring. If these grounds are not available, the water pipe ground can be supplemented by 1 of the following types of grounds:

- Other local metal underground systems or structures — Local underground structures such as tanks and piping systems
- Rod and pipe electrodes — A 5/8-inch (1.6-cm) solid rod or 3/4-inch (2-cm) conduit or pipe electrode driven to a minimum depth of 8 feet (2.4 m)
- Plate electrodes — Must have a minimum of 2 square feet (0.185 square m) of metallic surface exposed to the exterior soil

Concrete Encased Ground — An electrode encased by at least 2 inches (5.1 cm) of concrete and located within and near the bottom of a concrete foundation or footing in direct contact with the earth. The electrode must be at least 20 feet (6.1 m) of 1 or more steel reinforcing bars or rods 1/2-inch (1.3 cm) in diameter, or at least 20 feet (6.1 m) of bare, solid copper, 4 AWG (26 mm^2) wire.

Ground Ring — A buried ground that encircles a building or structure at a depth of at least 2.5 feet (0.76 m) below the earth's surface. The ground ring must be at least 20 feet (6.1 m) of 2 AWG (35 mm^2), bare, copper wire.

Approved floor grounds

WARNING:
If the approved ground is inside a dedicated equipment room, these connections must be made by a qualified electrician.

Floor grounds are those grounds on each floor of a high-rise building that are suitable for connection to the ground terminal in the riser closet and to the cabinet single-point ground terminal. Approved floor grounds may include:

- Building steel
- The grounding conductor for the secondary side of the power transformer feeding the floor
- Metallic water pipes
- Power-feed metallic conduit supplying panel boards on the floor
- A grounding point specifically provided in the building for the purpose

Uninterruptible power supply

A recommended Uninterruptible Power Supply (UPS) may be used for power holdover. The type of UPS depends on the holdover requirements. Total holdover capacity varies depending on the UPS. The UPS must provide surge protection for the RMC cabinet.

CAUTION:
The major alarm contacts are designed to be connected ONLY to a UPS that can indicate that it is on backup power. For most non-Avaya UPSs, you should not use the major external device leads. Using those leads for anything else could cause an SPE download.

1. Connect the UPS to an electrical outlet capable of handling the power requirements of the cabinets:
   a. 100 VAC, 4.5 Amps
   b. 120 VAC, 3.8 Amps
   c. 200 VAC, 2.3 Amps
   d. 220 to 240 VAC, 2.0 Amps
2. Ensure that the cabinet is connected to an “unswitched” or “always on” electrical outlet on the UPS.
3. For Avaya UPS, connect and administer the UPS. See ‘‘Connect external alarms and auxiliary connections’’ on page 1-109.

NOTE:
If an Avaya UPS is wired as recommended, holdover time for each power outage is 1 minute before an automatic shutdown. UPS may handle any subsequent power outage based on its total battery capacity.

Cabinet power switch

DANGER:

The latch acts as the DC power switch and only removes DC power from the cabinet, not AC power. To remove AC power, pull the AC power cord from the appliance inlet. See Figure 1-9.

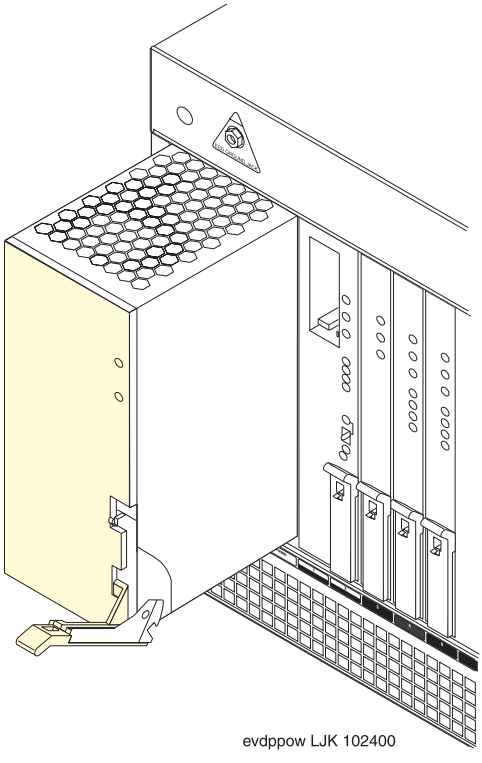


Figure 1-9. RMC 650A power supply

Connect cabinet grounds and other grounds

Follow these additional grounding requirements:

- The approved ground wire must be green, 6 AWG (#40) (16 mm^2), copper, stranded wire. This is in addition to the ground wire in the AC power cord.
- Bond all approved grounds at the single-point ground to form a single grounding electrode system.

4. Connect the cable as shown in Figure 1-10 for an Avaya IP600 single cabinet, or Figure 1-11 on page 1-24 for two Avaya IP600 cabinets.

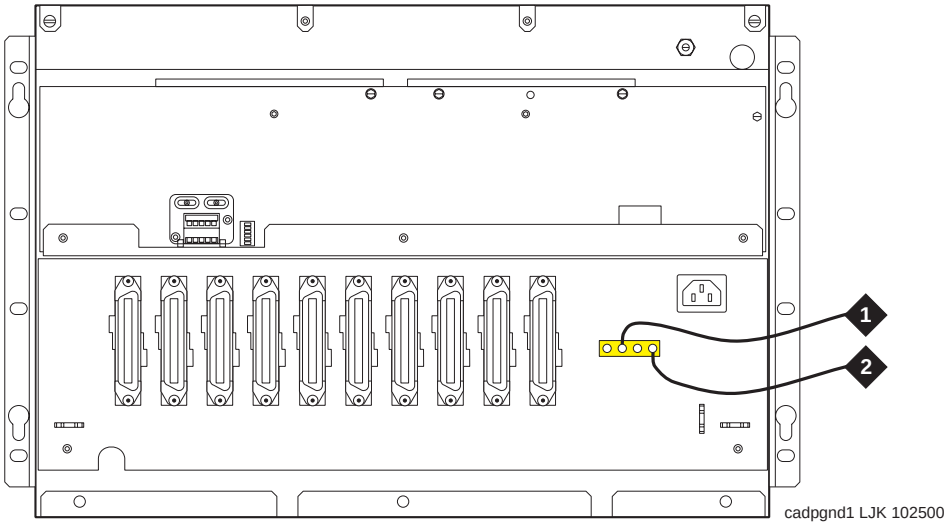


Figure notes

1. 10 AWG (#25) (6 mm^2) wire to coupled bonding conductor (CBC).
2. 6 AWG (#40) (16 mm^2) ground wire from single-point ground block to the approved building ground.

Figure 1-10. Single-cabinet RMC grounding

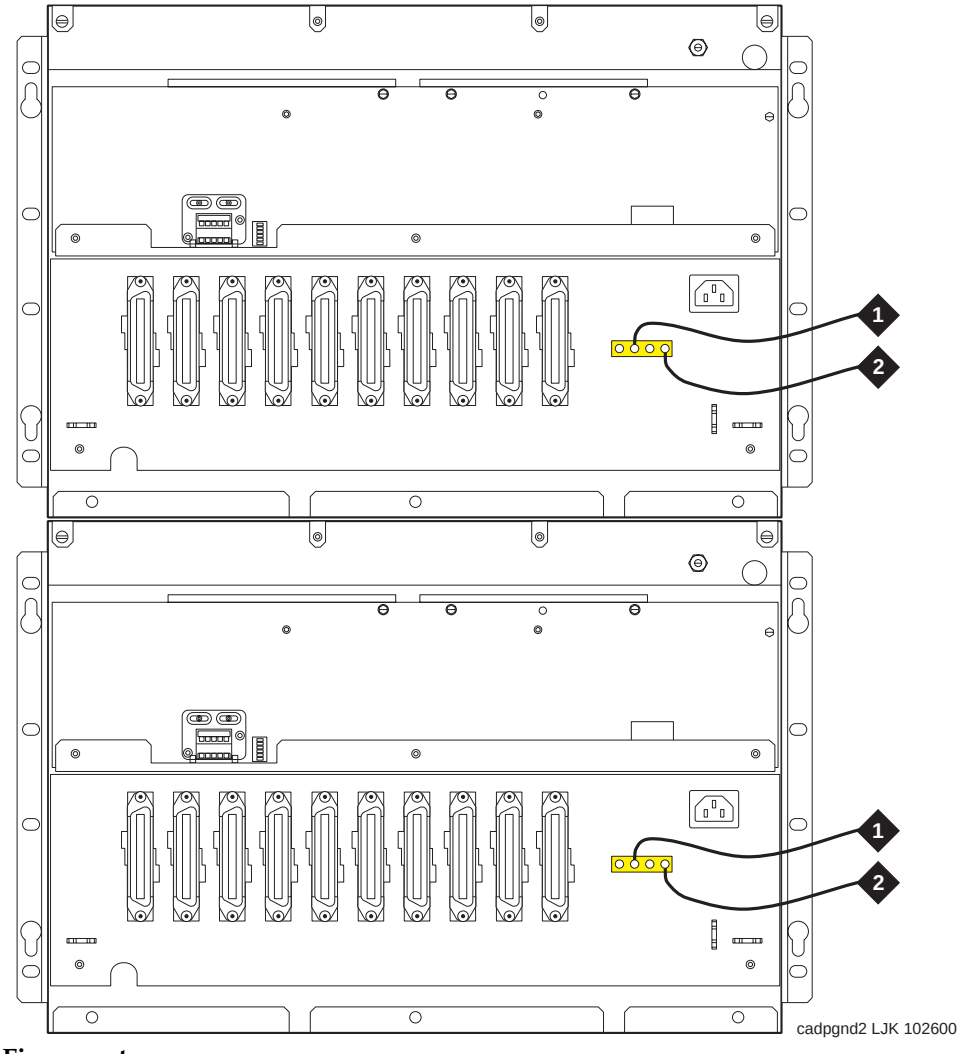


Figure notes

1. 10 AWG (#25) (6 mm^2) wire to coupled bonding conductor (CBC).
2. 6 AWG (#40) (16 mm^2) ground wire from single-point ground block to the approved building ground

Figure 1-11. Two-cabinet RMC grounding

Install coupled bonding conductor

The Coupled Bonding Conductor (CBC) provides mutual inductance coupling between the CBC and the telephone cables exposed to lightning. The conductor can be a 10 AWG (#25) (6 mm^2) wire tie wrapped to the exposed cables, a metal cable shield around the exposed cables, or 6 spare pairs from the exposed cable.

For a high-rise building, connect the CBC to an approved building ground on each floor. To provide the coupled bonding protection:

1. Connect 1 end of the conductor to a telephone cable building entrance protector ground that is connected to an approved ground.
2. Route the conductor next to the exposed telephone cables being protected until it reaches the cross-connect nearest to the telephone system.
3. Position the non-exposed telephone cables at least 12 inches (30.5 cm) away from exposed telephone cables whenever possible.
4. Terminate the other end to the single-point ground block provided for the telephone system.

Connect the power cords

WARNING:
The AC power cord may connect to a properly rated power distribution unit, individual AC power receptacles, or to a UPS. A rack-mounted UPS is recommended.

To connect the power cords:

1. Ensure the circuit breakers at the AC load center are ***OFF***.
2. Connect the cabinet to the UPS or to an “unswitched” or “always on” electrical outlet.

Cable the Avaya IP600 system

NOTE:
TDM/LAN bus terminators are factory installed on single RMC Avaya IP600 units. See Figure 1-12

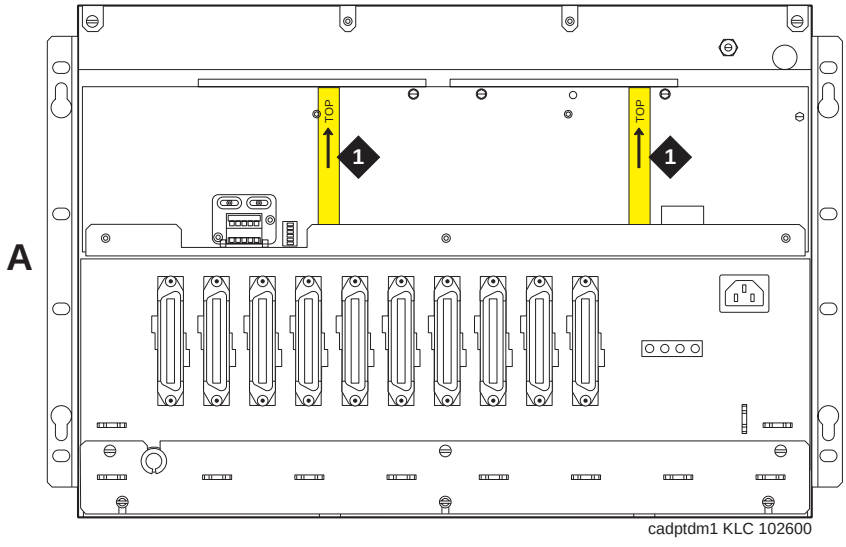


Figure notes

1. TDM/LAN bus terminators (at each end of the TDM/LAN bus)

Figure 1-12. Processor cabinet TDM/LAN bus terminators

Install Processor Interface cable

1. Connect the Processor Interface Cable to the slot 2 connector behind the processor cabinet. See Figure 1-13.
2. Install the IP Media Processor adapter and 259A C-LAN adapter on the appropriate connectors behind the processor cabinet.

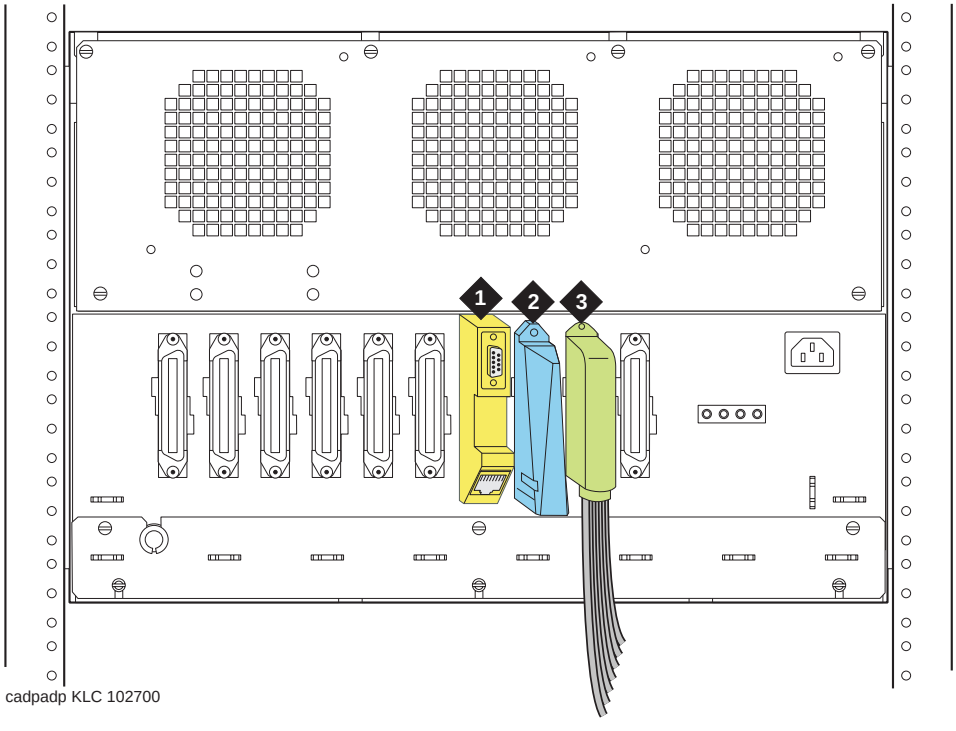


Figure notes

1. IP Media Processor adapter
2. 259A adapter for C-LAN
3. Processor interface cable (slot 2)

Figure 1-13. Avaya IP600 cable connections

Cable the two-cabinet Avaya IP600 system

1. Remove the bottom panel and fan assembly from Cabinet B (port cabinet).
2. Remove the fan assembly from Cabinet A (processor cabinet).
3. Remove the right TDM/LAN bus terminator from Cabinet A, and install it at the left end of the TDM/LAN bus on Cabinet B. See Figure 1-14 on page 1-29.

WARNING:
Make sure to install TDM/LAN bus terminators with the arrow on the back pointing upward.

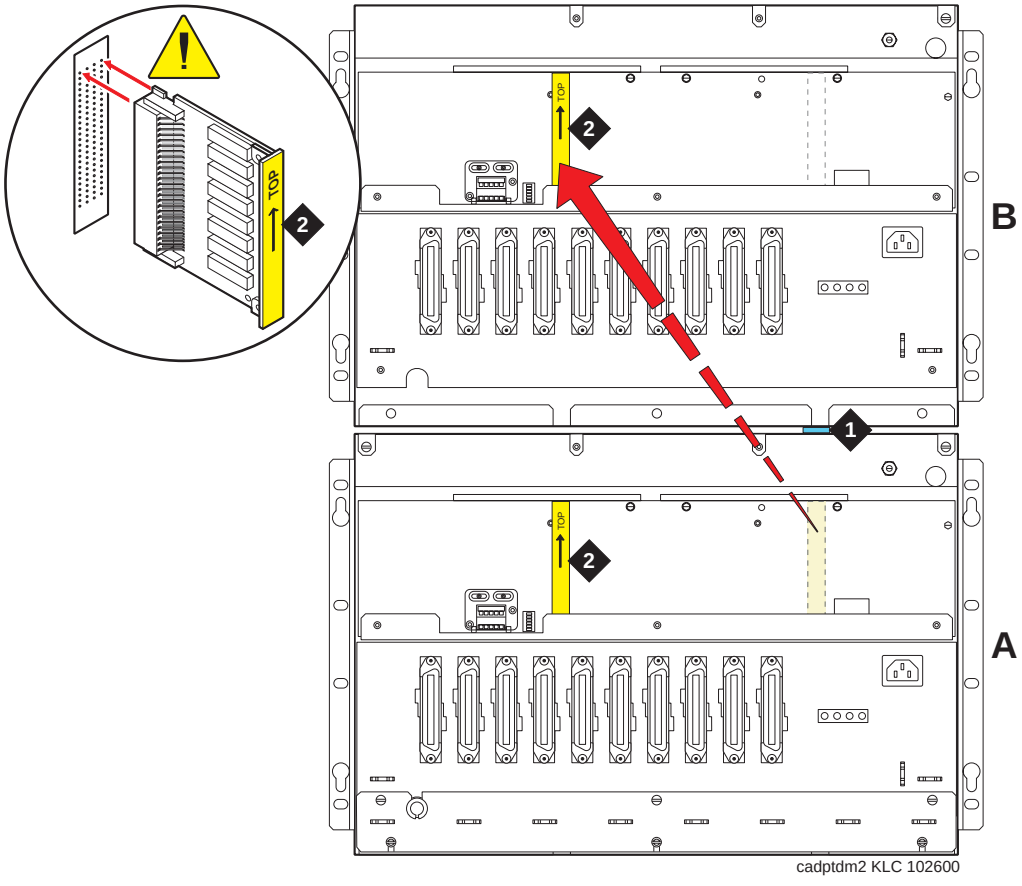


Figure notes

1. EMI Gasket between cabinets
2. TDM/LAN bus terminators

Figure 1-14. Shift TDM/LAN bus terminator from Cabinet A to Cabinet B

4. Remove the nuts on the posts of the plates covering the bottom right TDM/LAN cable routing slot of Cabinet B and the top right TDM/LAN cable routing slot of Cabinet A. See Figure 1-15

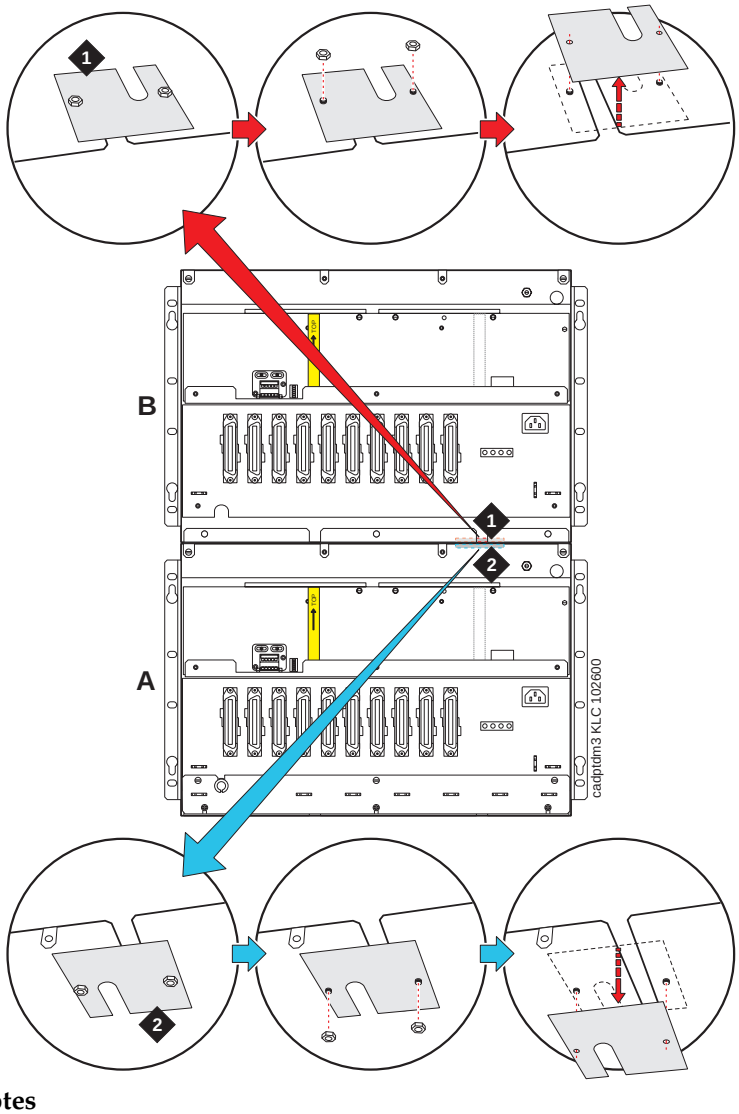


Figure notes

1. Cabinet B routing slot plate.
2. Cabinet A routing slot plate.

Figure 1-15. TDM/LAN bus cable routing slot plate removal

5. Pull open the EMI Gasket, and pass the TDM/LAN bus cable through the routing slots in both cabinets. Push the free end of the EMI Gasket back in place. See Figure 1-16 on page 1-32.

WARNING:
Make sure the arrows on the back of the cable terminators point upward.

6. Install the lower terminator of the TDM/LAN bus cable on right end of TDM/LAN bus in Cabinet A.
7. Install the upper terminator of the TDM/LAN bus cable on the right end of the TDM/LAN bus Cabinet B.
8. Flip over the routing slot plates and reinstall both. Once the plates are reinstalled, the ends of the routing slots are covered.
9. Reinstall the fan assemblies and bottom panel.

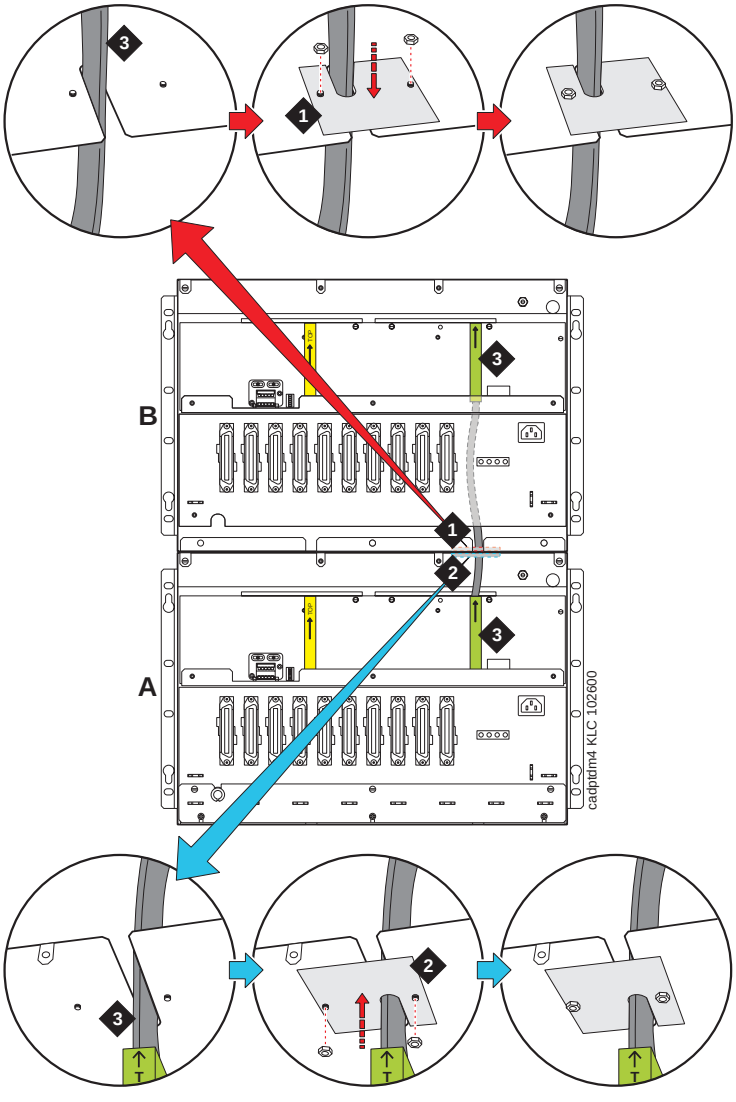


Figure notes

1. Cabinet B routing slot plate reversed
2. Cabinet A routing slot plate reversed
3. TDM/LAN bus cable

Figure 1-16. TDM/LAN bus cable routed from Cabinet A to Cabinet B

Install RMC patch panels and external modem

NOTE:
The optional patch panel kit replaces standard 110A cross-connect hardware. If standard 110A cross-connect equipment is used, consult DEFINITY *Communications System Generic 1 and Generic 3 Main Distribution Field Design* (555-230-630).

Patch panels are arrays of RJ45 jacks and associated B25A cabling to accommodate 2-wire, 24-port DCP/analog port boards and 8-port analog trunk boards.

A shelf is provided to route the B25A cables and serve as a mounting surface for the external modem and other optional equipment.

Install patch panels and shelf

Refer to Figure 1-17 on page 1-34 while performing this procedure.

1. Using the supplied mounting screws, mount the patch panels on the rack below processor cabinet.
2. Using the supplied mounting screws, mount the shelf on the rack below the patch panels.
3. Attach B25A cables the circuit pack amphenol connectors and to each patch panel.

   NOTE:
   Connect 24 port DCP/analog circuit packs to the 24 port patch panels.

   NOTE:
   Connect 8 port analog trunk, “combo,” or DID trunk circuit packs to either of the first two banks on the 8 port patch panel. If an 8 port BRI trunk circuit pack (TN2185B) is present, connect it to the third bank on the 8 port patch panel.

   NOTE:
   The patch panels do not have to be mounted in the same rack as the cabinet. They can be mounted in phone closets as appropriate.

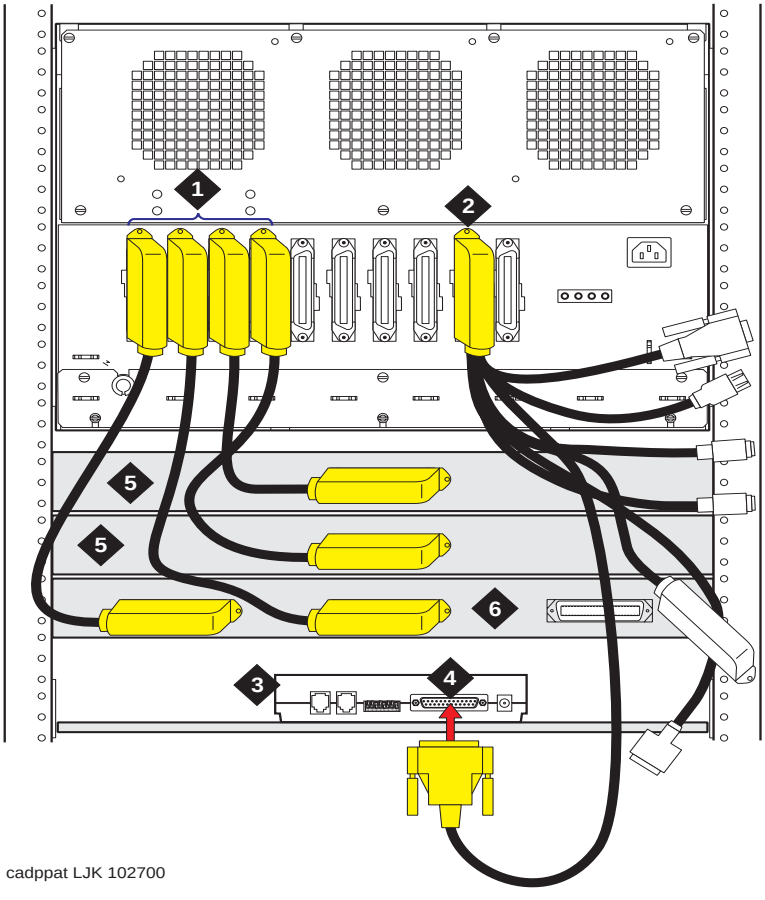


Figure notes

1. Circuit pack amphenol connectors and B25A cables
2. Processor interface cable
3. External modem
4. P2 termination of processor interface cable attached to modem
5. 24 port patch panels
6. 8 port patch panel

Figure 1-17. Typical RMC patch panel and modem installation

Install the external modem

The U.S. Robotics external modem is the recommended external modem. Avaya IP600 systems operate with this modem set to factory default settings.

NOTE:
You may use a locally obtained, type-approved external modem (33.6 Kbps or higher and V.34 protocol). Contact your Avaya representative for more information.

WARNING:
If you use a modem other than the U.S. Robotics modem, it must be configured in NT.

1. Securely mount the external modem at the left of the modem utility shelf or another secure surface.
2. Route the modem cable (P2) from the Processor Interface Cable to the modem and attach it to the modem port.
3. Plug the modem power cord into the same power source as the RMC(s), preferably the UPS.
4. Connect the modem to a standard analog line using RJ45 cord.

"Modem configuration and administration" on page 9-5 describes information about modem setup, administration, settings, and testing.

Install equipment room hardware for Avaya IP600

See *DEFINITY Communications System Generic 1 and Generic 3 Main Distribution Field Design* (555-230-630) for more information.

Cross-connect the cabinet to the patch panels

1. Cross-connect the port circuit packs to the Avaya IP600 patch panels (or other standard 110A cross-connect equipment). See Figure 1-19 on page 1-44.

Allowable and non-allowable circuit packs

Table 1-4 lists the circuit packs that can and cannot be used with Release 9 of Avaya IP600.

Table 1-4. Circuit packs and circuit modules

Apparatus code	Name	Allowable
650A	AC Power Unit	Yes
982LS	Current Limiter	No
CFY1B	Current Limiter	No
CPP1	Memory Expansion	No
ED-1E546 (TN566) (TN567)	DEFINITY AUDIX R3 System	No
ED-1E546 (TN2208) (TN2170)	CallVisor Adjunct-Switch Application Interface (ASAI) over the DEFINITY (LAN) Gateway R1	No
J58890M-1 (TN801)	CallVisor ASAI/Call Visor PC/LAN over the DEFINITY LAN Gateway Release 2.0	No
NAA1	Fiber Optic Cable Adapter Circuit Pack	Yes
TN417	Auxiliary Trunk	Yes
TN419B	Tone-Clock	No
TN420B/C	Tone Detector	No

Continued on next page

Table 1-4. Circuit packs and circuit modules — *Continued*

Apparatus code	Name	Allowable
TN429/B/C/D	Analog Direct Inward/Outward Dialing (DIOD) Central Office Trunk	Yes
TN429C	Analog Central Office Trunk	Yes
TN429D	Analog DIOD Trunk - Analog Loop Start	Yes
TN433	Speech Synthesizer	Yes
TN436B	Direct Inward Dialing Trunk	Yes
TN437B	Tie Trunk Australia (future availability)	Yes
TN438B	Central Office Trunk	Yes
TN439	Tie Trunk	Yes
TN447	Central Office Trunk	Yes
TN457	Speech Synthesizer	Yes
TN459B	Direct Inward Dialing Trunk	Yes
TN464F	DS1 Interface - T1, 24 Channel - E1, 32 Channel	Yes
TN465B/C	Central Office Trunk	Yes
TN467	Analog Line	Yes
TN468B	Analog Line	Yes
TN479	Analog Line	Yes
TN553	Packet Data Line	Yes
TN556C/D	Integrated Services Digital Network -Basic Rate Interface 4-Wire S/T-NT Interface (ISDN-BRI)	Yes
TN568	DEFINITY AUDIX Slim	No
TN570B/C	Expansion Interface	No
TN572	Switch Node Clock	No
TN573B	Switch Node Interface	No
TN574	DS1 Converter - T1, 24 Channel	No
TN577	Packet Gateway	No
TN722B	DS1 Tie Trunk	Yes
TN725B	Speech Synthesizer	Yes
TN726B	Data Line	Yes

Continued on next page

Table 1-4. Circuit packs and circuit modules — *Continued*

Apparatus code	Name	Allowable
TN735	Multibutton Electronic Telephone (MET) Line	Yes
TN742	Analog Line	Yes
TN744B/C	Call Classifier	No
TN744D	Call Classifier - Detector	Yes
TN746B	Analog Line	Yes
TN747/B	Central Office Trunk	Yes
TN748B/C/D	Tone Detector	No
TN750B	Announcement	No
TN750C	Announcement	Yes
TN753/B	Direct Inward Dialing Trunk	Yes
TN754/B/C	Digital Line 4-Wire DCP	Yes
TN755/B	Neon Power Unit	No
TN756	Tone Detector/Generator	No
TN758	Pooled Modem	Yes
TN760B/C/D/E	Tie Trunk	Yes
TN762/B	Hybrid Line	Yes
TN763B/C/D	Auxiliary Trunk	Yes
TN765	Processor Interface	No
TN767B/C/D/E	DS1 Interface - T1, 24 Channel	Yes
TN768	Tone-Clock	No
TN769	Analog Line	Yes
TN771/D	Maintenance/Test	Yes
TN772	Duplication Interface	No
TN775/B/C	Maintenance	No
TN776	Expansion Interface	No
TN777B	Network Control	No
TN778	Packet Control	No
TN780	Tone-Clock	No

Continued on next page

Table 1-4. Circuit packs and circuit modules — *Continued*

Apparatus code	Name	Allowable
TN787F/G/H/J/K	Multimedia Interface	No
TN788B	Multimedia Voice Conditioner	No
TN789	Radio Controller	Yes
TN790B	Processor	No
TN791	Analog Line	Yes
TN792	Duplication Interface	No
TN793	Analog Line, 24-Port, 2-Wire	Yes
TN794	Network Control/Packet Interface (NetPkt)	No
TN795	Processor	Yes
TN798B	Processor	No
TN799/B/C	Control LAN (C-LAN)	Yes
TN801	LAN Gateway Interface	No
TN802/B	Internet Protocol (IP) Trunk	Yes
TN1648/B	System Access/Maintenance	No
TN1650B	Memory	No
TN1654	DS1 Converter - T1, 24 Channel/E1, 32 Channel	No
TN1655	Packet Interface	No
TN1656	Tape Drive	No
TN1657	Disk Drive	No
TN2135	Analog Line	Yes
TN2136	Digital Line 2-Wire DCP	Yes
TN2138	Central Office Trunk	Yes
TN2139	Direct Inward Dialing Trunk	Yes
TN2140B	Tie Trunk - Hungary, Italy	Yes
TN2144	Analog Line	Yes
TN2146	Direct Inward Dialing Trunk	Yes
TN2147C	Central Office Trunk	Yes
TN2149	Analog Line	Yes

Continued on next page

Table 1-4. Circuit packs and circuit modules — *Continued*

Apparatus code	Name	Allowable
TN2180	Analog Line	Yes
TN2181	Digital Line 2-Wire DCP	Yes
TN2182/B	Tone-Clock - Tone Detector and Call Classifier	No
TN2183	Analog Line	Yes
TN2184	DIOD Trunk	Yes
TN2185/B	ISDN-BRI 4-Wire S/T-TE Interface (Trunk Side)	Yes
TN2198	ISDN-BRI 2-Wire U Interface	No
TN2199	Central Office Trunk	Yes
TN2202	Ring Generator	No
TN2207	DS1 Interface - (T1) 24 Channel and (E1) 32 Channel	Yes
TN2210	Tone Generator	No
TN2214/B	Digital Line, 24-Port, 2-Wire DCP - Category B only	No
TN2215	Analog Line, 16-Port 2-Wire - Category B only	No
TN2224/B	Digital Line, 24-Port, 2-Wire DCP	Yes
TN2238	ATM Trunk Interface (Multi-Mode)	No
TN2242	TTC Japanese 2Mbit Trunk	Yes
TN2301	Survivable Remote Logic Switch	No
TN2302	IP Media Processor	Yes
TN2305	Asynchronous Transfer Mode (ATM) Trunk	Yes
TN2306	ATM Interface (Single-Mode)	No
TN2308	Direct Inward Dialing Trunk	No
TN2464	DS1 Interface - T1, 24 Channel - E1, 32 Channel	Yes
TN2793/B	Analog Line 24-Port	Yes

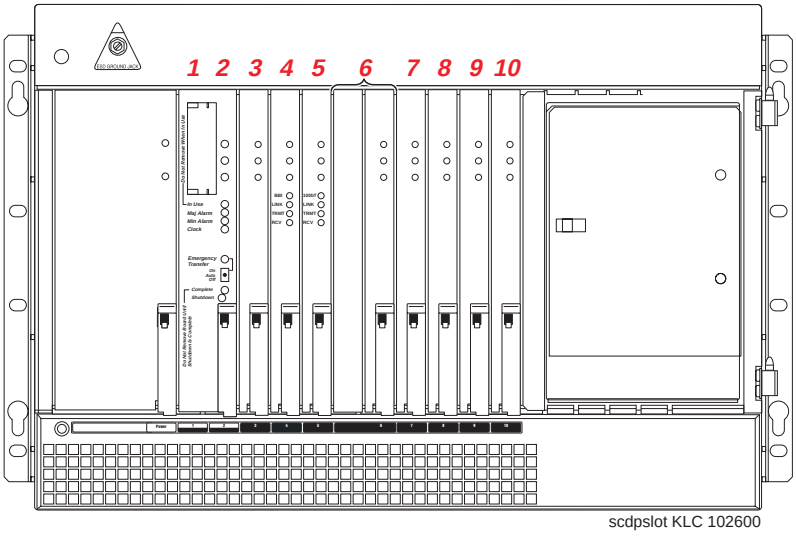
Circuit pack installation

WARNING:
When handling circuit packs or any components of an Avaya IP600 system, always wear an authorized wrist ground strap. Connect the strap to the ground connector provided on the system cabinet.

NOTE:
All of the circuit pack slots in the RMC are “universal slots.” Any slot can contain any type of port circuit pack.

Circuit pack slot loading

1. Check the reinstalled circuit packs. See Figure 1-18.
   - The TN795 Processor circuit pack must be installed in slot 2 of the cabinet.
   - TN744D Call Classifier/Tone Detector circuit pack can be installed into any port slot except for slots 1 and 2, but slot 3 is preferred.
2. Load all port circuit packs. See Table 1-5 on page 1-42 for the recommended circuit pack layout.



scdpslot KLC 102600

Figure 1-18. RMC cabinet and slot numbering

Table 1-5. Circuit pack installation order (loading)

Function	Apparatus code	Load RMC from	Notes
Processor	TN795	Slots 1 and 2	
Call Classifier/Tone Detector	TN744	Slot 3	
Announcement	TN750C	Any slot	
Speech Synthesizer	TN725B	Any slot	
Control C-LAN	TN799B	Left	
Media Processor	TN2302	Left	
DS1/E1, ISDN PRI	TN464F, TN767E, TN2242, TN2464	Left	Maximum of 7 ISDN-PRI. Total number of ISDN-PRI plus number of ISDN-BRI circuit packs must not exceed 7.
ISDN-BRI Trunk	TN2185	Left	Maximum of 4
CO Trunk	TN747B, TN465C, TN2199, TN2147C, TN2138, TN438B	Left	
DID Trunk	TN753, TN2139, TN2146, TN436B, TN459B	Left	
Tie Trunk	TN760E, TN458, TN497, TN2140B	Left	
Auxiliary Trunk	TN417	Left	
Modem Pool	TN758	Left	
Data Line	TN726	Right	

Continued on next page

Table 1-5. Circuit pack installation order (loading) — *Continued*

Function	Apparatus code	Load RMC from	Notes
Digital Line	TN754C, TN2181, TN2224/B,	Right	
Analog Line	TN746B, TN2135, TN467, TN2144, TN2149, TN2180, TN2183, TN2215, TN468B,TN791, TN793, TN2793,TN2214	Right	
Hybrid Line	TN762B	Right	
MET Line	TN735	Right	
Radio Controller	TN789	Right	
ISDN-BRI 4-Wire S/T-NT Line (A-Law)	TN556C/D TN744D	Right	

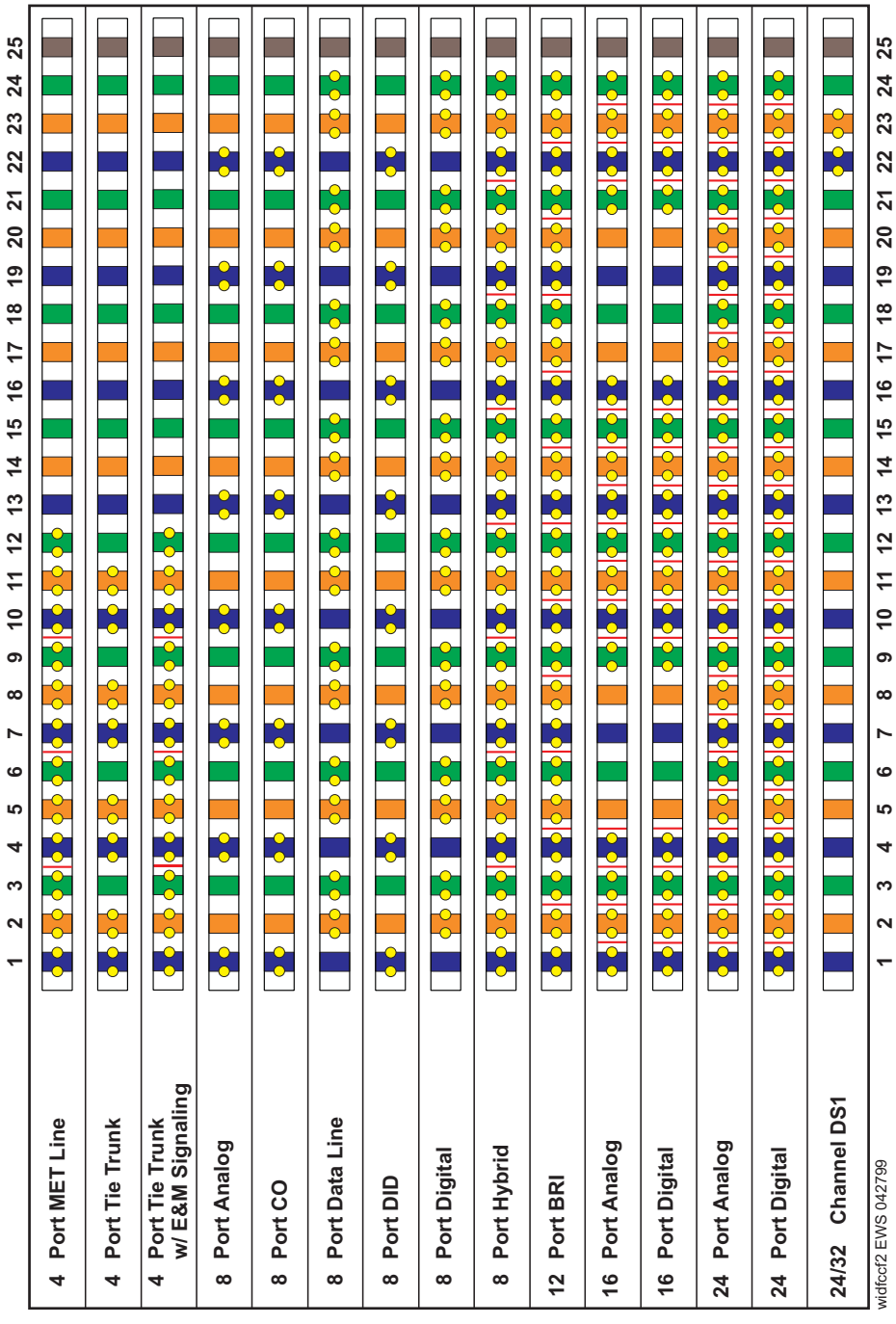


Figure 1-19. Example Avaya IP600 patch panel connections

Off-premises circuit protection

Protection from hazardous voltages and currents is required for all off-premises (out of building) trunks, lines, and terminal installations. Both over-voltage protection (lightning, power induction, and so forth) and sneak current protection are required. Sneak current protectors must be either UL listed/CSA certified, or must comply with local safety standards.

Sneak current protectors must have a maximum rating of 350 mA and a minimum voltage rating of 600V, or as required by local regulations. The following devices protect the system from over-voltages:

- Analog trunks use the 507B sneak protector or equivalent. Over-voltage protection is normally provided by the local telephone company.
- Analog voice terminals use one of the following types of combined over-voltage and sneak current protection, or equivalent:
  - Carbon block with heat coil for UL code 4B1C
  - Gas tube with heat coil for UL code 4B1E-W
  - Solid state with heat coil for UL code 4C1S
- DCP and ISDN-BRI terminals use the solid state 4C3S-75 with heat coil protector, or equivalent.
- DS1/T1 circuits require isolation from exposed facilities. This isolation may be provided by a channel service unit (CSU) (T1), or other equipment that provides equivalent protection.

Install sneak fuse panels

Sneak current protection is required between the incoming RJ21X or RJ2GX network interface and the system for both trunk and off-premises circuit packs. The model 507B sneak current fuse panel, or equivalent, is recommended for sneak current protection. See Figure 1-20 on page 1-46.

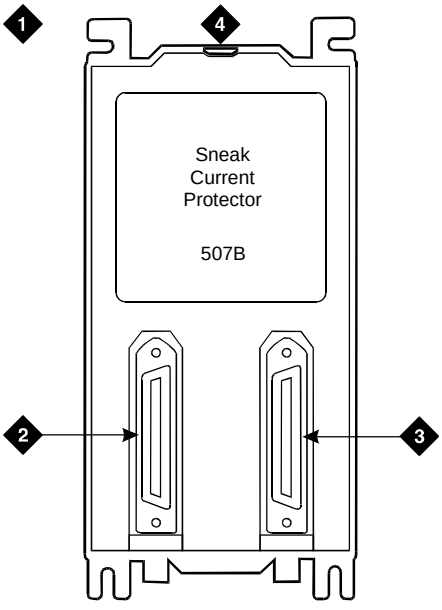


Figure notes

1. 507B sneak current protector (price element code: comcode 107435091)
2. 25-pair male connector (In) (comcode 846300994)
3. 25-pair female connector (Out) (comcode 846300994)
4. 220029 fuses (inside panel). Use a small screwdriver to pry top cover off

Figure 1-20. Model 507B sneak fuse panel

Each column of sneak fuse panels requires approximately 8 inches (20 cm) of horizontal wall space. Connector cables connect the network interface to the sneak fuse panel. Also, use 157B connecting blocks equipped with SCP-110 protectors for sneak current protection.

NOTE:
Sneak current protectors with a rating of 350 mA at 600 V must be UL listed for United States installations and Canadian Safety Association (CSA) certified for Canadian installations. The panel contains 2 25-pair connectors, fuse removal tool, and fifty 220029 Sneak Fuses (and 2 spares). Use the SCP-110 protectors with 110-type hardware and on the 507B sneak fuse panel. The SCP-110 protectors can be ordered separately and installed on the 157B connecting block. Fifty protectors are required per block.

1. Install the 507B near the network interface or patch panels with locally-obtained #12 x 3/4-inch screws (or equivalent).

Table 1-6 is a pinout of the cable wiring and associated fuse numbers.

Table 1-6. Sneak fuse connector pinout

Connector Pin Numbers	Pair/Fuse Number
26/1	1
27/2	2
28/3	3
29/4	4
30/5	5
31/6	6
32/7	7
33/8	8
34/9	9
35/10	10
36/11	11
37/12	12
38/13	13
39/14	14
40/15	15
41/16	16
42/17	17
43/18	18
44/19	19
45/20	20
46/21	21
47/22	22
48/23	23
49/34	24
50/25	25

Set ringing option for Avaya IP600

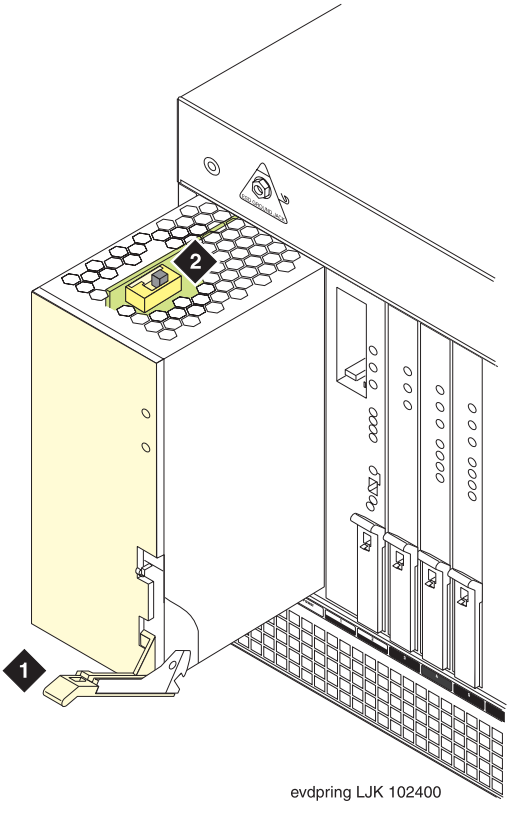


Figure notes

1. Attachment lever
2. Ringing option switch

NOTE:
Look at the label on the side of the power supply to see how to set the switch.

Figure 1-21. Ringing option selection

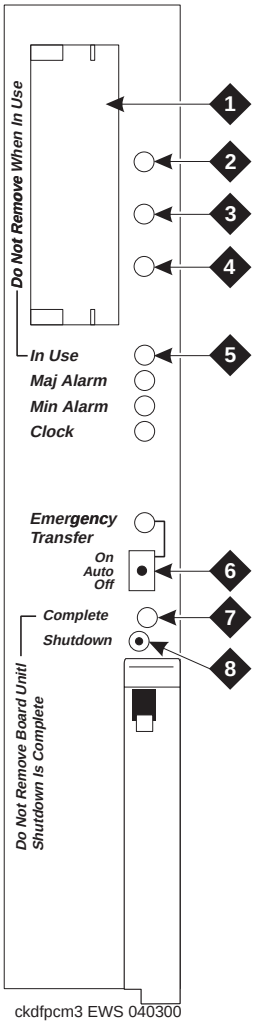


Figure notes

1. PCMCIA slots
2. Red LED
3. Green LED
4. Amber LED
5. PCMCIA In-Use LED
6. Emergency Transfer Switch
7. Shutdown Complete — safe to pull board when green LED is on
8. Shutdown Switch — gracefully shuts down system

Figure 1-22. TN795 circuit pack faceplate

SECTION II - DEFINITY ONE INSTALLATION

Check customer's order

1. Check the customer's order and the shipping packing lists to confirm that all equipment is included.
2. Report missing equipment to an Avaya representative.
3. Check the system adjuncts for damage and report all damage according to local shipping instructions.

Correct shipping errors

1. Red-tag all defective equipment and over-shipped equipment and return according to the nearest Material Stocking Location (MSL) instructions.
2. Direct all short-shipped reports to the nearest MSL. Contact the appropriate location for specific instructions. For streamlined implementation, call 1-800-772-5409.

Unpack and inspect

DANGER:
Use lifting precautions! A fully loaded DEFINITY ONE system with a single CMC weighs 58 lbs (26.3 kg). If the doors, power unit, and circuit packs are removed, the CMC unit weighs only 29 lbs (13.1 kg).

1. Verify the equipment received. See Figure 1-23 on page 1-51 Actual equipment may vary in appearance and may ship in separate packages. Equipment comcodes are listed in Table 1-7 on page 1-52.
2. Before mounting the cabinet, remove the CMC cabinet doors by opening and then lifting them straight up and off the hinge pins.

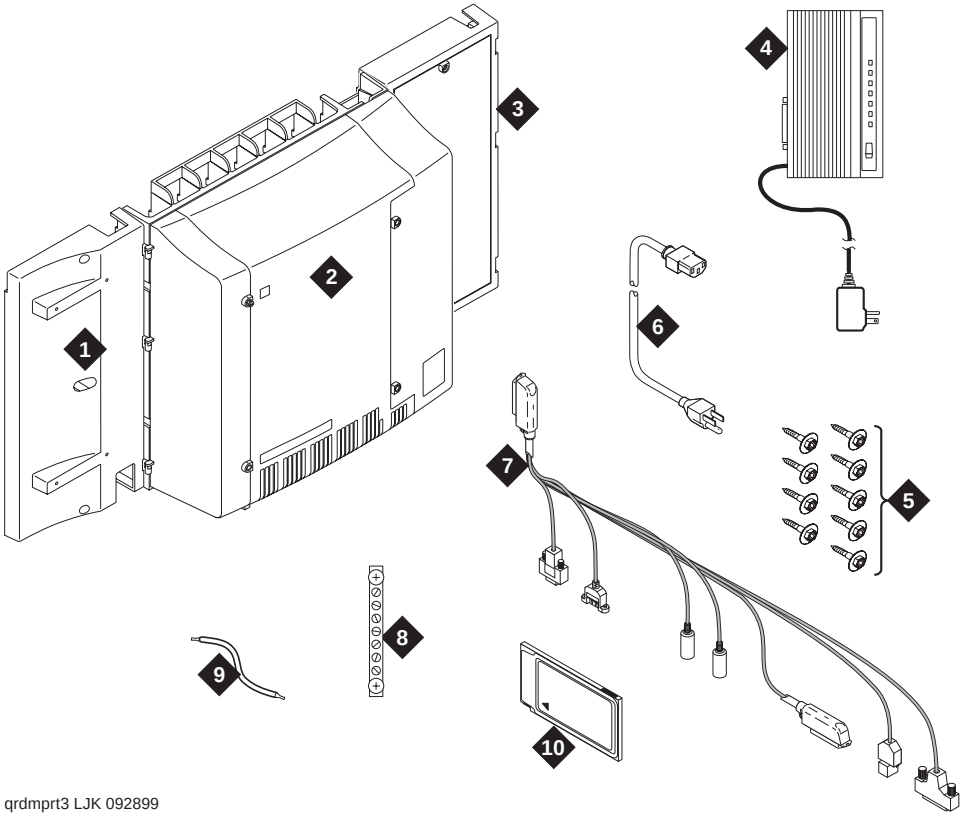


Figure notes

1. Left panel (also acts as a wall-mount template and as a floor mount pedestal)
2. CMC cabinet
3. Right panel
4. External modem (not shipped with all systems)
5. #12 x 1-inch shoulder screws
6. AC power cord (NEMA 5-15P or IEC 320)
7. Processor interface cable
8. Single-point ground block
9. 14-inch (35.5 cm) 6 AWG (#40) (16 mm^2) ground wire
10. Flash card (backup)

The network interface card (NIC) is also included with the packaging.

Figure 1-23. Equipment packed with a single compact modular cabinet (CMC)

Table 1-7 lists the comcodes for equipment used with the CMC. If “Optional” is checked, the equipment may or may not be necessary, depending on the site configuration.

Table 1-7. Comcodes for equipment used with DEFINITY ONE

Comcode	Description	Optional
847951662	Left Panel	
847951670	Right Panel	
847915238	Right Door	
847915246	Left Door	
848082715	Fan Assembly	
847987187	CMC 110 Cross-Connect Assembly (Main Distribution Frame) - Recommended	X
103970000	Main Distribution Frame Label (Code 220A)	X
407745009	Fan Air Filter	
706827717	Single-Point Ground Block	
407772888	Time-division multiplexing/local area network (TDM/LAN) Bus Cable (Horizontal)	
407772870	Time-division multiplexing/local area network (TDM/LAN) Bus Cable (Vertical)	
601929763	Processor Interface Cable (Multileg cable), TN795	
103557484	TN795 Processor Circuit Pack	
848320800	Hard Disk Programmed	
40763399	External Modem	X
601929920	Software CDs	
408276897	NIC Ethernet Adapter Card	
408166783	PCMCIA Flash Card (For Backup)	
105631527	Time-division multiplexing/local area network (TDM/LAN) Bus Terminator (AHF110)	
H600-487	14-inch (35.5 cm) 6 AWG (#40) (16 mm^2) Green Ground Wire	
407676691	120 VAC Power Distribution Unit (145D 6-AC)	X
107949364	650A Power Supply	
848477634	LAN Crossover Cable (RJ45), 12-foot	

Continued on next page

Table 1-7. Comcodes for equipment used with DEFINITY ONE — *Continued*

Comcode	Description	Optional
405362641	120 VAC Power Cord	
106278062	Apparatus Blank (Circuit Pack Blank) (158P)	
106606536	Integrated Channel Service Unit (ICSU) (120A2)	X
107988867	DS1 Loopback Jack (T1 Only) (700A)	X
848477634	Crossover Cable for NIC	X
107152969	75 Ohm DS1 Coaxial Adapter (888B)	X
403613003	157B Connecting Block (“sneak current protectors”)	X
406948976	6SCP-110 Protector	X
107435091	507B Sneak Current Fuse Panel	X
407216316	220029 Sneak Current Fuse	X
104307327	C6C cable — 50-foot (15.2 m) shielded Digital Signal Level 1 (DS1) cable with 50-pin male to 15-pin male	X
104307376	C6D cable — 50-foot (15.2 m) shielded DS1 cable with 50-pin male on each end	X
104307434	C6E cable — 100-foot (30.5 m) shielded DS1 cable with 50-pin male to 50-pin female	X
104307475	C6F cable — 50-foot (15.2 m) shielded DS1 cable with 50-pin male to 3 inch (7.62 cm) stub	X
102381779	3B1A Carbon Block	X
104410147	3B1E-W Wide Gap Gas Tube	X
105514756	3C1S Analog Line Protector - Solid State	X
102904893	4B1C Carbon Block with Heat Coil	X
104401856	4B1E-W Wide Gap Gas Tube w/Heat Coil	X
104386545	4C1S Analog Line Protector - Solid State with Heat Coil	X
105581086	4C3S-75 Digital Voice Circuit Protector - Solid State	X
406144907	ITW LINX Gas Tube, Avalanche Suppress	X
901007120	ITW Linx Ground Bar (used with above)	X
406304816	ITW Linx Replacement Fuse	X
103972758	Data Link Protector (1 circuit)	X
103972733	Data Link Protector (8 circuits)	X

Continued on next page

Table 1-7. Comcodes for equipment used with DEFINITY ONE — *Continued*

Comcode	Description	Optional
407063478	Electrostatic Discharge (ESD) Wrist Strap	
107949364	Lucent online 650A UPS	X
407691401	Z3A2 Alarm Adapter (required with UPS)	X

Install the DEFINITY ONE system cabinet

DEFINITY ONE cabinets can be floor-mounted or wall-mounted. Set the Carrier Address ID installing each CMC cabinet.

Verify the carrier address ID on CMC cabinets

1. Verify and, if necessary, set the carrier address ID for each cabinet as shown in Figure 1-24. Cabinet 1 settings are for the processor cabinet. Cabinet 2 settings are for the optional port carrier cabinet.

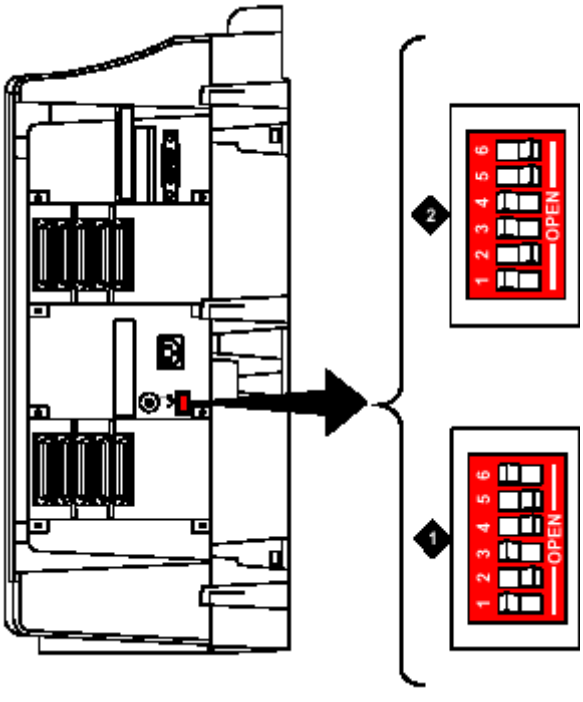


Figure 1-24. Setting CMC carrier address ID (right side)

2. Proceed to either "Floor-mount the CMC cabinet" on page 1-56 or to "Wall-mount the CMC cabinets" on page 1-57.

Floor-mount the CMC cabinet

The dimensions of each cabinet (with floor pedestal) are 28.5 inches (72.4 cm) high, 24.5 inches (62.2 cm) wide, and 12 inches (30.5 cm) deep. Maintain a service clearance of 12 inches (30.5 cm) on the left, right, and front of the cabinet. If your configuration requires 2 cabinets, make sure each maintains the service clearance of 12 inches (30.5 cm) on the left, right, and front sides.

To floor-mount the cabinet:

1. Floor-mount the cabinet as shown in Figure 1-25.

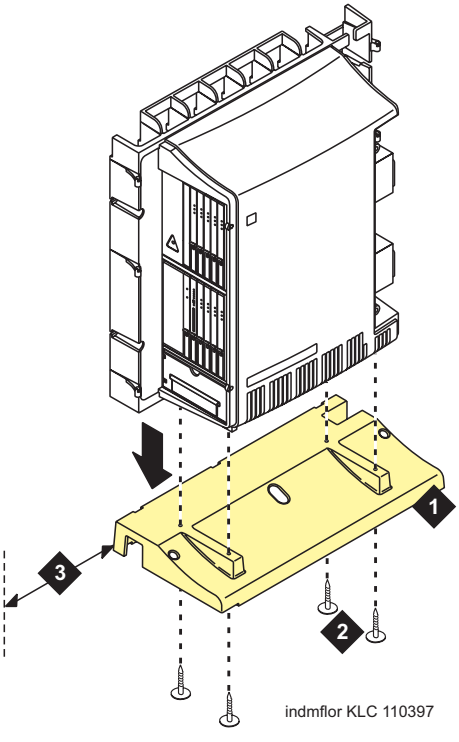


Figure notes

1. Left panel (floor-mount pedestal)
2. #12 x 1-inch shoulder screws
3. 12 inches (30.5 cm) minimum from nearest object (required to service the circuit packs)

Figure 1-25. Typical floor mount installation

2. Proceed to "Check AC power and ground for DEFINITY ONE" on page 1-63.

Wall-mount the CMC cabinets

DANGER:
A fully loaded system with a single CMC cabinet weighs 58 lbs (26.3 kg). Use lifting precautions. The CMC unit weighs 29 lbs (13.1 kg) with the doors, power unit, and circuit packs removed.

Install plywood backing on wall

The install technician must provide the plywood and the hardware for mounting.

NOTE:
The following plywood dimensions account for the extra space needed to install the panels on each side of the cabinet. The cabinet is 24.5 inches (62.2 cm) wide and each panel is 12 inches (30.5 cm) wide.

Single cabinet installation

1. Install a 3/4-inch (2 cm) thick sheet of 2 x 4-foot (0.6 x 1.2 m) plywood horizontally onto the wall. See Figure 1-26 on page 1-58.
2. Ensure that the top of the plywood is at least 54 inches (137 cm) from the floor.

Two vertically mounted cabinets

1. Install a 3/4-inch (2 cm) thick sheet of 4 x 8-foot (1.2 x 2.4 m) plywood vertically onto the wall. See Figure 1-27 on page 1-59.

Two horizontally mounted cabinets

1. Install 2 3/4-inch (2 cm) thick sheets of 2 x 4-foot (0.6 x 1.2 m) plywood horizontally onto the wall. See Figure 1-28 on page 1-60.
2. Position the second sheet of plywood to the right of the first sheet, across from the first cabinet.

Install cabinet — wall-mount

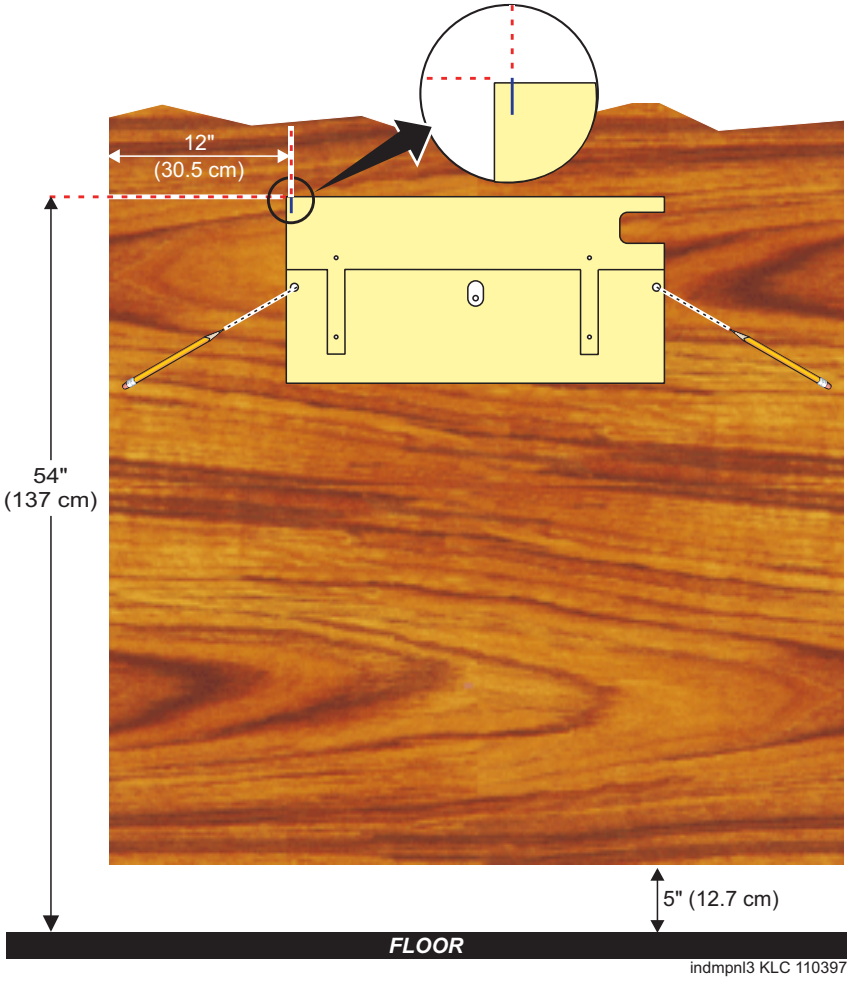


Figure 1-26. Left panel used as mounting template

To mount a cabinet on a wall:

1. Place the template on the wall with the top surface level.
2. Mark 2 1/8-inch (0.3-cm) pilot holes in the mounting hole locations.
3. Remove the template from the wall.
4. Drill the 2 pilot holes.
5. Thread 2 #12 x 1-inch shoulder screws partially into the holes.

6. Set the cabinet onto the wall and align the slots with the shoulder screws. See Figure 1-27. Slide the cabinet to the left to hold it in place. Tighten the screws securely.

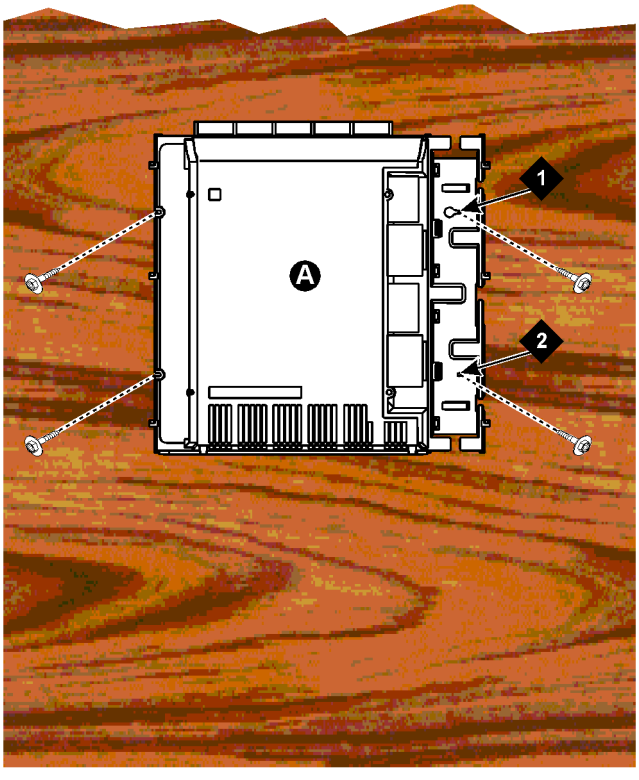


Figure notes

1. #12 x 1-inch shoulder screws
2. #12 x 1-inch safety screw

Figure 1-27. Typical wall-mount installation

7. Drill 2 lower mounting holes using the cabinet as a template.
8. Thread the 2 lower screws and tighten.

WARNING:
Ensure that the right bottom safety screw is in place and tight.

Install two vertically mounted cabinets

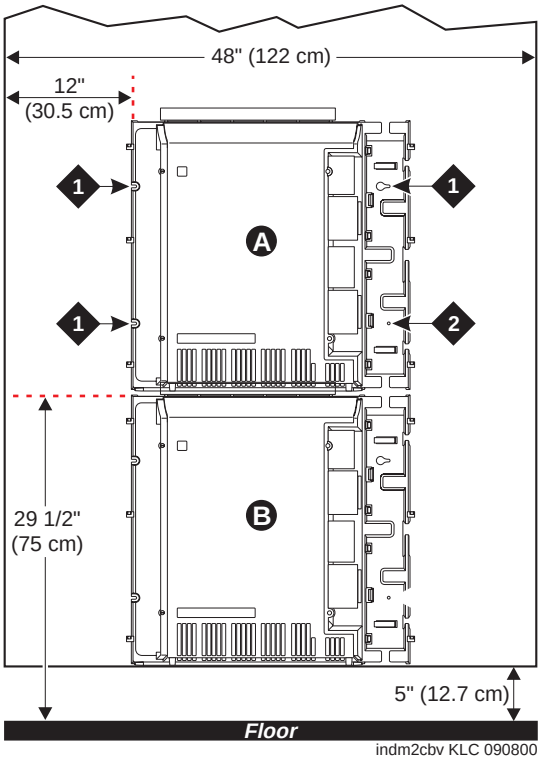


Figure notes

1. #12 x 1-inch shoulder screws
2. #12 x 1-inch safety screw

Figure 1-28. Typical vertical two-cabinet installation

1. Securely tighten the shoulder screws and safety screws.

Install two horizontally mounted cabinets

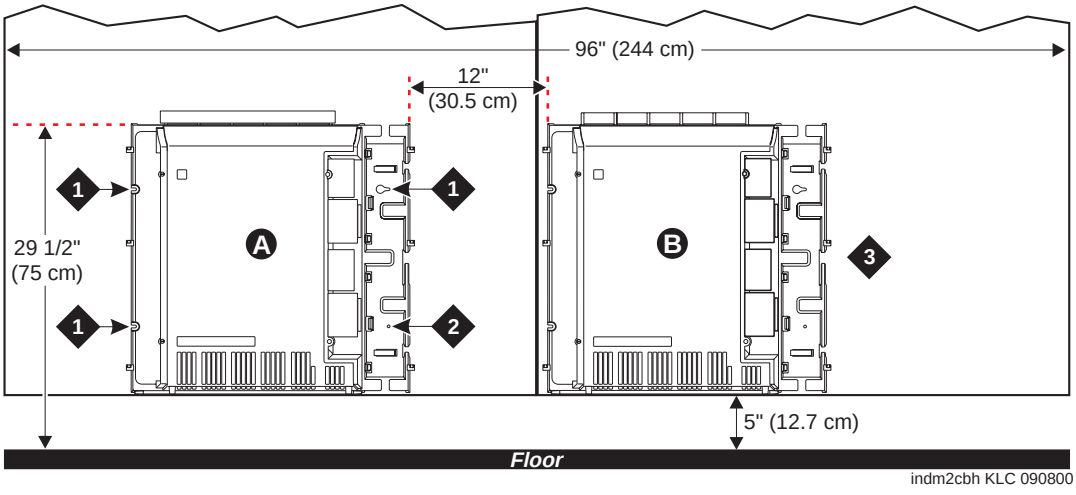


Figure notes

1. #12 x 1-inch shoulder screws
2. #12 x 1-inch safety screw
3. Second sheet of plywood

Figure 1-29. Typical horizontal two-cabinet installation

1. Securely tighten the shoulder screws and safety screws.

Install left and right panels — wall-mount

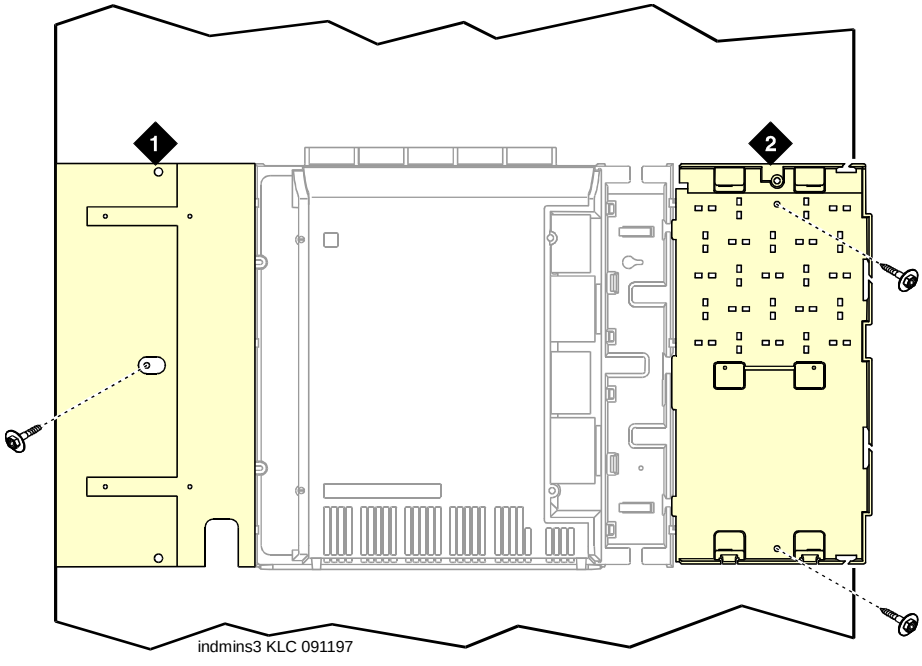


Figure notes

1. Left panel
2. Right panel

Figure 1-30. Left and right panel installation

1. Align the cutouts in the panels with the cabinet hinges.
2. Drill a 1/8-inch (0.3 cm) pilot hole into the wall and secure the panels with the #12 x 1-inch shoulder screws.
3. Proceed to ''Check AC power and ground for DEFINITY ONE'' on page 1-63.

Check AC power and ground for DEFINITY ONE

WARNING:
The alternating current (AC) power circuit must be dedicated to the system. The circuit must not be shared with other equipment and must not be controlled by a wall switch. The AC receptacle must not be located under the CMC Main Distribution Frame and must be easily accessible.

DANGER:
The latch only removes direct current (DC) power from the cabinet. Unseating the power supply removes AC power from the power supply, but not from the cabinet. To remove AC power from the cabinet and pull the AC power cord from the AC appliance connector on the rear of the cabinet.

WARNING:
System grounding must comply with the general rules for grounding provided in Article 250 of the National Electrical Code (NEC), National Fire Protection Agency (NFPA) 70, or the applicable electric code in the country of installation.

WARNING:
AC mains wiring and testing must be performed by a qualified electrician and must conform to Article 250 of the NEC, NFPA 70, or the applicable electric code in the country of installation.

Check AC power

Each CMC and RMC uses an auto-ranging (85 to 264 VAC) power supply, 47 to 63 Hz, 330 Watts, 4.5 Amps (100 to120 VAC) or 2.3 Amps (200 to 240 VAC), at 500 VoltAmps (VA).

The AC power source can be 1 phase of 120 VAC with neutral (100 VAC for Japan) with 15-Amp circuit breaker, or 1 phase of 220 or 240 VAC (200 VAC for Japan) with 10-Amp circuit breaker. The AC cord uses a NEMA 5-15P plug or an IEC 320 plug.

Before powering up the system, check the AC power in the equipment room using a KS-20599 digital voltmeter (DVM) (or equivalent).

To check AC power:

1. Measure the AC voltage between the hot and neutral sides of the receptacle.
2. Depending on the AC power source, verify that the meter reads 90 to 132 VAC or 180 to 264 VAC. If not, have a qualified electrician correct the problem.
3. Measure the voltage between the neutral and ground sides of the receptacle.
4. Verify that the meter reads 0 VAC. If not, have a qualified electrician correct the problem.
5. When finished, set the AC main circuit breakers to ***OFF***.

Approved grounds

An approved ground is the closest acceptable medium for grounding the building entrance protector, entrance cable shield, or single-point ground of electronic telephony equipment. If more than one type of approved ground is available on the premises, the grounds must be bonded together as required in Section 250-81 of the National Electrical Code.

Grounded Building Steel — The metal frame of the building where it is effectively grounded by 1 of the following grounds: acceptable metallic water pipe, concrete encased ground, or a ground ring.

Acceptable Water Pipe — A metal underground water pipe, at least 1/2 inch (1.3 cm) in diameter, in direct contact with the earth for at least 10 feet (3 m). The pipe must be electrically continuous (or made electrically continuous by bonding around insulated joints, plastic pipe, or plastic water meters) to the point where the protector ground wire connects. A metallic underground water pipe must be supplemented by the metal frame of the building, a concrete-encased ground, or a ground ring. If these grounds are not available, the water pipe ground can be supplemented by 1 of the following types of grounds:

- Other local metal underground systems or structures — Local underground structures such as tanks and piping systems
- Rod and pipe electrodes — A 5/8-inch (1.6-cm) solid rod or 3/4-inch (2-cm) conduit or pipe electrode driven to a minimum depth of 8 feet (2.4 m)
- Plate electrodes — Must have a minimum of 2 square feet (0.185 square m) of metallic surface exposed to the exterior soil

Concrete Encased Ground — An electrode encased by at least 2 inches (5.1 cm) of concrete and located within and near the bottom of a concrete foundation or footing in direct contact with the earth. The electrode must be at least 20 feet (6.1 m) of 1 or more steel reinforcing bars or rods 1/2-inch (1.3 cm) in diameter, or at least 20 feet (6.1 m) of bare, solid copper, 4 AWG (26 mm^2) wire.

Ground Ring — A buried ground that encircles a building or structure at a depth of at least 2.5 feet (0.76 m) below the earth's surface. The ground ring must be at least 20 feet (6.1 m) of 2 AWG (35 mm^2), bare, copper wire.

Approved floor grounds

WARNING:
If the approved ground is inside a dedicated equipment room, then these connections must be made by a qualified electrician.

Floor grounds are those grounds on each floor of a high-rise building that are suitable for connection to the ground terminal in the riser closet and to the cabinet single-point ground terminal. Approved floor grounds may include:

- Building steel
- The grounding conductor for the secondary side of the power transformer feeding the floor
- Metallic water pipes
- Power-feed metallic conduit supplying panel boards on the floor
- A grounding point specifically provided in the building for the purpose

Uninterruptible power supply

A recommended Uninterruptible Power Supply (UPS) may be used for power holdover. The type of UPS depends on the holdover requirements. Total holdover capacity varies depending on the UPS. The UPS must provide surge protection for the CMC cabinet.

CAUTION:
The major alarm contacts are designed to be connected ONLY to a UPS that can indicate that it is on backup power. For most non-Avaya UPSs, you should not use the major external device leads. Using those leads for anything else could cause an SPE download.

1. Connect the UPS to an electrical outlet capable of handling the power requirements of the cabinets:
   e. 100 VAC, 4.5 Amps
   f. 120 VAC, 3.8 Amps
   g. 200 VAC, 2.3 Amps
   h. 220 to 240 VAC, 2.0 Amps
2. Ensure that the cabinet is connected to an "unswitched" or "always on" electrical outlet on the UPS.

3. For Avaya UPS, connect and administer the UPS. See "Connect external alarms and auxiliary connections" on page 1-109.

NOTE:
If an Avaya UPS is wired as recommended, holdover time for each power outage is 1 minute before an automatic shutdown. UPS may handle any subsequent power outage based on its total battery capacity.

Cabinet power switch

DANGER:
The latch acts as the DC power switch and only removes DC power from the cabinet, not AC power. To remove AC power, pull the AC power cord from the appliance inlet. See Figure 1-31.

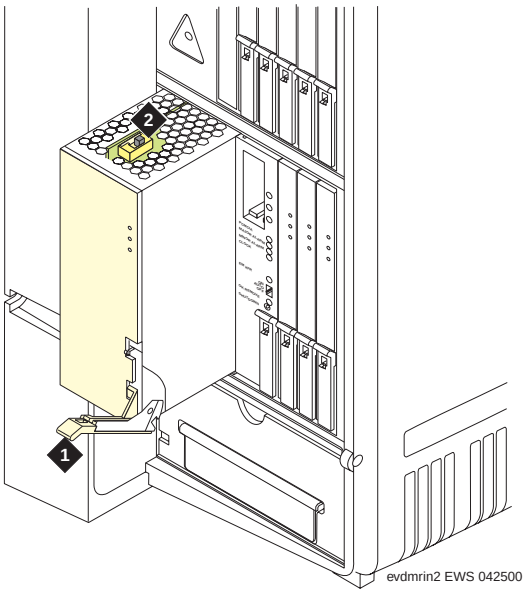


Figure notes

1. Latch
2. Ringing option switch

Figure 1-31. CMC power supply

Connect cabinet grounds and other grounds

Follow these additional grounding requirements:

- The approved ground wire must be green, 6 AWG (#40) (16 mm^2), copper, stranded wire. This is in addition to the ground wire in the AC power cord.
- Bond all approved grounds at the single-point ground to form a single grounding electrode system.

Install the ground block and ground wire on cabinets

1. Mount the ground block as shown in Figure 1-32.

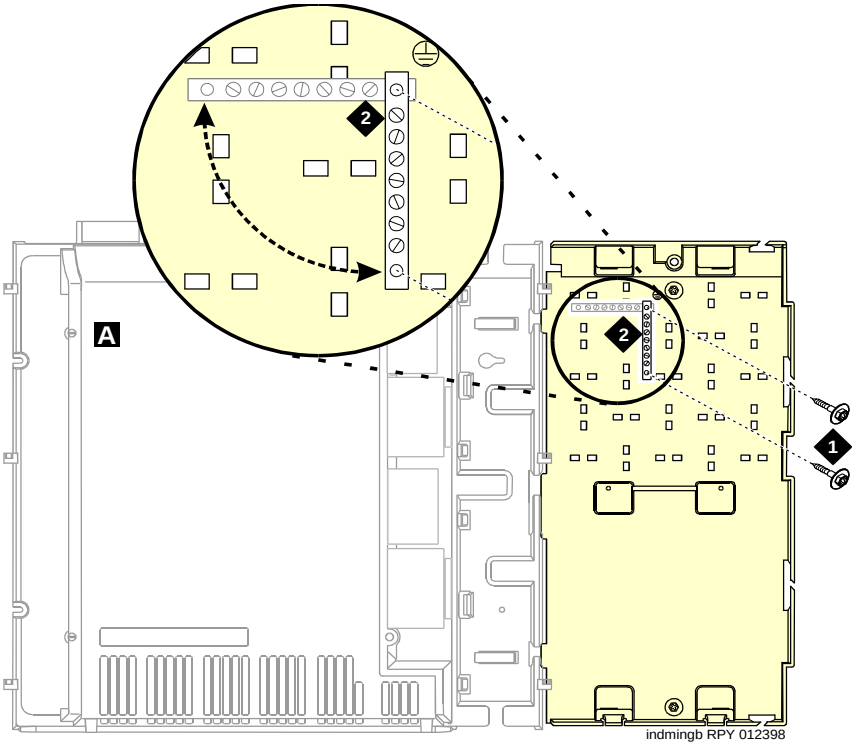
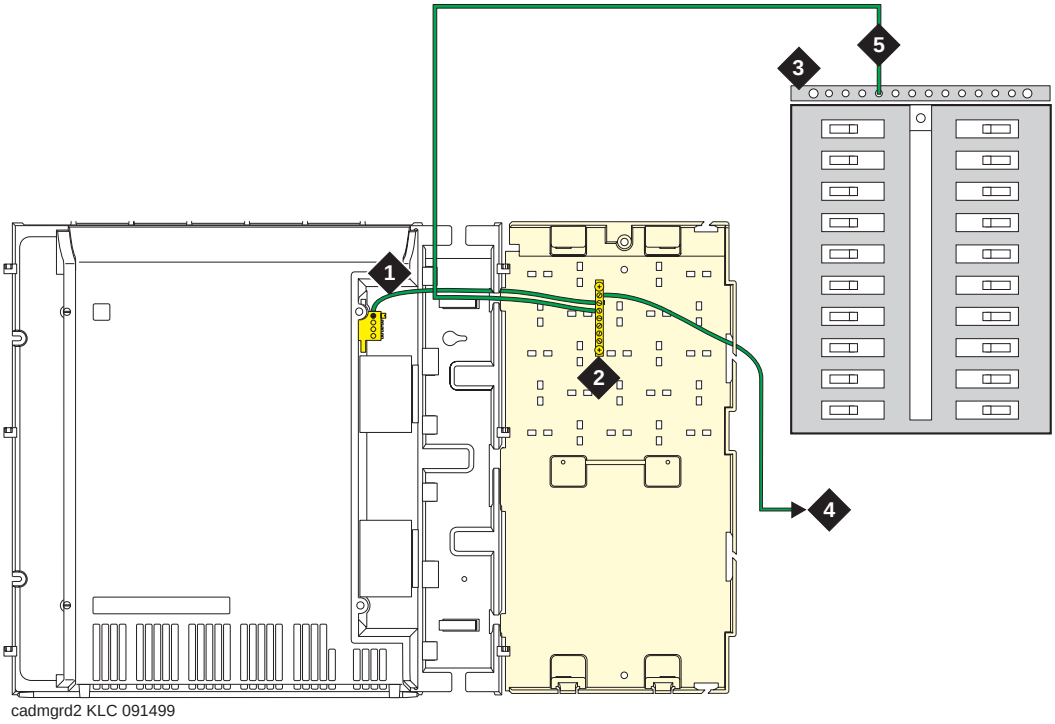


Figure notes

1. #12 x 1-inch shoulder screws
2. Single-point ground block

Figure 1-32. Ground block installation to right CMC panel

2. Connect the cable as shown in Figure 1-33 for a DEFINITY ONE single cabinet, Figure 1-34 on page 1-69 for two DEFINITY ONE cabinets.



cadmgrd2 KLC 091499

Figure notes

1. 6 AWG (#40) (16 mm^2) cabinet ground wire
2. Single-point ground block
3. AC load center single-point ground
4. 10 AWG (#25) (6 mm^2) wire to coupled bonding conductor (CBC)
5. 6 AWG (#40) (16 mm^2) ground wire from single-point ground block to the AC load center single-point ground

Figure 1-33. Typical single-cabinet CMC grounding

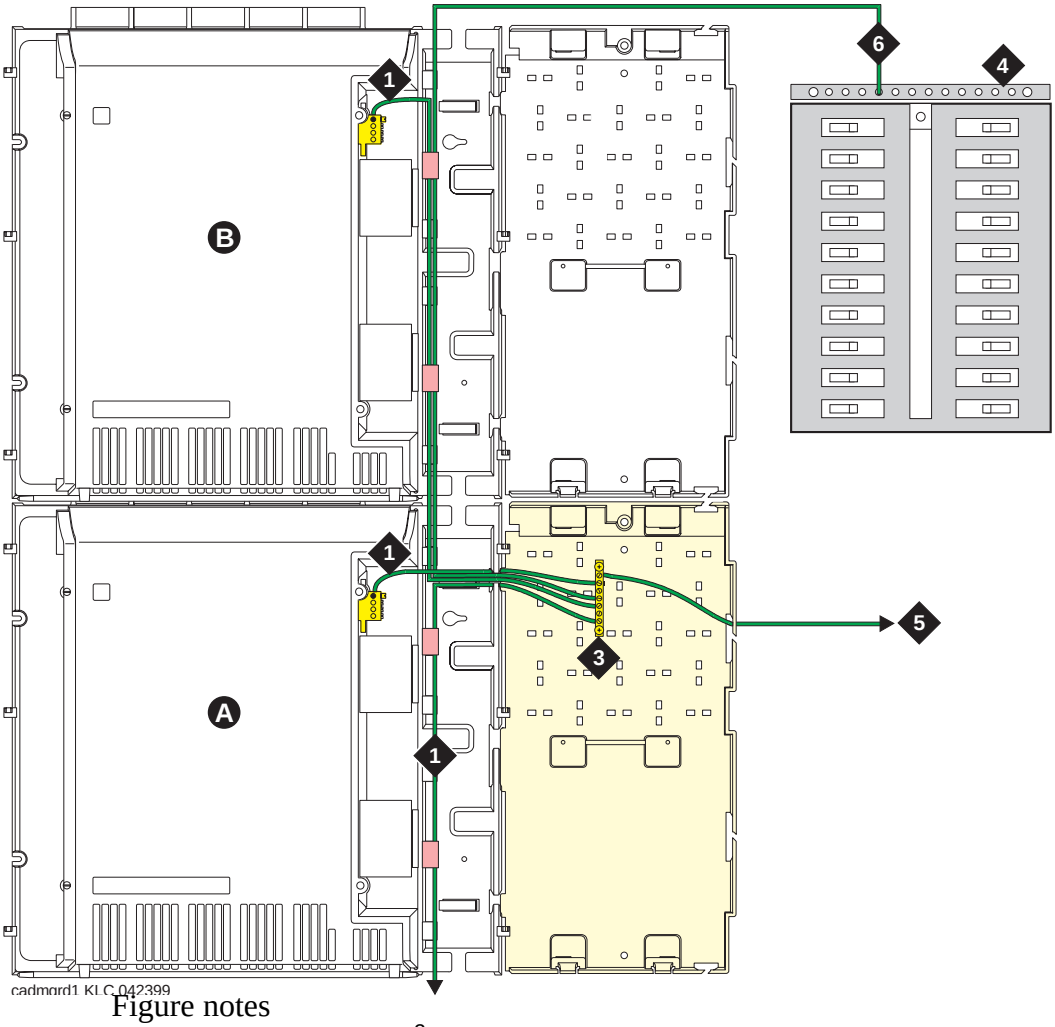


Figure notes

1. 6 AWG (#40) (16 mm^2) cabinet ground wire
2. 6 AWG (#40) (16 mm^2) ground wire to next cabinet
3. Single-point ground block
4. AC load center single-point ground
5. 10 AWG (#25) (6 mm^2) wire to coupled bonding conductor (CBC)
6. 6 AWG (#40) (16 mm^2) ground wire from single-point ground block to the AC load center single-point ground

Figure 1-34. Typical two-cabinet CMC grounding

Install coupled bonding conductor

The Coupled Bonding Conductor (CBC) provides mutual inductance coupling between the CBC and the telephone cables exposed to lightning. The conductor can be a 10 AWG (#25) (6 mm^2) wire tie wrapped to the exposed cables, a metal cable shield around the exposed cables, or 6 spare pairs from the exposed cable.

For a high-rise building, connect the CBC to an approved building ground on each floor. To provide the coupled bonding protection:

1. Connect 1 end of the conductor to a telephone cable building entrance protector ground that is connected to an approved ground.
2. Route the conductor next to the exposed telephone cables being protected until it reaches the cross-connect nearest to the telephone system.
3. Position the non-exposed telephone cables at least 12 inches (30.5 cm) away from exposed telephone cables whenever possible.
4. Terminate the other end to the single-point ground block provided for the telephone system.

Connect and route the power cords

WARNING:
The AC power cord may connect to a properly rated power distribution unit, individual AC power receptacles, or to a UPS.

See Figure 1-35 on page 1-71 for DEFINITY ONE single cabinet routing, Figure 1-36 on page 1-72 for DEFINITY ONE two cabinet routing. To connect and route the power cords:

1. Ensure the circuit breakers at the AC load center are ***OFF***.
2. Connect the cabinet to an “unswitched” or “always on” electrical outlet.

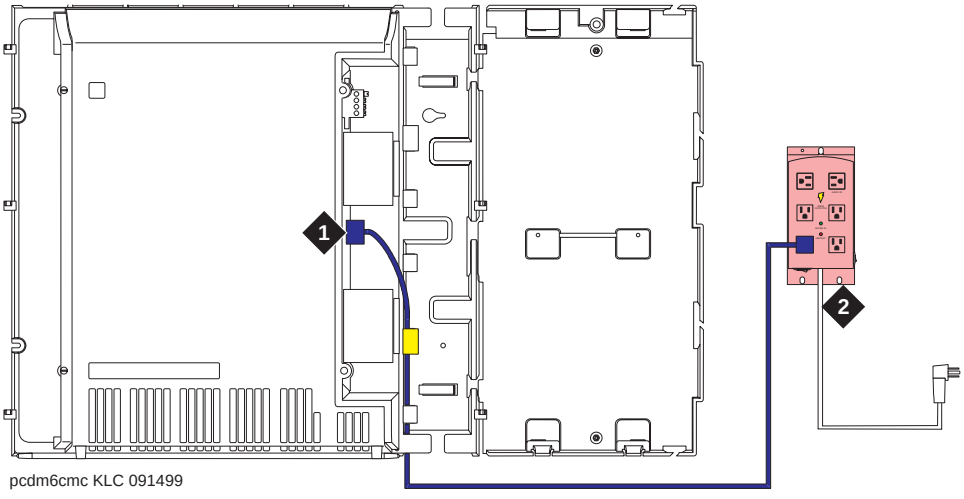


Figure notes

1. Cabinet AC power cord
2. Surge-protected AC power distribution unit (120 VAC systems) (optional)

Figure 1-35. Routing DEFINITY ONE AC power cord to a power distribution unit

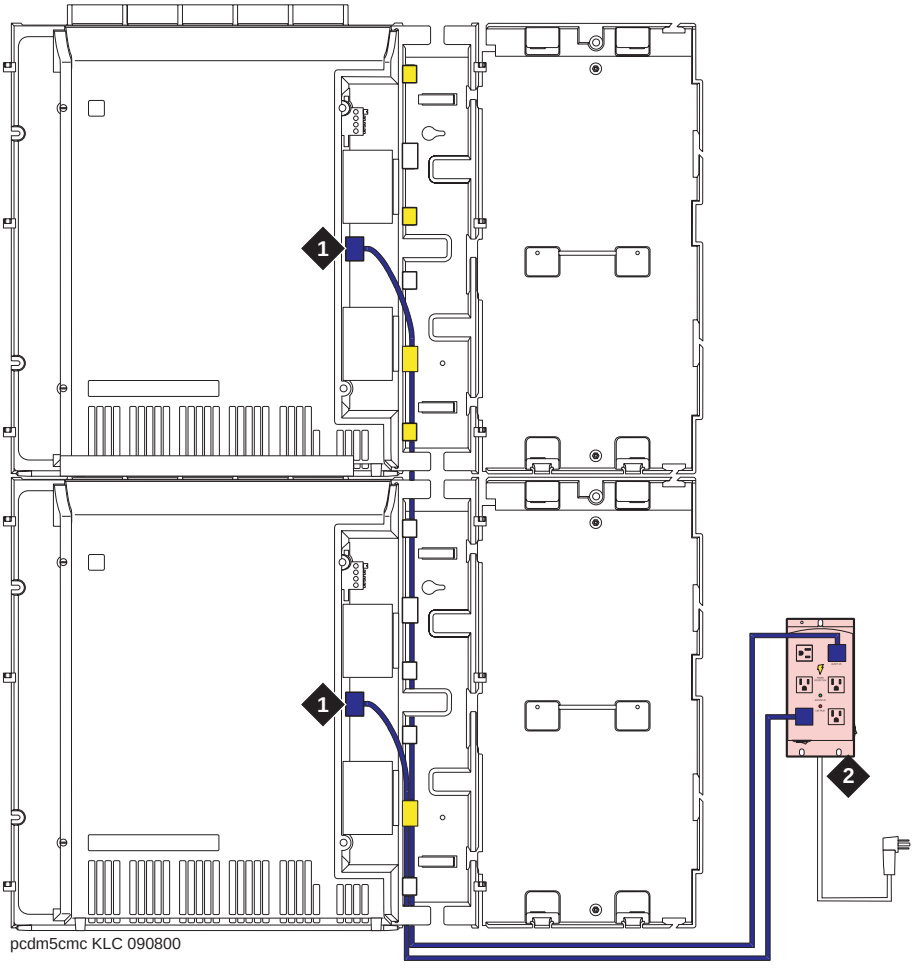


Figure notes

1. Cabinet AC power cord
2. Surge-protected AC power distribution unit (120 VAC systems) (optional)

Figure 1-36. Routing two DEFINITY ONE AC power cords to a power distribution unit

Cable the DEFINITY ONE system

Install Processor Interface cable and TDM/LAN bus terminators

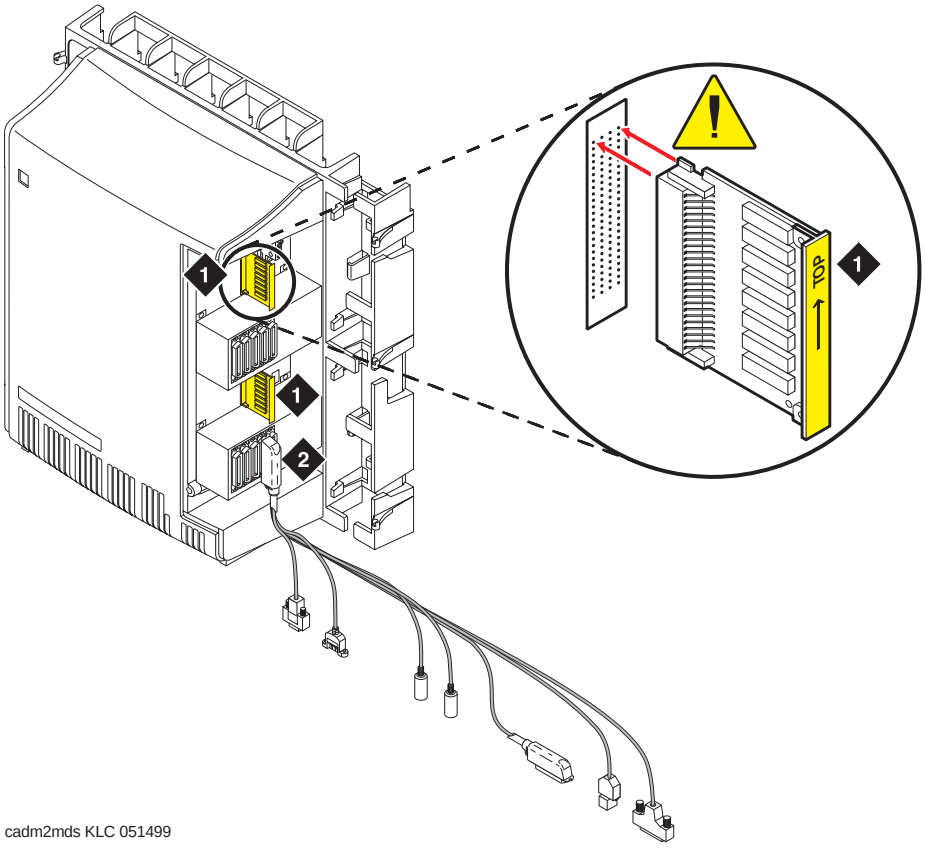


Figure notes

1. TDM/LAN bus terminator
2. Processor interface cable (slot 2)

Figure 1-37. DEFINITY ONE System cable connections

1. Install the TDM/LAN bus terminators.
2. Connect the Processor Interface Cable to the slot 2 connector behind the cabinet. See Figure 1-37.

Cable two-cabinet DEFINITY ONE system

Vertically mounted system

1. Route the TDM/LAN bus cables through the cable trough. See Figure 1-38.

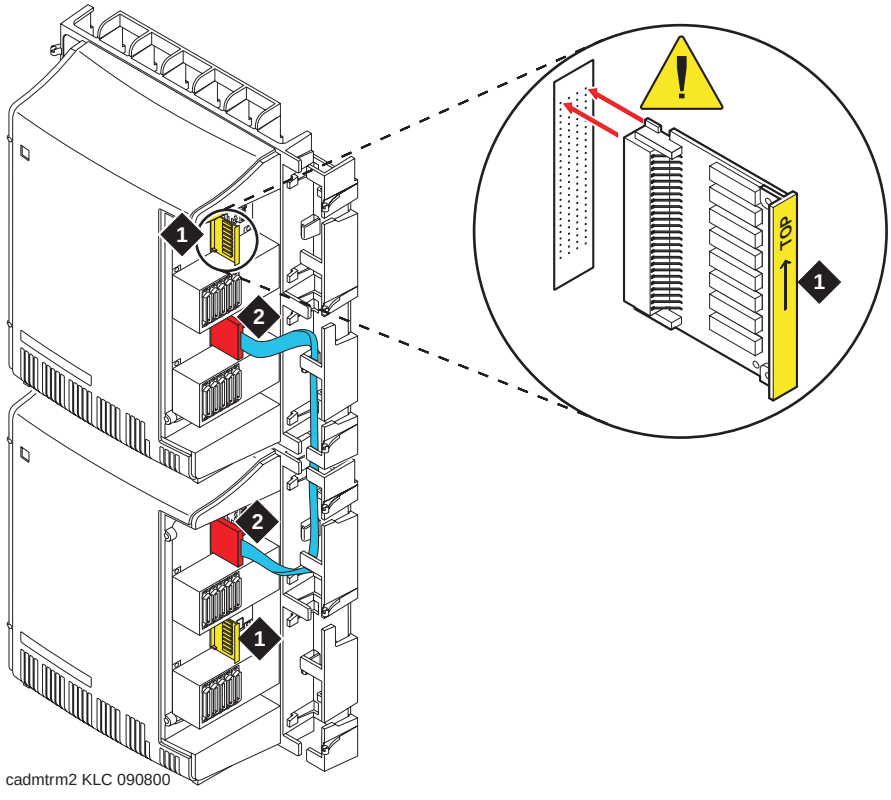


Figure notes

1. TDM/LAN bus terminator (at each end of the TDM/LAN bus)
2. Vertical TDM/LAN bus cable (List 8)

Figure 1-38. System cable connections for two CMC cabinets vertically mounted

Horizontally mounted system

1. Route the TDM/LAN bus cables through the cable trough. See Figure 1-39.

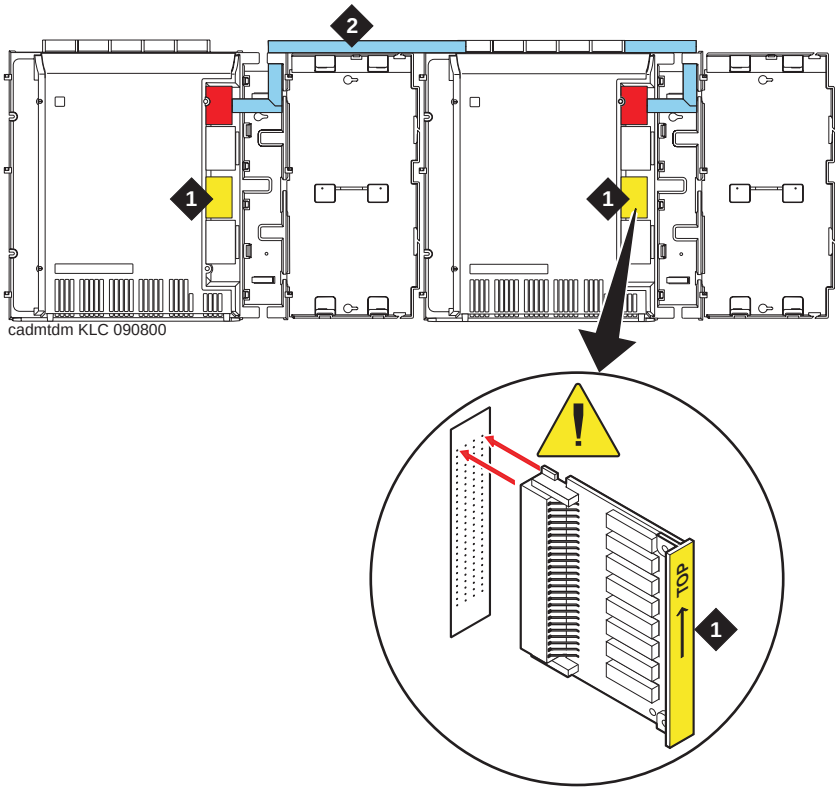


Figure notes

1. TDM/LAN bus terminator (at each end of the TDM/LAN bus)
2. Horizontal TDM/LAN bus cable (List 8)

Figure 1-39. System cable connections for two CMC cabinets horizontally mounted

Install DEFINITY ONE main distribution frame (MDF) and external modem

Install the MDF on DEFINITY ONE

WARNING:
The optional MDF is a special 110 cross-connect field that is smaller than the standard 110 cross-connect hardware. Do not install standard 110 hardware inside the right panel.

NOTE:
The depth of any equipment installed inside the right panel must not exceed 2.5 inches (6.3 cm), or the right cover panel will not fit over the right panel.

The optional MDF represents the trunk/auxiliary field.

- Mount the optional MDF to the right panel using the following procedure:

Bottom-mounted MDF with modem

1. On the rear of the MDF, cut the cable tie securing the top 5 cables to the MDF mounting frame.
2. Mount the MDF to the right panel. See Figure 1-40 on page 1-77.
3. Secure all 10 cables to the bottom left bracket on the MDF with a cable tie.

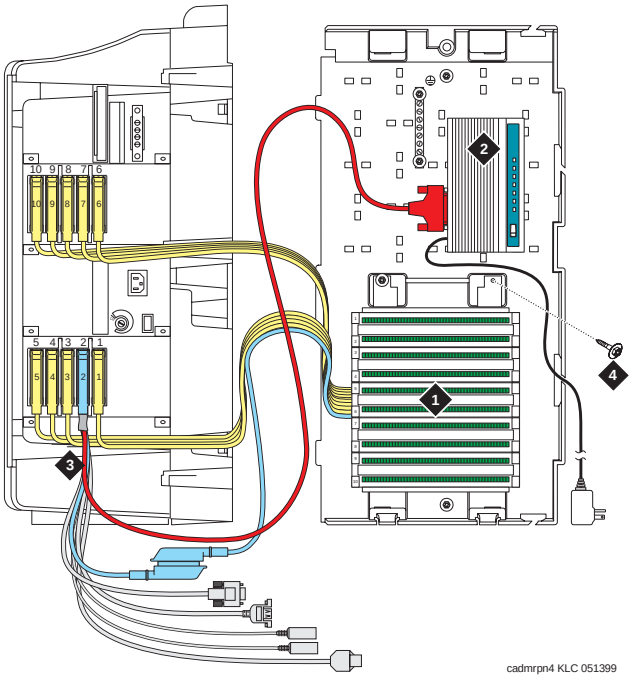


Figure notes

1. Main distribution frame (MDF)
2. External modem
3. Processor interface cable (connect P2 to modem)
4. #12 x 1-inch shoulder screw

NOTE:
Do not plug anything into slot 1 on cabinet 1.

Figure 1-40. Typical bottom-mount MDF and modem cable routing

Install the external modem

The U.S. Robotics external modem is the recommended external modem. DEFINITY ONE systems operate with this modem set to factory default settings.

NOTE:
You may use a locally obtained, type-approved external modem (33.6 Kbps or higher and V.34 protocol). Contact your Avaya representative for more information.

WARNING:
If you use a modem other than the U.S. Robotics modem, it must be configured in NT.

1. Use the hardware provided with the modem. See Figure 1-40 on page 1-77. If top-mounting MDFs, mount the external modem to the plywood in a location which allows the standard connection to the modem cable.
2. Route the modem cable (P2) from the Processor Interface Cable through the cable trough and to the modem.
3. Connect the cable to the modem. See Appendix A, ‘‘Cable Pinouts’’ for the pinout of the modem cable.
4. Plug the modem power cord into an electrical outlet and turn on the modem.

‘‘Modem configuration and administration’’ on page 9-5 describes information about modem setup, administration, settings, and testing.

Install equipment room hardware for DEFINITY ONE

See *DEFINITY Communications System Generic 1 and Generic 3 Main Distribution Field Design* (555-230-630) for more information.

Cross-connect the cabinet to the MDF

1. Cross-connect the port circuit packs to the DEFINITY ONE MDF. See Figure 1-42 on page 1-88.

Allowable and non-allowable circuit packs

Table 1-8 lists the circuit packs that can and cannot be used with Release 9 of DEFINITY ONE.

Table 1-8. Circuit packs and circuit modules

Apparatus code	Name	Allowable
650A	AC Power Unit	Yes
982LS	Current Limiter	No
CFY1B	Current Limiter	No
CPP1	Memory Expansion	No
ED-1E546 (TN566) (TN567)	DEFINITY AUDIX R3 System	No
ED-1E546 (TN2208) (TN2170)	CallVisor Adjunct-Switch Application Interface (ASAI) over the DEFINITY (LAN) Gateway R1	No
J58890M-1 (TN801)	CallVisor ASAI/Call Visor PC/LAN over the DEFINITY LAN Gateway Release 2.0	No
NAA1	Fiber Optic Cable Adapter Circuit Pack	Yes
TN417	Auxiliary Trunk	Yes
TN419B	Tone-Clock	No
TN420B/C	Tone Detector	No
TN429/B/C/D	Analog Direct Inward/Outward Dialing (DIOD) Central Office Trunk	Yes

Continued on next page

Table 1-8. Circuit packs and circuit modules — *Continued*

Apparatus code	Name	Allowable
TN429C	Analog Central Office Trunk	Yes
TN429D	Analog DIOD Trunk - Analog Loop Start	Yes
TN433	Speech Synthesizer	Yes
TN436B	Direct Inward Dialing Trunk	Yes
TN437B	Tie Trunk Australia (future availability)	Yes
TN438B	Central Office Trunk	Yes
TN439	Tie Trunk	Yes
TN447	Central Office Trunk	Yes
TN457	Speech Synthesizer	Yes
TN459B	Direct Inward Dialing Trunk	Yes
TN464F	DS1 Interface - T1, 24 Channel - E1, 32 Channel	Yes
TN465B/C	Central Office Trunk	Yes
TN467	Analog Line	Yes
TN468B	Analog Line	Yes
TN479	Analog Line	Yes
TN553	Packet Data Line	Yes
TN556C/D	Integrated Services Digital Network -Basic Rate Interface 4-Wire S/T-NT Interface (ISDN-BRI)	Yes
TN568	DEFINITY AUDIX Slim	No
TN570B/C	Expansion Interface	No
TN572	Switch Node Clock	No
TN573B	Switch Node Interface	No
TN574	DS1 Converter - T1, 24 Channel	No
TN577	Packet Gateway	No
TN722B	DS1 Tie Trunk	Yes
TN725B	Speech Synthesizer	Yes
TN726B	Data Line	Yes
TN735	Multibutton Electronic Telephone (MET) Line	Yes

Continued on next page

Table 1-8. Circuit packs and circuit modules — *Continued*

Apparatus code	Name	Allowable
TN742	Analog Line	Yes
TN744B/C	Call Classifier	No
TN744D	Call Classifier - Detector	Yes
TN746B	Analog Line	Yes
TN747/B	Central Office Trunk	Yes
TN748B/C/D	Tone Detector	No
TN750B	Announcement	No
TN750C	Announcement	Yes
TN753/B	Direct Inward Dialing Trunk	Yes
TN754/B/C	Digital Line 4-Wire DCP	Yes
TN755/B	Neon Power Unit	No
TN756	Tone Detector/Generator	No
TN758	Pooled Modem	Yes
TN760B/C/D/E	Tie Trunk	Yes
TN762/B	Hybrid Line	Yes
TN763B/C/D	Auxiliary Trunk	Yes
TN765	Processor Interface	No
TN767B/C/D/E	DS1 Interface - T1, 24 Channel	Yes
TN768	Tone-Clock	No
TN769	Analog Line	Yes
TN771/D	Maintenance/Test	Yes
TN772	Duplication Interface	No
TN775/B/C	Maintenance	No
TN776	Expansion Interface	No
TN777B	Network Control	No
TN778	Packet Control	No
TN780	Tone-Clock	No
TN787F/G/H/J/K	Multimedia Interface	No

Continued on next page

Table 1-8. Circuit packs and circuit modules — *Continued*

Apparatus code	Name	Allowable
TN788B	Multimedia Voice Conditioner	No
TN789	Radio Controller	Yes
TN790B	Processor	No
TN791	Analog Line	Yes
TN792	Duplication Interface	No
TN793	Analog Line, 24-Port, 2-Wire	Yes
TN794	Network Control/Packet Interface (NetPkt)	No
TN795	Processor	Yes
TN798B	Processor	No
TN799/B/C	Control LAN (C-LAN)	Yes
TN801	LAN Gateway Interface	No
TN802/B	Internet Protocol (IP) Trunk	Yes
TN1648/B	System Access/Maintenance	No
TN1650B	Memory	No
TN1654	DS1 Converter - T1, 24 Channel/E1, 32 Channel	No
TN1655	Packet Interface	No
TN1656	Tape Drive	No
TN1657	Disk Drive	No
TN2135	Analog Line	Yes
TN2136	Digital Line 2-Wire DCP	Yes
TN2138	Central Office Trunk	Yes
TN2139	Direct Inward Dialing Trunk	Yes
TN2140B	Tie Trunk - Hungary, Italy	Yes
TN2144	Analog Line	Yes
TN2146	Direct Inward Dialing Trunk	Yes
TN2147C	Central Office Trunk	Yes
TN2149	Analog Line	Yes
TN2180	Analog Line	Yes

Continued on next page

Table 1-8. Circuit packs and circuit modules — *Continued*

Apparatus code	Name	Allowable
TN2181	Digital Line 2-Wire DCP	Yes
TN2182/B	Tone-Clock - Tone Detector and Call Classifier	No
TN2183	Analog Line	Yes
TN2184	DIOD Trunk	Yes
TN2185/B	ISDN-BRI 4-Wire S/T-TE Interface (Trunk Side)	Yes
TN2198	ISDN-BRI 2-Wire U Interface	No
TN2199	Central Office Trunk	Yes
TN2202	Ring Generator	No
TN2207	DS1 Interface - (T1) 24 Channel and (E1) 32 Channel	Yes
TN2210	Tone Generator	No
TN2214/B	Digital Line, 24-Port, 2-Wire DCP - Category B only	No
TN2215	Analog Line, 16-Port 2-Wire - Category B only	No
TN2224/B	Digital Line, 24-Port, 2-Wire DCP	Yes
TN2238	ATM Trunk Interface (Multi-Mode)	No
TN2242	TTC Japanese 2Mbit Trunk	Yes
TN2301	Survivable Remote Logic Switch	No
TN2302	IP Media Processor	Yes
TN2305	Asynchronous Transfer Mode (ATM) Trunk	Yes
TN2306	ATM Interface (Single-Mode)	No
TN2308	Direct Inward Dialing Trunk	No
TN2464	DS1 Interface - T1, 24 Channel - E1, 32 Channel	Yes
TN2793/B	Analog Line 24-Port	Yes

Circuit pack installation

WARNING:
When handling circuit packs or any components of a DEFINITY ONE, always wear an authorized wrist ground strap. Connect the strap to the ground connector provided on the system cabinet.

NOTE:
All of the circuit pack slots in the CMC are “universal slots.” Any slot can contain any type of port circuit pack.

Circuit pack slot loading

1. Install the TN795 Processor circuit pack in slot 2 of the cabinet. See Figure 1-41 on page 1-85.
2. A TN744D Call Classifier/Tone Detector circuit pack is required. Install the TN744D into any port slot except for slots 1 and 2 (slot 3 is preferred but not required).
3. Load all port circuit packs. See Table 1-9 on page 1-86 for the recommended circuit pack layout.

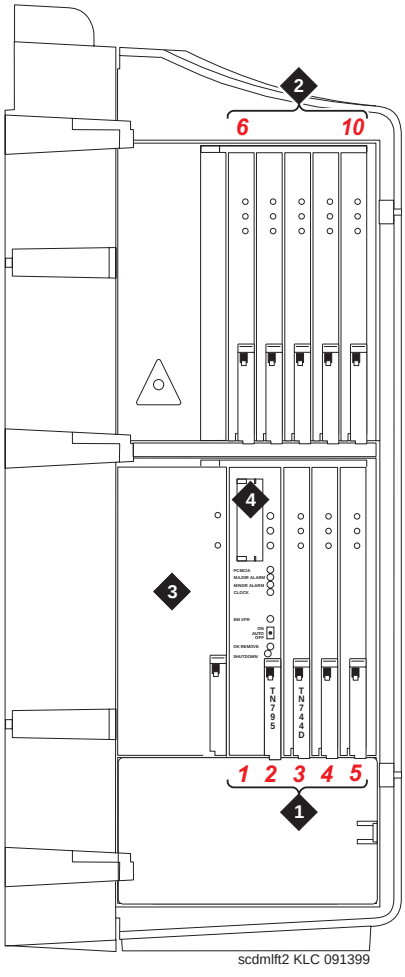


Figure notes

1. Slots 1 - 5
2. Slots 6 - 10
3. 650 A Power Unit
4. For Flash Disk (PCMCIA)

Figure 1-41. CMC cabinet and slot numbering

Table 1-9. Circuit pack installation order (loading)

Function	Apparatus code	Load CMC from	Notes
Processor	TN795	Slot 1 and 2	
Call Classifier/Tone Detector	TN744	Slot 3	
Announcement	TN750C	Any slot	
Speech Synthesizer	TN725B	Any slot	
Control C-LAN	TN799B	Lower Right	
Media Processor	TN2302	Lower Right	
DS1/E1, ISDN PRI	TN464F, TN767E, TN2242, TN2464	Lower Right	Maximum of 7 ISDN-PRI. Total number of ISDN-PRI plus number of ISDN-BRI circuit packs must not exceed 7.
ISDN-BRI Trunk	TN2185	Lower Right	Maximum of 4
CO Trunk	TN747B, TN465C, TN2199, TN2147C, TN2138, TN438B	Lower Right	
DID Trunk	TN753, TN2139, TN2146, TN436B, TN459B	Lower Right	
Tie Trunk	TN760E, TN458, TN497, TN2140B	Lower Right	
Auxiliary Trunk	TN417	Lower Right	
Modem Pool	TN758	Lower Right	
Data Line	TN726	Upper Left	

Continued on next page

Table 1-9. Circuit pack installation order (loading) — *Continued*

Function	Apparatus code	Load CMC from	Notes
Digital Line	TN754C, TN2181, TN2224/B,	Upper Left	
Analog Line	TN746B, TN2135, TN467, TN2144, TN2149, TN2180, TN2183, TN2215, TN468B,TN791, TN793, TN2793,TN2214	Upper Left	
Hybrid Line	TN762B	Upper Left	
MET Line	TN735	Upper Left	
Radio Controller	TN789	Upper Left	
ISDN-BRI 4-Wire S/T-NT Line (A-Law)	TN556C/D TN744D	Upper Left	

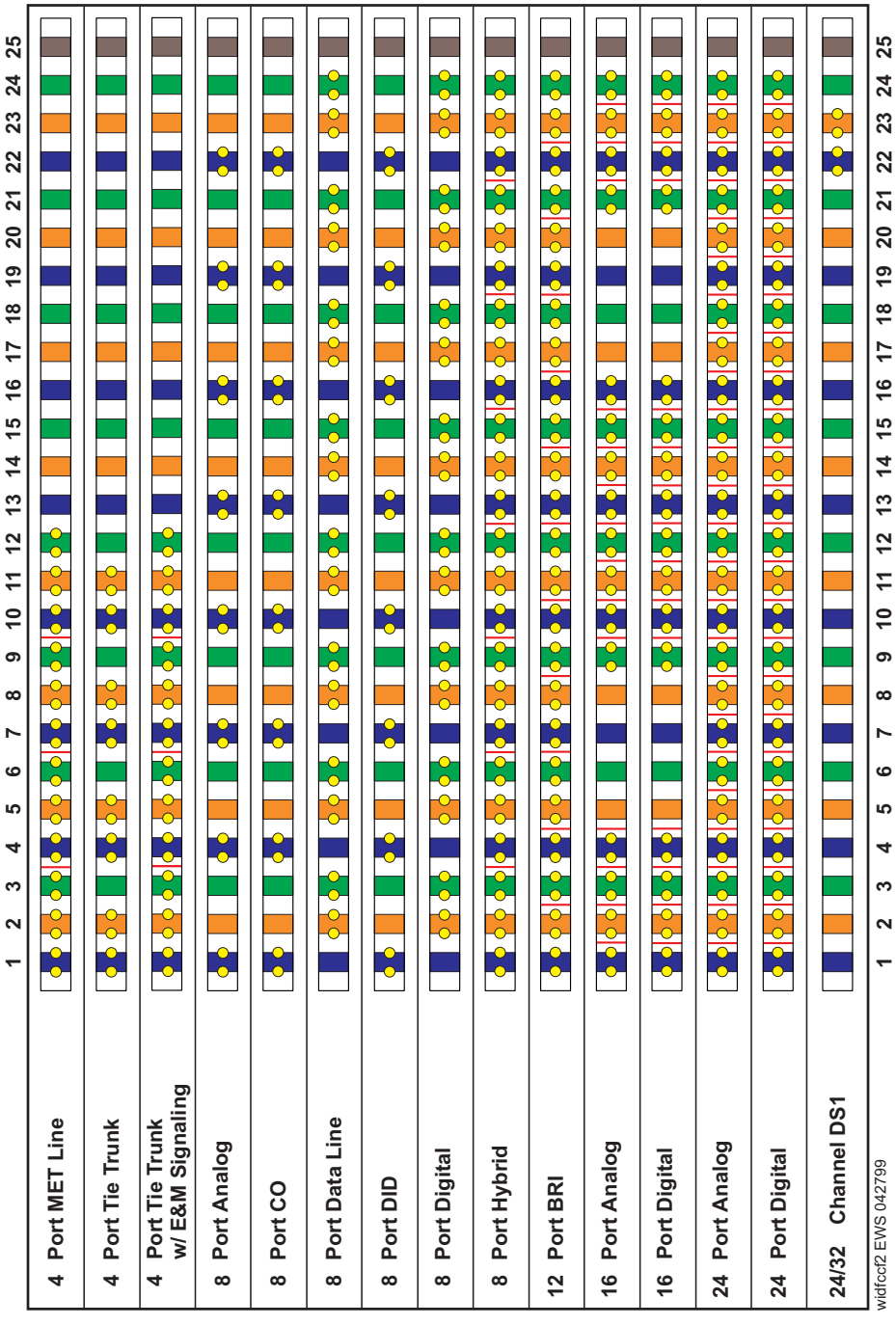


Figure 1-42. Example MDF connections

Off-premises circuit protection

Protection from hazardous voltages and currents is required for all off-premises (out of building) trunks, lines, and terminal installations. Both over-voltage protection (lightning, power induction, and so forth) and sneak current protection are required. Sneak current protectors must be either UL listed/CSA certified, or must comply with local safety standards.

Sneak current protectors must have a maximum rating of 350 mA and a minimum voltage rating of 600V, or as required by local regulations. The following devices protect the system from over-voltages:

- Analog trunks use the 507B sneak protector or equivalent. Over-voltage protection is normally provided by the local telephone company.
- Analog voice terminals use one of the following types of combined over-voltage and sneak current protection, or equivalent:
  - Carbon block with heat coil for UL code 4B1C
  - Gas tube with heat coil for UL code 4B1E-W
  - Solid state with heat coil for UL code 4C1S
- DCP and ISDN-BRI terminals use the solid state 4C3S-75 with heat coil protector, or equivalent.
- DS1/T1 circuits require isolation from exposed facilities. This isolation may be provided by a channel service unit (CSU) (T1), or other equipment that provides equivalent protection.

Install sneak fuse panels

Sneak current protection is required between the incoming RJ21X or RJ2GX network interface and the system for both trunk and off-premises circuit packs. The model 507B sneak current fuse panel, or equivalent, is recommended for sneak current protection. See Figure 1-43.

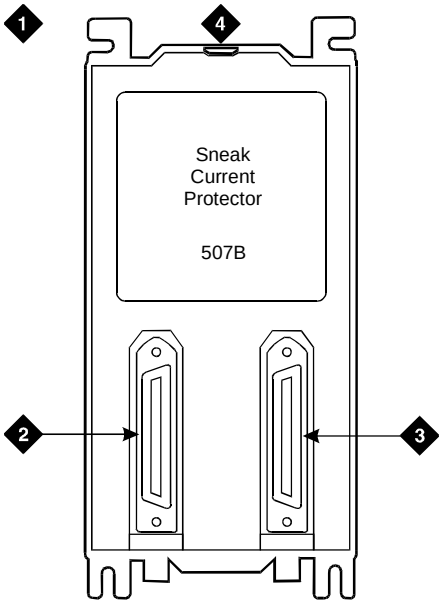


Figure notes

1. 507B sneak current protector (price element code: comcode 107435091)
2. 25-pair male connector (In) (comcode 846300994)
3. 25-pair female connector (Out) (comcode 846300994)
4. 220029 fuses (inside panel). Use a small screwdriver to pry top cover off

Figure 1-43. Model 507B sneak fuse panel

Each column of sneak fuse panels requires approximately 8 inches (20 cm) of horizontal wall space. Connector cables connect the network interface to the sneak fuse panel. Also, use 157B connecting blocks equipped with SCP-110 protectors for sneak current protection.

NOTE:
Sneak current protectors with a rating of 350 mA at 600 V must be UL listed for United States installations and Canadian Safety Association (CSA) certified for Canadian installations. The panel contains 2 25-pair connectors, fuse removal tool, and fifty 220029 Sneak Fuses (and 2 spares). Use the SCP-110 protectors with 110-type hardware and on the 507B sneak fuse panel. The SCP-110 protectors can be ordered separately and installed on the 157B connecting block. Fifty protectors are required per block.

1. Install the 507B near the network interface or MDF with locally-obtained #12 x 3/4-inch screws (or equivalent).

Table 1-10 is a pinout of the cable wiring and associated fuse numbers.

Table 1-10. Sneak fuse connector pinout

Connector Pin Numbers	Pair/Fuse Number
26/1	1
27/2	2
28/3	3
29/4	4
30/5	5
31/6	6
32/7	7
33/8	8
34/9	9
35/10	10
36/11	11
37/12	12
38/13	13
39/14	14
40/15	15
41/16	16
42/17	17
43/18	18
44/19	19
45/20	20
46/21	21
47/22	22
48/23	23
49/34	24
50/25	25

Label the main distribution frame

Figure 1-44 shows the graphic symbols used on the supplied labels for the system, cross-connections, information outlets, and cables.

1. Write the floor and building identification on each label as required.
2. Insert the labels into the plastic holders.
3. Snap the holders into the appropriate locations on the MDF.

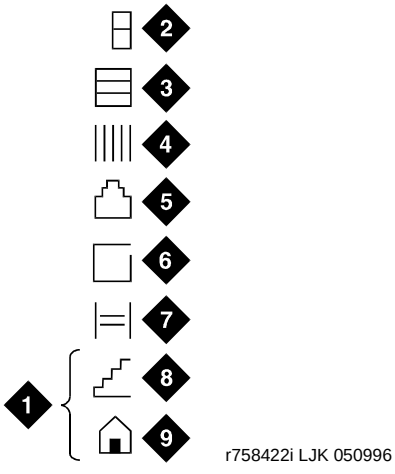


Figure notes

1. Floor and building identification
2. Cabinet
3. Carrier
4. Slot
5. Information outlet
6. Site/satellite closet
7. Tie circuit
8. Floor
9. Building

Figure 1-44. Label graphic symbols and nomenclature

4. Label the cables as required using the supplied labels. Label code number 220A (comcode 103970000) contains all required labels.

Set ringing option for DEFINITY ONE

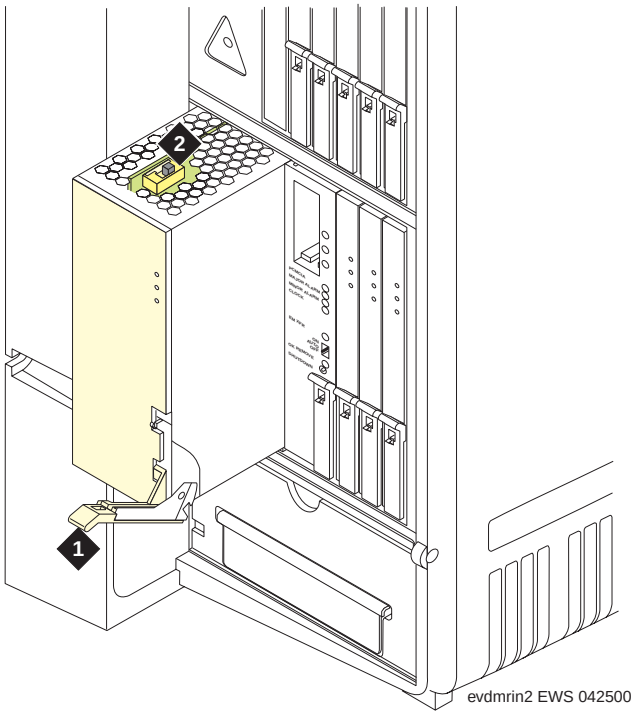


Figure notes

1. Attachment lever
2. Ringing option switch

NOTE:
Look at the label on the side of the power supply to see how to set the switch.

Figure 1-45. Ringing option selection

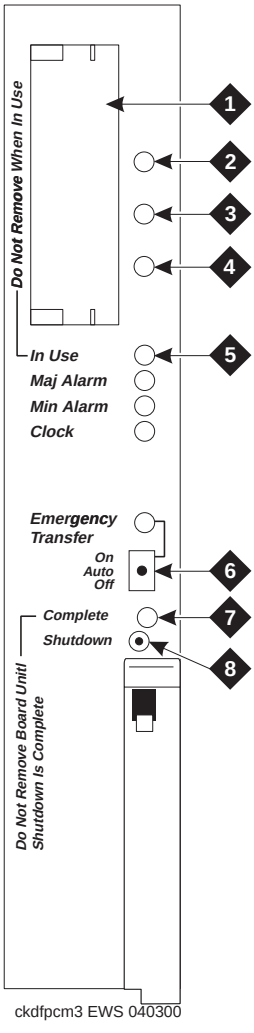


Figure notes

1. PCMCIA slots
2. Red LED
3. Green LED
4. Amber LED
5. PCMCIA In-Use LED
6. Emergency Transfer Switch
7. Shutdown Complete — safe to pull board when green LED is on
8. Shutdown Switch — gracefully shuts down system

Figure 1-46. TN795 circuit pack faceplate

SECTION III - INSTALL TELEPHONES AND MAKE AUXILIARY CONNECTIONS

NOTE:
The procedures in Section III apply to both DEFINITY ONE and Avaya IP600

Install and wire telephones and other equipment

NOTE:
Only 1 pair of wires is available for emergency transfer, and 1 pair of wires is available for Attendant Console power.

The wiring procedures are similar for most DEFINITY system telephones and other equipment. This section provides wiring examples for similar installation procedures. Actual wiring procedures may vary at each site.

The system can connect to all DTE terminals. The system can have RS-232 (or EIA-232) or DCP interfaces.

All wiring pinouts for port circuit packs are in the tables at the end of this chapter.

See Figure 1-19 on page 1-44 for punch-down information for common circuit packs. The figure shows the colors of the punch-downs and is best viewed from CD-ROM or on-line.

After installing the hardware, the data for the system and telephone features can be administered. These procedures are provided in *DEFINITY Enterprise Communications Server Release 9 Administrator's Guide* (555-233-506).

Telephone connection examples

The 302C1 Attendant Console (AC) describes a typical telephone connection. This information is typical of the 603E, 84xx (4-wire), and 94xx telephones. The AC always requires auxiliary (adjunct) power (-48 VDC). See Figure 1-47 on page 1-97. Only 1 console can be powered by the system through the auxiliary (AUX) connector. The primary console should be powered from the system so it has the same power failure backup as the system.

The maximum cabling distance for the console powered from the cabinet is 350 feet (100 meters) using 24 AWG (#5) (0.26 mm^2) wire.

The general steps to connect a telephone are:

1. Choose a device to connect such as a 302C1 Attendant Console.
2. Choose the port circuit pack and its carrier and slot number, such as TN754C, Carrier A, Slot 06.
3. Choose a port circuit on the port circuit pack, such as Port 05.
4. Install cross-connect jumpers to wire the terminal to the port circuit pack. See Figure 1-47. This pinout is for a 4-wire digital line circuit pack.

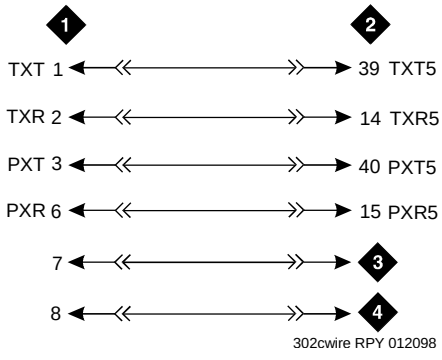


Figure notes

1. 302C1 Attendant Console
2. 4-wire digital line circuit pack
3. -48 VDC from adjunct power
4. Ground from adjunct power

Figure 1-47. 302C1 to digital line circuit pack wiring

Connect adjunct power

The400B2 adapter is convenient for connecting local -48 VDC power to a modular plug. See Figure 1-48.

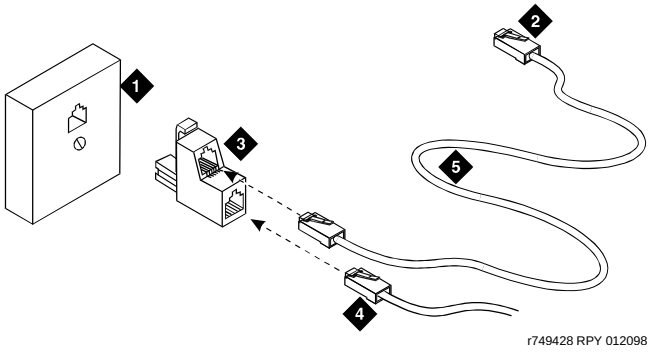


Figure notes

1. Surface-mounted information outlet
2. To individual power unit (such as 1151A or 1151A2)
3. 400B2 adapter
4. To telephone
5. Destination service access point (DSAP) power cord

Figure 1-48. 400B2 adapter connecting to a modular plug

Adjunct power can be provided from the equipment room or equipment closet with 1145B power unit. The AUX connector (J1) on the processor interface cable can provide power for 1 Attendant Console.

Adjunct power can be provided locally at the telephone or console by the 1151A or 1151A2 Power Supply.

Station wiring examples

This section shows the wiring connections for the various types of stations. See Figure 1-49, Table 1-11 on page 1-100, and Table 1-12 on page 1-100.

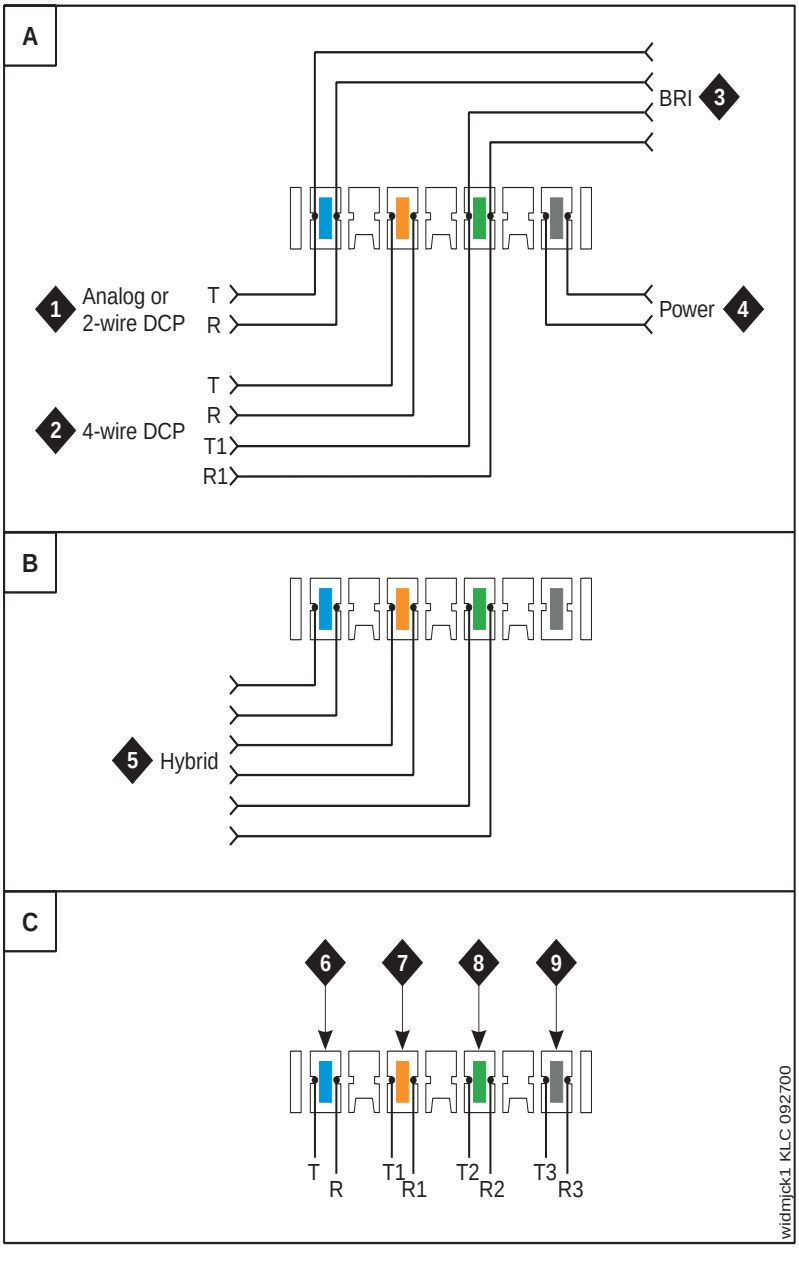


Figure 1-49. Typical station wiring connections

Table 1-11. Wiring color code

Station Type	Wire Color (Tip/Ring)
Analog	yellow/blue
2-wire DCP	white/orange
4-wire DCP	red/blue red/orange
Hybrid	white/blue white/orange white/green
Power	white/red

Table 1-12. Stations connections

Station Type	Connector
Analog or 2-wire DCP	T=1, R=26
BRI	T=1, R=26 T1=3, R1=28
4-wire DCP	T=2, R=27 T1=3, R1=28
Hybrid	T=1, R=26 T1=2, R1=27 T2=3, R2=28
Power	4, 29

Analog tie trunk example

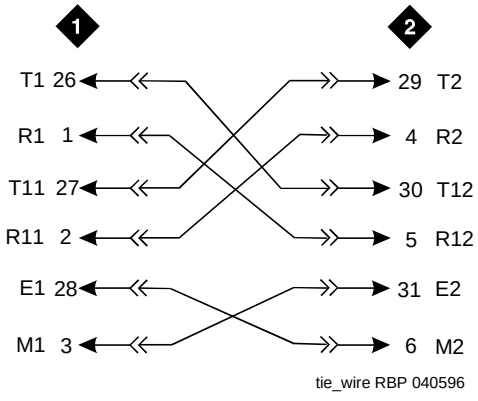


Figure notes

1. External trunk or adapter
2. Tie trunk circuit pack

Figure 1-50. Analog tie trunk cross-connect

1. Before installing the Tie Trunk circuit pack, set the option switches as described in Chapter 1, ‘‘Install and Cable the Cabinet’’.
2. Install cross-connect jumpers to connect the pins from the Tie Trunk circuit pack to the appropriate leads on the external tie trunk. Determine names of the tie trunk leads from the manufacturer or supplier of the external trunk circuit. The example in Figure 1-50 shows a DEFINITY or Avaya IP600 System tie trunk connected to a DEFINITY or Avaya IP600 System tie trunk.
3. Administer on the Trunk Group screen. See *DEFINITY Enterprise Communications Server Release 9 Administrator’s Guide* (555-233-506).

Digital tie trunk example

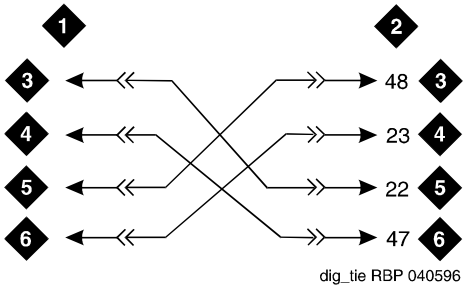


Figure notes

1. External trunk
2. DS1 interface circuit pack, position 1CA06
3. LO
4. LO (Balanced output pair)
5. LI
6. LI (Balanced input pair)

Figure 1-51. Digital tie trunk wiring

1. Before installing the DS1 Interface circuit pack, set the option switches as shown in Chapter 1, ‘‘Install and Cable the Cabinet’’.
2. Install cross-connect jumpers to connect the pins from the digital trunk circuit pack to appropriate pins on the external digital trunk.
3. Administer the DS1 Interface circuit pack on the DS1 and Trunk Group screens. See *DEFINITY Enterprise Communications Server Release 9 Administrator’s Guide* (555-233-506).

Cable examples for tie trunk connectivity

DS1 tie trunks provide a 1.544 Mbps (T1) or 2.048 Mbps (E1) digital data service between 2 collocated systems or between the system and a data network. The following cables can be used:

- **C6C connector cable** — 50-foot (15.2 m) shielded cable with a 50-pin male connector on 1 end and a 15-pin male connector on the other end. Use to connect a DS1 tie trunk circuit pack to a Channel Service Unit.
- **C6D connector cable** — 50-foot (15.2 m) shielded cable with a 50-pin male connector on each end. Use to connect DS1 tie trunks in collocated cabinets.
- **C6E connector cable** — 100-foot (30.5 m) shielded cable with a 50-pin male connector on 1 end and a 50-pin female connector on the other end. Use as an “extension” cable between the DS1 tie trunk circuit pack and other connector cables.
- **C6F connector cable** — 50-foot (15.2 m) shielded cable with a 50-pin male connector on 1 end and a 3 inch (7.62-cm) stub on the other end. Use to connect the DS1 tie trunk circuit pack to channel multiplexers requiring hardwired connections. See Table 1-13 for a pinout.

Table 1-13. Pinout of C6F cable

Wire color	Lead designation	Pin number
White/Green	LI (High Side)	47
Green	LI	22
White/Brown	LO	48
Brown	LO (High Side)	23
White/Slate	LBACK2	49
Slate	LBACK1	24

DS1 tie trunks between collocated systems

Two DS1 tie trunk circuit packs can exist in collocated systems. A DS1 tie trunk circuit pack in 1 system can connect to a DS1 tie trunk in another system. Use a C6D cable if the distance is less than 50 feet (15.24 m). If the distance is greater than 50 feet (15.24 m), use a C6E cable.

NOTE:
The maximum distance between cabinets is 1310 feet (399.3 m).

DS1 tie trunks using T1 channel service unit

Figure 1-52 shows a DS1 tie trunk connected to an external T1 Channel Service Unit (CSU). A 120A2 enhanced Integrated Channel Service Unit (ICSU) can be used in place of a T1 external CSU. The CSU or ICSU interfaces the DS1 tie trunks with the 1.544 Mbps digital facility. Contact your Avaya representative for maximum cabling distances.

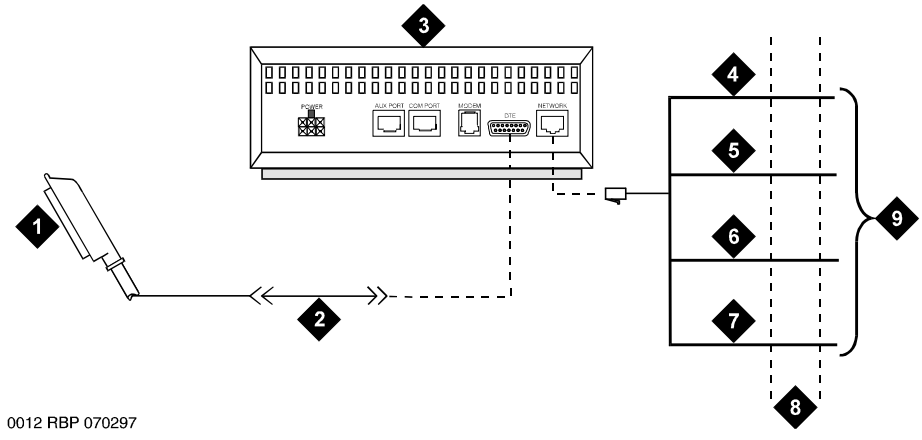


Figure notes

1. To DS1 tie trunk circuit pack
2. C6C cable (If distance is over 50 feet (15.24 m), use C6E cable.)
3. T1 external CSU or 120A2 ICSU
4. Tip (T)
5. Ring (R)
6. Tip 1 (T1)
7. Ring1 (R1)
8. 1.544 Mbps T1 interface
9. To T1 carrier

Figure 1-52. Typical connections to channel service unit

3-pair and 4-pair modularity

Figure 1-53 shows 3-pair and 4-pair modularity from the port circuit pack to the voice or data terminal. Most terminals connect to an information outlet (modular jack) installed at the work location.

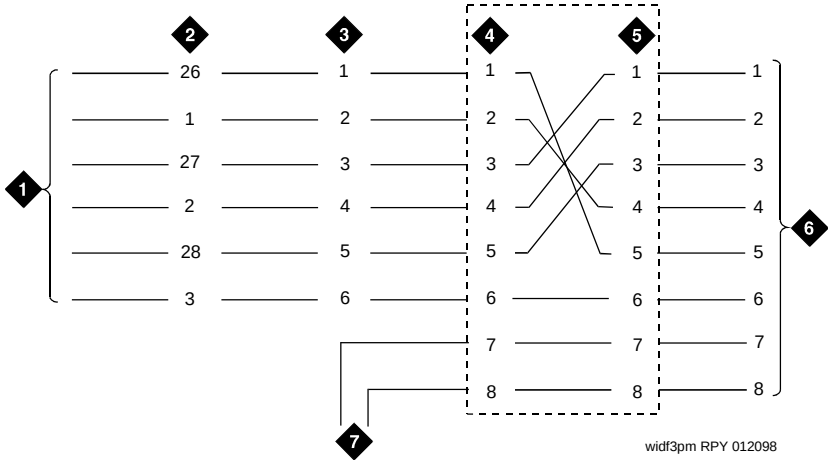


Figure notes

1. Port circuit pack
2. 25-pair connector pins (3-pair modularity)
3. MDF pins (3-pair modularity)
4. Input to information outlet (4-pair modularity)
5. Output from information outlet (4-pair modularity)
6. Voice or data terminal pins
7. Adjunct power

Figure 1-53. 3-pair and 4-pair modularity

Adjunct power connections

Figure 1-54 shows typical connection locations for adjunct power.

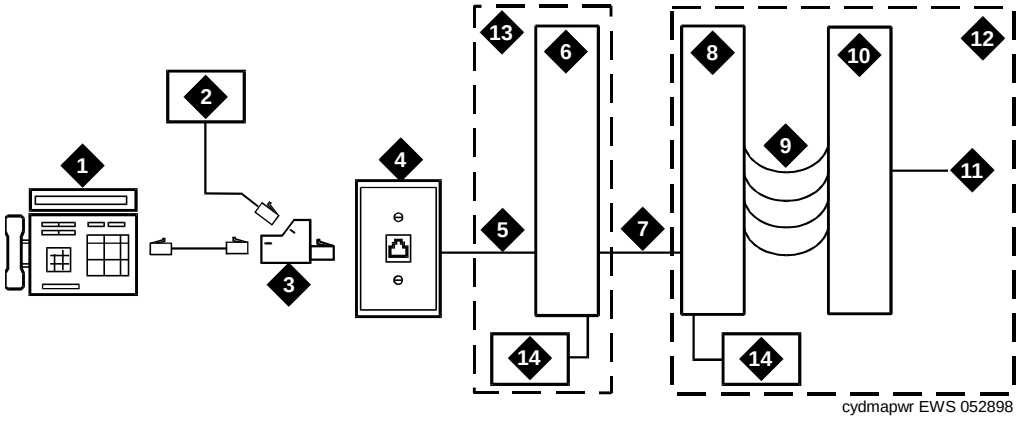


Figure notes

1. Typical display telephone
2. Individual power supply (such as 1151A, not used if item 14 is used)
3. 400B2 adapter
4. Information outlet (modular jack)
5. 4-pair D-Inside Wire (DIW) cable
6. Satellite site or adapter location
7. 25-pair D-Inside Wire (DIW) cable
8. Station side of MDF or patch panel
9. 100P6A patch cord or jumpers
10. System side of MDF or patch panel
11. 25-pair cable to digital line circuit pack
12. Equipment room
13. Satellite location
14. Bulk power supply (such as 1145B). Install at satellite location or equipment room (not both).

Figure 1-54. Example adjunct power connections

Local and phantom power

The Attendant Console's (AC) maximum distance from the system is limited. See Table 1-14.

Table 1-14. Attendant Console cabling distances

Enhanced Attendant Console (302C1)	24 AWG Wire (0.26 mm^2)		26 AWG Wire (0.14 mm^2)	
	Feet	Meters	Feet	Meters
With Selector Console				
Phantom powered	800	244	500	152
Locally powered	5000	1524	3400	1037
Without Selector Console				
Phantom powered	1400	427	900	274
Locally powered	5000	1524	3400	1037

Auxiliary power

The nonessential functions of an AC and its optional 26A1 or 24A1 selector console derive power from an auxiliary power source. During short power outages, provide auxiliary power for an AC through this cable so the console remains fully operational.

NOTE:
Only 1 console can derive auxiliary power from the system and through the auxiliary cable located in the trunk/auxiliary field.

A console's maximum distance from its auxiliary power source is:

- 800 feet (244 m) for a 302A1
- 350 feet (107 m) for a 301B1 and 302C1

An AC can also derive auxiliary power from:

- Individual 1151A or 1151A2 power supply
- MSP-1 power supply
- 258A-type adapters
- Bulk power supplies such as the 1145A1

Install Attendant Console — optional

To install the optional AC:

1. Position the Attendant Console in the desired location and connect the modular cord to the information outlet.
2. Install labels per the Attendant Console form and Display Module form assignments.
3. Install a digital line circuit (DLC) pack in the assigned carrier slot (if required).
4. Administer the console forms in *DEFINITY Enterprise Communications Server Release 9 Administrator's Guide* (555-233-506).

Hard-wire bridging

WARNING:
Bridging or paralleling these endpoints can cause electrical damage to the consoles or cause the circuit pack to remove power from the consoles.

Analog type hard-wire bridging is not allowed for 4-wire (only) DCP endpoints, because hard-wire bridging provides no way of combining the digital output of 2 bridged DCP sets. Also, a bridged endpoint causes the added load to degrade the DCP signal.

Dual wiring of 2-wire and 4-wire endpoints

Do not simultaneously wire a 2-wire and 4-wire endpoint to the same equipment location in an MDF, even though they connect to different colored wire pairs. The system uses separate circuit packs to interface 2- and 4-wire endpoints, and none are capable of interfacing both.

Install 26B1 Selector Console — optional

To install the optional Selector Console:

1. Connect the supplied 3-foot (0.9 m) D8AC cable to the modular jack on the bottom of the 26B1 Selector Console.
2. Route the cable to the Attendant Console and connect to the DXS/BLF jack.
3. Attach labels according to the Attendant Console form.
4. Administer the Attendant Console using *DEFINITY Enterprise Communications Server Release 9 Administrator's Guide* (555-233-506).

Connect external alarms and auxiliary connections

NOTE:
The AUX connector is part of the Processor Interface cable assembly (J1). When the wiring and administration are complete, give these wiring records to the Customer System Administrator for troubleshooting purposes.

Alarm input

Alarms can be generated on adjunct equipment, sent to the DEFINITY ONE system, and recorded and reported as “external alarms.”

CAUTION:
Pins 26 and 1 on the AUX connector are dedicated to the UPS alarm input. Using these pins for other alarm inputs will cause the DEFINITY ONE system to reset.

1. Connect 1 major alarm *input* wire pair and 1 minor alarm *input* wire pair to the auxiliary field from the AUX connector (J1 on Processor Interface Cable). See Table 1-15 and Figure 1-55 on page 1-110.

Table 1-15. Alarm inputs at AUX connector

Alarm input type	Color	AUX connector
Major (UPS)	White-Blue	AP2 (Pin 27)
	Blue-White	Ground (Pin 2)
Minor	White-Orange	AP2 (Pin 26)
	Orange-White	Ground (Pin 1)

Alarm output

The system provides a relay contact closure that can operate a customer-provided alarm, such as a light or bell. The customer provides the circuitry and power source. The alarm device must not exceed a rating of more than 30 VAC RMS or 60 VDC at 0.75 Amps.

To connect alarm output:

1. Connect the external alarm *output*. See Table 1-16 on page 1-110.
2. Type **change system-parameters maintenance** and press ENTER.

3. Change the CPE Alarm Activation Level field to the desired alarm level and press [ENTER].

Table 1-16. Alarm output at AUX connector

Alarm output type	Color	AUX connector
EXTALMA	Violet-Green	(Pin 48)
EXTALMB	Green-Violet	(Pin 23)

UPS alarm connection

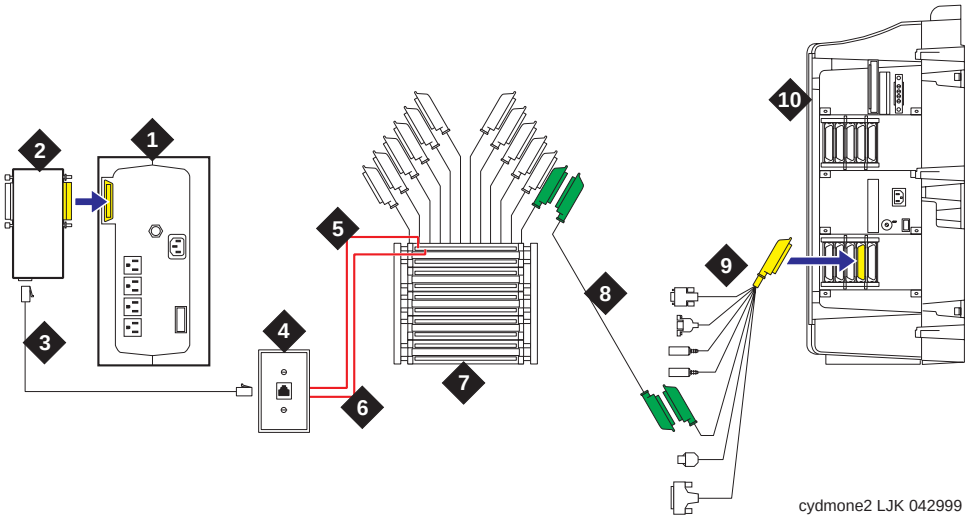


Figure notes

1. Lucent UPS
2. Z3A2 alarm adapter
3. RJ45 (D8W) cable
4. 103A or modular jack
5. Pin 26, white-orange
6. Pin 1, orange-white
7. Cross-connect field
8. 25-pair cable
9. Processor interface cable (AUX connector)
10. DEFINITY ONE or Avaya IP600

Figure 1-55. UPS connection to DEFINITY ONE

Emergency transfer and auxiliary power

NOTE:
Only 1 emergency transfer power panel and 1 auxiliary power connection are provided per system.

Connect emergency transfer power and auxiliary power as shown in Table 1-17. Auxiliary power includes power to an Attendant Console or adjunct device.

Table 1-17. Emergency transfer and auxiliary power

Power type	Color	AUX connector
Emergency Transfer	Black-Blue	XFER48 (Pin 36)
	Blue-Black	Ground (Pin 46)
Adjunct -48 VDC	Brown-Yellow	ACC48A (Pin 19)
	Yellow-Brown	Ground (Pin 44)

Telephone pin designations

Table 1-18 provides pack and pin designations.

Table 1-18. Port circuit pack and telephone pin designations

Pin on Modular Plug	4-wire; 302C1, 8400-Series, 603E, 9403, 9434	2-wire; 302C1, 8400-Series, 603E, 9403, 9410, 9434	8510T BRI (with adjunct speaker phone)	Analog Station, Modem	Z3A1 & Z3A2 ADU, Data Module
1	TXT				TXT
2	TXR			T	TXR
3	PXT		TXT	R	PXT
4		T	PXR		
5		R	PXT		
6	PXR		TXR		PXR
7	-48VDC	(-48VDC)	(-48VDC)		
8	GRD	GRD	GRD		
circuit pack	4-wire digital (8 ports)	2-wire digital (16 or 24 ports)	4-wire BRI Trunk Side	Analog line (16 or 24 ports)	Data Line

PX	PBX transmit	T	Tip	(A)
TX	Terminal transmit	R	Ring	(B)

Install the BRI terminating resistor

The resistors balance the cable plant between the receiver and the transmitter on the interface. When using the TN2198 ISDN-BRI 2-Wire U Interface circuit pack, use an NT1.

A terminating resistor is always required near the terminal when the BRI S-type interface circuit pack (TN556 BRI 4-Wire S-NT Line circuit pack) is used (see *#5ESS Switch Integrated Services Digital Network Customer Premises Planning Guide*, 533-700-100).The resistor is built into the NT1 and can be 1 of 3 values, depending on the configuration and the distance from the NT1 to the ISDN terminal. The NT1 controls the resistor value; if needed, place a terminating resistor adapter near the terminal and in the satellite closet or work location.

DANGER:

The 440A4 terminating resistor and 110RA1-12 terminating resistor block are Underwriter Laboratories (UL) listed. Most new installations are the 110RA1-12 terminating resistor block. Observe the following installation instructions:

- *Never install telephone wiring during a lightning storm.*
- *Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.*
- *Never touch uninsulated wires or terminals unless the telephone line has been disconnected at the network interface.*
- *Use caution when installing or modifying telephone lines.*

Terminating resistor adapter

Figure 1-56 shows an 8-pin 440A4 terminating resistor adapter. The adapter has an 8-wide plug at 1 end, a short cord, and an 8-wide jack at the opposite end.

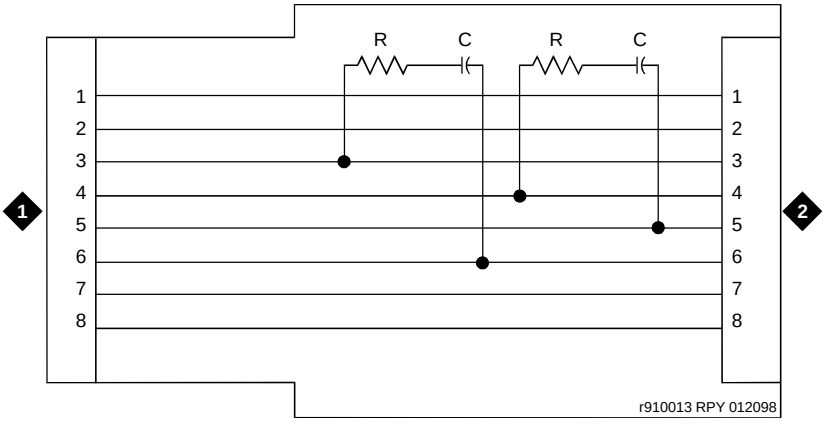


Figure notes

1. 8-wide plug
2. 8-wide jack

Figure 1-56. 8-wide terminating resistor adapter (440A4)

Closet mounted (110RA1-12)

The 110RA1-12 terminating resistor block consists of 12 2-pair circuits and provides the 100 Ohm termination used for ISDN-BRI circuits.

Figure 1-57 shows the wiring of the 110RA1-12. Three rows of 110D 4-connector blocks contain resistors and capacitors. The bottom row is designated as the input row and the top and middle rows are designated as the output rows. The circuit assembly is mounted on a standard 110A, 100-pair mounting base.

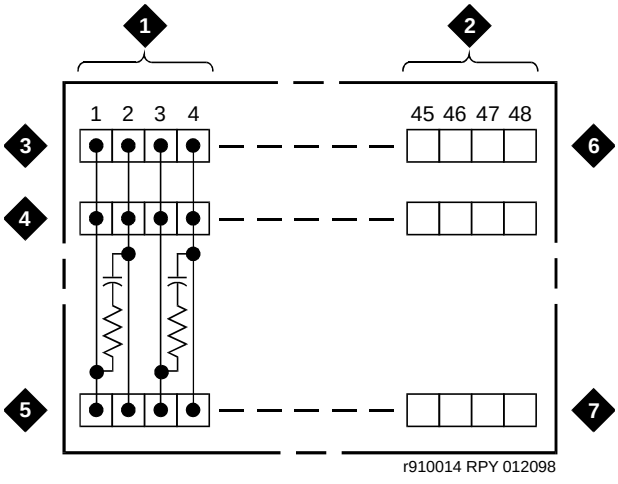


Figure notes

1. Circuit 1
2. Circuit 12
3. Output row “A”
4. Output row “B”
5. Input row “C”
6. Only first circuit shown to all 12 circuits (2APR) per block
7. 110D 4-connector block

Figure 1-57. Terminating resistor block (110RA1-12)

Figure 1-58 shows the wiring connections for the 110RA1-12 terminal block. The TN556 BRI switch port is terminated to bottom row C.

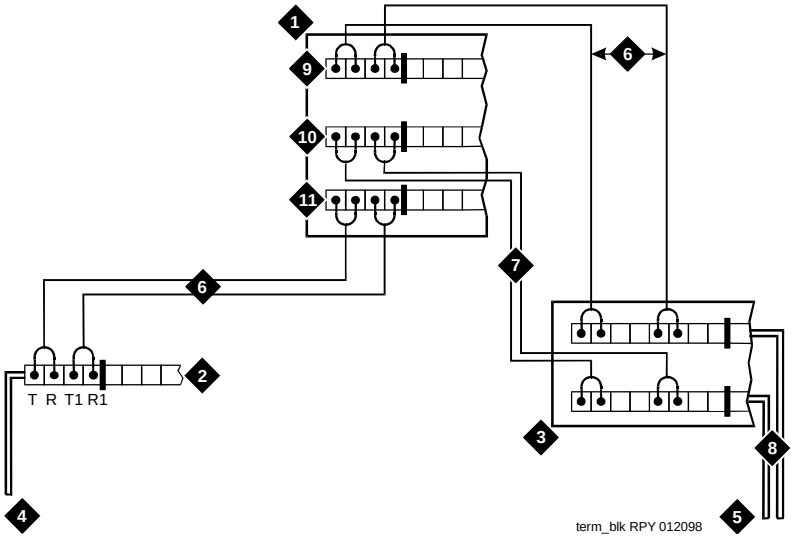


Figure notes

1. Part of terminating resistor block
2. White or purple field
3. Part of 4-pair blue field
4. From ISDN T-interface circuit (2-pair)
5. To ISDN S/T-interface terminals
6. 2-pair cross-connect
7. Basic multi-point option
8. 4-pair horizontal cables
9. Row “A”
10. Row “B”
11. Row “C”

Figure 1-58. Typical installation of terminating resistor block

For point-to-point wiring, the top row connects to the blue station field. The pair connects from the 110RA1-12 to the standard 4-pair circuit. Pair 1 from the 110RA1-12 connects to Pair 1 of the station field, and Pair 2 connects to Pair 3 of the station field.

Connect row B (output) to the second terminal common to the multi-point circuit to accommodate 2 terminal basic multi-point applications.

Install multi-point adapters

Use multi-point adapters to provide signal fanout of the T-interface. BR851-B or the 367A perform fanout at the work station. These adapters support more than 1 ISDN terminal per horizontal 4-pair D-inside wire (DIW). To support multiple horizontal runs, a MDF with multiple common rows performs fanout in the satellite closet. The 110RA1-12 provides fanout for 2 horizontal runs and contains the 100 Ohm terminating resistor. Use this for basic multi-point or point-to-point with terminating resistor in the closet. Other fanout blocks include the 110AB1-025M and the 110AB1-050M.

BR851-B adapter (T-adapter)

The BR851-B supports 2 terminals on 1 multi-point BRI at the work station and is used to fanout transmission and power. See Figure 1-59.

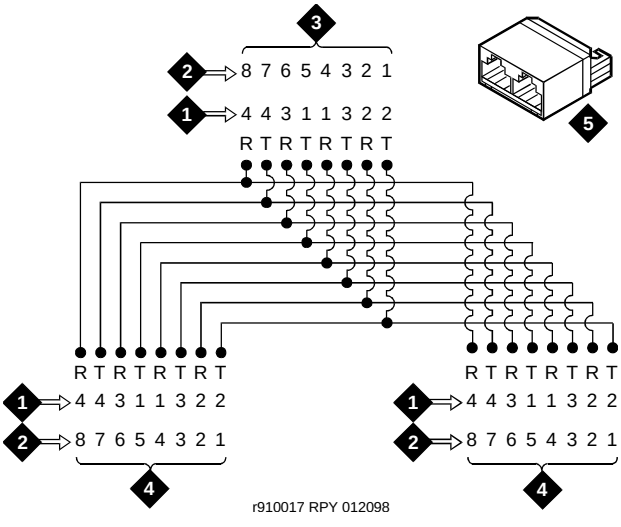


Figure notes

1. Wire pairs
2. Pin numbers
3. Modular plug (male)
4. Female
5. T-Type adapter (BR851-B)

Figure 1-59. Wiring diagram of BR851-B

367A adapter

The 367A adapter provides fanout for up to 7 terminals. See Figure 1-60.

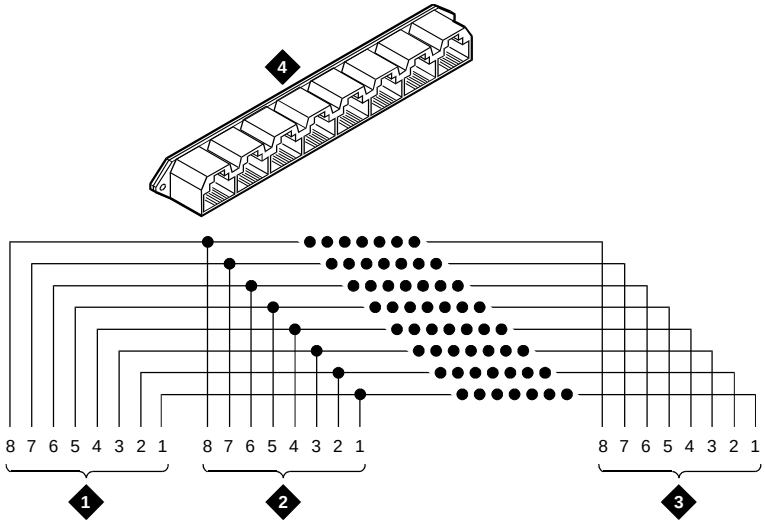


Figure notes

1. Jack 1
2. Jack 2
3. Jack 8
4. 367A adapter

Figure 1-60. Wiring diagram of 367A adapter

Basic multi-point installation distances

Figure 1-61 provides cabling information for fanout of ISDN-BRI multi-point installations. The terminating resistor is located in the satellite closet. All distances assume 24 AWG (0.26 mm^2) D-Inside Wire (DIW).

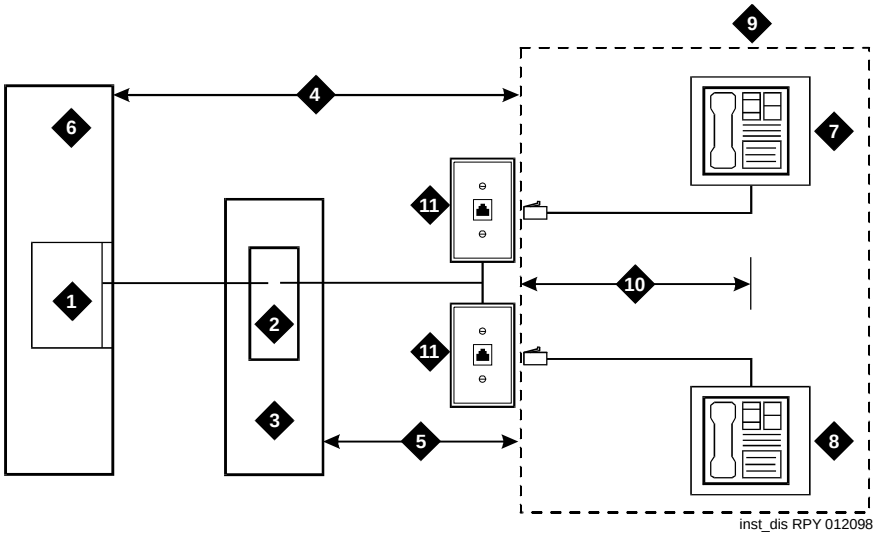


Figure notes

1. S-interface source (TN556)
2. Terminating resistor
3. Satellite closet
4. Maximum distance from S-interface source to work location (1600 feet) (488 m)
5. Maximum distance from satellite closet to work location (250 feet) (76 m)
6. System cabinet
7. Terminating endpoint 1
8. Terminating endpoint 2
9. Work location
10. Maximum distance from information outlet to terminating endpoint (33 feet) (10 m)
11. Information outlet

Figure 1-61. Basic multi-point with one work location

Install off-premises station wiring

The local telephone company provides the cabling for off-premises stations. These stations can appear on any of the RJ21X network interfaces provided for the CO trunks.

WARNING:
Use only an FCC-approved (or equivalent) analog type telephone (such as a 2500-type) as an off-premises station. The TN746B and TN2183 Analog Line circuit packs can be connected to off-premises stations.

1. Install an A25D cable between the RJ21X network interface and a sneak fuse panel.
2. At the MDF, connect jumper wires between 1 row/connecting block in the green field and up to 3 rows/connecting blocks in the purple field to concentrate the analog line pairs.
3. Connect an A25D cable between the sneak fuse panel and the terminal block connector associated with the green row in Step 2.
4. Install a green label on the terminal block to identify the remote location.
5. Administer per *DEFINITY Enterprise Communications Server Release 9 Administrator's Guide* (555-233-506).

Install off-premises or out-of-building stations

Out-of-building campus stations are telephones not physically located in the same building as the equipment room yet located on the same property.

Analog off-premises stations

Figure 1-62 on page 1-120 shows the connections for 1 to 8 off-premises analog telephones. Only analog telephones connected to TN742, TN746B, TN2183, or TN769 Analog Line circuit packs can be installed out-of-building.

The maximum distance from the system cabinet to the out-of-building voice terminal is 6000 feet (1828.8 meters) using 24 AWG (0.26 mm^2) wire.

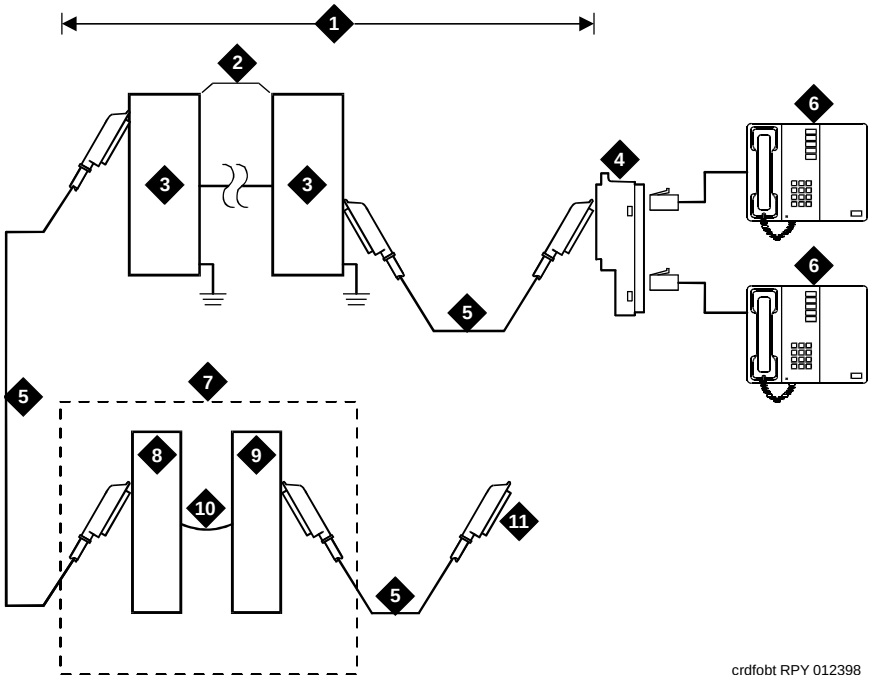


Figure notes

1. Locally engineered cables
2. Out-of-building wiring
3. Multi-pair protector units (primary protectors with heat coils or equivalent with sneak current protection)
4. 356A adapter
5. B25A cable
6. Out-of-building analog telephones
7. Part of MDF or patch panel
8. Station side (white field)
9. System side (purple field)
10. Cross-connect jumpers
11. To analog line circuit pack (TN2183, TN769, TN742, or TN746B)

Figure 1-62. Connections for one to eight out-of-building analog telephones

Figure 1-63 shows the connections for up to 24 off-premises analog telephones, with concentrations of analog line pairs used at both buildings to minimize the off-premises wiring required. At the MDF, jumpers must be connected between 1 row/connecting block in the white field and up to 3 rows/connecting blocks in the purple field. At the station location, a WP-90929, List 1 concentrator cable is used. There are 8 station appearances on each of the 3 fingers of the concentrator cable. See Figure 1-63.

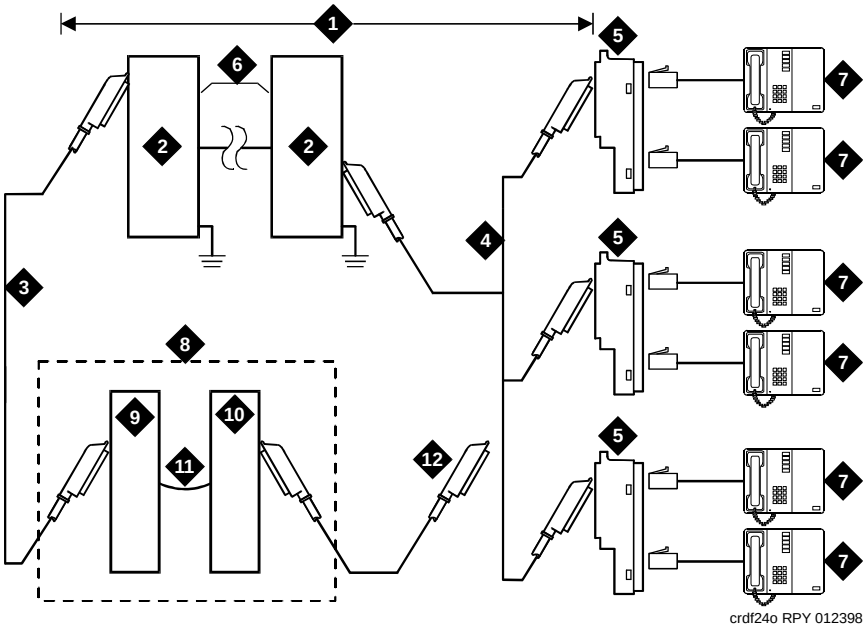


Figure notes

1. Locally engineered cables
2. Multi-pair protector units (primary protectors with heat coils or equivalent with sneak current protection)
3. B25A cable
4. Concentrator cable (WP90929 List 1)
5. 356A adapter
6. Out-of-building wiring
7. Out-of-building analog telephones
8. Part of MDF or patch panel
9. Station side (white field)
10. System side (purple field)
11. Cross-connect jumpers
12. To TN2183, TN769, TN742, or TN746B analog line circuit pack

Figure 1-63. Connections to 24 out-of-building telephones

Circuit protectors

Both building entrances require carbon block or equivalent protection and sneak current protection. Provide this protection with a 4-type protector. The 4-type protector is equipped with a heat coil or a 3-type protector plus a separate sneak current protector.

The 4-type protector is the preferred device. For installations not using primary protection, always use 4-type protectors. When the 3-type protector is already installed, a separate sneak current protector is required. The multi-pair protector units and the off-premises cabling must be locally engineered. Connectorized multi-pair protector units (female 25-pair connector) are recommended. Table 1-19 shows the recommended protectors.

Table 1-19. Analog line circuit protectors

Primary[1]	Primary (with heat coil)	Sneak current protectors[1]
3B1A (carbon)	4B1C (carbon)	220029 Fuse
3B1E-W (wide-gap gas tube)	4B1E-W (wide-gap gas tube)	SCP-1
3C1S (solid state)	4C1S (solid state)	

1. The 3-type protectors should only be used if they are already part of the existing protection system. A sneak current protector is always required when a 3-type primary protector is used.

The maximum range of out-of-building analog telephones (500-, 2500-, or 7100-types) connected to an analog line circuit pack should be such that the maximum loop resistance does not exceed 1300 Ohms.

The following voice terminals *cannot* be installed in an exposed environment:

- 7300-type voice terminals connected to TN762 Hybrid Line circuit packs
- Multi-button Electronic Telephone (MET) sets connected to TN735 MET Line circuit packs
- Analog telephones connected to TN746 Analog Line circuit packs

See Table 1-3 on page 1-7 for circuit protector ordering information (comcodes).

Digital out-of-building telephones

Use the following equipment to protect digital out-of-building voice terminals and digital circuit line packs at both building entrances:

- 4C3S-75 Enhanced Protector
- ITW Linx Enhanced Protector

These units provide primary and sneak current protection. The 4C3S-75 is equipped with a heat coil for sneak current protection while the ITW Linx is equipped with replaceable fuses for sneak current protection.

Use the 4C3S-75 only with Vintage 14 or newer TN754 circuit packs. The 4C3S-75 can be used on all vintages of the TN754B circuit packs. The ITW Linx may be used on all vintages of the TN754 circuit packs. Table 1-20 lists the approved protectors.

NOTE:
The TN2181 (2-Wire 16 Port Digital Line circuit pack) may not be approved for some out-of-building uses. Contact your Avaya representative for more information.

Table 1-20. Digital voice circuit protectors

Circuit pack	Enhanced primary protector (with sneak current protection)
TN754B/all vintages	4C3S-75 or ITW Linx
TN2181	4C3S-75 or ITW Linx
TN2224B/all vintages	4C3S-75 or ITW Linx

When possible, all new and reused wiring installations should use blocks that accept the standard 5-pin plug-in 4C3S-75 protector. However, this may not be cost-effective in some cases; for these installations, the ITW Linx protector may be installed. For example, if screw-type carbon block protectors (or other comparable plug-incompatible types) are in place, it may be too costly to re-terminate the outside cable on a 5-pin mounting block for only a few out-of-building terminals.

The ITW Linx Enhanced Protector may be installed in series with existing primary protection. Note the 4C3S-75 protector cannot be installed in series with other types of primary protection, but must be installed as the only protection on the line entering the building. For the 4C3S-75 protector, various 25-, 50-, and 100-pair protector panels are equipped with 110-type connecting blocks and/or RJ21X connectors. The ITW Linx Enhanced Protector mounts directly on connecting blocks and requires a separate ground bar.

The maximum range for out-of-building digital voice terminals is:

- 3400 feet (1036 m) when using 24 AWG (0.26 mm^2) wire
- 2200 feet (670 m) when using 26 AWG (0.14 mm^2) wire

With the use of a data link protector (an isolating transformer used to remove phantom power on the system side and re-introduce it on the terminal side), the range can extend to

- 5000 feet (1524 m) using 24 AWG (0.26 mm^2) wire or
- 4000 feet (1219 m) using 26 AWG (0.14 mm^2) wire

When using a protector, the voice terminal must be locally powered by an external power supply or through the AC power cord provided with some of the 7400-type voice terminals. Install the protector on the equipment side of the protection in both buildings.

See Table 1-3 on page 1-7 for circuit protector and data link protector comcodes.

Install emergency transfer panel and associated telephones

NOTE:
Install only 1 emergency transfer power panel per system.

An 808A Emergency Transfer Panel (or equivalent), mounted next to the trunk/auxiliary field, provides emergency transfer capability. See Figure 1-64 on page 1-125. Also see Table 1-17 on page 1-111 for the pinout of the AUX (J1) connector. The transfer panel provides emergency trunk bypass or power-fail transfer for up to 5 incoming CO trunk loops to 5 selected station sets. The 808A equipment's Ringer Equivalency Number (REN) is 1.0 Amp.

Use analog telephones for emergency transfer. The 500 and 2500 type telephones can also be used as normal extensions. Emergency transfer capability may be provided on analog CO and Wide Area Telecommunications Service (WATS) trunks.

At the MDF, the unit is controlled by a connection to a yellow terminal row/connecting block in the trunk/auxiliary field. The unit is controlled by -48 VDC from the EM TRANS RELAY PWR terminals.

Install the emergency transfer panel

To install an 808A Emergency Transfer Panel:

1. Install the transfer panel on any mounting frame in either a vertical or horizontal position. The housing has ears for screw-mounting and cutouts for snap-mounting the unit in an 89-type mounting bracket.

   NOTE:
   Install the panel so it can be accessed only by authorized personnel. The location must meet standard environmental considerations such as temperature and humidity.

2. Verify that dial tone is present at each trunk circuit.

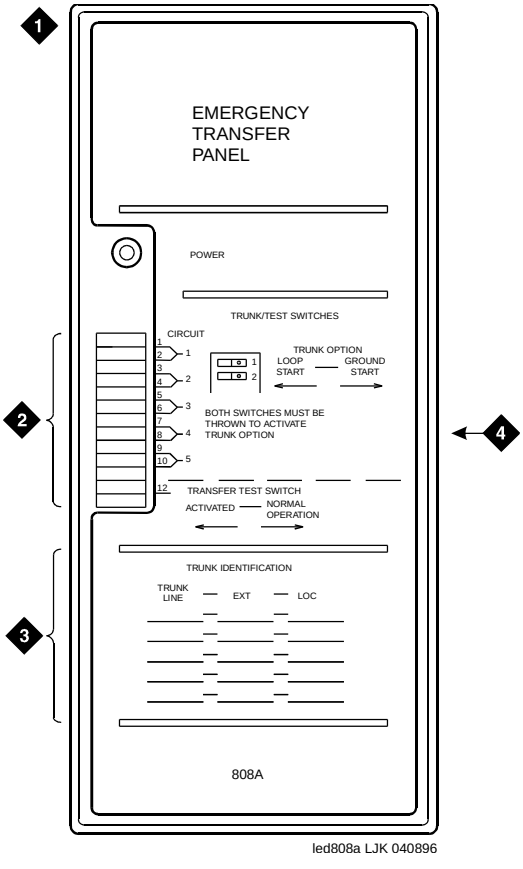


Figure notes

1. 808A emergency transfer panel
2. Circuit start selection switches
3. Trunk identification label
4. 25-pair male connector

Figure 1-64. 808A emergency transfer panel

3. Locate the circuit start selection switches (the first 10 two-position switches on the left side of the 808A. See Figure 1-64 on page 1-125.) These switches set each of the 5 incoming trunk lines to either loop start or ground start. Two switches are used for each of the 5 circuits; switches 1 and 2 are used for circuit 1, switches 3 and 4 are used for circuit 2, and so forth. See Table 1-21.

Table 1-21. Trunk/test switches

Switch number	Circuit number
1	1
2	1
3	2
4	2
5	3
6	3
7	4
8	4
9	5
10	5
11	Not Used
12	Test Switch

4. Connect a 25-pair cable between the male RJ21 25-pair connector on the 808A and the yellow field on the MDF. Table 1-22 on page 1-127 shows the pinouts.
5. Make cross-connections for each emergency trunk/emergency station pair. See Figure 1-65 on page 1-129 and Figure 1-66 on page 1-130.
6. On the trunk identification label at the bottom of the panel, record the trunk line, extension, and location for each circuit.
7. To each voice terminal designated as an emergency terminal, attach a label identifying it as such. The labels are provided with the unit.
8. Check the system for normal operation as follows:
   a. Place the test switch (switch 12) in NORMAL OPERATION.
   b. Ensure the power supply is providing -48 VDC at 80 mA maximum. The power LED should be ON.
   c. Check wiring connections.
   d. Verify that there is dial tone on all emergency transfer sets.

Table 1-22. Pin assignments for 25-pair connector on 808A

Pin	Color	Designation	Connector/Description
26	W-BL	TTC1	Tip-PBX Trunk Circuit 1
1	BL-W	RTC1	Ring-PBX Trunk Circuit 1
27	W-O	TTK1	Tip-CO Trunk Circuit 1
2	O-W	RTK1	Ring-CO Trunk Circuit 1
28	W-G	TLC1	Tip-PBX Line Port 1
3	G-W	RLC1	Ring-PBX Line Port 1
29	W-BR	TST1	Tip-Emergency Terminal 1
4	BR-W	RST1	Ring-Emergency Terminal 1
30	W-S	TTC2	Tip-PBX Trunk Circuit 2
5	S-W	RTC2	Ring-PBX Trunk Circuit 2
31	R-BL	TTK2	Tip-CO Trunk Circuit 2
6	BL-R	RTK2	Ring-CO Trunk Circuit 2
32	R-O	TLC2	Tip-PBX Line Port 2
7	O-R	RLC2	Ring-PBX Line Port 2
33	R-G	TST2	Tip-Emergency Terminal 2
8	G-R	RST2	Ring-Emergency Terminal 2
34	R-BR	TTC3	Tip-PBX Trunk Circuit 3
9	BR-R	RTC3	Ring-PBX Trunk Circuit 3
35	R-S	TTK3	Tip-CO Trunk Circuit 3
10	S-R	RTK3	Ring-CO Line Port 3
36	BK-BL	TLC3	Tip-PBX Line Port 3
11	BL-BK	RLC3	Ring-PBX Line Port 3
37	BK-O	TST3	Tip-Emergency Terminal 3
12	O-BK	RST3	Ring-Emergency Terminal 3
38	BK-G	TTC4	Tip-PBX Trunk Circuit 4
13	G-BK	RTC4	Ring-PBX Trunk Circuit 4
39	BK-BR	TTK4	Tip-CO Trunk Circuit 4
14	BR-BK	RTK4	Ring-CO Trunk Circuit 4
40	BK-S	TLC4	Tip-PBX Line Port 4
15	S-BK	RLC4	Ring-PBX Line Port 4

Continued on next page

Table 1-22. Pin assignments for 25-pair connector on 808A — *Continued*

Pin	Color	Designation	Connector/Description
41	Y-BL	TST4	Tip-Emergency Terminal 4
16	BL-Y	RST4	Ring-Emergency Terminal 4
42	Y-O	TTC5	Tip-PBX Trunk Circuit 5
17	O-Y	RTC5	Ring-PBX Trunk Circuit 5
43	Y-G	TTK5	Tip-CO Trunk Circuit 5
18	G-Y	RTK5	Ring-CO Trunk Circuit 5
44	Y-BR	TLC5	Tip-PBX Line Port 5
19	BR-Y	RLC5	Ring-PBX Line Port 5
45	Y-S	TST5	Tip-Emergency Terminal 5
20	S-Y	RST5	Ring-Emergency Terminal 5
46	V-BL	COM1	Common 1 Relay Contact
21	BL-V	NO1	Normally Open 1 Contact
47	V-O	NC2	Normally Closed 2 Contact
22	O-V	NC1	Normally Closed 1 Contact
48	V-G	COM2	Common 2 Relay Contact
23	G-V	NO2	Normally Open 2 Contact
49	V-BR		
24	BR-V		
50	V-S	GRD	Ground From PBX
25	S-V	-48PX	-48V from Alarm Panel (AUX Cable)

9. Check the system for emergency transfer operation as follows:
   a. Place the test switch (switch 12) in the ACTIVATED position.
   b. Ensure that the power LED is off.
   c. Verify there is CO dial tone for all emergency transfer sets.

10. Connect the 808A to the MDF with a B25A or A25B cable. Figure 1-65 shows the connections at the trunk/auxiliary field for a telephone used only for emergency transfer.

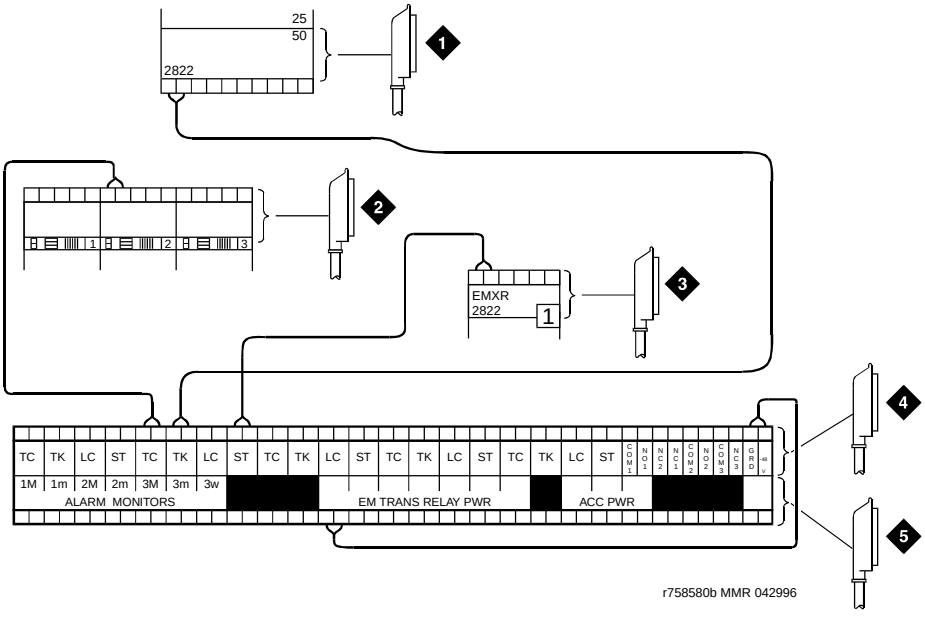


Figure notes

1. To network interface circuitry
2. To CO trunk circuit pack
3. To blue or white station distribution field
4. To power transfer unit
5. To control carrier AUX connector

Figure 1-65. Connections for telephone used for emergency transfer

Figure 1-66 shows the connections at the trunk/auxiliary field for a telephone used for emergency transfer and as a normal extension.

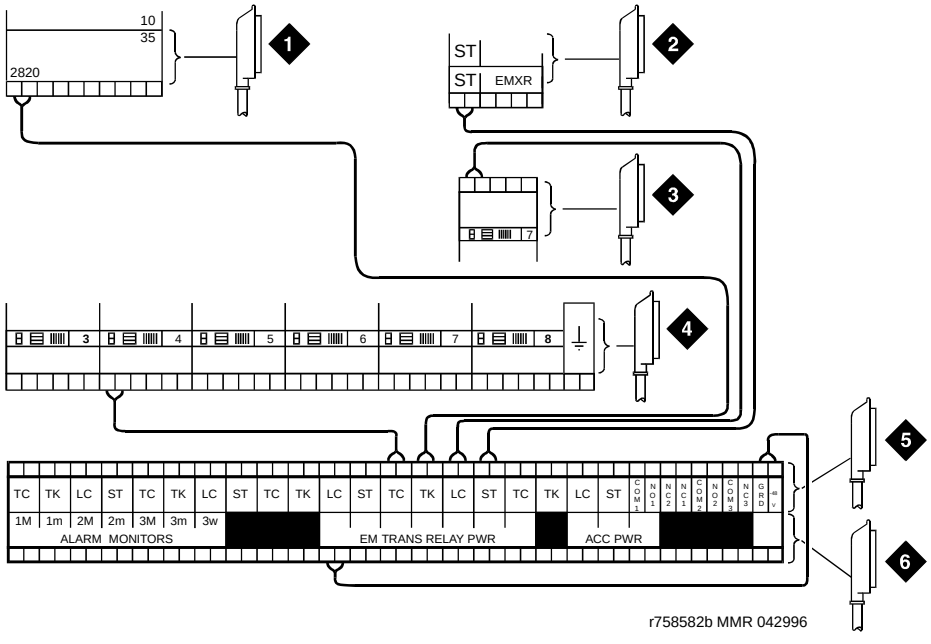


Figure notes

1. To network interface facility
2. To blue or white station field
3. To analog line circuit pack
4. To CO trunk circuit pack
5. To power transfer unit
6. To control carrier AUX connector

Figure 1-66. Connections for telephone used for emergency transfer and as normal extension

Install telephone for power transfer unit

Follow the appropriate procedure for your installation.

Trunk/auxiliary field: telephone used only for emergency transfer

1. Connect a pair of wires between the -48V and GRD terminals on the yellow emergency transfer row/connecting block and the EM TRANS RELAY PWR terminal. See Figure 1-65 on page 1-129.
2. Connect CO trunk leads from the purple field to the TC terminals on the yellow emergency transfer row/connecting block for each trunk.
3. Connect CO trunk leads from the green field to the TK terminals on the yellow emergency transfer row/connecting block for each trunk.
4. Connect the ST leads on the yellow emergency transfer row/connecting block for each emergency transfer telephone to the ST terminal appearance in the yellow trunk/auxiliary field. The ST terminal leads should be terminated on the following pairs: 1, 4, 7, 10, 13, 16, 19, or 22 (the first pair of any 3-pair group).
5. Connect the ST leads from the terminal in Step 4 to the assigned terminal in the blue or white station distribution field.

Trunk/auxiliary field: telephone used for emergency transfer and as normal extension

1. Connect a pair of wires between the -48V and GRD terminals on the yellow emergency transfer row/connecting block to the EM TRANS RELAY PWR terminal.
2. Connect CO trunk leads from the purple field to the TC terminals on the yellow emergency transfer row/connecting block for each trunk.
3. Connect CO trunk leads from the green field to the TK terminals on the yellow emergency transfer row/connecting block for each trunk.
4. Connect telephone leads from the purple analog line board row/ connecting block to the LC terminals on the yellow emergency transfer row/connecting block for each telephone.
5. Connect ST leads on the yellow emergency transfer row/connecting block for each emergency transfer telephone to the ST terminal appearance in the purple trunk/auxiliary field.
6. Connect the ST leads from the terminal in Step 5 to the assigned terminal in the blue or white station distribution field.

Telephone installation

1. Connect the telephone to the information outlet.
2. Install patch cords/jumper wires between the system side and the station side of the station distribution field on the MDF.

Connect modem to telephone network

1. Cross-connect the network jack on the modem to the network interface (via a 103A or modular wall jack). See Table 1-23 for the pinout.

Table 1-23. Pinout of network jack

Pin number	Signal
1	Unused
2	Tip
3	Ring
4	Unused

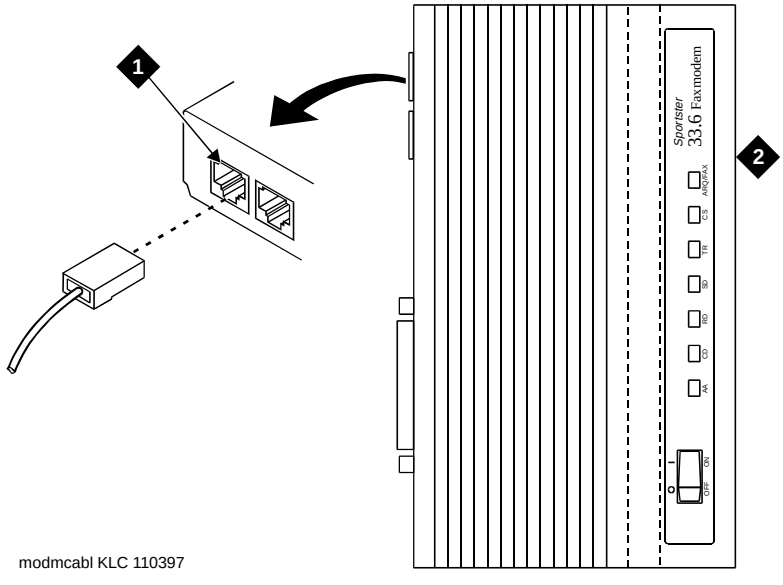


Figure notes

1. Pin 1 of network jack
2. Modem

Figure 1-67. Network jack on U.S. robotics modem

Connect modem

The U.S. Robotics external modem is the recommended external modem. A locally obtained, type-approved external modem may be used. Contact your Avaya representative for information.

If any other modem is installed, see the setup instructions provided with that modem.

External modem option settings

Use Table 1-24 to check or set the 8 option switches on the U.S. Robotics modem.

Table 1-24. U.S. Robotics model external modem switch settings

Switch	Setting	Function
1	OFF (Up)	DTR (Data Terminal Ready) override
2	OFF (Up)	Verbal result codes (text-formatted feedback characters such as *connected* or *no carrier*)
3	ON (Down)	Enable result codes
4	OFF (Up)	Displays keyboard commands (local echo)
5	OFF (Up)	Sets auto answer
6	OFF (Up)	CD (Carrier Detect) override (modem sends CD signal on connect, drops CD on disconnect)
7	OFF (Up)	Power-on and ATZ reset software defaults (loads Y or Y1 configuration from NVRAM)
8	ON (Down)	AT (Attention) command set recognition (enables recognition, smart mode)

The modem is pre-configured to operate correctly. See "Modem configuration and administration" on page 9-5 for procedures on how to verify that the correct defaults are set, how to configure the modem, and how to test the modem.

Set neon voltage to prevent ring ping

NOTE:
There is no need to set neon voltage on the Avaya IP600.

NOTE:
If the ringing option is set to 50 Hz, neon voltage is not available. If 25 Hz is selected, the maximum voltage is 120 volts. See "Set ringing option for DEFINITY ONE" on page 1-94.

NOTE:
Set the control to **OFF** if there are no neon message waiting lamps or if LED message lamps are used. See Figure 1-68.

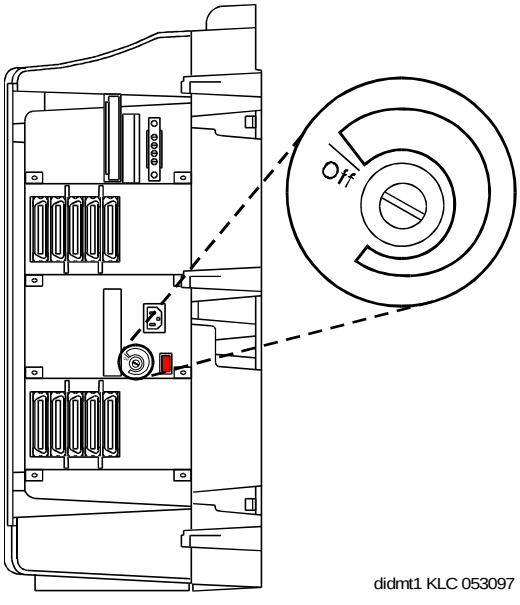


Figure 1-68. Setting the neon voltage

1. Call a telephone with a neon message indicator and leave a message.
2. Check for ring ping (single ring pulse) each time the lamp flashes (approximately every 3 seconds).
3. Adjust the control clockwise in small increments until the ring ping stops. Ensure that the message lamp still lights when the adjustment is finished.

Complete installation

1. Disconnect the laptop.
2. Remove the NIC card used to connect the laptop.
3. Insert the flash disk.
4. Set the left and right doors of the DEFINITY ONE CMC or the single door of the Avaya IP600 RMC onto the hinge pins and close the door(s). The doors must be closed to prevent EMI emissions. Tighten the door screws.
5. For the DEFINITY ONE CMC, set the right cover panel onto the right panel and secure. Do not use force.

View LEDs to determine power and fan alarm state

Use the LEDs on the front of each power unit to determine its state.

Table 1-25 shows the LED and alarm conditions. Ring voltage and neon bus output do not activate alarm status.

Table 1-25. LED and Alarm Conditions

Condition	LED status	Alarm state	Fan alarm
Normal	Red off Yellow on	open	high
No Input Power	Red off Yellow off	closed	open
One or More DC Outputs Present	Red on Yellow off	closed	no state
Fan Alarm	Red on Yellow off	closed	low

1 Install and Cable the Cabinet
View LEDs to determine power and fan alarm state *1-136*

Connectivity and Access to DEFINITY ONE

2

This chapter, exclusive of installation procedures, provides background information on connectivity and access to aid understanding and implementation of subsequent chapters. For installation procedures, see Chapter 3, "System Initialization".

Physical connections and connectivity are as follows:

- "Creating physical connections" on page 2-2
  - "PCMCIA ethernet network interface card" on page 2-2
  - "Local monitor/mouse/keyboard" on page 2-15
  - "RAS (modem) dial up" on page 2-15
  - "Creating a physical connection via customer LAN" on page 2-23

The access method is determined by the task or access situation:

- "Access methods" on page 2-26
  - "Via a Telnet session" on page 2-26
  - "Via a Web browser session" on page 2-29
  - "Via pcAnywhere" on page 2-31
- "System administration/DEFINITY site administration (DSA)" on page 2-35
- "DEFINITY ONE Avaya personnel logins" on page 2-37

This chapter first shows the procedures for physical connection to DEFINITY ONE. Once a physical connection is made to DEFINITY ONE, you access the system in one of several ways.

(See Appendix H for a tear-out "cheat sheet" detailing physical connection and access methods, and login information.)

NOTE:
Detailed descriptions of the operation of the Microsoft Windows operating system and environments are beyond the scope of this document. Please refer to your Microsoft documentation for details concerning the Windows operating systems.

Creating physical connections

Use any of the following methods to create a physical connection to DEFINITY ONE:

- PCMCIA ethernet network interface card (PCMCIA NIC)
- Local monitor/mouse/keyboard
- RAS (modem) dial up
- Customer LAN
- DEFINITY ONE gateway (DLG)

PCMCIA ethernet network interface card

PCMCIA is the preferred procedure for creating the physical connection to DEFINITY ONE. You connect a laptop computer to NIC.

Connect the laptop computer to DEFINITY ONE

The technician's laptop computer connects to the DEFINITY ONE system via PCMCIA NIC in the TN795 circuit pack. The laptop computer requires the following equipment:

Table 2-1. Required technician's laptop equipment checklist

Part number	Description	Quantity
	Laptop computer with NIC running Windows 95/98	1
3CCFE575BT (cabled version, has an RJ45 on end of cable) or 3CXFE57B5T(X jack)	PCMCIA NIC Comcode 408276897	1
848477634	Cable assembly to connect NICs: ■ D8W cable ■ RJ45 coupler (BRIA4P) ■ RJ45 crossover cable (approx.12 feet)	1

NOTE:
When changing information, ensure that both old and new information is recorded. The DEFINITY ONE system, configured at the factory, serves as an endpoint of a private LAN with a PC.

WARNING:
The "3COM Megahertz 10/100 LAN CardBus" PCMCIA card must be used. Other types of cards do not work. This card has either part number 3CCFE575BT or 3CXFE575BT, depending on the cable arrangements. In addition, a special crossover cable, comcode 848477634, must be used. See Figure 2-1 on page 2-4 and Figure 2-2 on page 2-5.

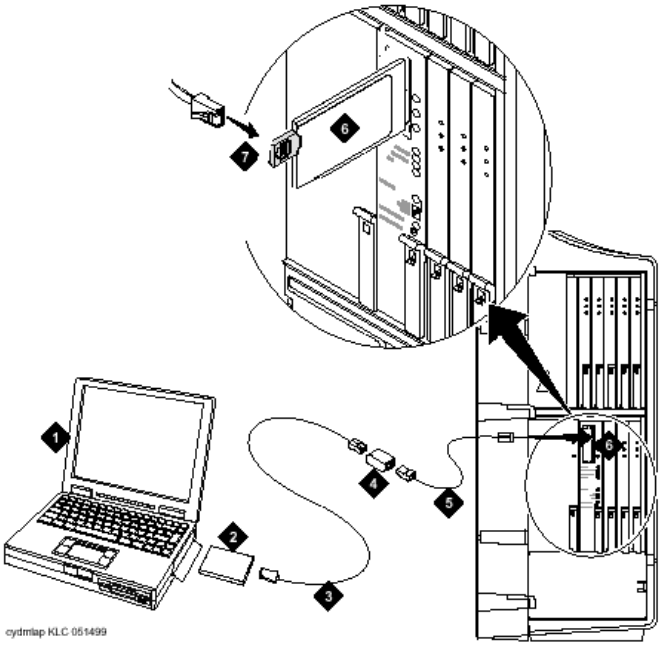


Figure Notes

1. Laptop computer
2. PCMCIA NIC
3. D8W cable
4. RJ45 coupler (BRIA4P)
5. RJ45 crossover cable
6. PCMCIA NIC (3CXFE575BT shown)
7. RJ45 connector

Figure 2-1. Laptop connectivity for DEFINITY ONE

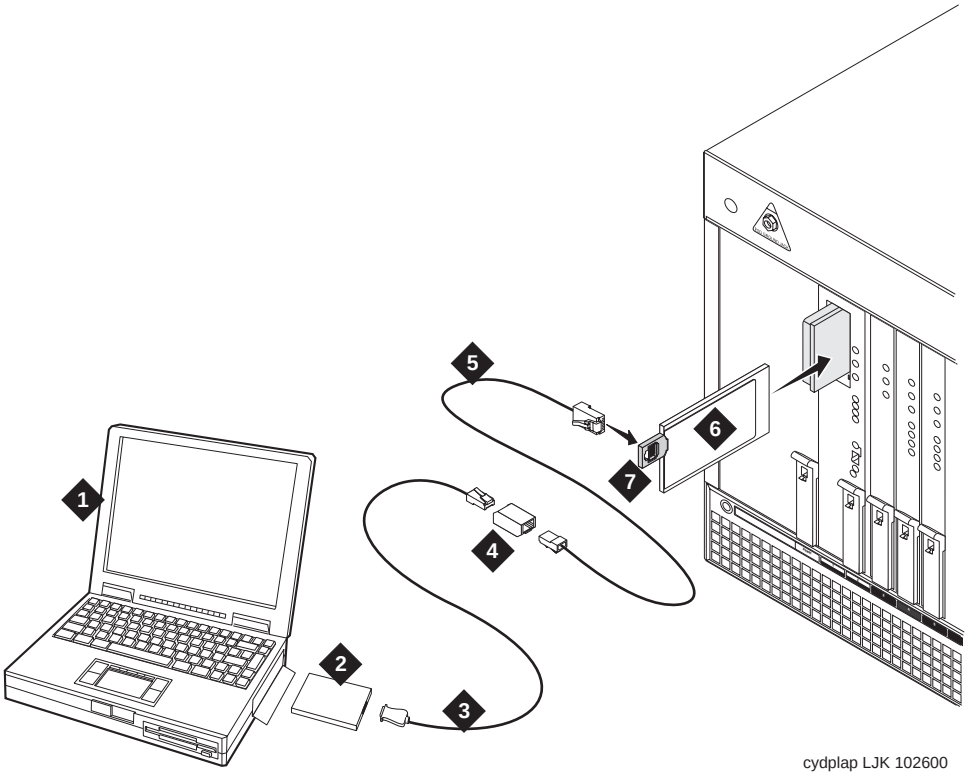


Figure Notes

1. Laptop computer
2. PCMCIA NIC
3. D8W cable
4. RJ45 coupler (BRIA4P)
5. RJ45 crossover cable
6. PCMCIA NIC (3CXFE575BT shown)
7. RJ45 connector

Figure 2-2. Laptop connectivity for Avaya IP600

Install the ethernet card

1. Ensure the laptop power is off.
2. Insert a PCMCIA ethernet card into the laptop.

NOTE:
The ethernet card can be any brand or model desired. A card with 100 megabit capability provides faster response.

3. Insert a 3COM Megahertz 10/100 LAN CardBus Network Interface Card into the PCMCIA slot of the DEFINITY ONE system. It is NOT necessary to power down the DEFINITY ONE before inserting the PCMCIA disk card.

   NOTE:
   If you will be performing backup procedures, insert a new PCMCIA card in the free slot in the TN795 circuit pack. Do not unplug the flash disk.

4. Using the RJ45 crossover cable, an RJ45 coupler (BRIA4P) and a D8W cable, connect the 3COM card in the TN795 circuit pack to the Ethernet card in the laptop. See Figure 2-1 on page 2-4.

   NOTE:
   The green LED on the 3COM Megahertz 10/100 LAN Card Bus PC card in the TN795 circuit pack should be lit, indicating physical connectivity. If neither of the 2 LEDs is lit, there is an open circuit between the laptop and DEFINITY ONE. The top LED on the 3COM NIC indicates a 10-Mbps connection speed. The bottom LED indicates a100-Mbps connection speed. The adapter cable also has green LEDs that show 10/100 connectivity.

5. Power up the laptop and start Windows 95 or 98.

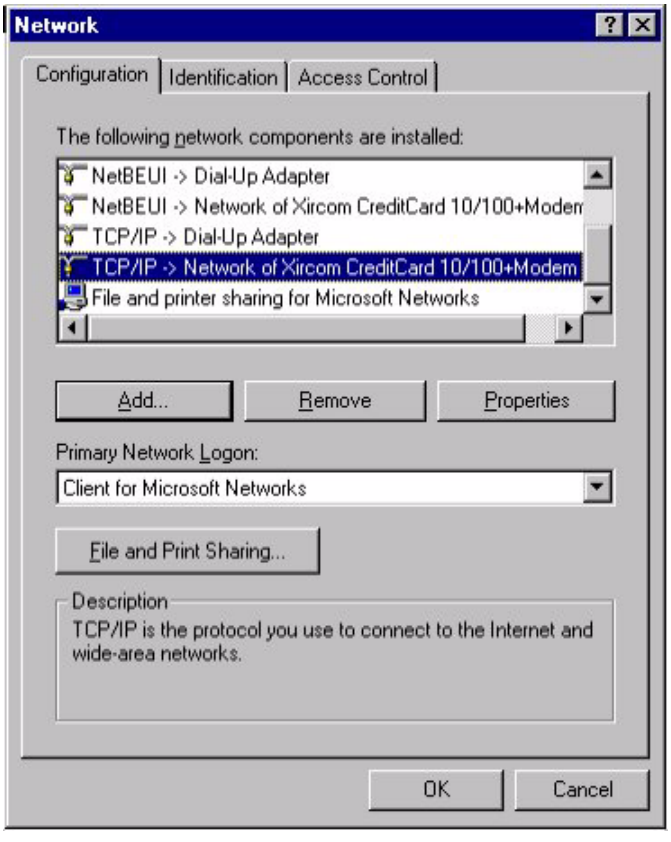
Configure the PCMCIA ethernet client

1. Right-click **Network Neighborhood** to set up the network PCMCIA interface to communicate to the DEFINITY ONE system.

   NOTE:
   The following details are for a specific version of Windows 95. Other system versions might have dialog boxes that are slightly different.

2. Click **Properties**.

   The Network dialog box displays:

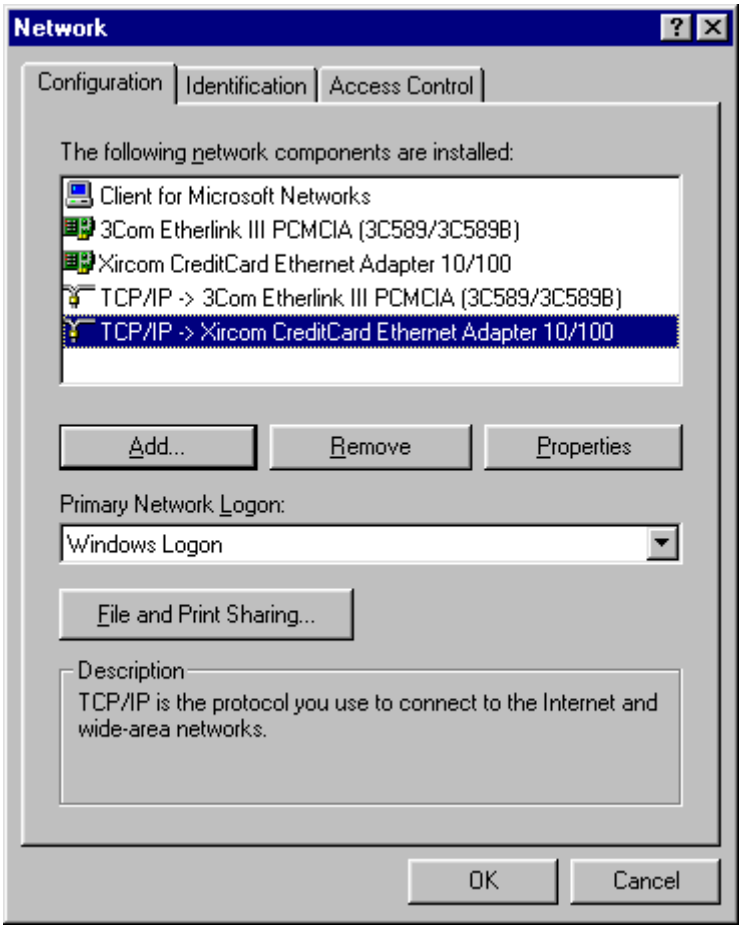


3. Click the **Identification** tab.
4. Record the Computer name and Workgroup entries. This information is needed for certain operations, such as software installation.

NOTE:
The technician's laptop is set up with the Computer name "CSE" and the Workgroup "OEM."

5. Click the **Configuration** tab.

   The contents of the **Configuration** tab vary, depending on the configuration of the laptop. Select the entry corresponding to the PCMCIA ethernet card inserted in step 1 of "Install the ethernet card" on page 2-5.



6. Click **File and Print Sharing** to make file and print sharing active.

   The File and Print Sharing dialog box displays:

7. Choose the **I want to be able to give others access to my files** box.

8. Click **OK**. You return to the **Configuration** tab on the **Network** dialog box.
9. If the “Windows Logon” is not the Primary Network Logon, click the Primary Network Logon menu and select **Windows Logon**.
10. Click the **Access Control** tab.

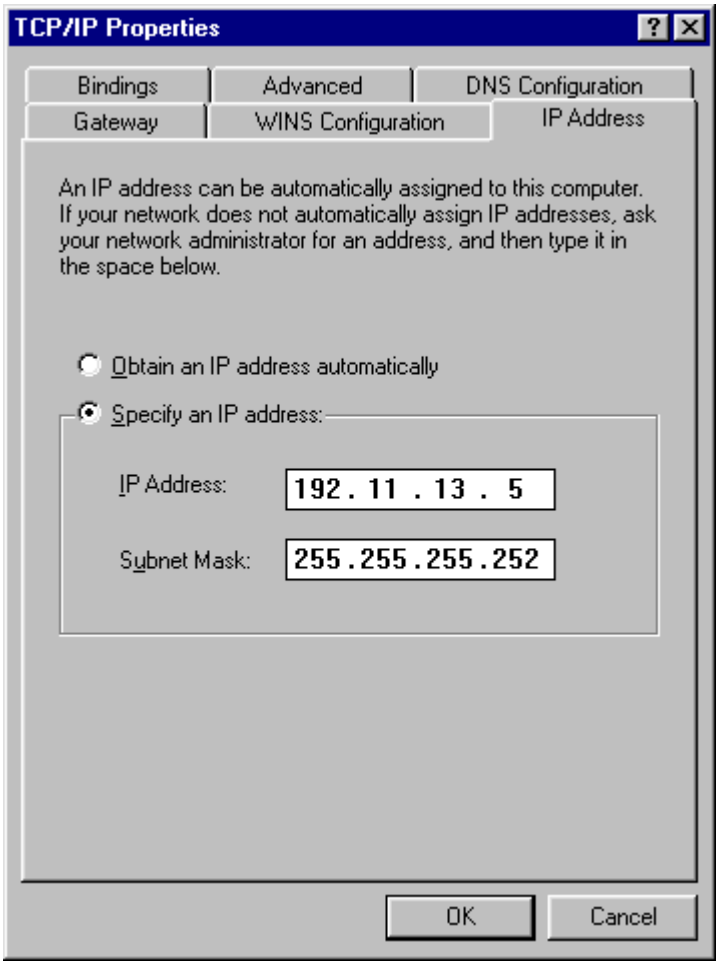
NOTE:
Before continuing, record the current settings on the Access Control tab. This information is needed to restore the laptop after work is completed with DEFINITY ONE.

11. Ensure that **Share Level Access Control** is selected.
12. Click **OK**.

    Click **Yes** if the following message displays: **Do you want all connections to shared directories disabled?** The connections will be restored following a restart. Click **No** when asked whether to restart your computer now.
13. Right-click Network Neighborhood and select **Properties** to return to the **Network** dialog box.
14. Select **TCP/IP Xircom CreditCard Ethernet Adapter 10/100**.

15. Click **Properties**.

    The **TCP/IP Properties** dialog box displays.



16. Click the **IP Address** tab.

NOTE:
Before continuing, record the current settings from each of the TCP/IP Properties tabs. This information is needed to restore the laptop after work is completed with DEFINITY ONE.

17. On the **IP Address** tab, ensure that **Specify an IP address** is selected. Type **192.11.13.5** as the **IP Address** and **255.255.255.252** as the **Subnet Mask**.
18. Click the **DNS configuration** tab. Click the **Disable DNS** radio button.
19. Click the **WINS configuration** tab. Click the **Disable WINS Resolution** radio button.

20. Click the **Gateway** tab. If a gateway is shown, record the gateway number. Highlight the gateway and select **Remove**.
21. Click **OK** here and in the following windows.
22. Click **Yes** to restart your computer.
23. When the laptop reboots, verify that it is now connected to the DEFINITY ONE system. See "Verify connection from DEFINITY ONE to laptop'' on page 2-11.

Verify connection from DEFINITY ONE to laptop

1. Start a DOS shell on the laptop by clicking **Start** > **Programs** > **MS-DOS**.
2. In the DOS window type **ping 192.11.13.6** and press Enter.

   A series of 4 similar replies indicating successful response should display:

   ```
   Reply from 192.11.13.6 bytes=32 time=1ms TTL=128
   Reply from 192.11.13.6 bytes=32 time=1ms TTL=128
   Reply from 192.11.13.6 bytes=32 time=1ms TTL=128
   Reply from 192.11.13.6 bytes=32 time=1ms TTL=128
   ```

3. If a timeout reply displays, check cabling or review the previous setup steps. Also verify that DEFINITY ONE is operating normally and referencing the LEDs on the front panel of the TN795 circuit pack. See Table E-1 on page E-4

Restore the laptop settings

This procedure restores the settings on the technician's laptop computer to their state prior to connecting to the DEFINITY ONE system.

1. Right-click Network Neighborhood. Select **Properties**.

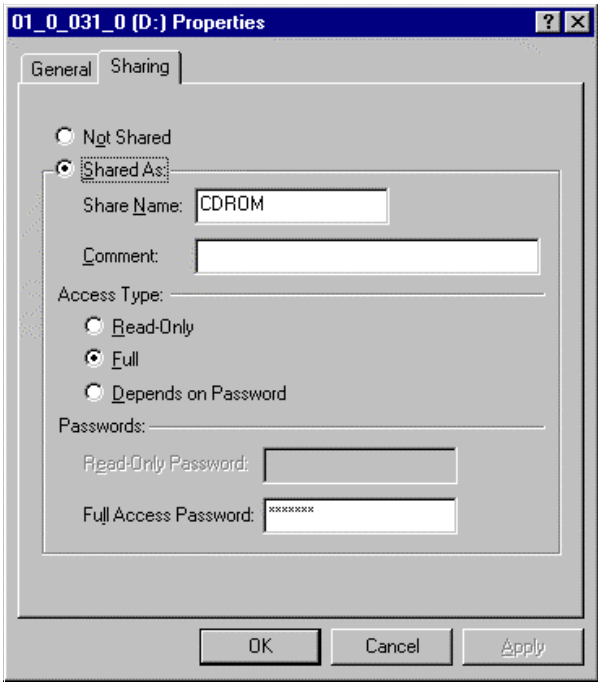
   The **Network** dialog box displays.
2. Click the **Configuration** tab.
3. Click the **File and Print Sharing** button and select the **I want to be able to give others access to my files** box.
4. Choose **Client for Microsoft Networks** from the **Primary Network Logon** list.
5. Click the **Identification** tab and enter the computer name and workgroup.
6. Click the **Access Control** tab and check the appropriate boxes so that this dialog box matches its earlier settings.
7. Click the **Configuration** tab.
   - If a dialog box appears notifying you that the security provider could not be found, click **Yes**.
   - If the **Authenticator type** dialog box appears, select **Windows NT Domain**, and click **OK**.

8. Double-click the modified component in the **Network Components** list. This should be the TCP/IP Xircom CreditCard Ethernet Adapter 10/100.
9. The **TCP/IP Properties** dialog box displays.
10. Enter the original IP address and subnet mask.
11. Click the **DNS Configuration** tab to enable DNS. Enter the appropriate information.
12. Click the **WINS Configuration** tab to enable WINS. Enter the appropriate information.
13. Click the **Gateway** tab (if a gateway was used) and enter the appropriate information.
14. Click **OK** to close the **TCP/IP** dialog box.
15. Click **Yes** to restart your computer.

When rebooted, the laptop returns to its original settings.

Map DEFINITY ONE to laptop CD-ROM drive

1. On the laptop, double click My Computer. Right-click the CD-ROM drive icon and select **Sharing**. The following dialog box displays:

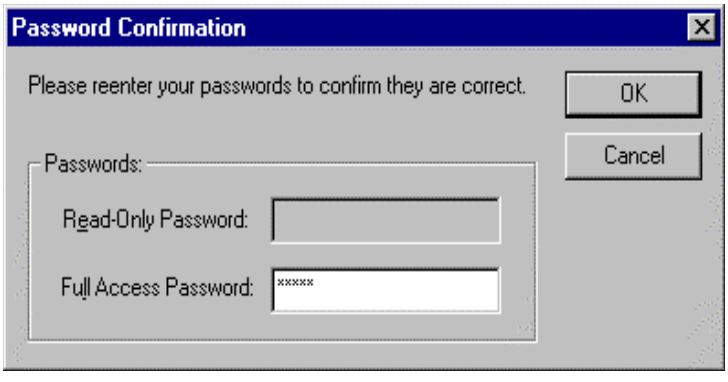


2. When the dialog box displays, the default **Not Shared** will be selected. Click **Shared As** and enter a share name. Click **Full** as the Access Type.

3. Enter a password in the **Full Access Password** field.

   NOTE:
   You must enter a password. A password is needed to map the network drive from DEFINITY ONE back to the laptop.

4. Click **Apply** to display the **Password Confirmation** dialog box. The following dialog box displays:

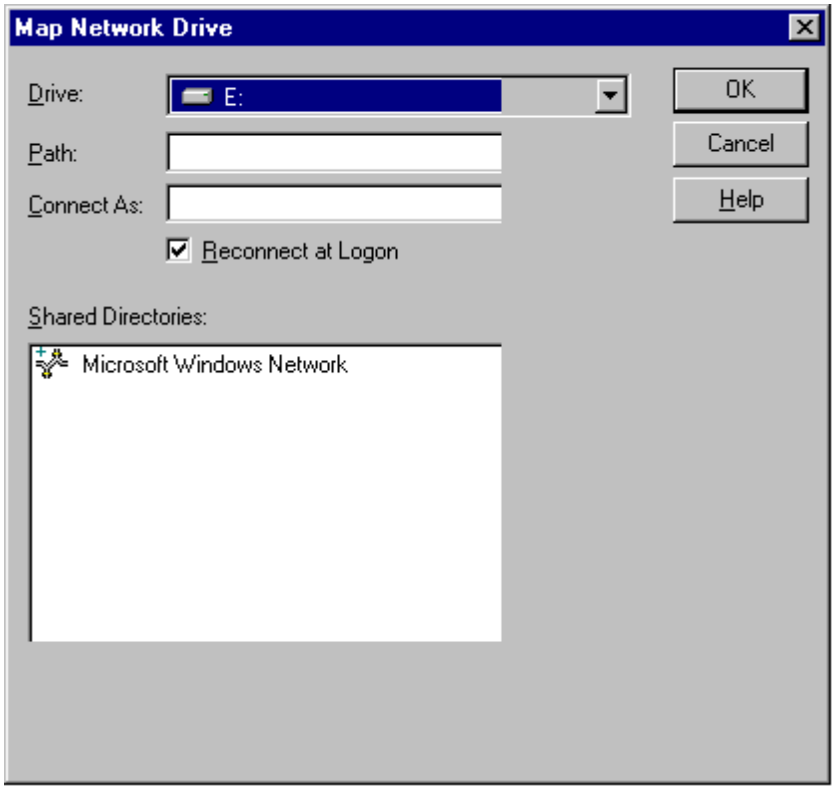


5. Re-enter your password to confirm and click **OK**.
6. Click **OK** on the **Properties** dialog box.

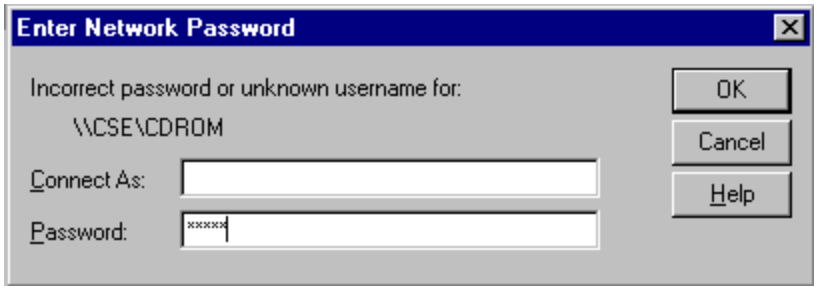
The CD-ROM drive is now shared. The following procedures describe how to map the CD-ROM drive from DEFINITY ONE to the laptop.

1. Establish a pcAnywhere connection from the laptop to DEFINITY ONE. See "Access methods" on page 2-26 for more information.

2. On the DEFINITY ONE desktop, right-click **My computer** and select **Map Network Drive**. The following dialog box displays:



3. Select the drive letter indicated or a new one on the **Map Network Drive** dialog box. In the **Path** field, enter **\\xxxx\CDROM** where xxxx is the name of the laptop (noted in an earlier procedure). **CDROM** is the applicable share when the CD-ROM drive is shared.
4. Leave the **Connect As** field blank. Click **Reconnect at Logon** to deselect the login.
5. Click **OK**. The following dialog box displays, prompting for login and password information:



6. Click **OK**.

A DEFINITY ONE drive is mapped to the laptop's CD-ROM drive.

Local monitor/mouse/keyboard

Use this method when plugging the monitor into DEFINITY ONE, thus making it look like a PC. The processor interface cable is on slot 2 of DEFINITY ONE. Customers have their own monitor/mouse/keyboard setup.

1. Plug the monitor into the processor interface cable on the back of DEFINITY ONE.
2. Plug the mouse into the processor interface cable on the back of DEFINITY ONE.
3. Plug the keyboard into the processor interface cable on the back of DEFINITY ONE.

NOTE:
If these devices are plugged in while the system is running, you must reboot so that the system will recognize these peripherals. Once recognized by the system, the devices are hot pluggable.

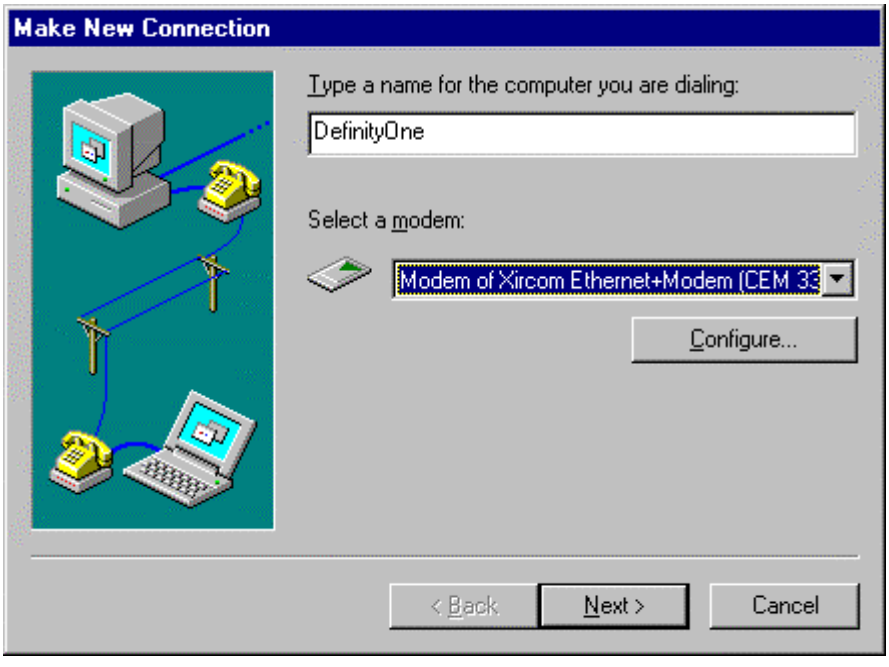
RAS (modem) dial up

The RAS dial-up connection method enables Avaya services-related personnel, INADS, or customers to dial in remotely using a modem. On DEFINITY ONE, the Windows NT Remote Access Service (RAS) is listening for incoming calls from COM1, to which a modem is connected. Use the standard Windows NT dial-up networking operation to set up this connection from a Services laptop computer as per the following procedure.

Create a connection icon for DEFINITY ONE

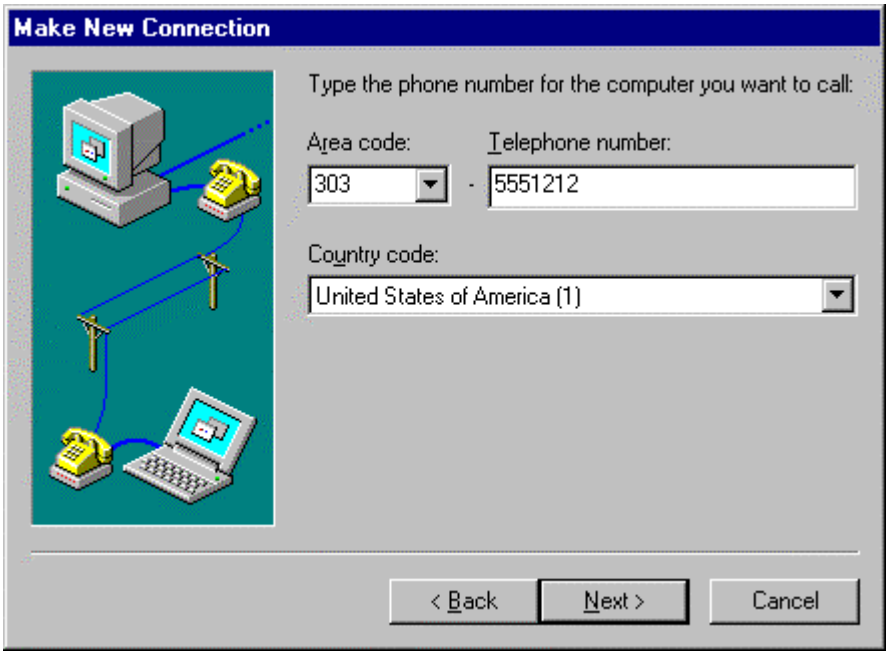
If a connection icon already exists, proceed directly to "Dialing up" on page 2-18. Otherwise, follow these steps:

1. Double-click **Make New Connection** on the Network Neighborhood Dialup Server Control Panel.

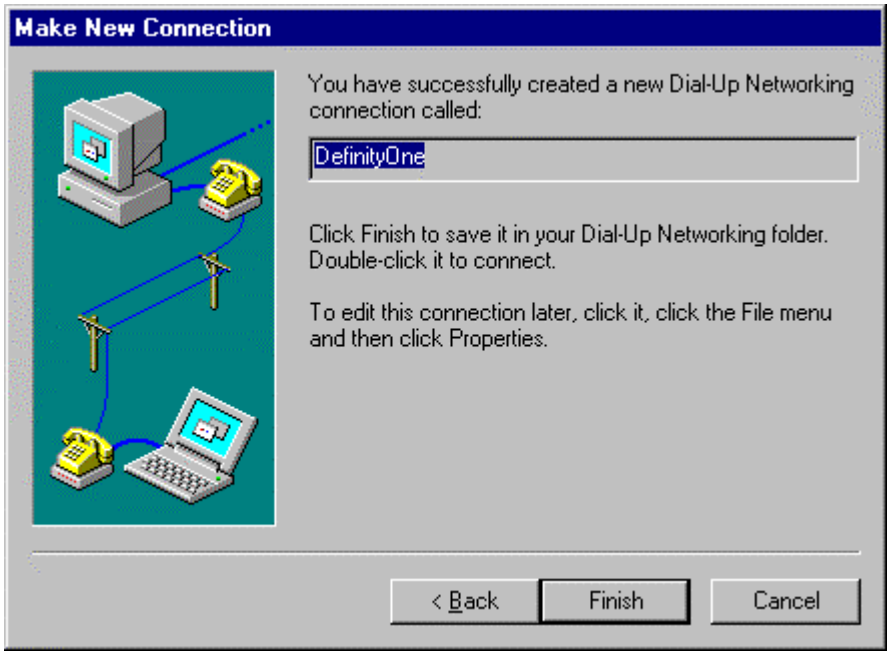


2. Enter the name of the computer you are dialing (be sure to select the appropriate modem).
3. Click **Next**.

4. Enter the area code and phone number of the system you are calling, then click **Next**.



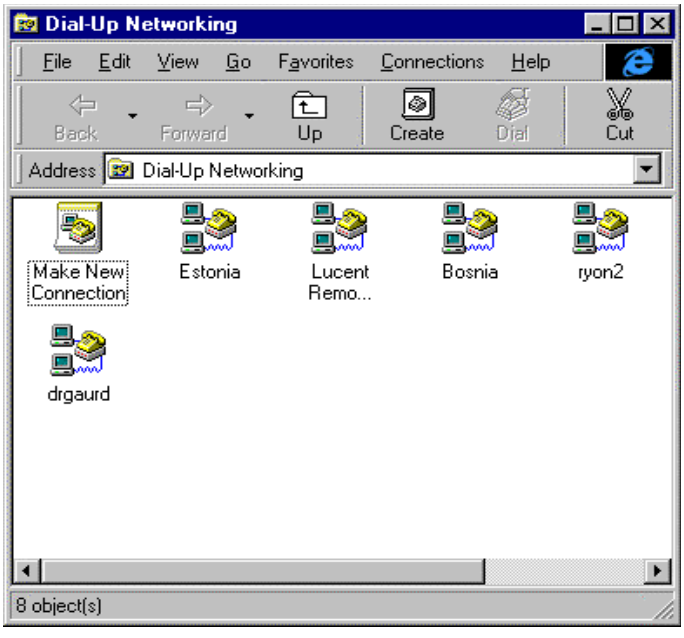
5. Click **Finish**. The new icon appears in the **Dial-Up Networking** dialog box.



Dialing up

1. On the laptop computer, double-click **My Computer**.
2. Double-click **Dial-Up Networking**.

   A window similar to the following displays:

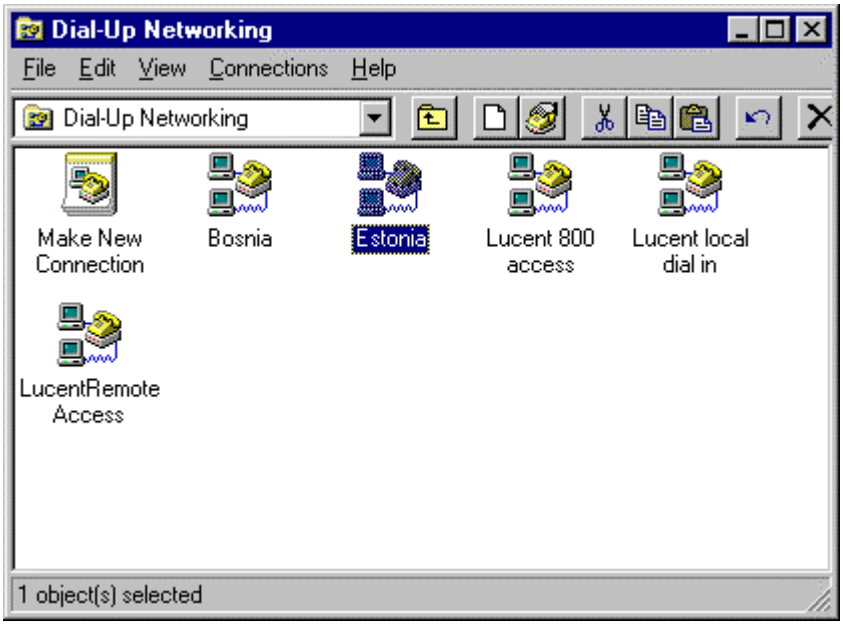


3. Double-click the machine name to which dial-up networking has been administered.

The following steps describe how to make a new connection:

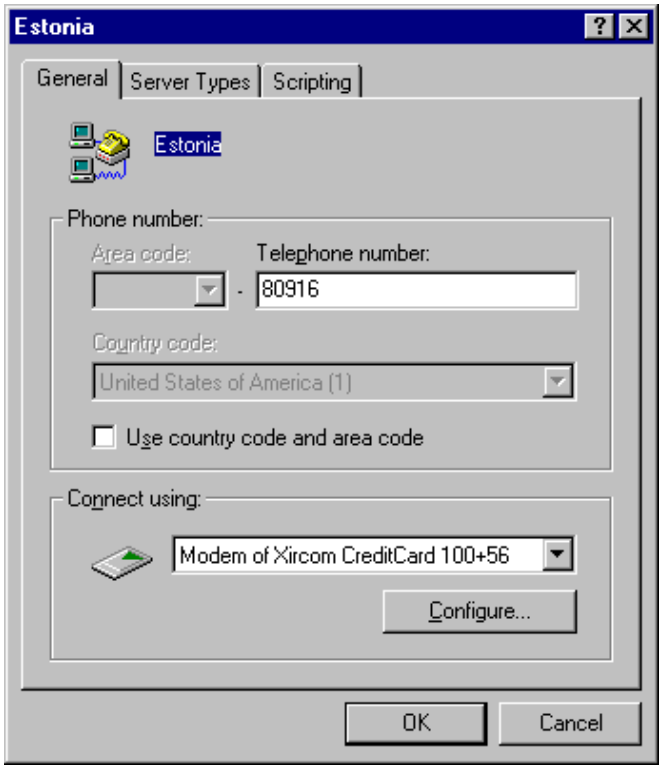
1. To create a new connection, double-click **Make New Connection** in the **Dial-Up Networking** window.
2. Double-click the new dial-up icon.

The new icon appears in the **Dial-Up Networking** window:

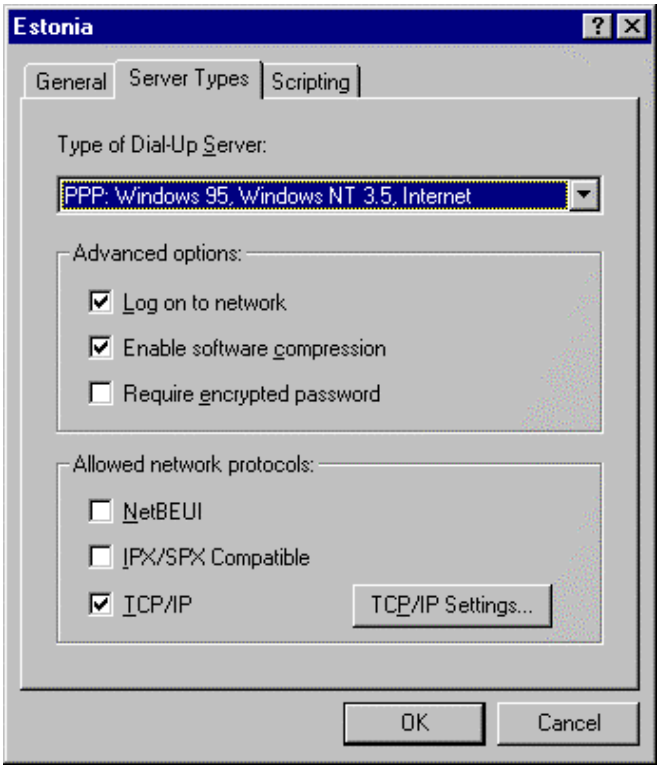


3. Right-click the new icon to enable the associated properties window.

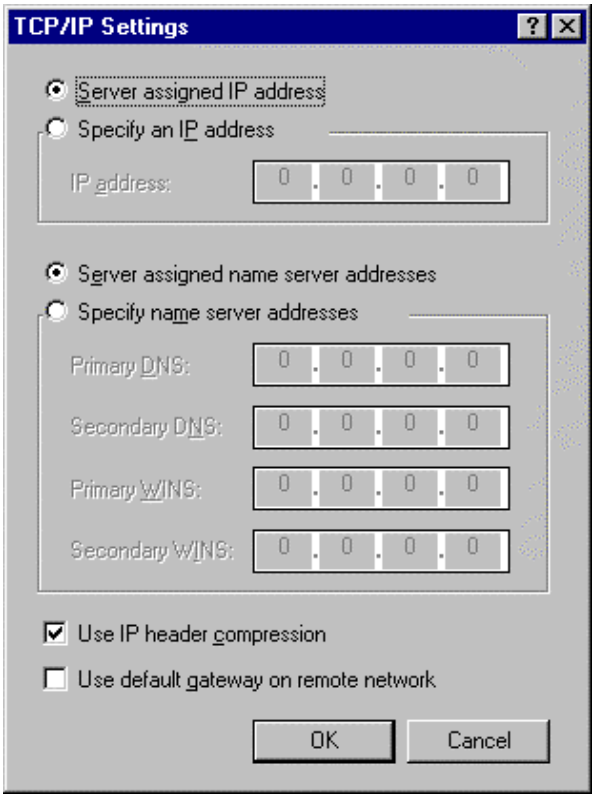
   A dialog box similar to the following displays:



4. Click the **Server Types** tab of the associated properties window.
5. Select **TCP/IP**.
6. Click the **TCP/IP Settings** button.

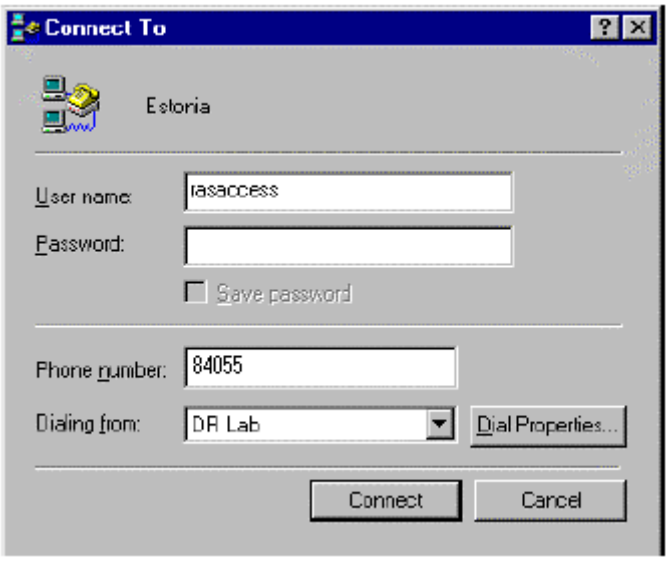


The **TCP/IP Settings** dialog box displays:



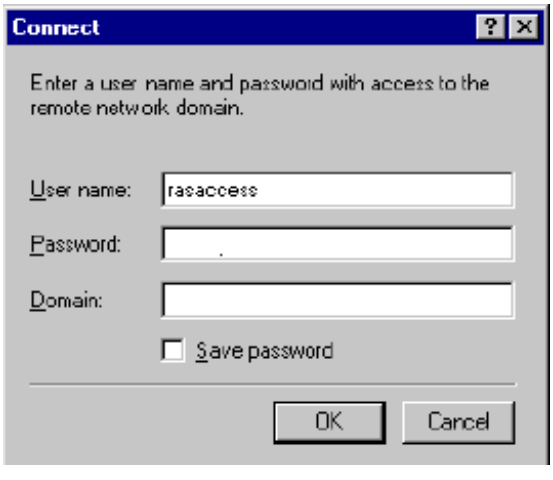
7. Select **Server assigned IP address**.
8. Select **Server assigned name server addresses**.
9. Select **Use IP header compression** and ensure that the **Use default gateway on remote network** is not checked.
10. Click **OK**.

A dialog box similar to the following displays:



The user name on this dialog box must be **rasaccess** with the appropriate password. The password will be the same for each DEFINITY ONE system being contacted.

11. Click **Connect**.
12. A dialog box similar to the following displays:



A network password is not needed unless disks will be mounted.

13. Leave the domain entry blank and click **OK**.

    After a connection is established, a dialog box similar to the following displays:

    This indicates that the laptop is connected to the DEFINITY ONE LAN. The dial-up connection is established.

    Once the dial-up connection is established, the caller must use 1 of 3 access methods. See "Access methods" on page 2-26.

Creating a physical connection via customer LAN

Customers may decide to install their LAN, which connects to the ethernet jack of the processor interface cable. To configure DEFINITY ONE as a node on the customer's network, see "Administer customer's LAN interface" on page 3-9.

DEFINITY LAN gateway (DLG)

The Processor Ethernet and ASAI Proprietary Adjunct Links must be enabled on the Customer Options screen before the DLG can be administered.

```
display system-parameters customer-options                      Page   2 of   9
                                OPTIONAL FEATURES

    Abbreviated Dialing Enhanced List? y              Attendant Vectoring? n
        Access Security Gateway (ASG)? y          Audible Message Waiting? y
        Analog Trunk Incoming Call ID? y              Authorization Codes? y
 A/D Grp/Sys List Dialing Start at 01? y                       CAS Branch? y
Answer Supervision by Call Classifier? y                         CAS Main? y
                                  ARS? y                 Change COR by FAC? n
                 ARS/AAR Partitioning? y  Cvg Of Calls Redirected Off-net? y
          ARS/AAR Dialing without FAC? y                       DCS (Basic)? y
                       ASAI Interface? y                 DCS Call Coverage? y
       ASAI Proprietary Adjunct Links? y                DCS with Rerouting? y
                                                     DEFINITY Network Admin? y
  Async. Transfer Mode (ATM) Trunking? y   Digital Loss Plan Modification? y
                                                                 DS1 MSP? y
                                 ATMS? y             DS1 Echo Cancellation? y



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

Figure 2-3. Customer Options for CentreVu-CT

This interface must be administered within DEFINITY before the Windows LAN interface can be used by any DEFINITY application. This form needs to be administered only once for all uses. To administer the DLG function for connection to CentreVu-CT, create an entry on the Node Names form within DEFINITY. This defines the CentreVu-CT server's name and address. See Figure 2-4 on page 2-25.

```
change node-names ip                                          Page   1 of   1
                                   IP NODE NAMES
    Name                IP Address            Name                IP Address
bav1                192.168.10 .21                                 .   .   .
ber1                192.168.10 .11                                 .   .   .
ber2                192.168.10 .12                                 .   .   .
clan-a1             192.168.10 .31                                 .   .   .
clan-b1             192.168.20 .31                                 .   .   .
default             0  .0  .0  .0                                  .   .   .
med-a1              192.168.10 .81                                 .   .   .
net1                192.168.20 .0                                  .   .   .
ppp-123>,?          192.168.100.12                                 .   .   .
ppp10               192.168.199.10                                 .   .   .
ppp11               192.168.100.11                                 .   .   .
ppp13               192.168.100.13                                 .   .   .
ppp14               192.168.100.14                                 .   .   .
ppp15               192.168.100.15                                 .   .   .
ppp16               192.168.100.16                                 .   .   .
ppp1=               192.168.100.1                                  .   .   .
( 16 of 24  administered node-names were displayed )
Use 'list node-names' command to see all the administered node-names
Use 'change node-names ip xxx' to change a node-name 'xxx' or add a node-name
```

Figure 2-4. Node Names form for CentreVu-CT

The link must be administered on the IP Services form to use the Processor Ethernet. See Figure 2-5. The *service type* must be *adjlk1* and only 1 link to CentreVu-CT is permitted. The local node entry of “procr” indicates the use of the Windows LAN interface. The local port number is set to 5678. The remote port is always zero. Note that the client link number is handled automatically and is NOT administered. It is set to 1 on the client side. Event Minimization is disabled and cannot be enabled.

```
change ip-services                                            Page   1 of   1

                                   IP SERVICES
 Service      Enabled      Local        Local        Remote       Remote
  Type                     Node         Port         Node         Port

ADJLK1           y       procr          5678     centrevuserver  0
```

Figure 2-5. IP services form for CentreVu-CT on the Windows LAN

If it is desired to use the C-LAN interface instead, then the IP Services form will change as illustrated in Figure 2-6. In this example, *clan-1* must be administered on the Node Names form also.

```
change ip-services                                          Page   1 of   1

                                   IP SERVICES
 Service     Enabled     Local        Local       Remote      Remote
  Type                   Node         Port        Node        Port

ADJLK1          y      clan-1          5678    centrevuserver  0
```

Figure 2-6. IP services form for CentreVu-CT on C-LAN

Access methods

Access DEFINITY ONE through the following methods:

- "Via a Telnet session" on page 2-26
- "Via a Web browser session" on page 2-29
- "Via pcAnywhere" on page 2-31

Via a Telnet session

Use this access method to:

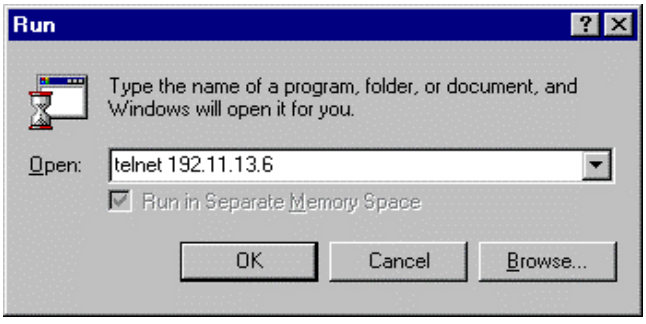
- Register DEFINITY ONE with INADS
- Activate license files
- Execute GAS commands from a bash shell
- Access DEFINITY ONE SAT session
- Set up the IP address for DEFINITY ONE using setip command

See Appendix C, "Connect to SAT session via Telnet" for information on connecting to SAT via Telnet.

NOTE:
The IP address differs depending on the type of physical connection established. See Appendix H, "Installation Connectivity Quick Reference".

1. On the laptop, click **Start > Run** from the Windows task bar. The **Run** dialog box displays.

   If you are using a PCMCIA direct connection, continue to step 2.

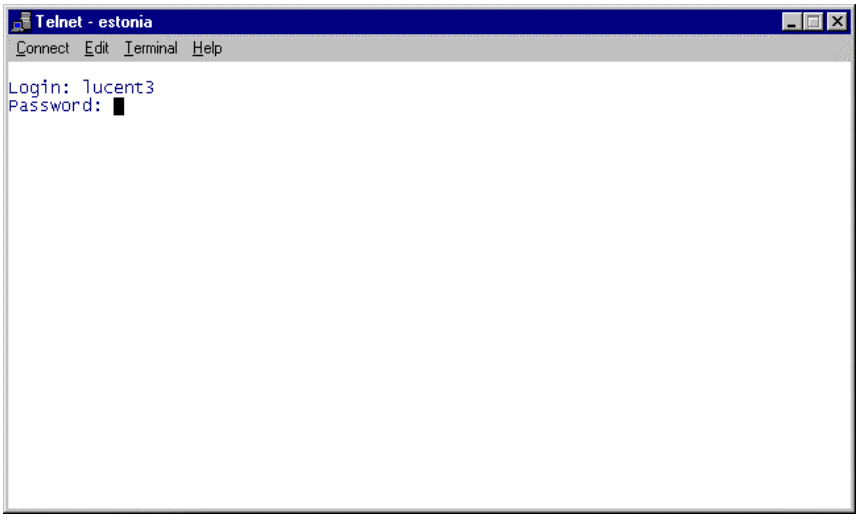


2. Enter **telnet *DEFINITY ONE IP Address***. Click **OK**.

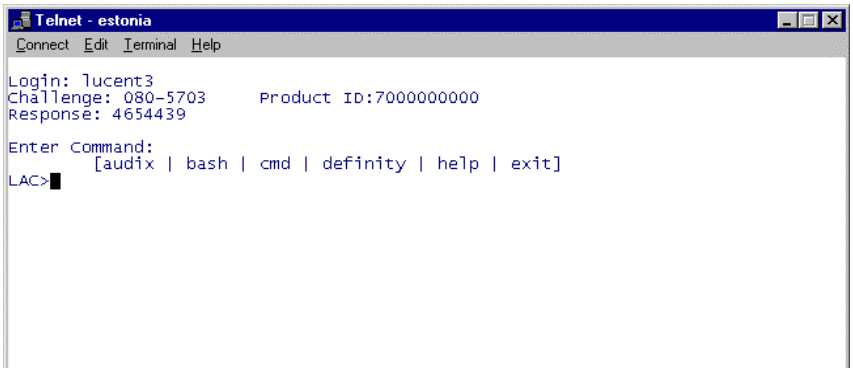
   A Telnet session opens on your desktop.

NOTE:
There are 2 different scenarios, depending on whether the license file has already been installed.

   a. If no license file is installed, you are prompted for your login and password. The only valid login is **lucent3**. Use the appropriate password and continue to step 3.

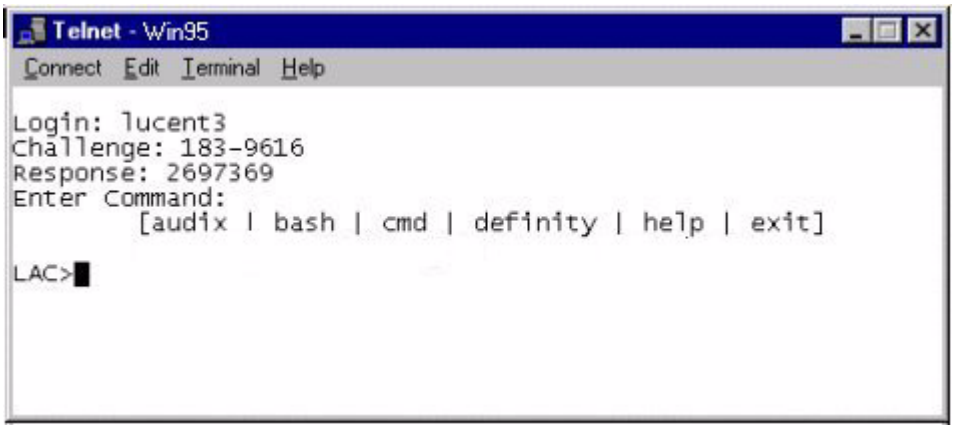


b. If the license file is installed, you will receive a challenge response instead of a password prompt as shown in the figures below. Use any valid Lucent login. See "DEFINITY ONE Avaya personnel logins" on page 2-37 for a list of valid logins. Continue to step 3.



3. Enter User Name and Password at the prompts. Once the Lucent Access Control (LAC) process accepts these inputs, it allows admission into the system.

4. To continue enter a command.



Via a Web browser session

Customers or Avaya personnel use this method of access to DEFINITY ONE (Windows NT or Windows 95 on their PC) to:

- Administer DEFINITY and AUDIX (Web access to DSA)
- Backup and restore
- Shut down the system
- Activate and stop pcAnywhere
- Download DSA and Message Manager

The software can be downloaded to the technician's laptop or a computer on the customer's network. The web browser provides a single point from which to start administration activity.

The web browser interface is available for use once a physical connection is established.

1. Open your web browser.

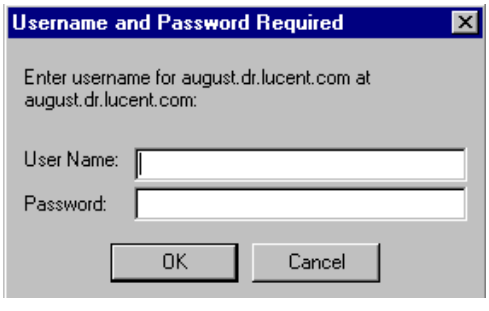
If your physical connection is a dial-up or PCMCIA direct connection, complete step 2. If not, go to step 3.

2. Verify that you are not using a proxy server:
   - If using Netscape, click **Edit** > **Preferences** > **Advanced** > **Proxies** and ensure that **Direct Connection to the Internet** is checked.
   - If using Internet Explorer, make sure that the Internet option **Bypass Proxy Server for Local (Intranet) Addresses** is checked.
3. Type **http:// <ip address>** in the address area of the web browser.The IP address also can be the name of the machine used. See Appendix H, "Installation Connectivity Quick Reference".

The DEFINITY ONE home page displays:

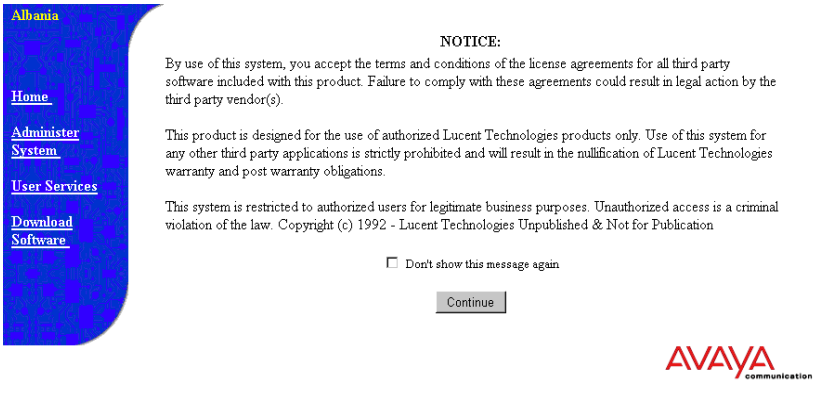
4. Click **Administer System**.

   A dialog box similar to the following displays:



5. Type user name and password.
6. Click **OK**.

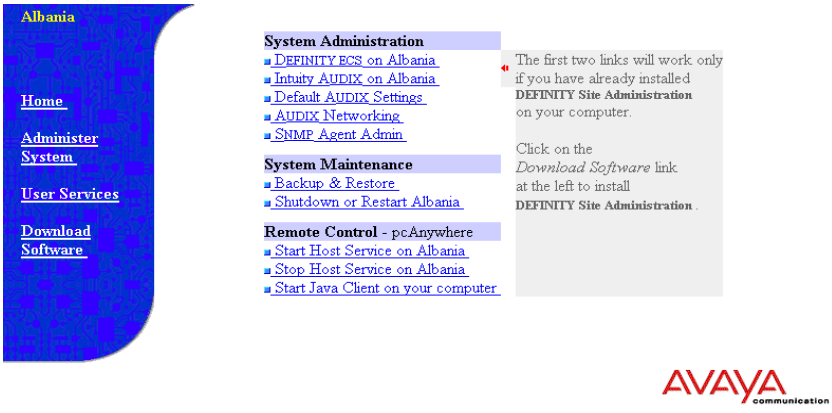
   The following page displays:



7. Read the page and click **Continue**.

Once permissions are granted, the software allows you to navigate through the system.

The following page displays:



Via pcAnywhere

The following procedures describe how to start pcAnywhere on DEFINITY ONE and how to start a client session in two ways:

- "Start a pcAnywhere client session from the laptop computer"
- "Start a pcAnywhere Java client session via the Web browser"

SECURITY ALERT:
Turn off pcAnywhere when done.

Start the pcAnywhere application on DEFINITY ONE

The customer or Avaya personnel uses pcAnywhere whenever direct access to Windows NT desktop on DEFINITY ONE is required for such actions as:

- Setting system clock
- Mapping drives
- Accessing NT operations
- Upgrading software

To access pcAnywhere:

1. Run Netscape or Internet Explorer and verify that the browser is not using a proxy server.
    - If using Netscape, click **Edit** > **Preferences** > **Advanced** > **Proxies** and ensure that **Direct Connection to the Internet** is selected.

- If using Internet Explorer, click **View** > **Internet Options** > **Connection** and ensure that **Bypass Proxy Server for Local (Intranet) Addresses** is selected.

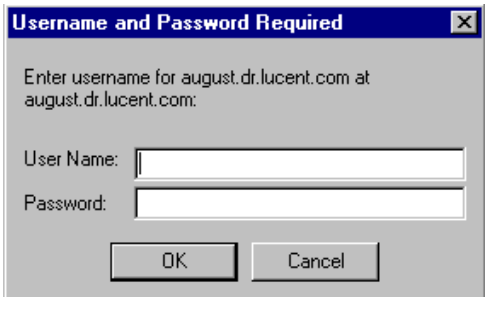
2. In the browser window, type:

   http://<IP address>

   The DEFINITY ONE home page displays:

3. Click **Administer System.**

   A dialog box similar to the following displays:



4. Enter user name and password (**lucent3)**
5. Click **OK**.
6. On the resulting administration page, click **Start>Host>Service** to activate the pcAnywhere host.

NOTE:
This can also be accomplished through the **pcAnywhere** GAS command in a bash shell. See Appendix G, "GAS Commands in the bash shell".

Start a pcAnywhere client session from the laptop computer

NOTE:
If your laptop computer does not have pcAnywhere, you can use it through the Java client provided via the web interface. See "Start a pcAnywhere Java client session via the Web browser" on page 2-34.

1. Click **Start** > **Programs** > **pcAnywhere**.
2. Within pcAnywhere, if you have a client icon for DEFINITY ONE, double-click this icon. Otherwise create 1 as follows:
   a. On the **pcAnywhere** dialog box, click **Remote Control**.
   b. Click **Add Remote Control Item**.
   c. Give the new remote control item a unique name.

      NOTE:
      Once this icon is created, it can be used to connect to any DEFINITY ONE over a generic PCMCIA connection.

   d. Click **Next**.
   e. Select **tcp/ip** as the connection device.
   f. In the machine name field, type **<IP address>**.
   g. Click **Next**.

      NOTE:
      You may check the **Automatically begin remote session upon wizard completion** box if you want to bring up the session as you exit the wizard.

   h. Click **Finish**.
   i. If you did not check the box in step g, double-click the newly created icon.

      A connection to DEFINITY will be established.

   j. When prompted for a login ID use **lucent3.**
   k. Leave the domain entry blank.
   l. When prompted for a password, enter the appropriate password.

      The Windows NT desktop of the DEFINITY ONE system will be displayed on the laptop.

NOTE:
When using pcAnywhere, the Windows NT desktop overlays the Windows 95 desktop, and it is sometimes difficult to know which desktop is being referenced. For example, to access the **Start** menu of the laptop's Windows 95 desktop, you may have to scroll the Windows NT desktop up or down. You may want to temporarily reduce the pcAnywhere window when access to the Windows 95 desktop is required.

Start a pcAnywhere Java client session via the Web browser

This procedure allows access to DEFINITY ONE via a Java client on a web browser.

1. Start your web browser.
2. Click **Start Java Client** on your computer.

   NOTE:
   pcAnywhere software does not have to be loaded on your PC or laptop. The web browser needs to be either Netscape Navigator version 4.1 or later, or Internet Explorer version 4.0 or later. The Java client is known as “pcAnywhere EXPRESS.”

   A license agreement appears.
3. Click **Yes**.

   NOTE:
   If you click **No** to this message or any other message, or if you reject anything at any time, a connection will not be made. If you click **Back** on the web browser window, a page appears on which other actions (including attempting to reconnect) can be performed.

   A warning that the Java applet is requesting additional privileges may appear. It is trying to contact the DEFINITY ONE server. If this happens, click the **Grant** button. Also click **Remember this decision** if you do not want to see this warning again.

   A connect window displays, asking you to choose which system to connect to. Only 1 TCP/IP host will be shown: **<IP address>** (unless you are connected via the customer’s LAN).
4. Highlight the host and click **Connect**.

   If no hosts are shown, the pcAnywhere server on DEFINITY ONE is probably not running. If this is the case, ensure that you activated pcAnywhere properly. If you are sure that it is running, enter **<IP address>** in the Host Name: field and click **Connect**.

   A **Connecting to Host** window appears for a while, and is replaced by a **Security Dialog** window.

5. Type the **Login Name** and **Password**. Use **lucent3** and its password.

   Another **Connecting to Host** window appears for a while and then the web browser window contains a view of DEFINITY ONE's main console.

   The screen will probably be larger than the web browser window, so scroll bars will show and can be used to look at different parts. The **Full Screen** icon in the top toolbar can be clicked and the DEFINITY ONE screen becomes as large as the PC or laptop's screen and scroll bars are no longer needed. When this is done, the toolbar is hidden, and the right arrow button in the upper left corner can be clicked to display the toolbar again.

   CAUTION:
   Changing the window size of your web browser window (by dragging a corner or maximizing) or going to other links with that window will either disconnect the session or attempt to run a new session. Use only the controls on the pcAnywhere EXPRESS toolbar until you are ready to disconnect.

   NOTE:
   To continue to use the web browser while you are connected through pcAnywhere EXPRESS, use the web browser's new window feature.

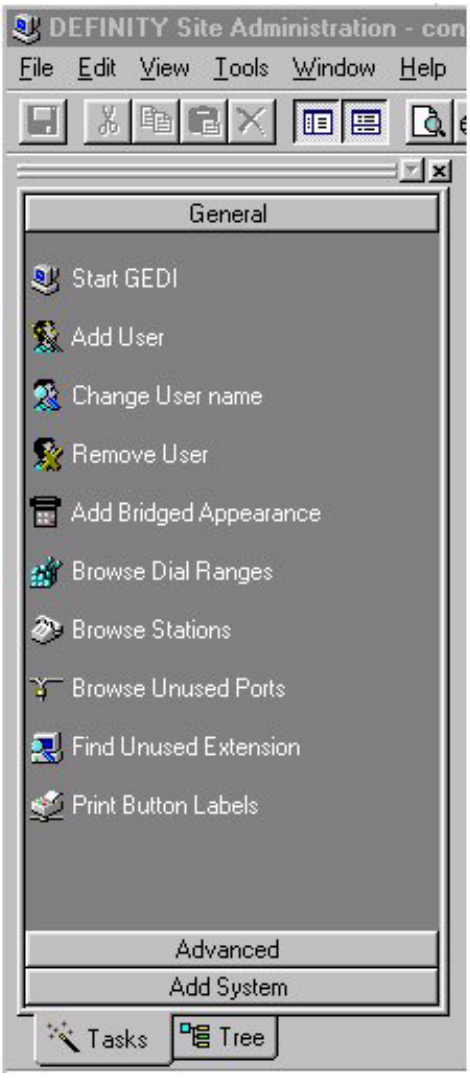
6. Click the **End Session** icon to cause a confirmation window to appear.
7. Click **Yes** to disconnect from DEFINITY ONE and allow the web browser window to be used again.

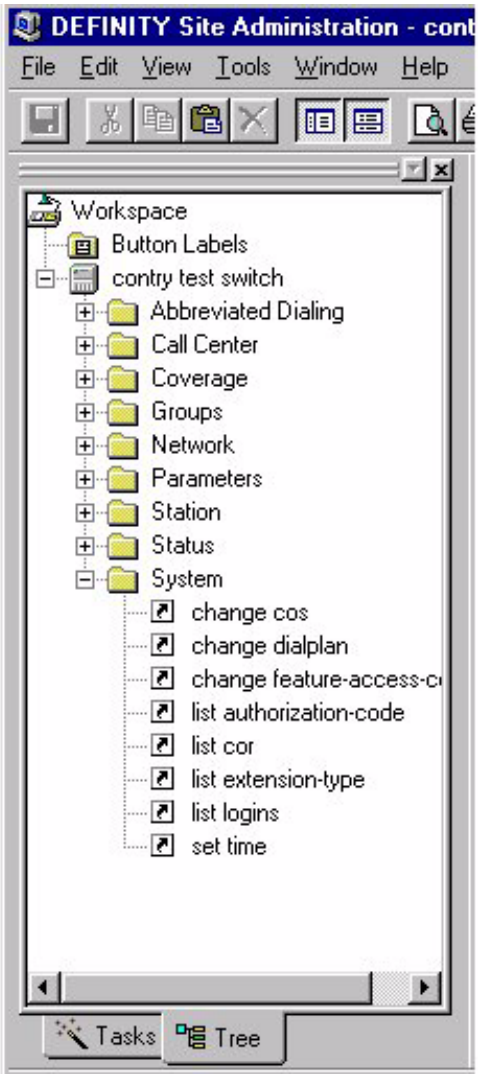
System administration/DEFINITY site administration (DSA)

DSA provides the standard Windows look and feel for performing basic switch administration. This includes wizards, tabbed windows, menus, and dockable windows. Customers who use DSA may administer telecommunications equipment as only a portion of their job responsibilities, and few will be expert users.

DSA offers customers a graphically-enhanced command line interface (called the Graphically Enhanced DEFINITY Interface, or GEDI) and a terminal emulation mode for SAT administration.

Access commands are available in the DEFINITY ONE system from the DSA application. Once the application is connected to the switch, commands can be entered on the command line in a similar way to using the SAT screen, or commands can be selected from the command lists appearing in the left frame of the screen, as shown in the screen below.





Use the HELP key for a list of options.

For help with DSA, click the **Help** menu. For further information regarding the operation of the DSA application, see "System administration/DEFINITY site administration (DSA)" on page 2-35.

DEFINITY ONE Avaya personnel logins

These are the DEFINITY ONE logins for Avaya personnel. See "Enable customer logins" on page 3-7 for further information on logins.

Logins to enter system	Logins to enter DEFINITY	Logins to enter AUDIX
lucent1	dinit	atsc
lucent2	dinads	acraft
lucent3	dcraft	acraft

- Each row of logins has the same password. For example, the **lucent1**, **dinit**, and **atsc** logins all have the same password.
- The lucent logins are used for web browser and pcAnywhere access.
- All logins work for Telnet access.
- The **d** and **a** logins (columns 2 and 3) are used for DSA access.

System Initialization

3

This chapter describes the procedures needed to initialize the DEFINITY ONE system and is organized as follows:

- “Power up and observe LEDs” on page 3-2
- “Connect the laptop computer to DEFINITY ONE” on page 3-2
- “Start a Telnet session” on page 3-2
- “Verify the software version number” on page 3-2
- “Determine the serial number” on page 3-3
- “Obtain a license file” on page 3-4
- “Resolve alarms” on page 3-7
- “Check system status” on page 3-7
- “Place a test call” on page 3-7
- “Enable customer logins” on page 3-7
- “Administer DEFINITY ONE” on page 3-8
- “Set Up Call Accounting” on page 3-13
- “Administer DEFINITY for AUDIX initialization” on page 3-15
- “AUDIX administration” on page 3-26
- “Download Message Manager and DSA” on page 3-28
- “Administer SNMP” on page 3-34
- “Schedule backups” on page 3-39

Power up and observe LEDs

When power is first applied to DEFINITY ONE, or when the system reboots, the LEDs on the TN795 circuit pack light according to a predefined sequence. See "LED boot sequence" on page E-1 for details on the power up sequence.

Connect the laptop computer to DEFINITY ONE

For this procedure, see "Connect the laptop computer to DEFINITY ONE" on page 2-3.

Start a Telnet session

See "Via a Telnet session" on page 2-26 for an explanation of how to start a Telnet session.

Verify the software version number

The following procedure verifies the software version number with the CD-ROM that shipped with the system.

1. From the bash prompt, type **swversion** and press (ENTER). This displays information about the version of software running on the system. The first line displays a string like:Release=G3V9c.09.0.031.0, which shows the load number of the software; in this case, load 31.
2. Remove the CD-ROM that shipped with the system in the door of the cabinet. Verify that the load number stamped on the CD-ROM matches the load number found in step 1.
3. If the load numbers match, determine the serial number. If the load numbers do not match, the system software may need to be updated before proceeding further; see "Upgrade DEFINITY ONE" on page 5-1.

Determine the serial number

1. From the bash prompt, type **serialnumber** and press ENTER.

   The serial number is read and displayed.

2. Ensure that the serial number matches the label on the front of the circuit pack. If it does not match, use the serial number you obtained from step 1.

NOTE:
The serial number obtained in step 1is the number embedded in the firmware and must be used.

Obtain a license file

Download a license file and installation script from Automatic Registration Tool (ART).

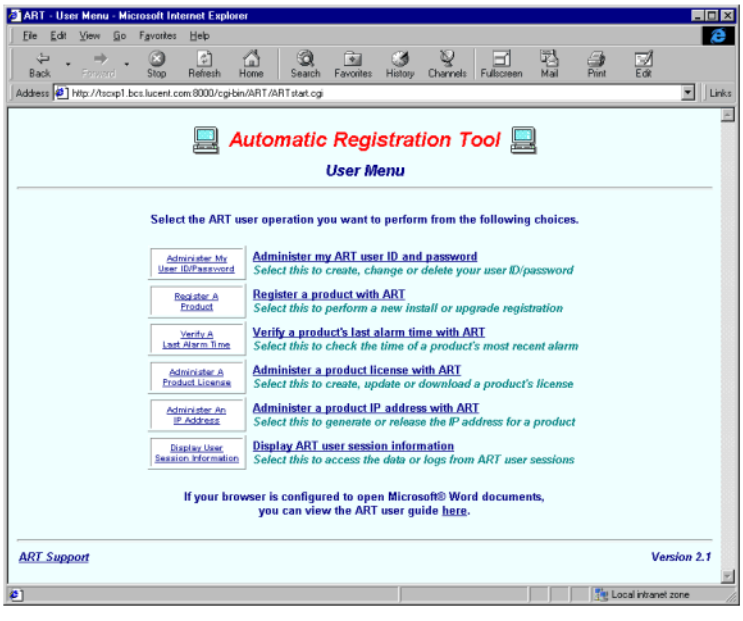
NOTE:
The following procedures might not be applicable to non-U.S. applications. For assistance, contact your Avaya representative.

Download the license file and installation script

To download a license file and installation script:

1. Go to the URL address http://tscxp1.bcs.lucent.com:8000/cgi-bin/ART/ARTstart.cgi.

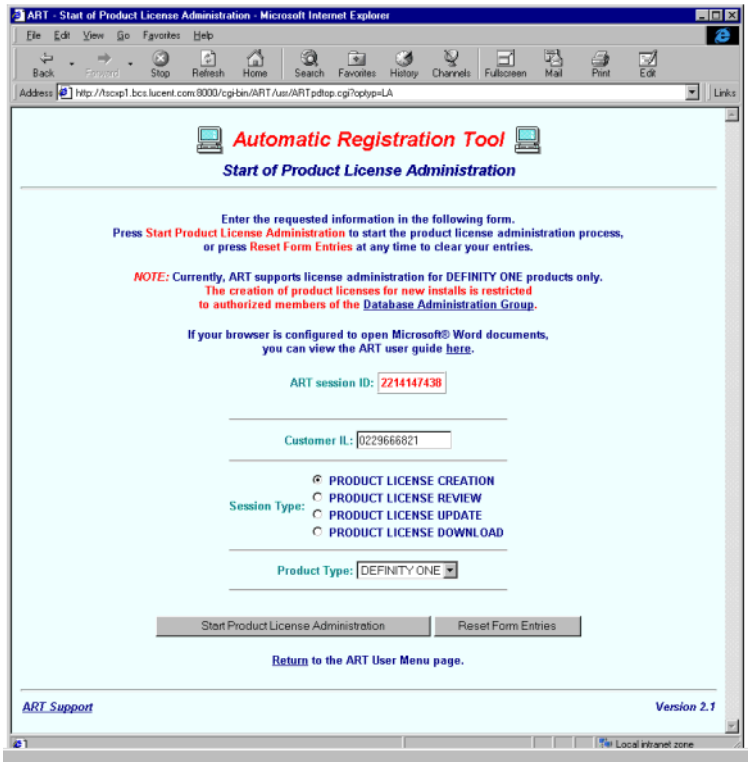
   The **Automatic Registration Tool User Menu** displays:



   You must have a user ID and password to access ART. If you do not have a user ID and password, or if you have forgotten your password, you must select **Administer my ART user ID and password** before continuing. Do not generate a new password if you have forgotten the old one. Instead, use the reset capabilities in ART. If you must reset your password and you do not have email access, you must click **Art Support**.

2. To download a license file select **Administer A Product License**.

   The **Automatic Registration Tool Start of Product License Administration** page displays:



   License creation is accessible by authorized DBA members only. License review, update (processor replacement), and download are accessible by non-DBA personnel with a valid ART user ID and password.

3. Record the value shown in the **Art Session ID** field.
4. Enter the customer's location code (IL) in the **Customer IL** field.
5. Click **Product License Download** as the Session Type.
6. Make sure that DEFINITY ONE displays in the **Product Type** field.
7. Click **Start Product License Administration**.
8. Verify the customer name and address. In some cases multiple products will be displayed.
9. Verify alarm ID and INADS number of your product to ensure correct selection. In the event that your customer location is not in Maestro or the customer does not have candidate product records in Maestro for this location, a message directs you to contact the DBA group for assistance (800-248-1111).

10. In the **System Type** column, click DEFOCS associated with the correct Alarm ID and INADS number for your customer. DEFOCS is the system type associated with DEFINITY ONE.

    You will see a series of messages that tell you the status of ART processing (for example, reading license data out of ART's database, getting product record data out of Maestro, creating the binary license file, and so on). When processing is complete, ART displays the final report page.

11. Verify that the report is correct and then select **Download** to download both the license file and installation script to your PC.

12. Specify where the license file and installation script should be saved. Always save the download files to disk. You can specify the folder (directory) in which to save install.bin (for the license file) and installscript.sh (for the installation script). You can rename the files as you save them on your disk. If you rename them, make note of the new names for future reference.

Install the license file and installation scripts

To install the license file and installation scripts:

1. Use either of the following methods to connect to DEFINITY ONE:

   a. Dial-up connection/RAS modem (see "RAS (modem) dial up" on page 2-15)

   b. Connectivity from the front of the processor using the PCMCIA Ethernet Card (see "PCMCIA ethernet network interface card" on page 2-2)

2. Verify that the files are loaded into D:/LucentPub/ftproot on the DEFINITY ONE system and log into LAC.

3. From the LAC prompt type **installconfig install.bin** (or the new name of the files, if changed). These scripts cause DEFINITY ONE to reboot. When the system comes back up, both DEFINITY and INTUITY should be running.

4. When you are ready to have DEFINITY ONE report alarms to INADS, log into LAC and bring up a bash shell.

5. Change to the D:/LucentPub/ftproot directory and run the **installscript.sh** command (or the new name if changed). This script assigns product IDs, sets INADS telephone numbers, sets up RAS, and so on.

6. Go to the ART URL and get the time of the last alarm, if any. ART reports the time of the last alarm. It does not report what type of alarm it was; therefore, it is important to record this alarm so you can tell when your test alarm is registered.

7. Return to DEFINITY ONE and initiate a test INADS call. Return to the ART URL and see if the alarm arrives.

Resolve alarms

Resolve any alarms. Refer to *DEFINITY ONE Communications System Release 9 Maintenance* (555-233-111).

Check system status

See "Avaya (Lucent) access controller bash commands" on page G-1 for information about bash commands that are used in installation and administration.

1. Open a LAC bash shell.
2. To verify system health, execute **d1stat** and **alarmstat**.

Place a test call

1. From any telephone connected to a digital line circuit pack, call any nearby telephone connected to an analog line circuit pack.
2. Verify that the dial tone, ringing pattern, and talk path are acceptable.
3. Place a call through the Central Office (outside call) to any nearby telephone.
4. Verify that the dial tone, ringing pattern, and talk path are acceptable.

Enable customer logins

This section contains information on:

- "Enable AUDIX logins" on page 3-7
- "Enable customer Web logins" on page 3-8

See Appendix B, "Set Up and Use of Customer Logins" for further information and procedures.

Enable AUDIX logins

See Appendix B, "Set Up and Use of Customer Logins". Appendix B also includes information on the AUDIX logins sa, vm, and browse, and the uses of each login as well as AUDIX commands accessible to each login.

Enable customer Web logins

When the system leaves the factory, the only login that has access to the web interface is the login NTadmin. The customer may wish to create additional logins; for example, to download the Message manager. See Appendix B, "Windows NT logins for the customer" on page B-2.

Enable DEFINITY Logins

See "DEFINITY logins for the customer" on page B-9

Administer DEFINITY ONE

DEFINITY ONE commands

DEFINITY ONE bash commands are useful for administration and installation tasks. These commands are allowed for the Avaya services login. See "Avaya (Lucent) access controller bash commands" on page G-1, and *DEFINITY ONE Communications System Release 9 Maintenance* (555-233-111) (also on the documentation CD), for information about these commands.

Set date/time/time zone (Windows NT)

To set up the date, time, and timezone:

1. Set the computer and DNS name to 8 characters or less.
2. Connect to the DEFINITY ONE desktop by following the procedure in "PCMCIA ethernet network interface card" on page 2-2 or "Local monitor/mouse/keyboard" on page 2-15.
3. Click **Settings** > **Control Panel**.
4. Double-click **Date/Time**.

   The **Date/Time Properties** applet displays.

   a. Select the correct day, month, and year.

   b. Click **Time Zone**.

   c. Select the correct time zone.

      If you are in an area that does not go on daylight savings time, clear the **Automatically adjust clock for daylight savings change** box.

Administer customer's LAN interface

The customer's LAN connects to the ethernet jack of the processor interface cable. See "setip command" on page G-5 for more information on the **setip** command from the command line interface. See Windows Help for the Windows NT method to change interface parameters.

The customer provides:

- IP address
- Subnet mask
- Default gateway

In the event that customers require a new IP address, they can use pcAnywhere to access the Windows NT desktop.

Enable and Disable SNMP

By default, SNMP is enabled on DEFINITY ONE. If you are not using SNMP, disable it.

To disable SNMP, enter **d1disable snmp** from a bash session. The command **d1disable snmp** disables SNMP from being run when DEFINITY ONE is started.

To enable SNMP, enter **d1enable snmp** from a bash session. The command **d1enable snmp** enables snmp so that it automatically runs when DEFINITY ONE is started.

You must reboot your system for the SNMP settings to be effective.

Change customer options

The following DEFINITY features are part of the basic software package and do not require activation. The default of each feature is **y** (yes) on the Optional Features form.

- ARS/AAR Partitioning
- Emergency Access to Attendant
- Service Observing

Refer to *DEFINITY Enterprise Communications Server Release 9 Administrator's Guide* (555-233-506) for more information.

NOTE:
A **lucent1** login is required to change customer options. Contact your regional Customer Software Administrator (CSA) to perform this function. International users should contact their international representative.

1. In a SAT session or DSA window, type **change system-parameters customer-options** and press [ENTER].
2. Using the customer order, enable the optional features purchased by the customer (as shown by PEC codes on the customer order).
3. Press [ENTER] when finished to submit the form.
4. Log off and then log back in to set the customer option changes.
5. Type **save translations**.

Set country options

Some of the country options must be set on the change system parameters country options screen, displayed below, to turn off the red alarm LEDs.

1. Enter change system-parameters country options and press ENTER.

   A screen similar to the following displays:

```
change system-parameters country-options                    Page   1 of  23
                    SYSTEM PARAMETERS COUNTRY-OPTIONS
            Companding Mode: Mu-Law          Base Tone Generator Set: 1
        440Hz PBX-dial Tone? n              440Hz Secondary-dial Tone? n
      Analog Ringing Cadence: 1     Set Layer 1 timer T1 to 30 seconds? n
    Analog Line Transmission: 1
64/84xx Display Character Set: Roman
      Howler Tone After Busy? n   Disconnect on No Answer by Call Type? n
TONE DETECTION PARAMETERS
         Tone Detection Mode: 6
            Interdigit Pause: short
```

The default (United States) companding mode is **Mu-Law**. If the country uses A-Law companding, proceed to the next step.

2. Enter **A-Law**.
3. Click ENTER.

NOTE:
Other items eventually need to be entered on this screen, but this is all that is needed to turn the red alarm LEDs off.

The country codes are set as needed according to the following fields:

1. Digital Loss Plan
2. Analog Ringing Cadence
3. Analog Line Transmission

4. See Table 3-1.

Table 3-1. Country Codes

Country	Code	Country	Code
USA	1	France	12
Australia	2	Germany	13
Japan	3	Czechoslovakia	14
Italy	4	Russia	15
The Netherlands	5	Argentina	16
Singapore	6	Greece	17
Mexico	7	China	18
Belgium	8	Hong Kong	19
Saudi Arabia	9	Thailand	20
United Kingdom	10	Macedonia	21
Spain	11	Brazil	22

Check System Status

The system status may suggest problem areas. Refer to *DEFINITY Enterprise Communications Server Release 9 Maintenance for R9csi* (555-233-119).

To access system status:

1. Log into the system.
2. Enter **status system all-cabinets**.
3. Press ENTER.
4. Verify that the screen displays the service state of **in** for all appropriate areas.

Set up your system

You are now ready to follow procedures to start your system, including:

- Setting up dial plans, feature access codes (FACs), and extension ranges
- Adding extensions for users
- Setting up special features
- Setting up routing
- Assigning and changing users

See "Configure DSA" on page 7-11 to set up DSA.

For more information, see:

- *DEFINITY System's Little Instruction Book for Basic Administration* (555-233-756)
- *DEFINITY System's Little Instruction Book for Advanced Administration* (555-233-757)
- *DEFINITY System's Little Instruction Book for Basic Diagnostics* (555-233-758)
- *DEFINITY Enterprise Communications Server Release 9 Administrator's Guide* (555-233-506)
- On-line help for DSA

Add translations

Refer to *DEFINITY Enterprise Communications Server Release 9 Administrator's Guide* (555-233-506) to add new terminals.

Administer telephone features

1. Administer these features (DEFINITY Translations, AUDIX Mailboxes, etc.) per customer order via one of two ways:

   a. DSA (web)

      DSA must be installed on the laptop or remote PC that is connected to DEFINITY ONE.

      Connect the PCMCIA card with the laptop or through Remote PC using the web browser (Internet Explorer or Netscape).

   b. Avaya (Lucent) Access Control (LAC) [telnet]

      (For direct SAT access without going through DSA)

      Telnet to DEFINITY ONE through the LAC to receive the SAT screen. See "Start a Telnet session" on page 3-2.

Set Up Call Accounting

Avaya provides the following call accounting products to help reduce telephone expenses, optimize resources, assign costs, identify abuse, and clearly understand telephone expenses and convey that understanding to others:

- Telecommunications Management System (TMS)
- Call Accounting System NT (CAS-NT)
- Call Accounting System (CAS) for Windows

The following is an example of how to set up one of these products, Call Accounting System (CAS) for Windows. CAS is a comprehensive call accounting package that runs on a PC as a Windows application. It receives Call Detail Records (CDRs) from a switch on premises and processes the information into management reports. DEFINITY ONE creates the CDR file where the CDR records are written and the file is put into a directory. CAS for Windows is widely compatible and requires little maintenance, even while collecting data, generating reports, and managing remote data collection sites.

CAS for Windows needs access to come across the network to access the file and directory with full read and write permissions. DEFINITY ONE has to share the CDR directory with full permissions. This procedure will only work if you have a keyboard and monitor, pcAnywhere, or have already mapped your PC to the drive on DEFINITY ONE.

NOTE:
Depending on the customer's specific network, setting up CAS for Windows access will vary. See the system/network administrator to ensure that proper permissions are set up for the file and directory.

1. From the DEFINITY ONE desktop, right-click **Start**, either locally or through pcAnywhere.
2. Click **Explore**.
3. Expand the D drive.

   The D drive folders display.
4. Expand the **Lucent Data** directory.

   The **Lucent Data** folders display.

5. Click **Cdr**.

   If cdr has been enabled in the switch, you see the files cdr.out and cas.in.

   The CAS for Windows (CDR Collection device) obtains the CDR records from cas.in and then removes that file. The current CDR records are placed in cdr.out. When this file reaches a certain size, the cdr.out file is renamed cas.in. CAS for Windows obtains those CDR records from cas.in as more current records are placed in cdr.out.

   To remove the cas.in fiile, the CDR folder must be shared with permissions granted to the user login under which CAS for Windows is running.

6. Right-click **cdr**.
7. Click **Properties**.
8. Click **Sharing**.

   CDR Properties displays.

9. Click **Shared As**.
10. Click **Permissions**.

    The **Access Through Shared Permissions** screen displays and **Everyone** / **Full Control** is highlighted.

11. Click **OK**.

    The **Properties** screen displays.

12. Click **Security**.
13. Click **Permissions**.

    The **Directory Permissions** screen displays.

14. Click **Add**.

    The **Add Users and Groups** screen and the groups display.

15. Click **Show Users**.
16. Highlight the login under which CAS for Windows will be running. (See the LAN administrator if you do not know the user.)
17. Click **Add**.

    The **Add Names** box displays the user.

18. Click **Full Control** under **Type of Access**.
19. Click **OK**.

    The **Directory Permissions** screen displays.

20. Click **OK**.

    The **CDR Properties** screen displays.

21. Click **OK**.

    The hand on **cdr** indicating sharing displays.

Administer DEFINITY for AUDIX initialization

Check the Dial Plan

The dial plan tells the system how to interpret dialed digits and how many digits to expect for certain calls. For example, if a 9 is dialed to access an outside line, the dial plan tells the system to find an external trunk for a dialed string beginning with 9.

To check the dial plan:

1. At the SAT or DSA window, enter **disp dial**.

   The Dial Plan Record form displays, which should have the correct local node number and extension length:

```
display dialplan
                              DIAL PLAN RECORD

                                                   Local Node Number: 13
                                                     ETA Node Number:
        Uniform Dialing Plan: 4-digit            ETA Routing Pattern:
  UDP Extension Search Order: local-extensions-first
FIRST DIGIT TABLE
First                                 Length
Digit  - 1 -       - 2 -       - 3 -       - 4 -       - 5 -       - 6 -
  1:
  2:                                      extension
  3:
  4:
  5:
  6:
  7:                          dac
  8:
  9: dac
  0:
  *: fac                      fac
  #: fac                      fac

Command:
```

2. Make note of the local node number (first digit) and the extension length. The number of digits or the local node number can only be changed through the web interface.

3. Press F1.

Check Hunt Groups

1. At the SAT or DSA window, type **list hunt group**.

   The Hunt Groups form displays:

```
list hunt-group group

                                HUNT GROUPS
Grp Grp
No. Name/            Grp     ACD/          Que No. Cov  Notif/  Dom   Message
    Ext              Type    MEAS Vec MCH  Siz Mem Path Ctg Adj Ctrl  Center

1   monroe voice hunt
    2000             ucd-mia n/-  n   none 8   8        n             A
2   paradox voice hunt
    2600             ucd-mia n/-  n   none 8   8        n             n
3   rockville voice hunt
    2650             ucd-mia n/-  n   none 6   8        n             n

Command successfully completed
Command:
```

2. Note the following information about the AUDIX hunt group:
   - Grp No.
   - Grp Name/Ext.
3. Press F1.

Check Class of Service

1. At the SAT or DSA window, type **disp cos**.

   The Class of Service form displays:

```
display cos
                                CLASS OF SERVICE

                                0  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15

 Auto Callback                  n  y  y  n  y  n  y  n  y  n  y  n  y  n  y  n
 Call Fwd-All Calls             n  y  n  y  y  n  n  y  y  n  n  y  y  n  n  y
 Data Privacy                   n  y  n  n  n  y  y  y  y  n  n  n  n  y  y  y
 Priority Calling               n  y  n  n  n  n  n  n  n  y  y  y  y  y  y  y
 Console Permissions            n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Off-hook Alert                 n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Client Room                    n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Restrict Call Fwd-Off Net      y  y  y  y  y  y  y  y  y  y  y  y  y  y  y  y
 Call Forwarding Busy/DA        n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Personal Station Access (PSA)  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Extended Forwarding All        n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Extended Forwarding B/DA       n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Trk-to-Trk Transfer Override   n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 QSIG Call Offer Originations   n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n

Command:
```

2. Find the COS you plan to use for the AUDIX port stations. It is usually COS 5.
3. Ensure that Data Privacy and Restrict Call Fwd-Off Net are set to **y**.
4. Ensure the other fields are set to **n**.
5. Press F1.

Check Class of Restriction

1. At the SAT or DSA window, type **disp cor 1**, where **1** is the COR you plan to use for the AUDIX port stations.

   The Class of Restriction form displays:

```
display cor 1                                                Page   1 of   4
                              CLASS OF RESTRICTION

               COR Number: 1
          COR Description: audix

                      FRL: 7                                  APLT? y
  Can Be Service Observed? n            Calling Party Restriction: none
Can Be A Service Observer? n             Called Party Restriction: none
        Time of Day Chart: 1        Forced Entry of Account Codes? n
         Priority Queuing? n                 Direct Agent Calling? n
     Restriction Override: none        Facility Access Trunk Test? n
     Restricted Call List? n                  Can Change Coverage? n

            Access to MCT? y             Fully Restricted Service? n
     Category For MFC ANI: 7
         Send ANI for MFE? n
            MF ANI Prefix:               Automatic Charge Display? n
Hear System Music on Hold? y   PASTE (Display PBX Data on Phone)? n
                          Can Be Picked Up By Directed Call Pickup? n
                                     Can Use Directed Call Pickup? n
                                     Group Controlled Restriction: inactive
```

2. Ensure that the COR has an FRL of **7** to allow for Outcalling and Fax Print.
3. Ensure that Calling Party Restriction is set to **none**.
4. Ensure that Time of Day Chart is set to **1**.
5. Press F7.

   Page 2 of the Class of Restriction form displays.

6. Press F7.

   Page 3 of the Class of Restriction form displays:

```
display cor 1                                                Page   3 of   4
                              CLASS OF RESTRICTION


CALLING PERMISSION (Enter "y" to grant permission to call specified COR)

  0? y     12? y     24? y     36? y     48? y     60? y     72? y     84? y
  1? y     13? y     25? y     37? y     49? y     61? y     73? y     85? y
  2? y     14? y     26? y     38? y     50? y     62? y     74? y     86? y
  3? y     15? y     27? y     39? y     51? y     63? y     75? y     87? y
  4? y     16? y     28? y     40? y     52? y     64? y     76? y     88? y
  5? y     17? y     29? y     41? y     53? y     65? y     77? y     89? y
  6? y     18? y     30? y     42? y     54? y     66? y     78? y     90? y
  7? y     19? y     31? y     43? y     55? y     67? y     79? y     91? y
  8? y     20? y     32? y     44? y     56? y     68? y     80? y     92? y
  9? y     21? y     33? y     45? y     57? y     69? y     81? y     93? y
 10? y     22? y     34? y     46? y     58? y     70? y     82? y     94? y
 11? y     23? y     35? y     47? y     59? y     71? y     83? y     95? y
```

7. Ensure that all fields are set to **y** so there are no restrictions.

   NOTE:
   Pay attention to toll fraud issues.

8. Press F1.

Change the Dial Plan

To change the dial plan:

1. Enter **disp dial** at the SAT or DSA Window**.**
2. Type **change dialplan**.
3. Press Return.

   The Dial Plan Record screen displays:

```
change dialplan                                              Page   1 of   1
                            DIAL PLAN RECORD

      AAR/ARS Internal Call Prefix:                 Local Node Number: 1
AAR/ARS Internal Call Total Length:                   ETA Node Number:
              Uniform Dialing Plan: 4-digit       ETA Routing Pattern:
        UDP Extension Search Order: local-extensions-first
FIRST DIGIT TABLE
First                                   Length
Digit  - 1 -       - 2 -       - 3 -       - 4 -       - 5 -       - 6 -
  1:                        dac
  2:                                    extension
  3:             fac                    extension
  4:                                    extension
  5: misc
  6:                                    extension
  7:                        dac
  8: fac
  9: fac
  0: attd
  *:                        dac
  #:                        dac
```

4. Click the field in the row 7, column 3.

This field defines system function when users dial any number from 700 to 799

5. Type **dac** in the selected field.
6. Press Enter to save your changes.

Add extension ranges

New extensions can be added as your needs grow. Each new extension must belong to a range defined in the dial plan.

To add a range of extensions (for example, 4-digit extensions starting with 3, such as 3000-3999):

1. Type **change dialplan** and press Enter.

   The Dial Plan Record screen displays:

```
change dialplan                                                Page   1 of   1
                              DIAL PLAN RECORD

      AAR/ARS Internal Call Prefix:                 Local Node Number: 1
AAR/ARS Internal Call Total Length:                   ETA Node Number:
              Uniform Dialing Plan: 4-digit       ETA Routing Pattern:
        UDP Extension Search Order: local-extensions-first
FIRST DIGIT TABLE
First                                   Length
Digit  - 1 -       - 2 -       - 3 -       - 4 -       - 5 -       - 6 -
  1:                          dac
  2:                                      extension
  3:             fac                      extension
  4:                                      extension
  5: misc
  6:                                      extension
  7:                          dac
  8: fac
  9: fac
  0: attd
  *:                          dac
  #:                          dac
```

2. Click row 3 in column 4.
3. Type **extension** in the selected field.
4. Press Enter to save your changes.

Add stations

Stations are added by entering a change machine command with the starting and ending numbers (for example, 0000--9999 starting and ending range for a 4-digit extension length).

To set up stations for AUDIX ports:

1. At the SAT or DSA window, enter **add sta <number>**, where **number** is the station you want to use for the first AUDIX port.

   The Station form displays:

```
add station next                                                Page   1 of   4
                                     STATION

Extension: 2017                            Lock Messages? n          BCC: 0
     Type: 6408D+                          Security Code:             TN: 1
     Port:                               Coverage Path 1:            COR: 1
     Name:                               Coverage Path 2:            COS: 1
                                         Hunt-to Station:

STATION OPTIONS
              Loss Group: 2                 Personalized Ringing Pattern: 1
            Data Module? n                             Message Lamp Ext: 2017
           Speakerphone: 2-way                       Mute Button Enabled? y
        Display Language: english

                                                       Media Complex Ext:
                                                             IP SoftPhone? n
                                                       Remote Office Phone? n
```

2. Type **2500** in the Type field.
3. Type **01A1201** in the Port field.

   NOTE:
   This is a virtual port used to communicate between DEFINITY and AUDIX.

4. Type a name in the Name field.
5. Enter the correct COR and COS.
6. Ensure that Tests? is set to **n**.

7. Press F7.

   Page 2 of the Station form displays:

```
add station next                                                Page   2 of   4
                                     STATION
FEATURE OPTIONS
           LWC Reception: msa-spe          Auto Select Any Idle Appearance? n
          LWC Activation? y                         Coverage Msg Retrieval? y
  LWC Log External Calls? n                                   Auto Answer: none
             CDR Privacy? n                               Data Restriction? n
   Redirect Notification? y                     Idle Appearance Preference? n
 Per Button Ring Control? n
   Bridged Call Alerting? n                       Restrict Last Appearance? y
  Active Station Ringing: single

        H.320 Conversion? n          Per Station CPN - Send Calling Number?
       Service Link Mode: as-needed
        Multimedia Mode: basic                     Audible Message Waiting? n
    MWI Served User Type:                        Display Client Redirection? n
                                               Select Last Used Appearance? n
                                                 Coverage After Forwarding? s
                                                   Multimedia Early Answer? n
                                          Direct IP-IP Audio Connections? n
                                                     IP Audio Hairpinning? n
```

8. Ensure that LWC Reception is set to **audix**.
9. Ensure that all other fields, except for Switchhook Flash and Adjunct Supervision, are set to **n**.
10. Press F7.

Page 3 of the Station form displays:

```
add station next                                                Page   3 of   4
                                    STATION
 SITE DATA
       Room:                                              Headset? n
       Jack:                                              Speaker? n
      Cable:                                             Mounting: d
      Floor:                                         Cord Length: 0
   Building:                                           Set Color:




ABBREVIATED DIALING
     List1:                     List2:                     List3:

BUTTON ASSIGNMENTS
 1: call-appr                            5:
 2: call-appr                            6:
 3: call-appr                            7:
 4:                                      8:
```

11. Ensure that Line Appearance is set to **call-appr**.
12. Press F3.
13. Type **duplicate station <number>**, where **number** is the station you set up for the first AUDIX port.

    The Duplicate Station form displays:

```
duplicate station 2001                                          Page   1 of   4
                                    STATION

                                                Security
Ext   Port    Name                              Code      Room        Jack  Cable
2002  _____   ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
_____ _______ ________________________________  ________  __________  ____  _____
```

14. Add the 7 remaining stations.

    This allows you to add all the stations at the same time on the same form.

Make a Hunt Group

1. At the SAT or DSA window, type **add hunt next**.

   The Hunt Group form displays:

```
add hunt-group next                                          Page   1 of  10
                                 HUNT GROUP

            Group Number: 1                                 ACD? n
              Group Name:                                 Queue? n
        Group Extension:                                 Vector? n
              Group Type: ucd-mia                 Coverage Path:
                      TN: 1           Night Service Destination:
                     COR: 1                     MM Early Answer? n
           Security Code:
     ISDN Caller Display:
```

2. Note the Group Number.
3. Type a name in the Group Name field.
4. Type the Group Extension, that is the Extension from the Hunt Groups form.
5. Ensure that Group Type is set to **ucd-mia**.
6. Ensure that Queue is **y** and Queue Length is **8**.
7. Press F7.

   The Hunt Group form displays:

```
add hunt-group next                                          Page   2 of  10
                                 HUNT GROUP

                            Message Center: audix




    Calling Party Number to INTUITY AUDIX? n
                             LWC Reception: none
```

8. Ensure that Message Center is set to **audix**.
9. Press TAB .

   The Calling Party Number to INTUITY AUDIX field appears.
10. Ensure that this field is set to **n**.
11. Ensure that LWC Reception is set to **none**.
12. Press F7.

    Page 3 of the Hunt Group form displays:

```
add hunt-group next                                          Page   3 of  10
                                   HUNT GROUP
          Group Number: 4       Group Extension: 2900        Group Type: ucd-mia
  Member Range Allowed: 1 - 200          Administered Members (min/max): 0  /0
                                             Total Administered Members: 0
GROUP MEMBER ASSIGNMENTS
     Ext   Name                                Ext   Name
  1: 2001                                  14: _____
  2: 2002                                  15: _____
  3: 2003                                  16: _____
  4: 2004                                  17: _____
  5: 2005                                  18: _____
  6: 2006                                  19: _____
  7: 2007                                  20: _____
  8: 2008                                  21: _____
  9: _____                                 22: _____
 10: _____                                 23: _____
 11: _____                                 24: _____
 12: _____                                 25: _____
 13: _____                                 26: _____

  At End of Member List
```

13. Type the extensions of the 8 stations you entered before.
14. Press F3.

Change Coverage Path

1. At the SAT or DSA window, type **add cov pa 1**.

   You receive the Coverage Path form.

```
add coverage path 2                                          Page   1 of   1
                                 COVERAGE PATH

                   Coverage Path Number: 2
                                                   Hunt after Coverage? n
                       Next Path Number: ____      Linkage

COVERAGE CRITERIA

    Station/Group Status    Inside Call     Outside Call
             Active?            n               n
               Busy?            y               y
       Don't Answer?            y               y          Number of Rings: 3
                All?            n               n
 DND/SAC/Goto Cover?            y               y

COVERAGE POINTS

    Terminate to Coverage Pts. with Bridged Appearances? n

      Point1: h4____            Point2: _______           Point3: _______
      Point4: _______           Point5: _______           Point6: _______
```

2. Ensure that Number of Rings is set to **3**.

3. Ensure that Point1 is set to the AUDIX hunt group that you previously set up.
4. Press F3.

Add test phones

1. At the SAT or DSA window, type **add sta next**.

```
add station next                                          Page   1 of   4
                                   STATION

Extension: 2017                          Lock Messages? n          BCC: 0
     Type: 6408D+                       Security Code:             TN: 1
     Port:                             Coverage Path 1:            COR: 1
     Name:                             Coverage Path 2:            COS: 1
                                       Hunt-to Station:

STATION OPTIONS
              Loss Group: 2                Personalized Ringing Pattern: 1
            Data Module? n                          Message Lamp Ext: 2017
           Speakerphone: 2-way                     Mute Button Enabled? y
        Display Language: english

                                                  Media Complex Ext:
                                                         IP SoftPhone? n
                                                  Remote Office Phone? n
```

2. Type the kind of phone you are using in the Type field.
3. Type the port in the Port field.
4. In the Coverage Path 1 field, type the number of the coverage path you just created or changed.
5. Fill in any other appropriate fields.

AUDIX administration

This section provides information about AUDIX commands and administering AUDIX initialization. For additional information about AUDIX administration, refer to the *AUDIX Administration PDF files* on the Documentation CD and *DEFINITY ONE Communications System AUDIX Administration Command Line Quick Reference* Card (555-233-737).

AUDIX commands

Commands available to change system settings and subscriber information in the AUDIX application are executable from the AUDIX command prompt. Users access the AUDIX command prompt from the DSA or Telnet interface. To view a list of commands, press F6, from the command prompt. The following AUDIX screen displays:

```
monroe              Active            Alarms: none                    Logins: 1

-add     to enter new administrative records
 audit   to validate system data
 change  to modify existing administrative records
 copy    to copy announcements and fragments
 display to display administrative records and maintenance logs
 exit    to exit from AUDIX administration and maintenance
 get     to request remote updates
 help    to display available types of help
 list    to produce reports
 logoff  to log off the system
 print   to send the command output to the attached printer
 remove  to remove administrative records
 reset   to restart or shutdown the Messaging Core
 test    to test alarm origination or outcall
 toggle  to toggle the function key settings
 trace   to turn on amis trace

enter command:
```

Adding an AUDIX subscriber

After completing the machine level translations, subscribers must be added to the DEFINITY ONE system. The following forms detail the addition of AUDIX subscribers. Enable the AUDIX forms via DSA or Telnet.

1. Start at the AUDIX command prompt.
2. Enter the command **Add Subscriber** and the extension number that the new subscriber will use.
3. Enter the data for the subscriber on page 1 of the Add Subscriber form as detailed in Table 3-2 on page 3-27.

The Add Subscriber form, page 1 displays:

```
monroe            Active          Alarms:   wA                    Logins: 1
add subscriber 2600                                             Page 1 of 2
                                  SUBSCRIBER

         Name: Jones, John                          Locked? n
    Extension: 2600                                Password:
          COS: class01                       Miscellaneous 1:
Switch Number:                               Miscellaneous 2:
 Community ID:                               Miscellaneous 3:
Secondary Ext:                               Miscellaneous 4:
 Account Code:                            Covering Extension:
                                           Broadcast Mailbox?

Email Address:




Press [ENTER] to execute or press [CANCEL] to abort
enter command: add subscriber 2600
```

Table 3-2. Field definitions for Add Subscriber screen, page 1

Field	Valid input	Description
Name	Subscriber's Name	This is the name of the subscriber. In the example above: Jones, John
Extension	Extension number	This is the extension number assigned on DEFINITY for the subscriber
Password	Can be alpha or numeric	Subscriber's password. Input a temporary password and instruct the new subscriber to change their password when they log in to AUDIX
COS	class00 to class11	Class of service; contains features that an AUDIX subscriber could be enabled to use. Set up the Class of Service on the system before adding subscribers.

4. Press F3 to save the information.

When adding subscribers to AUDIX, the preferred method is to first set up a Class of Service (COS) for a group of AUDIX subscribers. Using this method, the data is filled in for you on page 2 of the Add Subscriber form. The following is an example of page 2 of the Add Subscriber form.

The Add Subscriber Form, page 2 displays:

```
monroe              Active            Alarms:   wA                        Logins: 1
add subscriber 2600                                                      Page 2 of 2
                        SUBSCRIBER CLASS OF SERVICE PARAMETERS
 Addressing Format: extension             Login Announcement Set: System
 System Multilingual is OFF        Call Answer Primary Annc. Set: System
 Call Answer Language Choice? n  Call Answer Secondary Annc. Set: System

PERMISSIONS
      Type: call-answer     Announcement Control? n             Outcalling? n
      Priority Messages? y             Broadcast: none        IMAPI Access? y
 IMAPI Message Transfer? y          Fax Creation? y  Trusted Server Access? y

INCOMING MAILBOX          Order: fifo                Category Order: nuo
  Retention Times (days),   New: 10       Old: 10         Unopened: 10
OUTGOING MAILBOX          Order: fifo                Category Order: unfda
Retention Times(days), File Cab: 10       Delivered/Nondeliverable: 10

Voice Mail Message (seconds),  Maximum Length: 1200 Minimum Needed: 32
Call Answer Message (seconds), Maximum Length: 1200 Minimum Needed: 8
        End of Message Warning Time (seconds):
          Maximum Mailing Lists: 25     Total Entries in all Lists: 250
Mailbox Size (seconds), Maximum: 1200            Minimum Guarantee: 0
Press [ENTER] to execute or press [CANCEL] to abort
enter command: add subscriber 2600
```

Download Message Manager and DSA

Install Message Manager

See Chapter 8, ‘‘Message Manager Installation’’ for instructions on installing Message Manager.

Download DSA

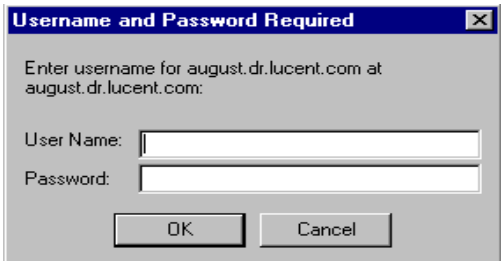
NOTE:
The IP address will be different depending on the type of physical connection established.

1. Open an Internet browser.
2. Type **http:// <IP address>** in the address area of the web browser.

The home page displays:

3. Click **Administer System**.

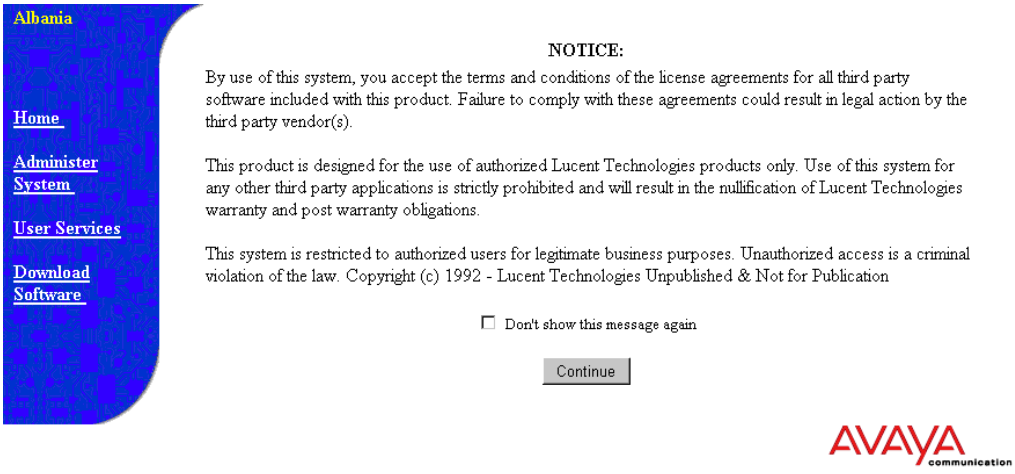
   A dialog box similar to the following displays:



4. Type the user name and password.

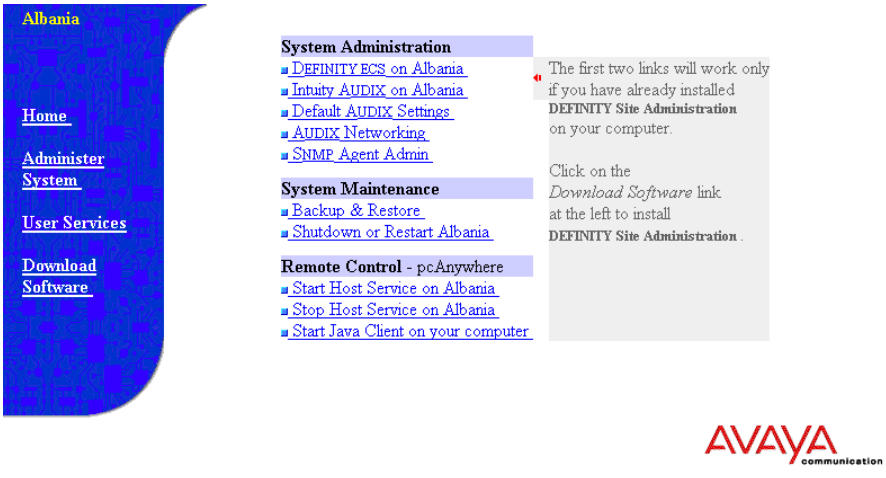
NOTE:
The Avaya Services representative uses the logins **lucent1**, **lucent2**, or **lucent3** and either the LAC password (NT password) or the ASG challenge. The customer uses an appropriate password to log in, such as NTadmin.

The following page displays:



5. After reading the page, click **Continue**.

   A page similar to the following displays:



6. Click **Download Software.**

   The **Software Download** page displays.

7. Click **DSA**.

   The **Save As** dialog box displays.

8. Choose a destination, such as the desktop.

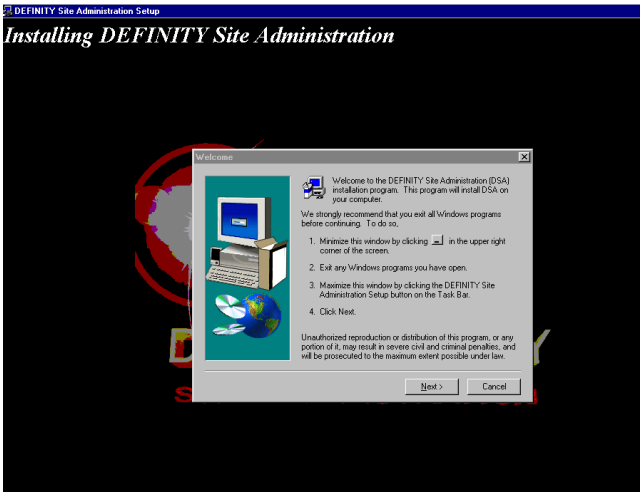
   The **Locations Saved To** page displays. When DSA, is saved, it reverts to the **Software Download** page.

9. Double click on the application name in the directory where you saved it.

   The **Unpacking DEFINITY Site Administration** dialog box and a **Welcome** dialog box are displayed.

10. Click **Next**.

    The DEFINITY Site Administration dialog box, including installation and related information, displays:



11. Click **Next**.
12. Click **Finish** when the “please wait” message disappears.

    The DSA README file displays. DSA is installed on your PC and a DSA icon appears under **Start** > **Programs** > **DEFINITY Site Administration**.

Start a DSA session

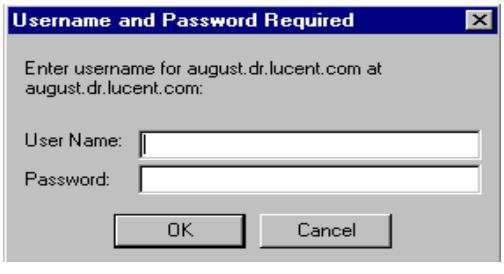
DSA can be started as a normal application from Windows at the start button. To start a DSA session:

1. Open an Internet browser.
2. Type **http:// <IP address>** in the address area of the web browser.

The DEFINITY ONE home page displays:

3. Click **Administer System**.

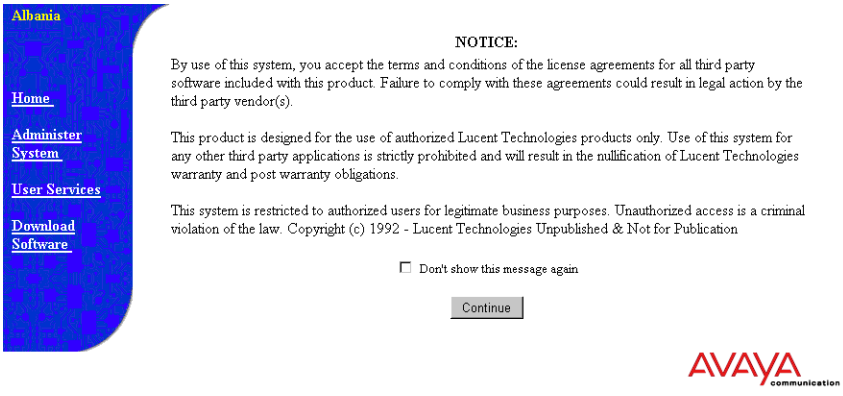
   A dialog box similar to the following displays:



4. Type your user name and password.

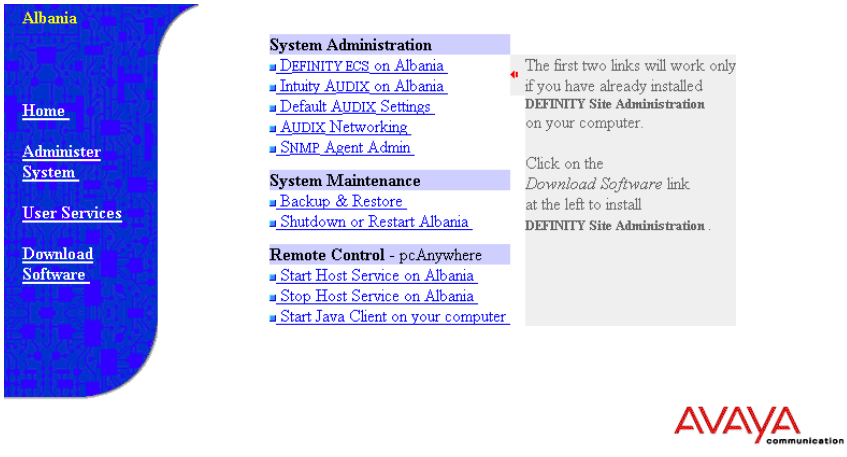
NOTE:
The Avaya Services representative uses the logins **lucent1**, **lucent2**, or **lucent3** and either the LAC password (NT password) or the ASG challenge. The customer uses an appropriate password to log in, such as NTadmin.

5. The following page displays:



6. After reading the page, click **Continue**.

   The following page displays:



7. Click **DEFINITY ECS** or **INTUITY AUDIX on <machine name>** in the right pane.

   DSA is launched.

8. Set up daily automatic backups of AUDIX. Backups can be to the LAN, PCMCIA card, or preferably, to a directory on your server. See "Performing and restoring backups" on page C-9.

Administer SNMP

The SNMP agent is installed with DEFINITY ONE. By default, SNMP is enabled. See "Enable and Disable SNMP" on page 3-9 for more information about enabling and disabling SNMP.

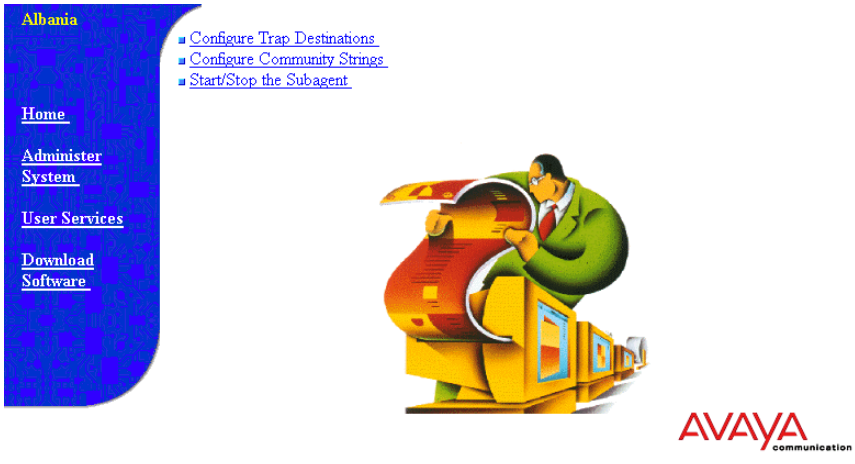
You can configure SNMP trap destinations, configure community strings, and start and stop the SNMP subagent process. After the SNMP agent is configured, and with Network Management System Interface (NMSI) software installed, a network manager can monitor DEFINITY ONE devices. The NMSI software can automatically discover the DEFINITY ONE devices in the network and display icons for them in an NMS IP map.

Configure SNMP trap destinations

To configure SNMP trap destinations:

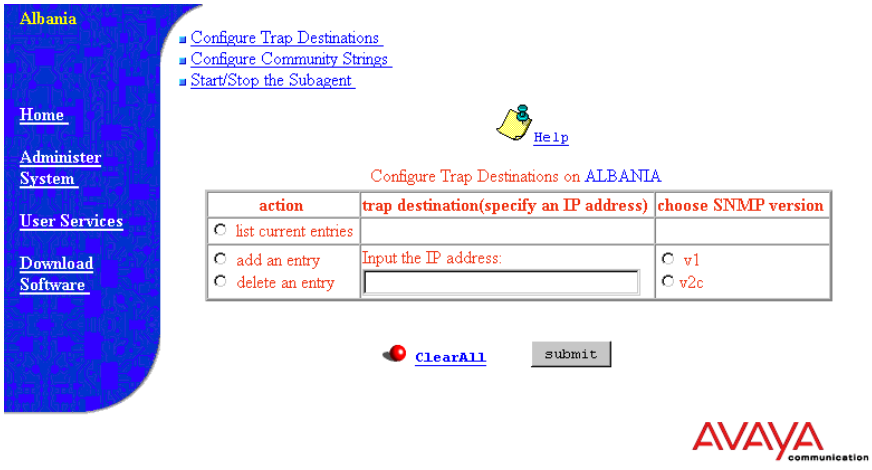
1. From the DEFINITY ONE home page, click **SNMP Subagent Administration.**

   The following page displays:

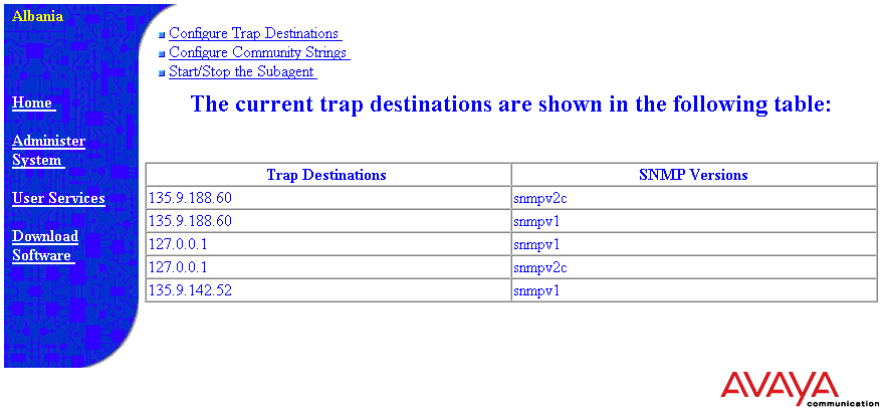


2. Click **Configure Trap Destinations**.

   The following page displays:



3. To list all current trap destinations, choose the **list current entries** option and click the **Submit** button. The following page displays:



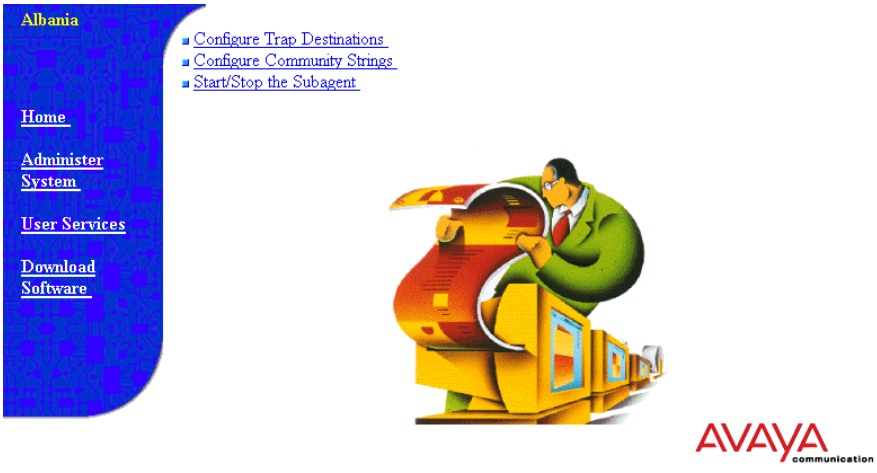
4. Click **Back** to return to the **Configure Trap Destinations** page.
5. To add an IP address to which traps will be sent:
   a. Choose the **add an entry** option.
   b. Enter the IP address in the **Input the IP address** field.
   c. Specify the SNMP version by clicking either the **V1** or **V2c** option.
   d. Click **Submit**.
6. To delete an IP address:
   a. Choose the **delete an entry** option.
   b. Enter the IP address in the **Input the IP address** field.
   c. Click **Submit**.

Configure SNMP community strings

To configure community strings:

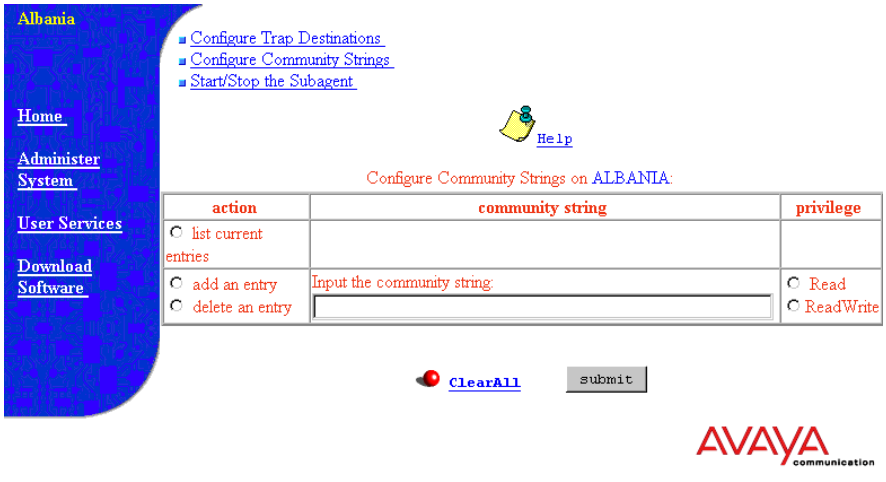
1. From the DEFINITY ONE home page, click **SNMP Subagent Administration.**

   The following page displays:



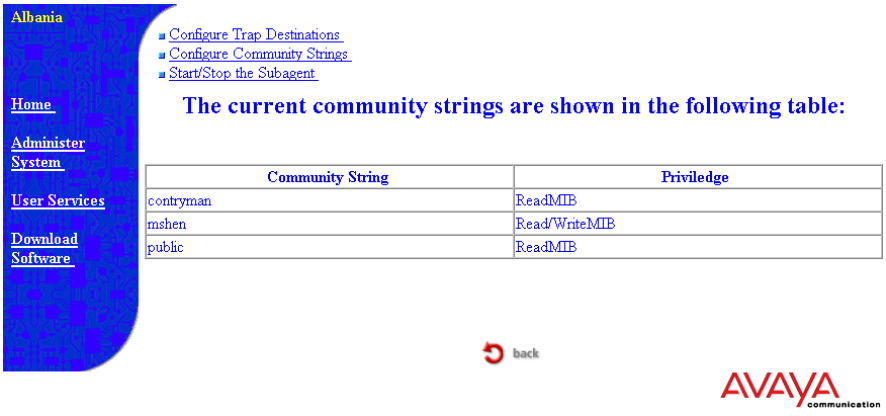
2. Click **Configure Community Strings**.

   The following page displays:



3. To list the currently administered community strings, click the **list current entries** option and click the **Submit** button.

   The following page displays:



4. Click **Back** to return to the **Configure Community Strings** page.
5. To add a community string:
   a. Click the **add an entry** option.
   b. Enter the value in the **Input the community string** field.
   c. Specify access permission by clicking the **Read** or **ReadWrite** options.
   d. Click the **Submit** button.
6. To delete a community string:
   a. Click the **delete an entry** option.
   b. Enter the value in the **Input the community string** field.
   c. Click the **Submit** button.

Start and stop SNMP

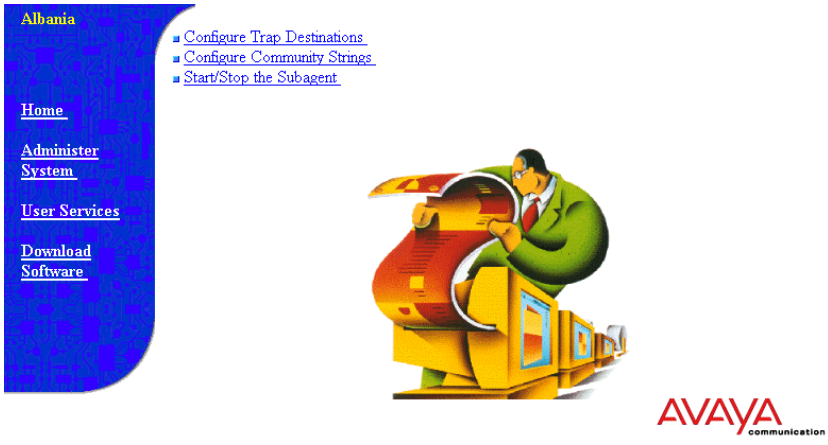
You can start and stop SNMP by using a bash command or the web interface.

To start SNMP using a bash command, start a bash session and enter **start snmp**. To stop SNMP using a bash command, start a bash session and enter **stop snmp**.

To start and stop SNMP using the web interface:

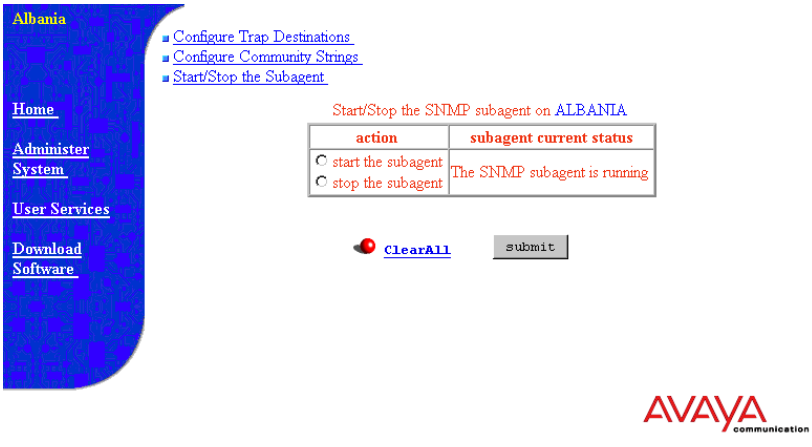
1. From the DEFINITY ONE home page, click **SNMP Subagent Administration.**

   The following page displays:



2. Click **Start/Stop the Subagent**.

   The following page displays:



   The **Start/Stop the Subagent** page shows whether the subagent process is running. From this page, you can start or stop the subagent process.

3. To start the subagent process, choose the **start the subagent** option and click **Submit.**

   To stop the subagent process, choose the **stop the subagent** option and click **Submit**.

Schedule backups

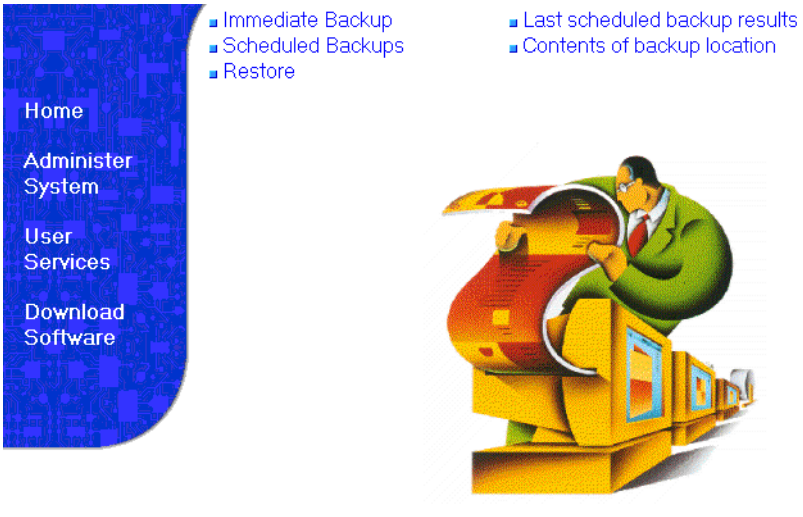
Backup procedures prevent loss of data due to system errors. Backups can be either immediate or scheduled. You can execute backup procedures to either the LAN or the PCMCIA flash card from the command line and web browser. For information about performing backups, see "Perform backup" on page C-4.

CAUTION:
Each backup overwrites the previous versions of backed up translations.

Adding a scheduled backup

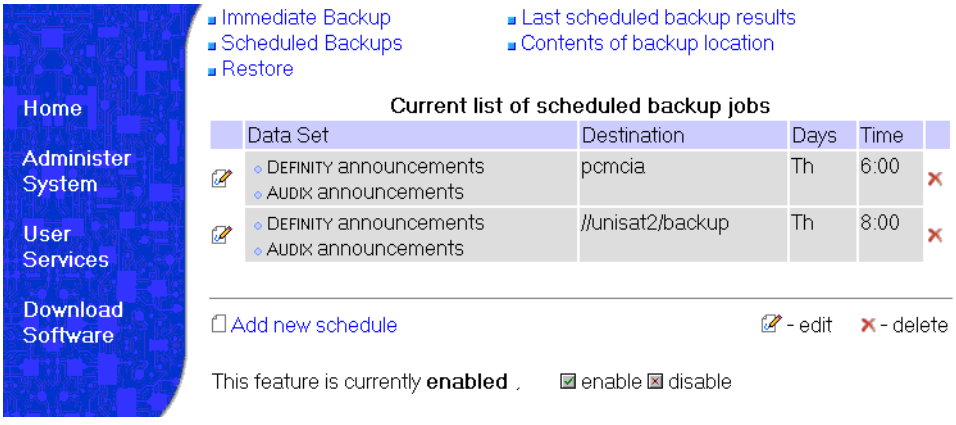
To schedule backups:

1. From the DEFINITY ONE administration page, click **Backup and Restore** to open the main backup menu. The following page displays:



2. Click **Scheduled Backups**.

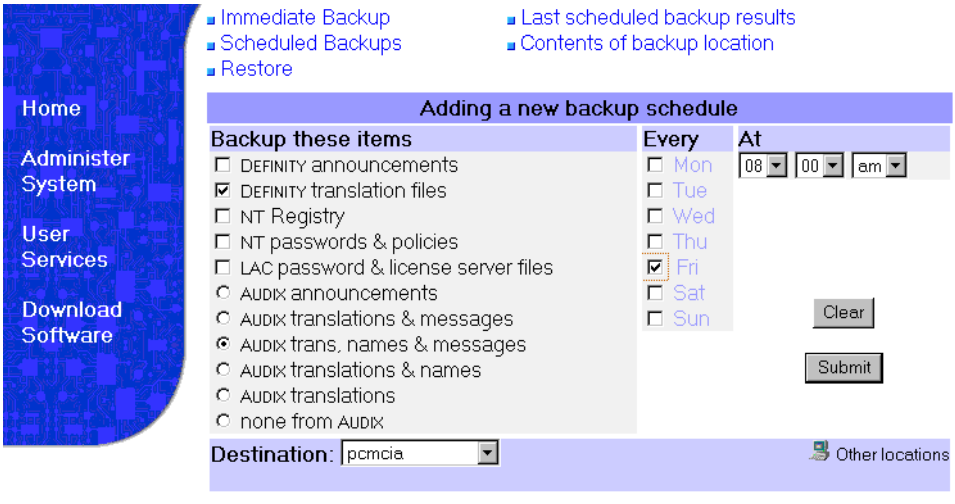
   The following page displays:



   From this page, you can add, edit, or delete scheduled backups.

3. On the **Current list of scheduled backup jobs** page, click **Add new schedule**.

   The following page displays:



4. Select backup destination either to a LAN address or a PCMCIA Flash Disk.
5. Select items for scheduled backup.
6. Select a day and time for the backup.
7. Click **Submit**.

AUDIX Digital Networking

4

This chapter provides information to administer digital networking after the initial system administration is complete. For further information, see *INTUITY AUDIX Administration.*

This chapter is organized as follows:

- "Initial administration tasks" on page 4-2
- "Viewing the Feature Options window" on page 4-4
- "Changing the number of administered remote users" on page 4-5
- "Administering networking channels" on page 4-6
- "Changing local machine information" on page 4-7
- "Adding a remote machine" on page 4-12
- "Performing a full remote update" on page 4-20
- "Resetting automatic deletion of nonadministered remote users" on page 4-20
- "Viewing remote extensions" on page 4-21

Initial administration tasks

To perform initial administration, complete the tasks shown in sequential order in Table 4-1 on page 4-2. Confirm that each of the tasks are performed, as some may have been completed by the technician at installation.

The design center provides information for completing digital networking administration. Ensure that you have design center specifications for TCP/IP, network channels, the local machine, and all remote machines.

Table 4-1. Initial administration tasks

Task	Description	Screens, windows, or commands
Complete Windows NT and switch administration (normally done by the technician at the time of installation).	Define the machine name, TCP/IP address, and the switch to work with AUDIX digital networking.	Windows NT Settings screens and Switch screens
View digital networking settings. See "Viewing the Feature Options window" on page 4-4.	Verify that the purchased digital networking options are correctly displayed.	List Configuration window
Verify or change the number of administered remote users (normally done by the technician at the time of installation). See "Changing the number of administered remote users" on page 4-5.	Define the number of administered remote users to be equal to or greater than the number of all mailboxes on all remote systems.	System Parameters Limits screen
Administer network channels (normally done by the technician at the time of installation). See "Administering networking channels" on page 4-6.	Enable the channels to create a communication link between the ACCX card and the switch or the LAN card and the LAN.	Networking Channel Administration window
Change the local machine. See "Changing local machine information" on page 4-7.	Define local machine information for digital networking.	Machine Profile screen; Local Machine Administration window
Add a remote machine or change a remote machine (normally done by the technician at the time of installation). See "Adding a remote machine" on page 4-12.	On the local machine, define information about each remote machine, including the machine name, password, connection type, and dial string.	Digital Network Machine Administration window; Machine Profile screen

Continued on next page

Table 4-1. Initial administration tasks — *Continued*

Task	Description	Screens, windows, or commands
Administer the AUDIX system on the remote machines.	On each remote machine, define information about the local machine.	Remote Machine Profile screen of the remote machine
Perform a full remote update. See "Performing a full remote update" on page 4-20.	Manually run a remote update for each remote machine to bring the network up to date immediately.	**get remote update** command
Set automatic deletion of nonadministered remote users. See "Resetting automatic deletion of nonadministered remote users" on page 4-20.	Sets the system to delete nonadministered remote users automatically.	System Parameters Features screen
View remote extensions. See "Viewing remote extensions" on page 4-21.	Check that remote users were added to the local database.	List Remote Extensions screen
Record remote machine names.	Record the names of remote systems so that local users hear voiced confirmations when addressing messages to users on those remote systems.	Use the telephone to perform this task.

Viewing the Feature Options window

View the Feature Options window to see the purchased options for digital networking. This window is display only, and can be changed only by certified Avaya personnel.

To display the Feature Options window:

1. Start at the AUDIX Command Prompt screen, which displays as shown below.

```
denver              Active          Alarms:    A                    Logins: 3
enter command:
```

2. At the `enter command:` prompt, enter **list configuration**

   The List Configuration screen displays:

```
hessville           Active          Alarms: M                       Logins: 1
list configuration                                                     Page 1
                              LIST CONFIGURATION

                     Configuration Option              Value

           Audix Application                           ON
           DCS                                         ON
           Fax                                         ON
           High speed digital ports                    N/A
           Low speed digital ports                     N/A
           Max Number of IMAPI Sessions                6
           Multilingual                                ON
           SCSI Disk Mirroring                         N/A
           TCPIP digital ports                         1
           Text-to-Speech Sessions                     2
           Trusted Servers                             6
           hours_of_speech                             30
           voice_ports                                 8

Press [NextPage], [PrevPage] or [Cancel]
enter command: list configuration
```

3. Contact your Avaya representative if you need more than the enabled number of ports or if you want to add TCP/IP networking.

Changing the number of administered remote users

The number of administered remote users must be equal to or greater than the number of mailboxes on all remote systems networked with this local system.

To change the number of administered remote users:

1. Start at the AUDIX command prompt screen.
2. Enter **change system-parameters limits** at the `enter command` prompt.

   The System-Parameters Limits screen displays:

```
                    Active          Alarms: MmwA                    Logins: 3
change system-parameters limits                                   Page 1 of 1
                          SYSTEM-PARAMETERS LIMITS

MESSAGE LIMITS
Message Lengths, Maximum  (seconds): 1200   Minimum  (tenths of seconds): 10
  Messages,  Total In All Mailboxes: 50000            Awaiting Delivery: 5000

ADMINISTRATION LIMITS
  Subscribers,  Local: 15000    Administered Remote: 1000
Lists,  Total Entries: 200000      Lists/Subscriber: 100   Recipients/List: 250

enter command: change system-parameters limits
```

3. Enter the number of remote users in the Administered Remote field.
4. Press F3 to save the information in the system database.

   The cursor returns to the command line, and the system displays the following message:

   `Command Successfully Completed`.

5. Enter **exit** or another administrative command.

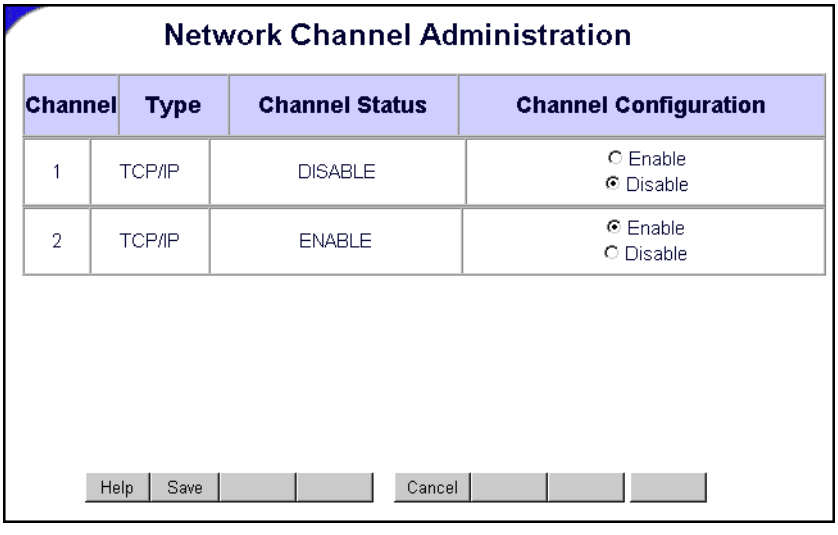
Administering networking channels

Enable the network channels so that the local AUDIX system can exchange voice messages over the digital network. Enabling the channels creates a communication link between the ACCX card and the switch or between the LAN card and the LAN and/or the wide area network (WAN).

To enable the network channels:

1. Start at the DEFINITY ONE main page from Internet Explorer or Netscape, and select **Administer System** > **AUDIX Networking** > **Administrative Menu** > **Network Channel Administration**.

   The system displays the Network Channel Administration window:



2. Click **Enable** for each channel in the Channel Configuration column.
3. Click **Save**.

   The system takes a few seconds to change the hardware configuration. The system displays a confirmation message when the process finishes.

Changing local machine information

You can change local machine information on the Machine Profile screen for the local machine and on the Local Machine Administration window.

NOTE:
If you change the local machine profile, contact all remote network administrators and inform them of the changes.

Changing the local machine profile

1. Start at the AUDIX command prompt screen.
2. Enter **change machine** at the `enter command:` prompt.

   The system displays the Machine Profile screen for the local machine, page 1:

```
                    Active          Alarms: MmwA                    Logins: 2
change machine                                                     Page 1 of 2
                              MACHINE PROFILE

Machine Name: drmid10      Type: local          Location: local

 Voiced Name? n                                 Extension Length: 5
    Voice ID: 0                                Default Community: 1

ADDRESS RANGES
    Prefix                   Start Ext.   End Ext.        Warnings
 1: ____________________     36000        37999
 2: ____________________     ________     ________
 3: ____________________     ________     ________
 4: ____________________     ________     ________
 5: ____________________     ________     ________
 6: ____________________     ________     ________
 7: ____________________     ________     ________
 8: ____________________     ________     ________
 9: ____________________     ________     ________
10: ____________________     ________     ________

enter command: change machine
```

3. Complete the fields on this screen using the information from Table 4-2 on page 4-8.

   NOTE:
   The Machine Name, Type, Location, Extension Length, and Voice ID fields are display only and cannot be changed except via the web page.

Table 4-2. Field definitions; local machine profile screen, page 1

Field	Valid input	Procedure/Description
Machine Name	Display only	Displays the Machine Name for the local machine. This value comes from the network settings in Windows NT.
Machine Type	Display only	Displays `local`.
Location	Display only	Displays `local`.
Voiced Name?	**y** = yes **n** = no	The Voiced Name field contains an **n** until you record a name for the machine. This field automatically changes to **y** when you record a name for the machine.
Extension Length	an integer, 3 through 10	Enter the length of extensions on the local system. The value you enter must match the extension length in your dial plan.
Voice ID	Display only	Displays a system-assigned identifier that you must use to identify the machine if you decide to record machine names.
Default Community	an integer, 1 through 15	If you have administered your system to use community sending restrictions, enter the default community number for your user population.
Prefix	0 to 21 alphanumeric characters	Prefixes can be used on the local machine, but they limit the functionality and are not recommended. For a detailed discussion of the use and implications of prefixes, see the AUDIX Fax Administration documentation.

Continued on next page

Table 4-2. Field definitions; local machine profile screen, page 1 — *Continued*

Field	Valid input	Procedure/Description
Start Ext.	a 3-digit to 10-digit string	Enter the starting extensions for the ranges of telephone numbers used on the local system. (Designate a block of switch extensions that can be used at the local system when assigning users.) For example, if your system uses extensions between 2000 and 3000, enter **2000** in the Start Ext. field. Up to 10 different ranges can be specified to pinpoint the exact set of extension blocks used by the local system. The length of the start and end extension must agree with the Extension Length field. For a 5-digit extension, the default is 00000 to 99999.
End Ext.	a 3-digit to 10-digit string	Enter the ending extensions for the ranges of telephone numbers used on the local system. For example, if your system uses extensions between 2000 and 3000, enter **3000** in the End Ext. field.
Warnings	Display only	This field displays a warning when a duplication or overlap of an extension range for another machine is being assigned.

4. When you have finished entering information on this screen, press F7.

   The system displays Machine Profile screen for the local machine, page 2:

```
                    Active          Alarms: MmwA                    Logins: 2
change machine                                                     Page 2 of 2
                              MACHINE PROFILE

Allow Automatic Full Updates? y

              Updates:    In? y        Out? y

          Network Turnaround? y

enter command: change machine
```

5. Complete the fields on this screen using the information provided in Table 4-3.

Table 4-3. Field definitions; local machine profile screen, page 2

Field	Valid input	Description
Allow Automatic Full Updates	**y** = yes **n** = no	If **y**, the local AUDIX system automatically requests full updates from remote systems. If **n**, the local AUDIX system does not automatically request full updates from remote systems.
Updates: In?	**y** = yes **n** = no	If **y**, this local AUDIX system will accept updated user database information from any remote machine (the Updates In field must also be set to **y** on the remote Machine Profile screen setup on the local AUDIX system for each remote machine). If **n**, the local AUDIX system will not accept updates from any remote machine regardless of the entry on the remote Machine Profile screen. Set this field to **y** only after testing the network end-to-end during initial administration.

Continued on next page

Table 4-3. Field definitions; local machine profile screen, page 2 — *Continued*

Field	Valid input	Description
Updates: Out?	**y** = yes **n** = no	If you enter **y**, updates to user database information for local users are sent to a remote machine (the Updates Out field must also be set to **y** on the remote Machine Profile screen set up on the local AUDIX system for each remote machine). If you enter **n**, updates will not be sent to any remote machine regardless of the entry for this field on the remote Machine Profile screen. Set this field to **y** only after testing the network end-to-end during initial administration.
Network Turnaround	**y** = yes **n** = no	To disable this feature system-wide, enter **n** on the local Machine Profile screen. To enable the feature, enter **y** on the local Machine Profile screen *and* on the appropriate remote Machine Profile screens on this local system. If enabled, a network connection that originated from this local AUDIX system is allowed to turn around after the local AUDIX system has sent all of its network data to any remote machine. The remote machine may then return update information, voice mail, and status on the same connection.

6. When you finish updating the local machine information, press **F3 [Enter]** to save the information in the system database.

   The cursor returns to the command line, and the system displays the following message:

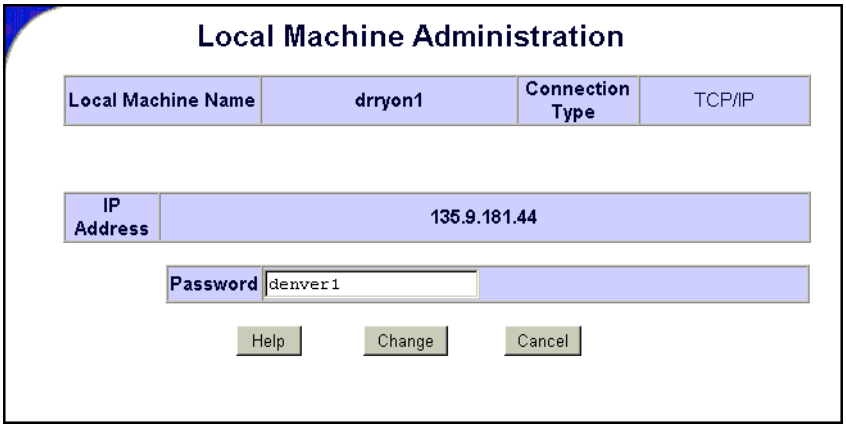
   `Command Successfully Completed.`

7. Enter **exit** or another administrative command.

Completing the Local Machine Administration window

1. Start at the DEFINITY ONE home page from the web browser and select **Administer System** > **AUDIX Networking** > **Administrative Menu** > **Local Machine Administration**

   The Local Machine Administration window displays:



2. Change the password if necessary.

   You cannot change the value in any fields except the Password field. To change other values, see "Changing the local machine profile" on page 4-7.

3. Click **Save**.

   The system updates the information and displays a confirmation message.

Adding a remote machine

If you want users on the local machine to be able to exchange messages with AUDIX users on another machine, you must provide information to the local machine about the remote machine.

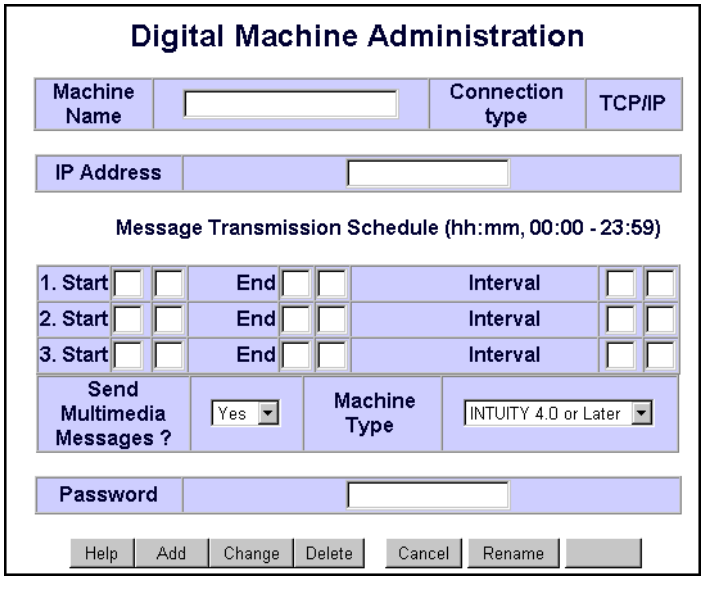
NOTE:
The AUDIX system accepts only 1 local machine. Do not attempt to add a second local machine. Use the instructions in this section only to add remote machines.

Completing the Digital Network Machine Administration window (via Web browser)

To enter information for connecting to the remote machine:

1. Start at the DEFINITY ONE home page and select **Administer System** > **AUDIX Networking** > **Administrative Menu** > **Remote Machine Administration** > **Digital Machine Administration**
2. On the Digital Machine Administration screen, click **Add New Machine**.

   The system displays the Digital Machine Administration window:



3. Complete the fields in this window using the information provided in Table 4-4 on page 4-14.

Table 4-4. Field definitions; digital network machine administration window

Field	Valid input	Procedure/Description
Machine Name	1 to 10 alphanumeric characters; see guidelines at right	Enter the unique name of the remote machine. Each remote machine must have a unique name, not only from other remote machines, but from all machines on the network, including fax call delivery machines and the local AUDIX.
TCP/IP Address	Numeric address string in the format nnn.nnn.nnn.nnn	The IP address of the remote machine.
Message Trans-mission Schedule	24-hour clock time in the format *hh*:*mm*	`Start Time` — Enter the starting time for a message transmission period to the remote system, such as *00:01* for 1 minute after midnight. `End Time` — Enter the ending time for a message transmission period to the remote system, such as *23:59* for 1 minute before midnight. `Interval` — Enter the interval at which the local AUDIX system will call this remote system, such as *00:05* for every 5 minutes. The AUDIX system checks the queue at this interval and calls the remote system if something is in the queue for this remote system. Stagger start times and intervals for each remote system so the local AUDIX system is not trying to call all remote systems at the same time.
Password	5-digit to 10-digit alphanumeric characters	Enter the password exactly as it is administered on the remote system.
Send Multimedia Messages?	yes no	Select **yes** if the remote machine will accept multimedia messages (such as fax and text messages). Select **no** if the remote machine will not accept multimedia messages.
Machine Type	See description at right	Enter the machine type. To see a list of valid machine types, click the dropdown arrow and select the appropriate machine type from the available types.

4. When you finish entering information for a remote machine, click **Save**.

   The system adds the information and displays a confirmation message.
5. Add another remote machine if needed.

Completing the Machine Profile screen for the remote machine (via AUDIX)

Use the Machine Profile screen to enter networking information required for each remote machine, such as address ranges and remote update information.

To enter networking information on the Machine Profile screen:

NOTE:
The Digital Network Machine Administration window must be completed for a remote machine before completing the Machine Profile screen for that machine.

1. Start at the AUDIX command prompt screen.
2. Enter **change** machine ***remote_machine_name*** at the `enter command:` prompt.

   The system displays the Machine Profile screen for a remote machine, page 1:

```
                    Active          Alarms: MmwA                    Logins: 2
change machine drbig10                                             Page 1 of 2
                              MACHINE PROFILE

Machine Name: drbig10      Type: VEX            Location: remote-digital

 Voiced Name? n                                 Extension Length: 5
    Voice ID: 1                                Default Community: 1

ADDRESS RANGES
    Prefix                  Start Ext.   End Ext.        Warnings
 1: ____________________    53000        56999
 2: ____________________    __________   __________
 3: ____________________    __________   __________
 4: ____________________    __________   __________
 5: ____________________    __________   __________
 6: ____________________    __________   __________
 7: ____________________    __________   __________
 8: ____________________    __________   __________
 9: ____________________    __________   __________
10: ____________________    __________   __________

enter command: change machine drbig10
```

   NOTE:
   If you do not know the names of the remote machines, enter **list machines** at the `enter command:` prompt. The system displays a list of all machines administered on the system.

3. Complete the fields in this window using the information provided in Table 4-5 on page 4-16.

   NOTE:
   The Machine Name, Type, Location, and Voice ID fields are display only and cannot be changed.

Table 4-5. Field definitions; remote machine profile screen, page 1

Field	Valid input	Description
Machine Name	Display only	Displays the machine name for this remote machine entered on the Digital Network Machine Administration window.
Type	Display only	Displays the machine type for this remote machine entered on the Digital Network Machine Administration window.
Location	Display only	Displays the location `remote-digital`.
Voiced Name?	**y** = yes **n** = no	The Voiced Name field contains an **n** until you record a name for the machine. This field automatically changes to **y** when you record a name for the machine.
Extension Length	An integer from 3 to 10	Enter the length of extensions on the local system. The value you enter must match the extension length in your dial plan.
Voice ID	Display only	Displays a system-assigned identifier that you must use to identify the machine if you decide to record machine names.
Default Community	An integer from 1 to 15	If you have administered your system to use community sending restrictions, enter the default community number for your user population.

Continued on next page

Table 4-5. Field definitions; remote machine profile screen, page 1 — *Continued*

Field	Valid input	Description
Prefix	0 to 21 alphanumeric characters	Enter the prefix digits. A user enters the prefix before the remote user's extension when addressing voice messages. To simplify this task, use a short, descriptive prefix. The total length of the prefix plus the extension must not exceed 25 characters. The system uses the prefix only to identify users. It is not used for dialing out, so it does not need to match an area code or office code. The following are examples of possible prefixes: No prefix — The prefix is required only when one or more of the remote users share the same extension numbers as the local users (the extension ranges of the two systems overlap). If there are no overlapping extension numbers, a prefix is not needed. Public network access code — When addressing a message to a remote user, the local user enters the remote user's number as if placing a call to that user. Location code — This method simplifies addressing messages by requiring only an alphanumeric code in front of the extension number. Location codes are shorter and often easier to remember.
Start Ext.	A 3-digit to10-digit string	Enter the starting extensions for the ranges of telephone numbers used on the local system. (Designate a block of switch extensions that can be used at the local system when assigning users.) For example, if your system uses extensions between 2000 and 3000, enter **2000** in the Start Ext. field. Up to 10 different ranges can be specified to pinpoint the exact set of extension blocks used by the local system. The length of the start and end extension must agree with the Extension Length field. For a 5-digit extension, the default is 00000 to 99999.

Continued on next page

Table 4-5. Field definitions; remote machine profile screen, page 1 — *Continued*

Field	Valid input	Description
End Ext.	A 3-digit to10-digit string	Enter the ending extensions for the ranges of telephone numbers used on the local system. For example, if your system uses extensions between 2000 and 3000, enter **3000** in the End Ext. field.
Warnings	Display only	This field displays a warning when a duplication or overlap of an extension range for another machine is being assigned.

4. Press **F7 [NextPage]**.

   The system displays the Machine Profile screen for a remote machine, page 2:

```
                    Active          Alarms: MmwA                    Logins: 2
change machine drbig10                                            Page 2 of 2
                              MACHINE PROFILE

Send to Non-Administered Recipients? y

                     Updates:    In? y        Out? y

                Network Turnaround? y

enter command: change machine drbig10
```

5. Complete the fields in this window using the information provided in Table 4-6 on page 4-19.

Table 4-6. Field definitions; remote machine profile screen, page 2

Field	Valid Input	Description
Send to Non-Administered Recipients?	**y**= yes **n** = no	Enter **y** if the system will attempt to deliver messages to non-administered remote recipients. Enter **n** if messages cannot be sent to nonadministered recipients.
Updates: In?	**y**= yes **n** = no	Enter **y** if the local system will accept updated database information from the remote system (the Updates Out field must also be set to **y** on the local Machine Profile screen). Set to **y** only after testing the network end-to-end during initial administration.
Updates: Out?	**y**= yes **n** = no	Enter **y** if the local system will send updated database information to the remote system (the Updates In field must also be set to **y** on the local Machine Profile screen). Set to **y** only after testing the network end-to-end during initial administration.
Network Turnaround	**y**= yes **n** = no	If you are conducting an acceptance test, enter **n**. After the acceptance tests, enter **y** if a network connection that originated from this remote system is allowed to turn around after the remote system has sent all of its network data to the local system. The local system may then return update information, voice mail, and status on the same connection. This feature reduces toll charges and increases the efficiency of the system in networks with more than 10 machines. The Network Turnaround field must be set to **y** on the local Machine Profile screen for this feature to work between the local system and the remote system.

6. Press **F3 [Enter]** to save the information.

   The cursor returns to the command line, and the system displays the following message:

   `Command Successfully Completed.`

7. Press **F3 [Cancel]** to return to the command line.
8. Enter **exit** or another administrative command at the `enter command:` prompt.

Performing a full remote update

If you have the system set to perform automatic daily updates, you only need to perform the full remote update to update the system after making changes to remote machine connections or to verify changes of data you just entered.

To update the remote user information immediately:

1. Start at the AUDIX command prompt screen.
2. Enter **get remote update *machine_name*** at the `enter command:` prompt, where machine_name is the name of the remote machine.

   The system displays the Remote Update Request confirmation screen.
3. Press **F3 [Enter]** to continue.

   The cursor returns to the command line, and the system displays the following message:

   `Command Successfully Completed.`
4. Enter **exit** or another administrative command at the `enter command:` prompt.

Resetting automatic deletion of nonadministered remote users

To conserve server space by automatically deleting nonadministered remote users:

1. Start at the AUDIX command prompt screen.
2. Enter **change system-parameters features** at the `enter command:` prompt.

   The system displays the System-Parameters Features, page 1 screen.
3. Press F7 3 times to display the System-Parameters Features, Page 4 screen.
4. In the Days without Activity field, type the number of days. Type **0** if you do not want to automatically delete nonadministered remote subscribers.
5. In the Even If on a Mailing List? field, type **n** to retain information for nonadministered remote subscribers that are on a subscriber's mailing list.
6. Press F3 to save the changes.

   The cursor returns to the command line, and the system displays the following message:

   `Command Successfully Completed.`
7. Enter **exit** or another administrative command.

Viewing remote extensions

To verify that the local machine database updated the remote subscriber information, view the remote extensions:

1. Start at the AUDIX command prompt screen.
2. Enter **list remote-extensions machine_name** at the `enter command:` prompt, where the machine_name is the local machine of the remote subscribers.

   The system displays the List Remote Extensions screen.
3. Press F7 to display additional pages of the list.
4. Press F1 to return the cursor to the command line.
5. Enter **exit** or another administrative command.

Upgrade and Repair Procedures

5

This chapter provides the procedures to upgrade and repair the DEFINITY ONE system.

This chapter is organized as follows:

- "Upgrade DEFINITY ONE" on page 5-1
- "Replace the TN795 circuit pack" on page 5-4
- "Replace the hard disk" on page 5-5
- "Replace the PCMCIA flash disk (hot pluggable)" on page 5-7
- "Access Diskeeper software to defragment the disk" on page 5-7

Upgrade DEFINITY ONE

This procedure is used to upgrade DEFINITY ONE.

When upgrading DEFINITY ONE to a new release, you must install a new license file. License file installation information is available online. See "Obtain a license file" on page 3-4. Or, contact your Avaya technical services representative.

- For external access: www.lucent-teamworks.com
- For internal access: http://info.dr.lucent.com/~epr/contry.

Prepare for the upgrade

1. Prepare laptop for upgrade (share laptop CD drive or map to laptop). See "Connect the laptop computer to DEFINITY ONE" on page 2-3.
2. Connect the laptop computer using the procedure in "PCMCIA ethernet network interface card" on page 2-2.
3. Telnet to the LAC using "Via a Telnet session" on page 2-26 and open a bash shell.
4. At the prompt, enter **shutdown Audix** as AUDIX must be shut down before it can be backed up. The bash prompt takes about 3 minutes to return.
5. The **d1stat** command verifies the status of the AUDIX shutdown.
6. After AUDIX shuts down, enter **exit**.
7. From the LAC prompt, enter DEFINITY using the NTT terminal type.
8. From the DEFINITY command line, enter **save trans**.
9. Back up all translations. See "Perform immediate backup" on page C-10.
10. Start a pcAnywhere session using "Via pcAnywhere" on page 2-31 and Access the DEFINITY ONE.

    The DEFINITY ONE desktop is displayed.
11. Click **Start>Run>bash** to enable a console bash shell on the DEFINITY ONE.
12. In the console bash, enter **shutdown all** to stop all running system applications.

NOTE:
If desired during the shutdown process, open a second console bash and use the **d1stat** command to check the status of the shutdown.

NOTE:
Install a new license file if the processor board has been changed or the software is upgraded to a new release. Use the procedure "Obtain a license file" on page 3-4. Do not reboot until the **installconfig** procedure is complete. This procedure is not yet valid for non-U.S. applications. For assistance, contact your Avaya representative.

Run the upgrade

Running the upgrade consists of:

- Upgrading the system
- Upgrading pcAnywhere

Upgrade system

1. Insert the customer's CD into the laptop CD-ROM drive.
2. Map the CD-ROM from the laptop to DEFINITY ONE using the procedure "Map DEFINITY ONE to laptop CD-ROM drive" on page 2-12.
3. Choose **Run** from the **Start** menu on the Windows NT desktop and type **f:\setup**, where **f** is the drive letter that refers to the CD-ROM. Click **OK**.

   The install process takes approximately 30 minutes.
4. If prompted to overwrite a read-only file, click **Yes**.
5. When the installation completes, click **Finish**. The system automatically reboots.
6. Open a console bash and enter d1stat. When DEFINITY is up, check for dial tone.

Upgrade pcAnywhere

If you are not running version 9 of pcAnywhere, you must upgrade it to version 9. To upgrade pcAnywhere:

1. Share laptop CD drive or map to laptop. See "Map DEFINITY ONE to laptop CD-ROM drive" on page 2-12.
2. Connect the laptop computer using the procedure "Connect the laptop computer to DEFINITY ONE" on page 2-3.
3. Telnet to the LAC using "Via a Telnet session" on page 2-26 and open a bash shell.
4. At the prompt, enter **pcAnywhere -remove f:**, where f is the drive letter that refers to the CD-ROM. Wait for system reboot. This can take up to 10 minutes, not including reboot.
5. Telnet to the LAC using "Via a Telnet session" on page 2-26 and open a bash shell.
6. At the prompt, enter **pcAnywhere -install**. Wait for the system to reboot. This can take up to 10 minutes, not including reboot.
7. Telnet to the LAC using "Via a Telnet session" on page 2-26 and open a bash shell.
8. At the prompt, enter **pcAnywhere -admin**. When the bash prompt returns, the pcAnywhere update is complete.

Replace the TN795 circuit pack

NOTE:
If the TN795 circuit pack is replaced, for repair or upgrade, a new license file must be obtained and the installconfig process must be used. DEFINITY, INTUITY AUDIX, and SNMP will not start if the license file does not match the new TN795 serial number.

1. Shut down the system.
2. Remove the TN795 circuit pack.
3. Remove the hard disk from the failed TN795 circuit pack.
4. Insert the hard disk onto the new TN795 circuit pack.
5. Boot the system.

Follow the procedures to install a new license file, including running the **setip** command. See "Obtain a license file" on page 3-4 for more details.

NOTE:
The system will boot but DEFINITY ONE applications will not run because the serial number on the disk does not match the serial number on the board. Because the hard disk is reused, the system has the old password file that was on the system before the board failed. To log in you must obtain the appropriate password from the TSO.

Replace the hard disk

To replace the hard disk perform the following procedures:

Remove the old disk

1. Shut down the system.
2. Remove the TN795 circuit pack.
3. Remove the failed hard disk from the TN795 circuit pack.

Add the new hard disk

1. Insert the new hard disk onto the board, ensuring that it is the appropriate hard disk for the given circuit pack and software release.
2. The disk comes pre-loaded with all the necessary DEFINITY ONE software; however, the DEFINITY ONE applications will not run until you install the new license file. See "Obtain a license file" on page 3-4.

Verify the software on the new hard disk

1. Once the system reboots, connect the services laptop computer to DEFINITY ONE.
2. Telnet to the LAC as per "Via a Telnet session" on page 2-26 to access DEFINITY ONE.
3. Log in and run a bash session.

   The browser prompts for a login and password. Because the new hard disk does not have a password file, the system reverts to the factory default login of **lucent3**.
4. Execute **swversion** and verify the software on the hard drive matches that on the customer's CD. If it does not, see "Upgrade DEFINITY ONE" on page 5-1.

Restore customer's data

CAUTION:
When upgrading to a new release, do not restore the Windows NT registry.

1. Enable a browser on the laptop and load the DEFINITY ONE Home Page. For information on how to start a web browser, see "Via a Web browser session" on page 2-29.
2. Navigate the browser to the backup and restore screens.

   The browser prompts for a login and password. Because the new hard disk does not have a password file, the system reverts to the factory default login of **lucent3**.
3. Follow the steps for restoring the customer's data. The customer may have backed up to their local network or the PCMCIA flash disk.

   If the customer backed up to the PCMCIA flash disk, then whatever was backed up last will be restored. If the registry was backed up, the restore will update LAN information allowing DEFINITY ONE to be seen from the customer's network.

   If the customer backed up to the local network or failed to back up the registry, run **setip** with the cust option to re-establish DEFINITY ONE on the customer's network.
4. After restoring, follow the procedures to install a new license file, including running the **setip** command. See "Obtain a license file" on page 3-4.

   After installing the license file, the system restarts and all applications load. The logins and passwords have been updated by the **installconfig** command.
5. Note that the NT logins of **vm**, **sa**, **browse**, and **NTadmin** are reset to their factory defaults. Tell the customer to reset these passwords and to reinstall other NT accounts they may have created.

   NOTE:
   The DEFINITY-specific customer logins should work as they were restored with the previous restore.
6. If necessary, upgrade the software on the disk by following "Upgrade DEFINITY ONE" on page 5-1. Always upgrade the software before installing the new license file.

   NOTE:
   It is not necessary to install a license file between loads in the same release, such as DEFINITY ONE Release 9 to Release 9.

Replace the PCMCIA flash disk (hot pluggable)

This procedure describes replacement of the PCMCIA flash disk.

1. Verify that the disk is not in use (check LED on front panel).
2. Unplug the old disk and insert the new disk.
3. Run translation backup to verify that the new disk is functioning.

Access Diskeeper software to defragment the disk

NOTE:
Do not schedule defragmentation to occur during scheduled DEFINITY maintenance. Open a SAT session and type **change system-parameters maintenance** and press Enter. Note the scheduled maintenance times.

Diskeeper software automatically defragments the disk. The C drive is defragmented once every Sunday at 3:00 a.m., and the D drive once every day between 2:00 a.m. and 4:00 a.m. You can change these times.

Change the default times on Diskeeper

1. From the DEFINITY ONE desktop, click **Start** > **Programs** > **Executive Software** > **Diskeeper**.

   The Diskeeper menu displays.
2. Select **Set It and Forget It**.
3. Select **Partition Scheduler**.
4. Select **Set It and Forget It** - **Partition Scheduling** window displays.
5. Set new times for automatic defragging. This changes the default times.
6. Click **Start**.
7. Click **Close**.

Hardware Additions

6

This chapter provides the tasks required to install equipment associated with upgrading an existing DEFINITY ONE system.

For more information about installing adjuncts and peripheral devices, see *DEFINITY Enterprise Communications Server Release 8.2 Installation for Adjuncts and Peripherals* (555-233-116).

This chapter is organized as follows:

- “Add circuit packs” on page 6-2
- “Add IP trunk” on page 6-2
- “Add remote office” on page 6-11
- “Add C-LAN functionality” on page 6-11
- “Add TN464GP/TN2464BP with Echo Cancellation” on page 6-16
- “Downloading Firmware to Port Circuit Packs” on page 6-19
- “Add CO, FX, WATS, and PCOL” on page 6-27
- “Add DID trunks” on page 6-28
- “Add tie trunks” on page 6-28
- “Add DS1 tie and OPS” on page 6-30
- “Add speech synthesis” on page 6-30
- “Add Code Calling access” on page 6-30
- “Add pooled modem” on page 6-31
- “Multiple integrated recorded announcements” on page 6-33
- “Add ISDN-PRI” on page 6-36

Add circuit packs

When installing additional features or equipment, it may be necessary to install additional circuit packs. For a list of allowable circuit packs, see "Allowable and non-allowable circuit packs" on page 1-36. 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 in the carrier.
3. Type **change circuit-pack**.
4. Verify that the circuit pack appears in the listing.
5. If the circuit pack code does not appear, type the code manually in the proper slot.
6. Type **test board long** command to test the board.
7. Log off the system after the addition (and any required administration) is complete.

For information about administering circuit packs and other equipment, see the *DEFINITY Enterprise Communications Server Release 9 Administrator's Guide* (555-233-506).

Add IP trunk

The DEFINITY IP Trunk lets you integrate LAN applications into the DEFINITY communications network. It is implemented using the TN802B MAPD, which is a Windows NT server residing on a circuit pack inside DEFINITY ONE. Installing the DEFINITY IP Trunk involves the following steps:

1. Prepare for installation
2. Check your shipment
3. Connect the modem (optional)
4. Connect the IP trunk server to your local area network

Prepare for installation

Prepare the following before your shipment arrives:

- Three adjoining, unoccupied slots in the DEFINITY ONE.

  The IP-trunk circuit pack occupies only 1 slot, but needs the 2 slots to its left for clearance.

- A 10/100 BaseT ethernet connection into your local area network

- A valid, unused IP address on your network that can be assigned to the IP Trunk server
- A technician's laptop computer
- A mouse, keyboard, and VGA monitor with Windows NT loaded for use during the installation of the server
- An analog telephone line reserved for the IP-trunk diagnostic modem
- A valid international telephone number reserved for the IP-trunk diagnostic modem
- Symantec pcAnywhere software

  This third-party application lets Avaya support personnel control the MAPD processor remotely, via the modem, during maintenance and troubleshooting.
- AC power outlets for the modem and monitor

Check your shipment

When your DEFINITY IP Trunk order arrives, check the contents.

1. Before opening the shipping carton, inspect it for damage. 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 missing contents on the packing slip. The carton should contain the following for each IP Trunk ordered: See Table 6-1 on page 6-4.
   - TN802B MAPD circuit pack
   - US Robotics Sportster external modem

     The modem permits Avaya support personnel to remotely maintain and troubleshoot your system.
   - TN802B external cable assembly

     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, USB, mouse, keyboard, ethernet, modem, and COM2) at the ends of the individual cables. See Figure 6-1 on page 6-5. It should be labeled at the point where the bundle enters the amphenol connector.

Table 6-1. Required hardware

Comcode/Code quantity	Description
108525528 1	TN799B C-LAN circuit pack. One TN799B supports more than one TN802B
J58890MA-1 L30 more	TN802B IP Interface Assembly
601939804 1 or more 1 1	H600-512, G1 external cable assembly 259A connector CATS or better cable
407633999 1	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.
601087091 1	20-ft BD-25 serial cable from modem to TN802B external cable assembly (U.S. customers only). Non U.S. customers must provide a serial cable.

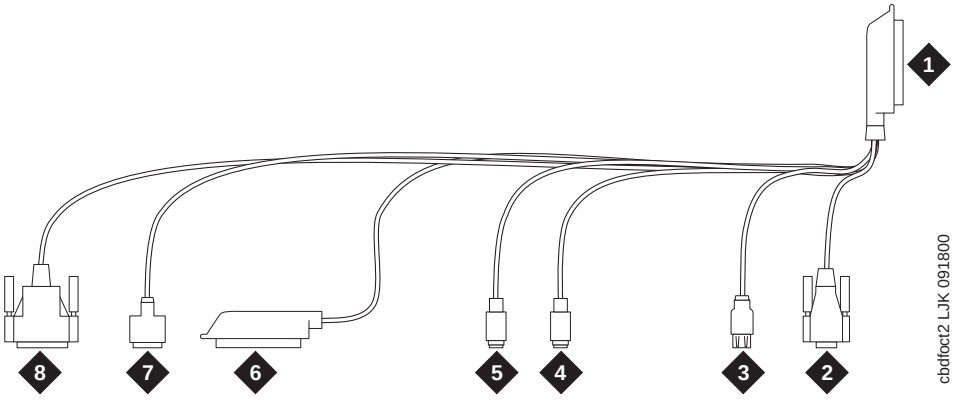


Figure Notes

1. To P1 on cabinet backplane
2. To VGA monitor
3. To USB (not used)
4. To keyboard
5. To mouse
6. To ethernet
7. To modem (optional)
8. To COM2 (not used)

Figure 6-1. TN802B external cable assembly

Install the TN802B MAPD

TheTN802B circuit pack is hot-swappable, so it is not necessary to power down the carrier.

1. Ensure there is room to install the TN802B circuit pack. To accommodate the width of the circuit pack, you must have at least 3 adjacent free slots. (If you put the TN802B circuit pack in slot 7, you must have 2 adjacent slots.)
2. Insert the TN802B circuit pack in the most right slot (the one reserved for IP trunking).
3. Connect the P1 amphenol connector on the TN802B external cable connector to the leftmost backplane connector looking from the rear (of the 3 slots required for the TN802B).

Connect the modem (optional)

The modem lets Avaya technicians remotely service and troubleshoot your system.

1. Connect the RS232 port of the modem to the MODEM cable of the TN802B external cable assembly.
2. Connect an analog phone line to the most left analog-line port on the modem.
3. Ensure that the modem's DIP switches are set as indicated in Figure 6-2.
4. Plug the modem into an AC power outlet.

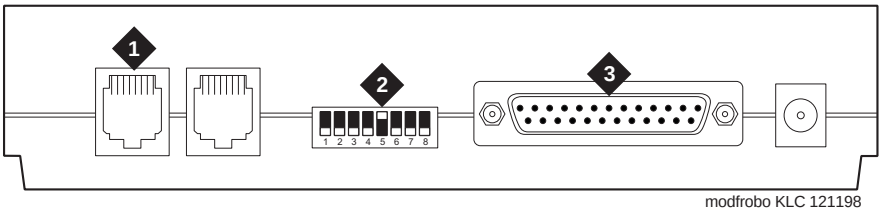


Figure Notes

1. Connect analog line here.
2. DIP switch 5 must be up.
3. Connect MODEM connector here.

Figure 6-2. External modem connections

Connect the IP trunk server to your local area network

Connect the ethernet cable

1. Connect the network cable to the ethernet connector on the TN802B external cable assembly.

Connect a monitor

You need a VGA monitor to log onto the Windows NT Server and to configure the network software.

1. Attach a VGA monitor to the VGA cable of the TN802B external cable assembly.
2. Attach the keyboard to the KEYBOARD cable of the TN802B external cable assembly.
3. Attach the mouse to the MOUSE cable of the TN802B external cable assembly.
4. Plug the monitor into an AC power receptacle, and turn it on.

Log onto the IP trunk server

1. Press the CTRL, ALT, and DELETE keys simultaneously.
2. Type **administrator** in the User Name field.
3. Leave the Password field blank, and click **OK**.
4. After logging on the first time, change the administrator password and, if desired, the user name, to ensure security. See your Windows NT Server documentation for details.

Assign a server name and domain name

Windows NT Server identifies servers using a server name plus a domain name that locate the named server in a particular part of the network. The TN802B is shipped with a generic server name and a generic domain name. You should assign replacement names that are meaningful within your network.

1. Click **My Computer** from the Windows NT desktop.
2. Click **Control Panel** in the My Computer window.
3. Click **Network** in the Control Panel window.
4. Click **Identification**, then **Change**.
5. Type the new name in the **Computer Name** box.
6. Type the name you chose for the IP-trunk domain in the Domain box.
7. Click **OK** > **OK**.

8. Click **Close**.
9. When prompted, choose one of the following options:
   - If you have not administered IP addresses, click **No**.
   - If you have administered IP addresses, restart Windows NT so that the new names take effect.

Check network services

When the server restarts, ensure that the required network services have started correctly.

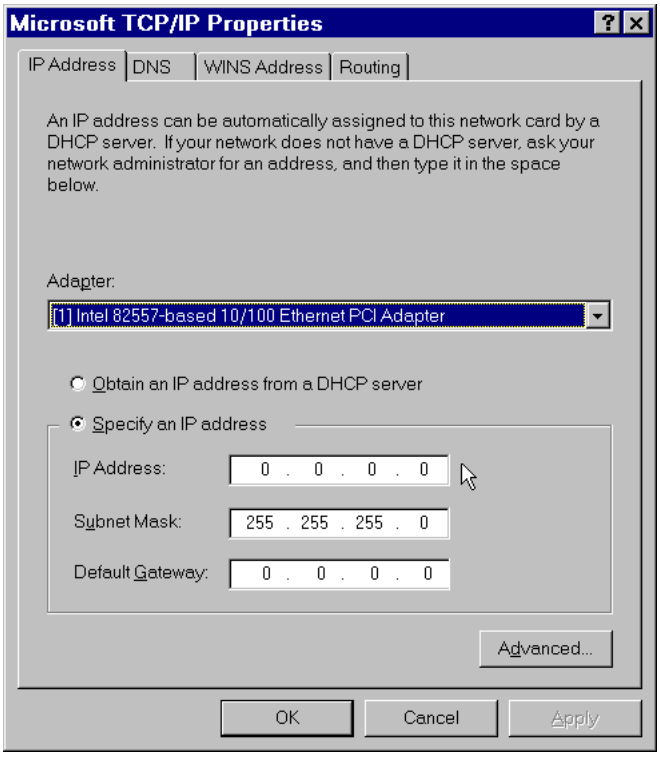
1. Click **My Computer** from the Windows NT desktop.
2. Double-click **Control Panel** in the My Computer window.
3. Click **Network** in the Control Panel window.
4. Click **Services** in the Network window.
5. Ensure that the following services are listed:
   - Computer Browser
   - Microsoft Internet Information Server 2.0 needed
   - NetBIOS Interface
   - RPC Configuration
   - Server
   - Workstation
6. Click **Protocols**, and examine the Network Protocols. TCP/IP should be the only protocol listed.
7. Click **OK**.

Assign an IP address

1. Click **My Computer** from the Windows NT desktop.
2. Click **Control Panel** in the My Computer window.
3. Double-click **Network** in the Control Panel window.
4. Click **TCP/IP Protocol** from the list in the Network dialog box.

5. Click **Properties** in the Network window.

   The **TCP/IP Properties** dialog box displays.



6. Click **Specify an IP address**.
7. Type a valid IP address for the IP Trunk server in the **IP Address** field.
8. Type the appropriate subnet mask in the **Subnet Mask** field.
9. If you use gateways, type the IP address of the default gateway for the IP Trunk server in the **Default Gateway** field.
10. Click **OK**.
11. If Windows NT responds with the "`At least one of the adapter cards has an empty primary WINS address. Do you want to continue?`" message, click **Yes**.
12. Click **Bindings** to make the changes.

    NetBIOS Interface, Server, and Workstation should now be enabled. If any are disabled (marked a red circle with a line through it), review the network-configuration steps above for omissions or errors.
13. Click **Close**.
14. Restart your computer.

Test the connection to the LAN

To test IP connections ping the IP trunk server and ping a known computer connected to your network.

1. In the Windows task bar, click **Start** > **Programs** > **Command Prompt**.
2. At the command prompt, type **ping** ***nnn.nnn.nnn.nnn*** (where ***nnn.nnn.nnn.nnn*** is the IP address of the IP trunk server).
   - If everything is configured correctly, the system replies with the following:

     `Reply from nnn.nnn.nnn.nnn: bytes=32 time<##ms TTL=###`
   - If no reply, verify the IP-address information and check the connectivity including the cabling.
3. At the command prompt, type **ping** ***nnn.nnn.nnn.nnn*** (where ***nnn.nnn.nnn.nnn*** refers to the IP address of another computer on the network).
   - If there is connectivity, the system replies with the following:

     `Reply from nnn.nnn.nnn.nnn: bytes=32 time<##ms TTL=###`
   - If no reply, verify the IP-address information and check the connectivity including the cabling. Consult your IP-network administrator.
4. Type **exit** and press Enter.

Test the modem

1. Check for dial tone.

Set up network-trust relationships

After all DEFINITY IP Trunk servers are in their own domain, establish trust relationships between domains to allow for remote administration. To establish trust relationships, see your Windows NT Server 4.0 documentation.

Administer the IP trunk

The TN802 circuit pack is now installed in the DEFINITY carrier and connected to the IP network. You can now use the Configuration Manager software (pre-installed on the TN802 hard disk) and DEFINITY ECS switch administration software to prepare the IP Trunk for use. See the *DEFINITY ECS Release 9 Administrator's Guide* (555-233-506) for more information.

Add remote office

DEFINITY ONE can connect to the Avaya R300 Remote Office Communicator (Avaya R300) in a remote office configuration. Avaya R300 operates like a simple switch at the remote site for connections made between remote stations, as well as between remote stations and local access trunks. It receives incoming PSTN dialed data calls and terminates them on the correct data modem.

Using a standard 25 pair cable, you can connect Avaya R300 to a 110 punch down wall field. Avaya R300 connects to a set of harmonica adapters by way of a cable that adapts between the connection on the board and the harmonica adapter and uses phantom power to power all analog telephones and DCP telephones.

For information about installing and administering Avaya R300 Communicator, see *Getting Started with the Avaya R300 Remote Office* (555-233-769) and *MAX 3000 Installation and Basic Configuration Guide* (555-233-768).

Add C-LAN functionality

IP Softphone is available with DEFINITY ONE. In addition, co-resident C-LAN functionality can be optionally purchased. The DEFINITY ONE WIndows NT LAN interface may be used in place of the C-LAN circuit pack for those cases where DS0 capability through the C-LAN is not required. DCS using DS0 will still be supported via a separate C-LAN. The WIndows NT LAN interface (co-resident C-LAN) will also be used to connect CMS, BCMS Vu, and CentreVu-CT. See the *DEFINITY ONE Communications System Release 9 Overview* (555-233-001).

Adding a TN799C C-LAN circuit pack

To add a TN799C C-LAN circuit pack, complete the following procedures:

- Install the TN799C
- Test the External Connection to the LAN
- Administer the TN799C on the SAT

Installing the TN799C

To install a TN799C C-LAN circuit pack, you need the following items:

- An unoccupied port slot
- A 10 BaseT ethernet connection into your local area network
- A valid, unused IP addresses on your network for each C-LAN 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 TN799C circuit pack is hot-swappable, so you do not need to power down the carrier to install it.

From the rear of the cabinet:

1. Connect the 259A connector to the backplane connector corresponding to the TN799C slot.
2. Connect one end of the CAT5 cable to the 259A connector. Connect the other end to the customer's network.

From the front of the cabinet:

1. Insert the TN799C circuit pack into the port slot identified earlier.

Testing the External Connection to the LAN

To test the external IP connections, ping the C-LAN 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.

1. 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 TN799B C-LAN circuit pack and ***UUCSS*** is the cabinet, carrier, and slot of the TN799B C-LAN circuit pack.

```
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      CLAN      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 TN799B C-LAN circuit pack.
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 TN799B C-LAN circuit pack.

The TN799B C-LAN circuit pack is now installed in the DEFINITY carrier and connected to the IP network.

Administering the TN799C on the SAT

1. Type **change node-names ip** and press Enter.

```
 change node-names ip                                          Page   1 of   1
                                   NODE NAMES

    Name              IP Address            Name                IP Address
clan2                135.9  .167.179                              .   .   .
default              0  .0  .0  .0                                .   .   .
clan1                192.168.10 .21                               .   .   .
                        .   .   .                                 .   .   .
                        .   .   .                                 .   .   .
                        .   .   .                                 .   .   .
                        .   .   .                                 .   .   .
                        .   .   .                                 .   .   .
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                        .   .   .                                 .   .   .
                        .   .   .                                 .   .   .
                        .   .   .                                 .   .   .
```

2. In the Name and IP Address fields, type a name and IP address for each PC that will be *dialing into* the C-LAN circuit pack; up to 8.

3. Type **change ip-interfaces** and press Enter.

```
change ip-interfaces                                          Page   1 of   4

                                    IP INTERFACES
 Inter-region IP connectivity allowed?  n
Enable                                                                  Net
Eth Pt Type   Slot  Code Sfx Node Name       Subnet Mask     Gateway Address Rgn
   n   C-LAN  01A09 TN799  B clan-a1        255.255.255.0   192.168.10 .21   1
   n   C-LAN  01B03 TN799  B ppp10          255.255.255.0   135.9  .167.179  1
   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      .   .   .
```

NOTE:
Do not change the Enabled field to **y** until all the information in the row is completed.

4. Fill in a row for each TN799C circuit pack installed.

NOTE:
Use the same node name assigned on the Node Names screen

Use the gateway address for the *router* connected to the hub; *not* the hub.

5. Type **y** in the Enabled field for each completed row.
6. Type **change IP services** and press Enter.

NOTE:
Do not change the Enabled field to **y** until all the information in the row is completed.

7. Fill in the following fields:
   - Service Type: xxx
   - Local Node: slot location of the TN799C
   - Local Port: any open port, generally 9001 or higher
   - Remote Node: a specific PC node name assigned on the IP Interfaces screen. Do not type **any**
   - Remote Port: xxx
8. Type **y** in the Enabled field for each completed row. Enabling the local node turns on the listen socket.

DEFINITY IP Solutions software

Avaya offers several IP solutions for customers, 2 of which are Avaya R300 Remote Office Communicator and the IP Media Processor. For information on the Avaya R300, refer to *Getting Started with the Avaya R300 Remote Office (*555-233-769) and *MAX 3000 Installation and Basic Configuration Guide* (555-233-768).

The DEFINITY IP Solutions software operates both as an IP gateway and gatekeeper. As a gateway it converts voice traffic to data transmission over IP networks. As a gatekeeper, it provides IP endpoints with secure access to the DEFINITY system. This connection lets users take advantage of all applications residing on the system, including voice mail, computer-telephone integration, call center, wireless, and call control features, such as conferencing, call forward, transfer, hold, speed-dial, and multiple-line appearances.

The software supports Distributed Communications System DCS and Q-Signaling (QSIG) protocols over IP networks to operations across multiple sites. The DEFINITY IP Solutions Software can be managed through the server's existing system administration tools, and can take advantage of the DEFINITY system's call routing and cost accounting, self diagnostics, security toll fraud protection, and remote access applications. It enables IP telephones to communicate with analog, digital, and ISDN phones on the DEFINITY network, and supports the H.323 protocols and standard application programming interfaces, including TAPI, TSAPI and JTAPI.

Several new co-resident applications free up slots in the cabinet, including C-LAN functionality, announcements, and DEFINITY LAN Gateway. In most cases, with these applications co-resident, separate C-LAN and announcement boards are not required and MAP-D is not required for DEFINITY LAN Gateway. Also BCMS Vu and CentreVu-CT reside on a separate server, which is LAN connected and enables DEFINITY ONE to interface with these applications.

Add TN464GP/TN2464BP with Echo Cancellation

The TN464GP and TN2464BP circuit packs with echo cancellation are intended for DEFINITY customers who are likely to encounter echo over circuits connected to the Direct Distance Dialing (DDD) network. These circuit packs are intended for channels supporting voice; therefore, they support the following trunks: CAS, CO, DID, DIOD, DMI, FX, Tie, WATS. They do not support any data trunk groups.

NOTE:
The P suffix designation means the circuit pack is programmable; new firmware can be downloaded directly to the circuit pack.

The TN464GP and TN2464BP circuit packs are backwards compatible, although the echo cancellation feature can only be used with Release 9 or later software and after the feature is enabled.

The echo cancellation feature cancels echoes with delays up to 96 ms. Echo cancellation is disabled automatically when the circuit pack detects a 2100-Hz *phase-reversed* tone put out by high-speed modems (56 kbaud) but not when it detects a 2100-Hz straight tone generated by low-speed modems (9.6 kbaud).

For information on installing port circuit packs, refer to Installing Port Circuit Packs. For information on setting the option switches, refer to Option Switch Settings. For information on administering the circuit packs, refer to the *DEFINITY ECS Release 9 Administrator's Guide.*

Echo cancellation must first be purchased, then activated by someone with customer options login privileges. Refer to the *DEFINITY ECS Release 9 Administrator's Guide*.

Use the following procedure to modify the settings:

NOTE:
You do not need to busyout the circuit packs to modify the settings. But the modified settings do not take effect until either the port is busied out or the scheduled maintenance runs.

1. Type **display system-parameters customer-options** and press Enter. On screen 2 verify that the `DS1 Echo Cancellation?` field is set to **y**. If not, contact someone in your area with customer options login privileges.
2. Type **[add | change] trunk-group [next | number]** and press Enter.

```
add trunk-group next                                Page   2 of 11   SPE A
                            TRUNK FEATURES

             ACA Assignment? n                       Measured: both
             Internal Alert? n              Maintenance Tests? y
           Data Restriction? n
             Glare Handling: none

               Used for DCS? n
      Suppress # Outpulsing? n
Seize When Maintenance Busy: neither-end



Incoming Tone (DTMF) ANI: no            Per Call CPN Blocking Code:
         Connected to CO? n           Per Call CPN Unblocking Code:

                                            Ds1 Echo Cancellation? y
```

3. On Trunk Features, screen 2, set the `DS1 Echo Cancellation?` field to **y**.
4. Type **[add | change] ds1 *UUCSS*** and press Enter.

```
add ds1 2b08                                     Page   1 of 1   SPE B

                                 DS1 CIRCUIT PACK

            Location: 02B08                        Name: Echo Cancel t23
            Bit Rate: 2.048                 Line Coding: hdb3

      Signaling Mode: CAS

        Interconnect: pbx             Country Protocol: 1

 Interface Companding: mulaw                        CRC? n
           Idle Code: 11111111



      Slip Detection? y              Near-end CSU Type: other

   Echo Cancellation? y
        EC Direction: inward
    EC Configuration: 1
```

5. On the DS1 Circuit Pack screen, set the `Echo Cancellation`? field to **y**.

   When set to y, 2 new fields display: `EC Direction:` and `EC Configuration:`.

   - If you know the echo is coming into DEFINITY, keep the default setting for the `EC Direction:` field of **inward**.
   - If you know that the distant party is hearing echo that originates in DEFINITY or its line side stations or equipment, set the `EC Direction:` field `to` **outward**.

Keep the default setting for the `EC Configuration:` field of **1**. This setting rapidly minimizes echo when first detected, regardless of the loudness of the talker's voice.

6. Test the voice quality on a telephone connected through the TN464GP or TN2464BP circuit packs and known to have echo to see if the echo was eliminated.
7. If the echo still exists, set the `EC Configuration:` field to **2**, **3**, or **4**, then test the voice quality. These settings provide help for the following scenarios:
   - Setting 2 minimizes speech clipping, but it takes a fraction of a second longer for the echo to fade.
   - Setting 3 eliminates speech clipping, but a strong echo may take 2 or 3 seconds to fade.
   - Setting 4 minimizes extremely strong echo, very hot signals, or excessive clipping or breakup of speech from a distant party. It reduces speech clipping but may allow slight residual echo or more background noise.
8. If after trying all these settings, the echo still exists, contact technical support.

Downloading Firmware to Port Circuit Packs

You can download updated application code for a port circuit pack on site or remotely. This eliminates the need to physically remove the circuit pack and send it to the factory for the firmware update. This feature is available on all DEFINITY ECS platforms—r, si, csi—and DEFINITY ONE.

The port circuit packs supported are:

- UDS1 family of circuit packs—TN464GP, TN2464BP, and TN2313AP
- TN2302AP IP Media Processor

NOTE:
The P suffix designation means the circuit pack is programmable; new firmware can be downloaded directly to the circuit pack.

To download firmware to these circuit packs, the DEFINITY ONE system requires:

- One source board—TN799C Control Lan (C-LAN) circuit pack—with an Ethernet data module administered
- Target port circuit packs with P designation
- DEFINITY ONE Release 9 Issue 3.0 software
- Customer superuser or services login and password.

On an IBM-compatible PC:

- Windows 95/98/2000/NT
- Modem
- Direct connection to source board through a hub if done on site
- Remote connection to source board if done off site
- Connection to Internet
- File transfer protocol (FTP) software program
- Web browser (Netscape 4.5 or Internet Explorer 5 or higher)

Although the download is normally done from a PC, it can be done from other servers, such as UNIX.

The process for downloading the firmware is to

1. Download the firmware image
2. Set up the file system on the source board (C-LAN in R9)
3. Copy the firmware image to source board, using the file transfer protocol (FTP)
4. Copy the firmware image to target port board.

The target boards are automatically busied out before the firmware is downloaded to them and automatically returned to service after the download is completed. While the board is busied out, any active calls through that board are dropped.

Customers can access and download the firmware image on site using the Avaya Customer Support Web site.

Download the firmware image

1. Go to the Avaya Customer Support Web site http://support.lucent.com/).
2. From the Online Services menu , select Download Software.
3. Select the firmware images you need for your circuit pack upgrade from the list provided.
4. Download the files to a temporary directory on a PC that has FTP and network access to the source board.

Set up the file system on the source board

Before you can load files onto the source board, you must first set up a file system on the board to accept the files.

1. Log onto DEFINITY ONE using superuser or services ID and password.
2. Type **enable filesystem board *UUCSS* login *ftplogin ftppassword* [*size actual_size*]** and press Enter. ***UUCSS*** is the cabinet, carrier, slot of the source board.

CAUTION:
In this software release the filesystem allocates the largest block of memory available up to 1 MB; however, you can specify a smaller filesystem.

NOTE:
If the source board does not have enough available memory, make sure old files are deleted or wait until there is less traffic on the board.

Copy the firmware image to source board

The source board is the TN799C Control Lan (C-LAN) circuit pack. You use an FTP program on a PC to download the files to the source board.

You'll need the IP address for the source board, which you can get from your data systems administrator or by typing the following series of commands:

1. **list configuration board *UUCSS*** to make sure the port is enabled (look for the number 17).
2. **display port *UUCSS*17** to obtain the data module ID.
3. **display data-module *ID*** to obtain the link number.
4. **status link *link_number*** to check the link status and obtain the source IP address.

You can use any FTP program. The following steps are generic to most FTP programs. Please follow the instructions for your specific program.

- Using an MS-DOS or UNIX FTP program
- Using a GUI-based FTP program

Using an MS-DOS or UNIX FTP program

1. Type **ping *source_ip_address*** and press Enter to verify a communication link to the source board.
2. Type **ftp *source_ip_address*** and press Enter.
3. Log in using the user ID and password that you created at the time you created the file system.
4. Type **bin** and press Enter, which enables older ftp programs to send binary files.
5. Type **put *filename*** to copy the file to the source board.
6. Type **dir** to verify that the file is on the source board.
7. Repeat steps 5 and 6 for each file.
8. Type **quit** and press Enter to end the ftp session.

Using a GUI-based FTP program

NOTE:
Ping the source board first to verify a communication link to the source board.

1. Open the FTP program.
2. Type in the source board's IP address and the user ID and password in the appropriate fields. The user ID and password are the ones you created at the time you created the filesystem.
3. Select binary for the file type.
4. Press **Connect**.
5. When connected, select the root directory on the source board (remote).
6. Go to the temporary file directory on your PC (local) that has the downloadable binary files.
7. Download all the files to the appropriate directory on the source board.
8. Refresh the remote directory, if necessary, to verify that all the files were transferred.
9. When done, end the FTP session.

Copy the firmware image to target port board

You can download the files immediately or schedule them for download at a less busy time to minimize down time. This procedure assumes that the firmware image files are resident on the source board (TN799C C-LAN).

Make sure the target boards are working before the download.

NOTE:
If you are scheduling circuit packs used as primary and secondary sync sources (such as TN464GPs), the timing automatically moves to a local sync source when the boards are busied out during the download. The timing automatically moves back to the proper sync sources after the boards are returned to service.

Complete the following tasks:

- Check SPE
- Locate Target Boards
- Verify Trunk Status (optional)
- Verify Files
- Schedule Download
- Check Specified Resources
- Monitor Download Progress
- Disable Filesystem

Check SPE

1. Log into DEFINITY ECS or DEFINITY ONE.
2. Type **status system all-cabinets** and press Enter.

Locate Target Boards

If you do not know the target board locations, locate DS1 target boards, type **list configuration ds1** and press Enter. Look for the "P" suffix in the Code column and note the board location. You will need it later in the process. Or, To locate other target boards, type **list configuration all** and press Enter.

Verify Trunk Status (optional)

This optional procedure for DS1 target boards allows you to see which ports are in service.

1. Type **list configuration board *UUCSS*** and press Enter to identify the ports associated with a particular DS1 board. Note the total number of ports.
2. Type **display port *UUCSSpp***, where ***pp*** is the port number of one of the ports, and press Enter to find the trunk group number.
3. Type **status trunk *n***, where ***n*** is the trunk group number, and press Enter. Note the status of all the ports in service for that particular DS1 board.
4. If the number of ports in the group does not equal the total number of ports, repeat step 2 for a port number not listed.

   For example, if trunk group 6 shows only ports 01 through 15, then display port 17 to identify the trunk group number for the rest of the ports for that particular DS1 board. Note the status of all the ports in service in that trunk group.

Verify Files

1. Type **list directory board *UUCSS*** and press Enter to list the contents of the source board's directory.
2. Verify that the downloaded files are present.

```
list directory board 1C12                                          Page   1
                                 LIST DIRECTORY

  Board                 File/Directory                     Creation       Size
 Location                    Name                         Date      Time     Kb

  01C12   F:fwdlimg464gv01                            2000/01/01 00:00:00  367
  01C13   F:fwdlimg2302av01                           2000/02/29 23:59:59  493



D = Directory F = File
```

Schedule Download

1. Type **change firmware download** and press Enter.

```
change firmware download                                   Page   1 of    1
                                 FIRMWARE DOWNLOAD
   Source Board Location: _____
Firmware Image File Name: ____________________________________________
       Target Board code: ______  Suffix: __  Firmware Vintage: ___
       Schedule Download? y    Remove Image File After Successful Download? y
   Start Date/Time: __/__/____  __:__    Stop Date/Time: __/__/____  __:__

    Target          Target          Target          Target          Target
   Location        Location        Location        Location        Location
 1. _____        11. _____       21. _____       31. _____       41  _____
 2. _____        12. _____       22. _____       32. _____       42  _____
 3. _____        13. _____       23. _____       33. _____       43. _____
 4. _____        14. _____       24. _____       34. _____       44. _____
 5. _____        15. _____       25. _____       35. _____       45. _____
 6. _____        16. _____       26. _____       36. _____       46. _____
 7. _____        17. _____       27. _____       37. _____       47. _____
 8. _____        18. _____       28. _____       38. _____       48. _____
 9. _____        19. _____       29. _____       39. _____       49. _____
10. _____        20. _____       30. _____       40. _____       50. _____

Enter 5 character board number; cabinet(1-30):carrier(A-E):slot(0-20)


         0         2         3         4         5         6         7         8
```

2. Fill in the following fields:

   - `Source Board Location:`
   - `Firmware Image File Name:`, which is stored in the source board filesystem
   - `Target Board code:`, which must be 1 type only (for example, TN464GP)
   - `Suffix:`, which must be a programmable board with the P suffix
   - `Schedule Download?`

     NOTE:
     The default is **y**. The download to the specified target board begins when the scheduled start time is reached. Once download begins, you cannot make any changes to the Firmware Download screen. If you set the field to **n**, the `Start Date/Time: and Stop Date/time:` fields do not display. The download begins as soon as you press Enter.

   - `Start Date/Time:`
   - `Stop Date/time:` An optional field that allows you to stop the download before the time of day of the greatest usage.

     NOTE:
     If the scheduled stop time is reached before all boards have been downloaded, software completes the downloading of the board in progress before aborting the remainder of the download schedule.

   - `Remove Image File After Successful Download?`

     NOTE:
     The default is **y**. At the completion of a successful download, the software automatically removes the download file from the source board filesystem and, if no more files remain in the filesystem, disables the filesystem, freeing up the memory on the source board. We recommend keeping the default setting.

     NOTE:
     If you set it to **n**, at the completion of the download, you must manually remove the download file from the source board filesystem.

- `Target Location`

  Make an entry for each programmable target board location, up to 50.

  NOTE:
  You can only download 1 image file to 1 type of target board at a given time (for example, to all the TN464GPs). The download process *does not* support broadcasting more than 1 image file to multiple types of target boards in parallel (for example, TN464GPs and TN2313BPs).

3. Press Enter to submit the schedule.

   NOTE:
   If you set the `Schedule Download?` field to **n**, the download starts as soon as you press Enter.

Check Specified Resources

This test applies only to scheduled downloads. To check specified resources:

1. Type **test firmware download** and press Enter.
2. Check for FAIL conditions.
3. If failures occur, investigate the errors by referencing FW-DWNLD description in the appropriate maintenance book.
4. Resolve all errors.

When the test passes, all specified resources are available for the scheduled download.

Monitor Download Progress

To monitor the progress of the download, type **status firmware download** and press Enter to view the progress of the all downloads on the schedule. The possible flags are **(P)**ending, **(C)**ompleted, **(F)**ailed, or **(A)**borted.

Or, type **status firmware download *last*** and press Enter to view the progress of the previous completed download on the schedule. Also, use this command at the end of the download schedule.

Abort a Firmware Download

If you need to abort a scheduled firmware download, type **disable firmware download** and press Enter. The software continues to download the board in progress and then aborts the remainder of the download schedule.

Disable Filesystem

To free up resources on the source board, you must delete the files and disable the filesystem.

1. Type **remove file board *UUCSS filename*** and press Enter to remove image files from the source board.
2. Type **disable filesystem board *UUCSS*** and press Enter to disable the file system on the source board.

NOTE:
This process is only successful if no files remain on the source board.

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 to 1 of several CO trunk circuit packs.

Installation

1. Determine the port assignment of the trunk from Trunk Group form.

EXAMPLE:	Port Number	3	A	07	01
		Cabinet	Carrier	Slot	Circuit
		(Port Network)	(or Compact Modular Cabinet)		

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 9 Administrator's Guide* (555-233-506).

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 Trunk Group form.

EXAMPLE:	Port Number	1	A	07	01
		Cabinet	Carrier	Slot	Circuit
		(Port Network)	(or Compact Modular Cabinet)		

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 9 Administrator’s Guide* (555-233-506).

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 Trunk Group form.

EXAMPLE:	Port Number	3	A	02	01
		Cabinet	Carrier	Slot	Circuit
		(Port Network)	(or Compact Modular Cabinet)		

2. Install 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 6-3 on page 6-29 and Table 6-2 on page 6-29 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 9 Administrator’s Guide* (555-233-506).

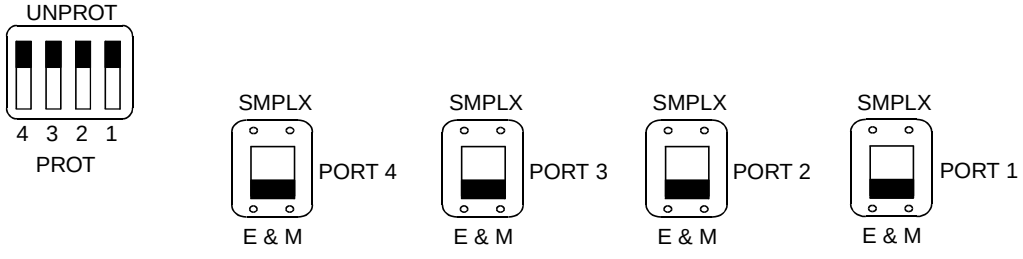


Figure 6-3. Tie Trunk circuit packs (component side)

Table 6-2. 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

Service interruption

Because the addition of DS1 tie-trunk service may require a service interruption, notify the customer when the addition will occur.

Add speech synthesis

The TN725B speech synthesizer circuit pack is required when Voice Message Retrieval, Automatic Wakeup, or Do Not Disturb features are activated. The TN725B circuit pack does not require administration.

1. Determine the port assignment of the speech synthesizer circuit pack being added.
2. Install the TN725B speech synthesizer circuit pack in the designated carrier slot.

Add Code Calling access

The tones for the Code Calling feature are generated by the TN2182/B tone-clock circuit pack in the port networks.

1. Install a TN763B/C/D auxiliary trunk circuit pack or a TN457 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 9 Administrator’s Guide* (555-233-506).

Add pooled modem

Modem pooling supports 2 types of conversion resources: integrated and combined.

The integrated type requires a TN758 pooled modem circuit pack for each 2 conversion resources provided.

The combined type requires a port on a digital line circuit pack and a port on either an 8-port or 16-port analog line circuit pack for each conversion resource provided.

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, see 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.

Table 6-3. 7400A options — attention control modems

Set option display	Option	Setting
Set 300 Speed?	300	Note 1
Set 1200 Speed?	1200	Note 1
Set 2400 Speed?	2400	Note 1
Set 4800 Speed?	4800	Note 1
Set 9600 Speed?	9600	Note 1
Set 19200 Speed?	19200	Note 1
Set AT Control?	AT	ON
Set CI Lead?	CI	Note 2
Set CI2 Lead?	CI2	Note 2
Set CH Lead	CH	Note 2
Set CH2 Lead?	CH2	Note 2
Set LL Lead?	LL	Note 2
Set REMOTE Loop?	REMLOOP	Grant
Set RL Lead?	RL	Note 2
Set SIGLS Disc?	SIGLS DISC	ON
Set TM Lead?	TM	Note 2

NOTE:
1. Set speed to match remote modem. At least 1 speed must be set ON.

NOTE:
2. Set to match remote modem.

Multiple integrated recorded announcements

DEFINITY ONE provides 2 methods of integrated announcements. Both can be used on the same system. The methods are:

- "TN750C announcement circuit pack"
- "CWY1 announcements"

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 require the save and restore processes. TN750C announcements cannot be backed up and restored to an external device with a DEFINITY ONE system.

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 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.

Add TN750C circuit packs

Follow this procedure to add the circuit packs:

1. Insert the TN750C into a vacant slot in a carrier.
2. Administer new announcements to that TN750C slot by executing the **change announcements** <**location**> command.
3. Record the announcements, as described in *DEFINITY Enterprise Communications Server Release 9 Administrator's Guide* (555-233-506).
4. Wait until the announcements copy from voice RAM to the on-board 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

Follow this procedure to move a single announcement to another announcement circuit pack:

1. Enter the **change announcements** command to change the circuit pack locations of a particular announcement. (You may also change the compression rate at this time.)
2. Re-record the announcement, as described in *DEFINITY Enterprise Communications Server Release 9 Administrator's Guide* (555-233-506).

CWY1 announcements

With CWY1 announcements, customers can produce and use professional quality announcements and store them on the DEFINITY ONE hard drive. Voice processing of the announcements is handled on the CWY1 board. The CWY1 board is resident as a component of the TN795 processor board. Handling announcements on the CWY1 board eliminates the need for the TN750 board, thus freeing the slot occupied by the TN750 board. CWY1 announcements can be stored on the DEFINITY ONE hard drive and backed up and restored to a LAN drive.

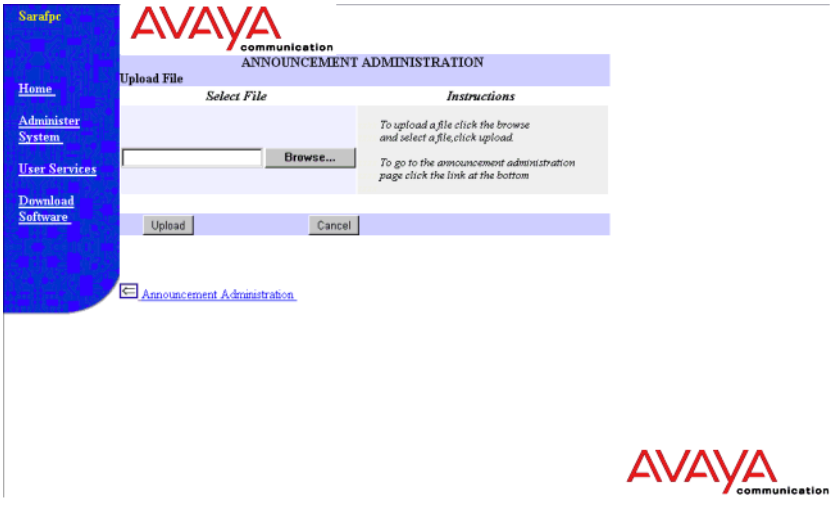
To install CWY1 announcements, you use the DEFINITY ONE user interface to upload the announcements file from a server directory to the announcements directory. The file is moved to the appropriate announcements directory and converted from WAV format to speech format.

Installing CWY1 announcements

To install CWY1 announcements:

1. From the DEFINITY ONE home page, click **Administer System**. The **System Administration** page displays.
2. Click **Announcement Admin.** The **Announcements Administration** page displays.

3. Click **Upload File**. The **Upload File** page displays:



4. Enter the name of the announcements file that you want to upload and click the **Upload** button. After the file is uploaded, a message box displays and asks whether you want to convert the file.

5. Choose **Yes.**

   The **Convert File** page displays:

6. Enter a name for the converted file and click **Convert.** The announcements file is converted to speech format and saved in the announcements directory.

   See *DEFINITY Enterprise Communications Server Release 9 Administrator's Guide* (555-233-506) for information about administering CWY1 announcements.

Add ISDN-PRI

T1 (North American Standard)

This procedure describes adding a T1 line.

1. Use a TN767F or TN767E (or later version) circuit pack to set up an ISDN PRI trunk. Ensure that the dip switch on the board is set for 24 channels. If you are using Facility Associated Signaling (FAS), 23 channels are available to be used as trunk group members. Channel 24 must be used to create a signaling group for the trunk groups. If you are using Non Facility Associated Signaling (NFAS), it is possible, in some instances, to use all 24 channels for trunk group members.
2. To create a PRI trunk:
   a. Enter **ADD DS1** (board location) at the SAT terminal session.
   b. Enter the required information on the DS1 form.
   c. Create a signaling group using the **ADD SIG NEXT** command. If you are using FAS signaling, use the 24th channel on your DS1 board as the D-channel for your signaling group. If you are using NFAS signaling, enter **N** in the associated signaling field. List the trunk board location in the Trunk Board field.
   d. Create a trunk group by using the **ADD TRUNK NEXT** command:
      1. Complete the required information on the Trunk Group form pages.
      2. Enter the port locations of the trunk members on the Trunk Group Member page.
      3. Enter the correct signaling group number.

E1 (International Standard)

1. Use a TN464F circuit pack. Ensure that the dip switch on the board is set for 30 channels (E-1). If you are using Facility Associated Signaling (FAS), 29 channels are available to be used as trunk group members. Channel 16 must be used to create a signaling group for the trunk groups. If you are using Non Facility Associated Signaling (NFAS), it is possible to use all 30 channels for trunk group members in some instances.
2. To create a trunk group, do the following:
   a. Determine the slot assignment of the circuit packs to be added.
   b. Install the DS1 interface circuit pack in the assigned carrier slot.
   c. Enter **ADD DS1** (board location) at the SAT terminal session.
   d. Enter the required information on the DS1 form.

e. Create a signaling group using the **ADD SIG NEXT** command. If you are using FAS signaling, use the 16th channel on your DS1 board as the D-channel for your signaling group. If you are using NFAS signaling, enter **N** in the associated signaling field. List the trunk board location in the Trunk Board field.

f. Create a trunk group by using the **ADD TRUNK NEXT** command:

   1. Complete the required information on the Trunk Group form pages.
   2. Enter the port locations of the trunk members on the Trunk Group Member page.
   3. Enter the correct signaling group number.

Add circuit packs

1. Determine the slot assignment of the circuit packs to be added.
2. Install the DS1 Interface circuit pack in the assigned carrier slot.

Install cables

Install cables from the cabinet 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 9 Administrator’s Guide* (555-233-506).

Resolve alarms

1. Examine the alarm log. Resolve any alarms that may exist using *DEFINITY ONE Communications System Release 9 Maintenance* (555-233-111).

Save translations

1. Enter **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 cards, if necessary.

DEFINITY Site Administration (DSA)

7

This chapter provides information about DSA, the system management tool integrated into the platform. For information about installing DSA, see "Download Message Manager and DSA" on page 3-28.

This chapter is organized as follows:

- "DSA Overview" on page 7-3
- "Interactions with switches and voicemail systems" on page 7-7
- "Components of DSA" on page 7-8
- "How DSA works" on page 7-10
- "DSA help" on page 7-11
- "Configure DSA" on page 7-11
  - "Adding DEFINITY ONE Switch Administration Item" on page 7-12
  - "Adding DEFINITY ONE Voice Mail Administration Item" on page 7-19

As previously stated, DEFINITY ONE applications are pre-loaded on the hardware platform. The actual set up of customer translations is administered through a common system management tool, DSA, which is integrated into the platform.

DSA is an all-purpose telecommunications management tool aimed at small- to mid-sized companies, such as small businesses, motels, and branch offices of large companies.

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DSA Overview

DSA is a general purpose DEFINITY and AUDIX system management tool that simplifies basic administration of DEFINITY Systems and AUDIX Systems. The software is pre-loaded on the DEFINITY ONE platform for downloading and installing on the PC. DSA versions 1.0 and greater provide:

- Easy-to-use software with a Windows look and feel. The browser contains tabbed windows, menus, and dockable windows. The browser provides a tree view of the switches, voice mail systems, commands, and tasks you can administer with DSA, as well as icons for accessing task wizards.
- Button Label Printing (BLP) for producing station labels for users' phones. You can print custom button labels on any laser printer and can preview each label before printing.
- Schedule Viewer, used for scheduling tasks and monitoring their progress. You can schedule a command to execute at any time in the future.
- History Log, which provides a history of events that DSA has initiated. The History tab displays feedback from a switch or voice mail system about tasks that DSA has run, or attempted to run. The History Tab helps users identify and correct errors.
- Four modes of operation:
    - Task shortcuts, which provide tree-based access to DEFINITY switch commands, letting you quickly and easily find the necessary commands for command administration activities. DSA command folders include:
        - Abbreviated Dialing
        - Call Center
        - Coverage
        - Groups
        - Network
        - Parameters
        - Station
        - Status
        - System

- Task Wizards, which provide shortcuts to common switch and voice mail administration activities via an intuitive point-and-click interface to help you quickly and easily perform the task. Wizards include:
  - Add Bridged Appearance
  - Add User
  - Remove User
  - Change User
  - Browse Unused Ports
  - Browse Dial Ranges
  - Browse Stations
  - Find Unused Extensions
  - Print Button Labels
  - Create New Template
  - Use a template
  - Generate Call Accounting Data
  - Export Data
  - Import Data
  - Monitor Trunks
  - Find and Replace
- Graphically Enhanced DEFINITY Interface (GEDI), a graphically-enhanced command line interface. GEDI provides a Windows-style interface to traditional SAT screens, with features such as point-and-click selection and drop-down boxes listing available field values.
- Terminal emulation that provides an interface with the same look and functionality as a traditional SAT.
- Verify/change AUDIX administration setup:
  - Net User Password
  - Net User Activate
  - Web Browser - verify dial plan and extension length
  - Verify node number if networking
- A Windows 95/98 and Windows NT application that communicates directly with DEFINITY systems and AUDIX system via a connection through:
  - LAN (TCP/IP) (Technicians connect to the DEFINITY ONE using a PCMCIA cable to the TN795)
  - Analog modem
  - Dial in through RMATS port
  - Direct serial connection (RS232 cable, Asynchronous Data Unit [ADU], and so on)

DSA version1.5 contains additional features:

- Fault and Performance Management Features
  - Trunk Analyzer: Tracks performance and capacity of trunk groups
  - Processor Occupancy and Call Traffic Charting: Tracks processor performance and traffic handling of DEFINITY
  - Alarm Monitor: Provides an alerting and reporting mechanism for DEFINITY alarms and errors status
  - Hardware Manager: Allows users to graphically display cabinet information and current alarm status
  - Data Polling Schedule: Lets users easily schedule repeated tasks
  - Generic Device: Supports terminal emulation access to other system types with IP or serial connectivity
  - DEFINITY/PC Time Synchronization: Lets users set up a tasks to synchronize their DEFINITY system clock to the PC's time on a regular basis
  - System Capacity Report: Determines utilization of DEFINITY options and reports them in a consistent manner
  - DEFINITY Audits: Determines if redundant or missing data is administered on a switch
  - Find and Replace - Import and Export features on AUDIX: Export, Import, and Find Replace functions support AUDIX subscriber data
  - Button Label Printing Enhancements: Lets users print a label from a station template, specify custom button label text, and print bounding boxes with printed labels on plain paper
  - Call Accounting Filtering: Provides advanced filtering capabilities for call accounting export
  - LDAP Export: Exports to an LDAP directory from supported DEFINITY or AUDIX export objects
  - Data Export: Supports more objects than version 1.0, including vector, authorization codes, COR and AUDIX subscribers
  - Emulation enhancements: Allows customers to define send break, copy, paste, change text color, and change font
  - Enhancements to Reporting: Prints, or exports to a file, a screen capture of any switch command
  - Importing Enhancements: Imports from a file into the data import grid
  - Port Browser Enhancements: Includes the board description, such as digital line, 24-port, 2-wire DCP port

You might encounter either version 1.0 or 1.5 at customer sites. Although customers are responsible for using DSA to add devices, upgrade DSA, and administer the switch, voice technicians and maintenance teams must know how to successfully install and test DSA, which includes:

- Knowledge of Microsoft Windows environment, especially Windows NT Workstation and Windows 95 / 98
- How to install the DEFINITY Site Administration product
- How to test (for example, test a login, access a switch, print a button label, cut through to legacy switch or AUDIX)
- How to ensure customer acceptance
- High-level knowledge of contents of available documentation, including on-line documents

In addition, Field Technicians will be responsible for analyzing and correcting problems reported by the customer and must know how to use DSA for problem resolution.

The DSA Help system contains documentation embedded in the software. DSA Help has been designed to help you install and troubleshoot the system, and includes:

- DSA task-oriented online help
- DSA online help reference
- Installation wizard
- DSA connectivity troubleshooting help topics
- DEFINITY task-based help topics
- DEFINITY reference topics, using the *DEFINITY Enterprise Communications Server Release 9 Administrators Guide* (555-233-506)

Interactions with switches and voicemail systems

DSA is not client-server based. It communicates directly with switches and AUDIX systems as follows:

- Through a direct hardware connection within a DEFINITY ONE computer
- Over a LAN
- With a modem or data module

DEFINITY ONE, as shipped, allows installation personnel to connect to switches and voicemail systems through the direct hardware connection in the DEFINITY ONE computer. To optimize the efficiency of DEFINITY ONE and DSA, and because administrators may not want to work directly on the DEFINITY ONE computer, install DSA software on a separate computer and connect to the switch in any of the other 3 ways listed above.

If installation personnel choose to install DSA on a separate computer, that computer must fulfill the following requirements:

- Windows 95/98 configuration:
  - Processor: 486/Pentium
  - RAM: 16MB/32 MB
  - Available Disk Space: 100 MB minimum
  - CD-ROM
  - Printer port: Standard PC printer port or LAN connection
  - Available Serial Ports: 1 free serial port or LAN connection is required for a connection to the switch
  - TCP/IP LAN: Optional, depending on configuration
  - Display: SVGA with minimum screen resolution of 800 x 600
- Windows NT configuration:
  - Processor: Pentium
  - RAM: 64 MB
  - Available Disk Space: 100 MB minimum
  - CD-ROM
  - Printer port: Standard PC printer port or LAN connection
  - Available Serial Ports: A modem connection or a LAN connection is required for a connection to the switch
  - TCP/IP LAN: Optional, depending on configuration
  - Display: SVGA with minimum screen resolution of 800 x 600

Setting up a voicemail account is part of the DSA User Administration wizard. For all other AUDIX tasks, administrators must use DSA's terminal emulation feature to open an AUDIX terminal emulation window.

Besides switch administration functions, DSA has its own administration activities. These activities help set up DSA to communicate with switches and AUDIXes, organize telecommunications data, and specify that DSA will work. These DSA administration activities include:

- Setting up direct, modem/data module, and LAN connections between DSA and switches or AUDIX systems
- Entering DSA-specific data, such as time-out intervals, number of times to retry tasks, and other system options
- Using the history, schedule, and connection viewers to track the status of administration tasks
- Organizing systems and task shortcuts in the browser tree

Components of DSA

DSA provides a central window that allows access to switches and AUDIX systems. Figure 7-1 and Figure 7-2 on page 7-9 show the main DSA screen.

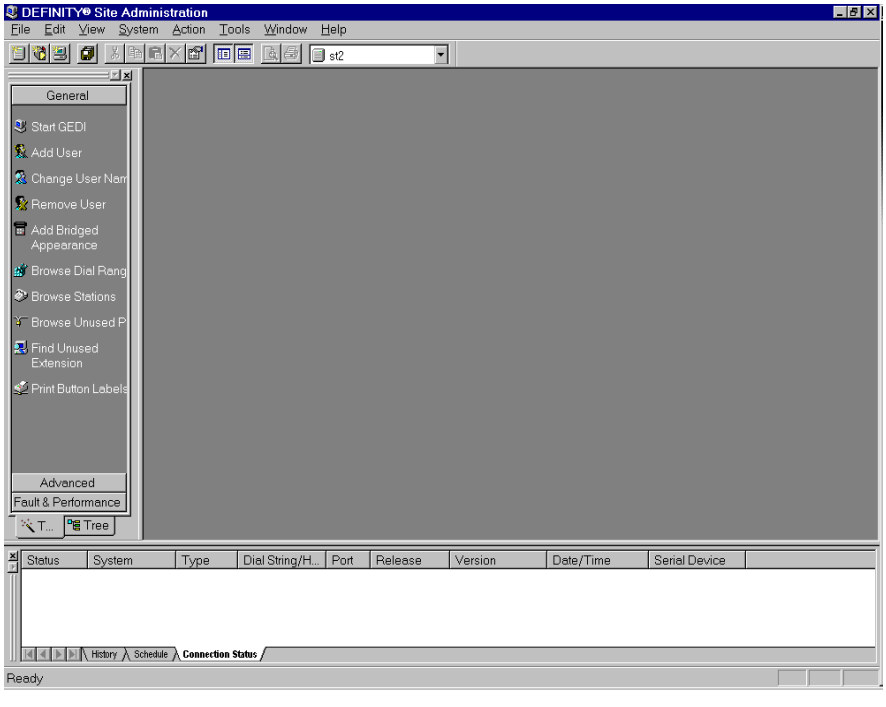


Figure 7-1. DSA window with tasks pane and status viewer or history pane

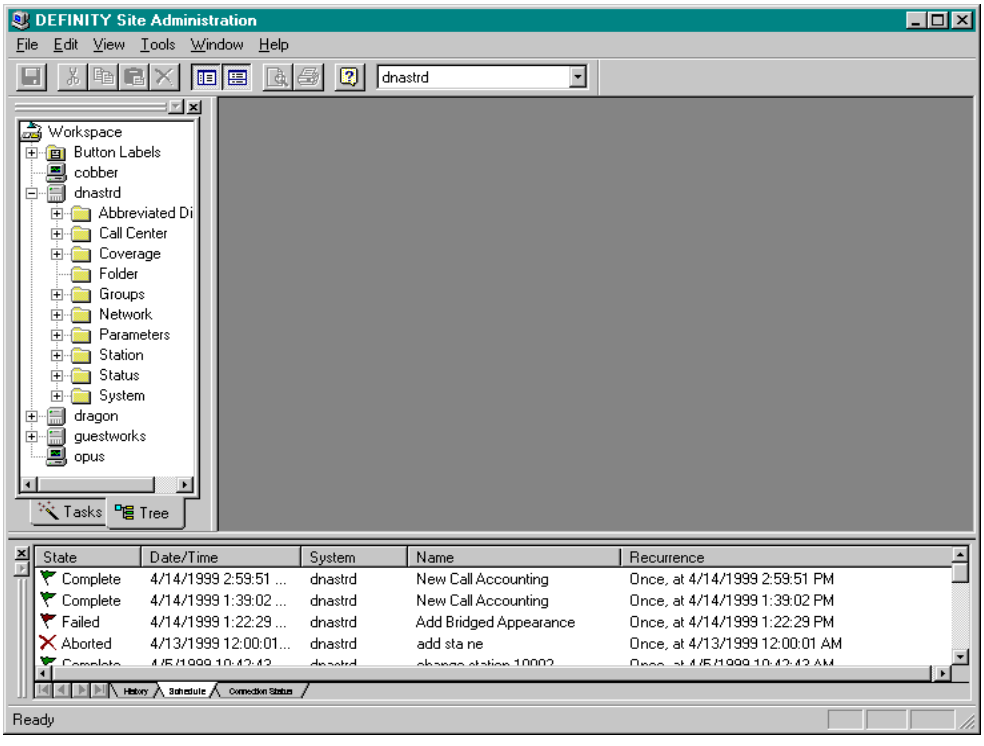


Figure 7-2. DSA window with tree pane and status viewer or schedule pane

As a default setting, the left pane shows the task wizards that DSA offers for performing frequent tasks. Users can use task wizards to create common tasks and schedule those tasks to run on the system and/or save the tasks to the DSA browser tree. Users can create the following tasks with the task pane:

- Start GED — Any administration activity that can be accomplished with the Graphically Enhanced DEFINITY interface (GEDI), including almost all DEFINITY ONE administration
- User Administration — Add phones, remove phones, and change a phone user's name in DEFINITY ONE and AUDIX
- Find and Replace — Change, find, or remove something across an entire switch
- Import Data —- Copy and paste data from a spreadsheet to a grid in DSA
- Export Data — Save switch data to an external file
- Use Template — Add objects, such as a phone, to a switch, using an existing template
- Create New Template — Create a template to use when adding objects to the switch

- Add Bridged Appearance — Create a bridged call appearance on a phone
- Generate Call Accounting — Select call accounting data and save it as an external file
- Browse Dial Ranges — View the dialing ranges specified by a switch's dial plan
- Find Unused Extension — Search a switch for the next available extension after a specified extension
- Browse Unused Ports — View a list of unused ports on a switch
- Browse Stations — View a selected or complete list of stations on a switch
- Monitor Trunks — Tell DSA to periodically check for out-of-service trunks and notify the user
- Start Emulation — Access a switch or AUDIX via terminal emulation
- Add Switch — Set up a connection from DSA to a DEFINITY switch
- Add Voice Mail System — Set up a connection from DSA to an AUDIX system
- Print Button Labels

Clicking the **Tree** tab on the left pane displays the DSA browser tree. This tree is a Windows Explorer-like view of all of the switches and AUDIX systems connected to DSA, the tasks a user has created, and the button label templates. Users can:

- Expand nodes in the tree
- Move items
- Cut, copy, or delete items
- Add or paste items to the tree
- Rename items
- Change an item's properties
- Connect to a switch

How DSA works

In DSA, any switch or AUDIX administration activity is called a task. When using DSA to perform a switch or AUDIX administration task, enter the task into DSA and then tell DSA when to run the task. For example, to add a phone to the system for a new employee, create a task in DSA that adds the phone (and, optionally, the associated voicemail account), and then tell DSA to add the new phone immediately or at a later time.

When the task runs, DSA connects to the appropriate switch or AUDIX, runs the task, and displays feedback about the task in the schedule tab. Depending on the instructions from the user, DSA will either disconnect from the switch or make the connection idle when it is finished running the task.

DSA help

DSA provides the following information to help administrators:

- Guided tour — The guided tour orients users to the DSA interface, explains what the different areas of the DSA screens are for, and orients users to what DSA is and how to get started. Users can launch the Guided Tour by choosing Guided Tour from the Help menu.
- Online Help with Demonstrations — The online help system tells how to administer DSA, how to perform basic switch administration and troubleshooting, and how to connect to an AUDIX. Many topics include a **Show Me** button. When a user clicks **Show Me**, a short animated demonstration of the task plays. To open the help system, choose **Contents** from the **Help** menu.
- Show Me demonstrations — Users can launch a list of Show Me demonstrations by choosing **Show Me** from the **Help** menu.
- Connection support — Clicking **Help** on a connection error message will launch a series of troubleshooting screens to walk users through solving common connection problems.

Configure DSA

When DSA is initially installed on a client machine, it needs to be configured to communicate with both the switch application (DEFINITY) and the voice mail applications (AUDIX) on the DEFINITY ONE platform.

When it runs initially, after downloading, DSA asks if it should create a new entry for the switch. To create a new entry for the switch, do the following:

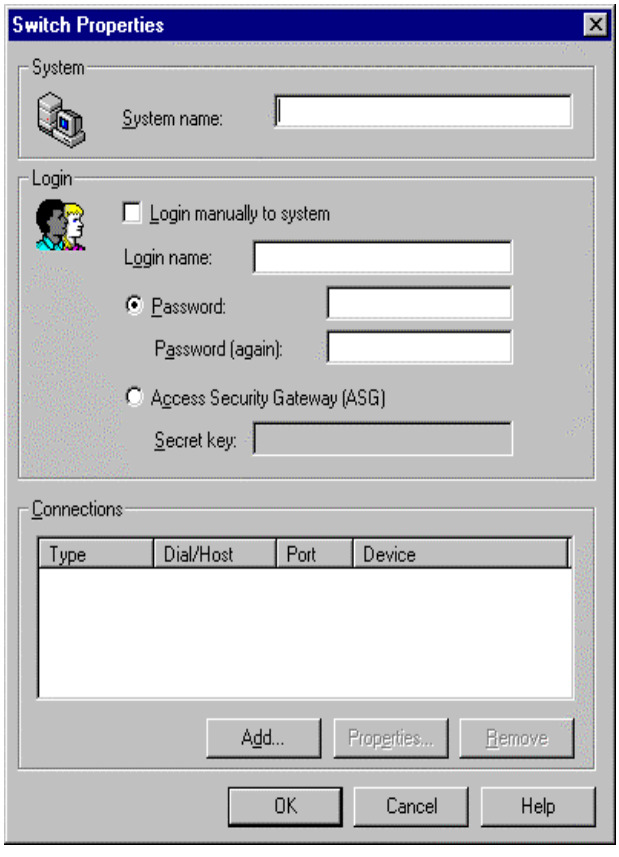
1. Answer **yes** to creating a new switch.
2. Complete the **Switch Properties** information and **apply** it.
3. Answer **yes** to the request for creating a new entry for a voice mail application.
4. Complete the **Voice Mail System Properties** information and **apply** it.

Both switch access and voice mail access are now configured through DSA to DEFINITY ONE.

NOTE:
To create a new entry for a different system, perform the following procedure.

Adding DEFINITY ONE Switch Administration Item

1. Click **file > new > Switch**. A screen similar to the one below displays:



2. Enter a name in the **System name** field. As a technician configuring DSA on your laptop, use a generic name, as you will be able to use this connection item for all DEFINITY ONE machines connected over the PCMCIA physical connection.

3. Enter a login name and Password.

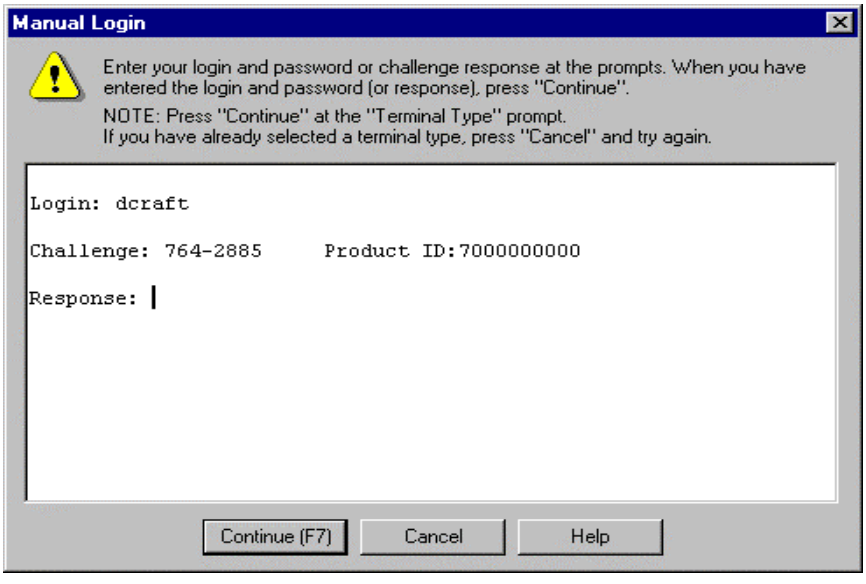
   For Avaya personnel enter one of the **dxxxx** logins (**dinit, dinads, dcraft**) depending on the level of access desired along with the appropriate password. The password will be unique for each DEFINITY ONE system.

   For non-Avaya personnel, enter your valid DEFINITY login with its appropriate password. See "Enable customer logins" on page 3-7.

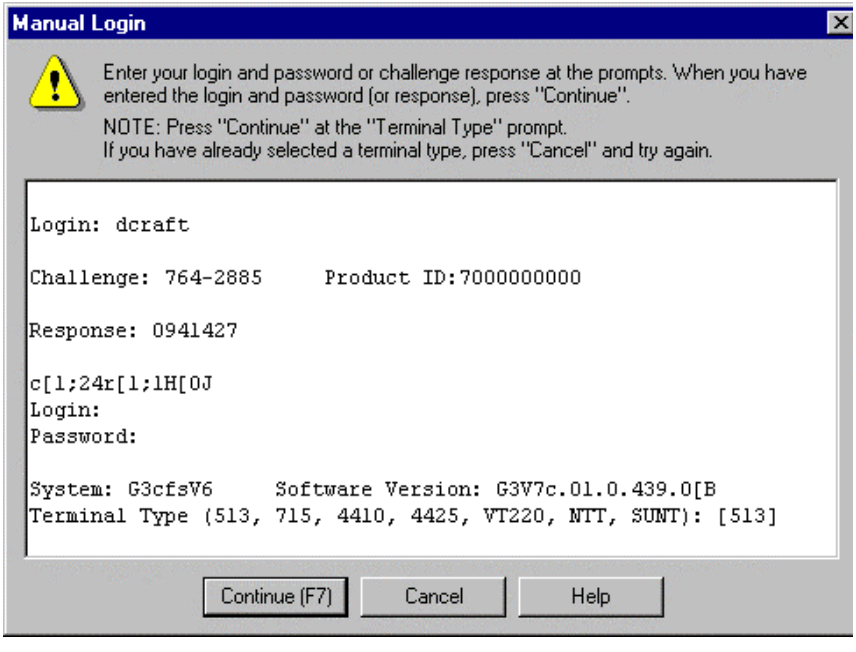
Log in to DEFINITY with ASG enabled

If the system is ASG-enabled:

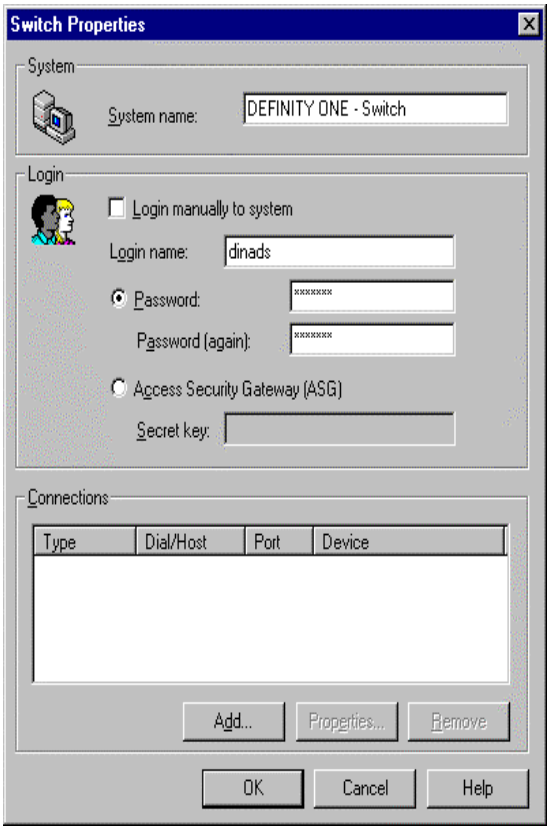
1. Click the **login manually to system** check box. An emulator screen displays, prompting for login.
2. Log in as **dxxxx**. You will be issued a challenge; respond correctly.



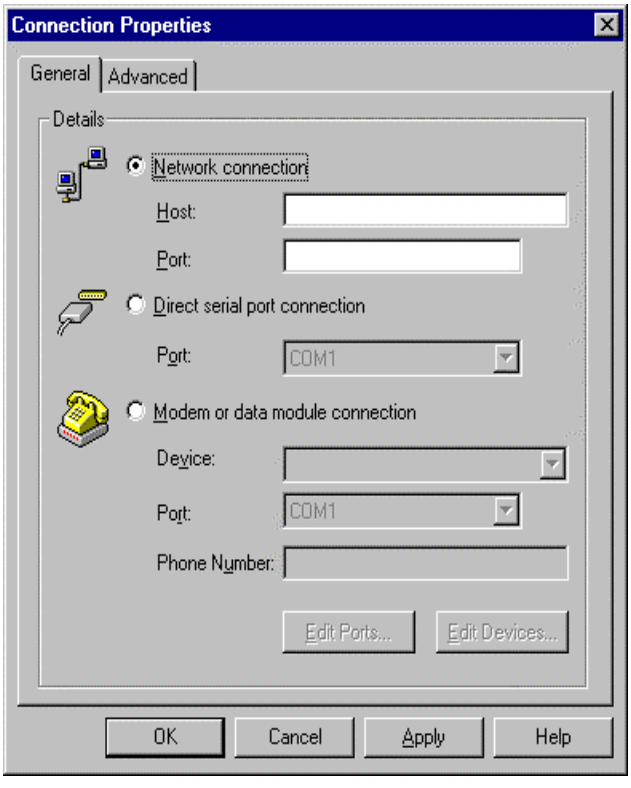
If you respond successfully, you will start to see data scroll by. The system will ask for terminal type; do NOT enter a terminal type. Simply click on the **Continue** button at the bottom of the screen as in the screen below:



Once you have populated the fields on the **Switch Properties** page, the screen should look similar to the one below:



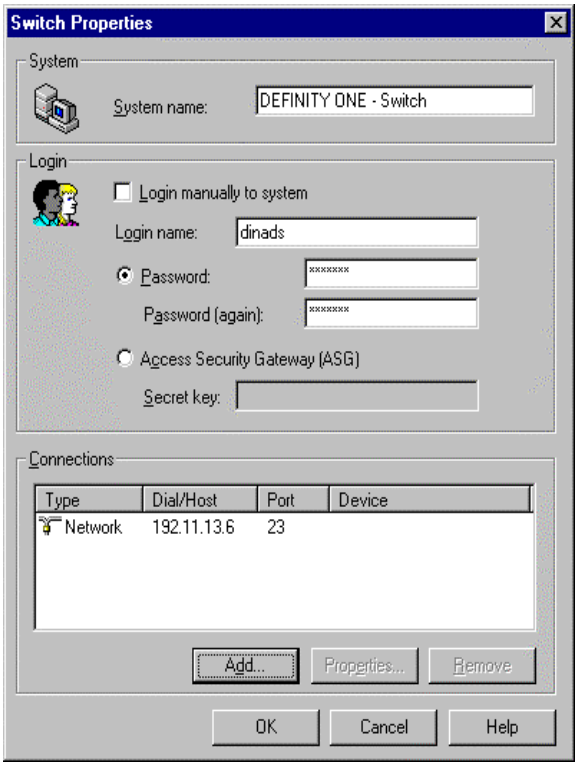
3. Click **Add**. The **Connection Properties** dialog box displays. The **Connection Properties** dialog box is used to add a physical connection mechanism from the client machine to the DEFINITY ONE.



NOTE:
Regardless of the physical connection used (local monitor/keyboard/mouse, PCMCIA, RAS modem or customer LAN) the connection type is always a network connection.

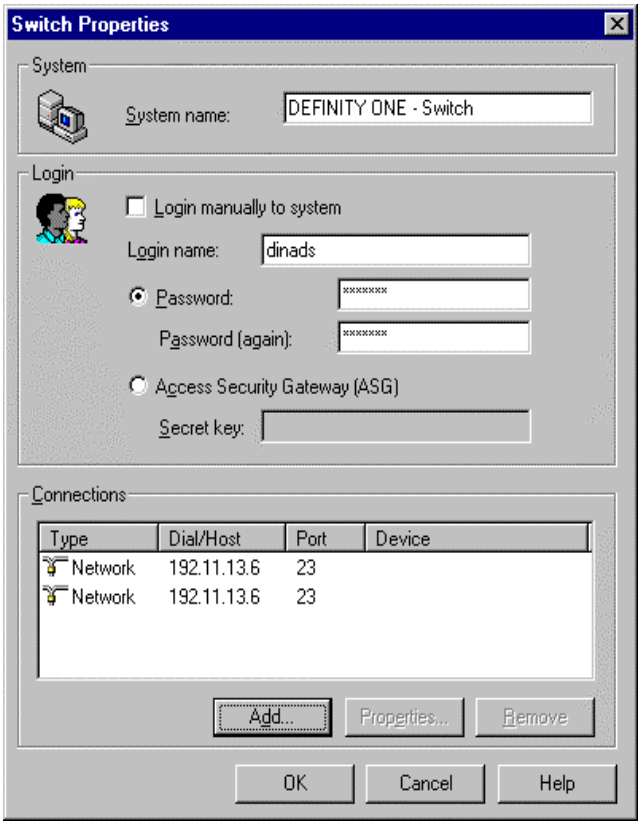
4. By default the **Modem or data module connection** radio button is highlighted. Be sure to click on the **Network connection** radio button.
5. Host: For the host address, enter the IP address that is commensurate with the physical connection mechanism used to connect to the DEFINITY ONE. See Appendix H, "Installation Connectivity Quick Reference".
6. Port: For the port number, ALWAYS use port 23.

7. Click **Apply** followed by **OK**. This dismisses the **Connection Properties** page and returns you to the **Switch Properties** page, similar to the one below:



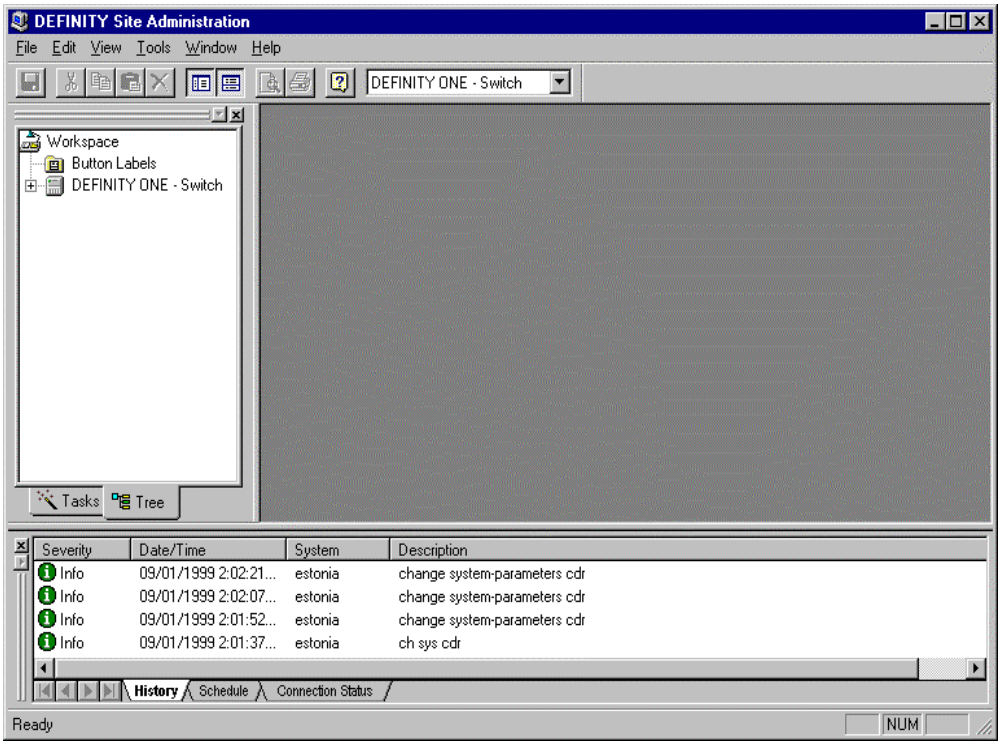
NOTE:
For a Switch (DEFINITY) connection, add 2 identical connection entries by repeating steps 5,6,7 and 8. This allows you to use the wizards.

After creating the second LAN connection item, your **Switch Properties** screen should look similar to the one below:



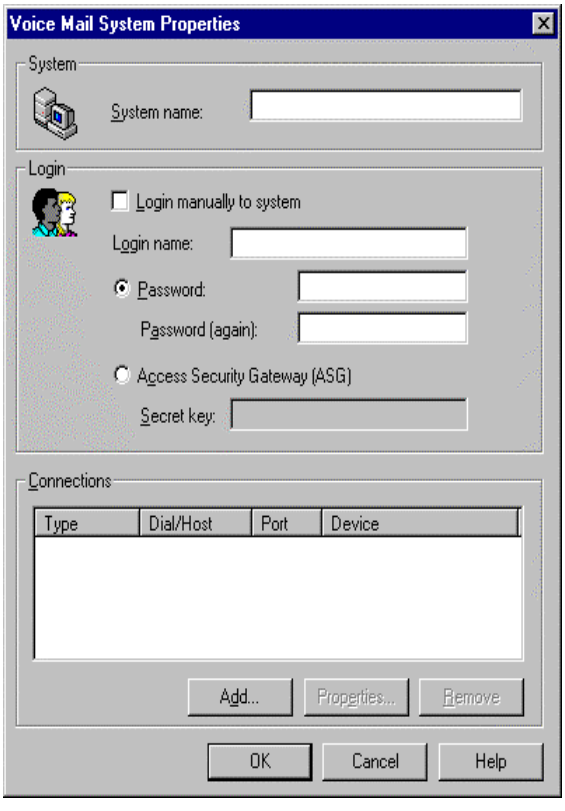
8. Click on the **OK** button to complete the addition of the switch item.

   By clicking on the **Tree** tab on the DSA window, you can see the newly added DEFINITY ONE switch administration item. The screen looks similar to the one below:



Adding DEFINITY ONE Voice Mail Administration Item

1. For a new voice mail administration item, click on **File > New > Voice Mail System**. A screen similar to the one below displays:



2. Enter a name in the **System name** field.

   For technicians who are configuring DSA on their laptops, use a generic name, as you will be able to use this connection item for all DEFINITY ONE machines connected over the PCMCIA physical connection.

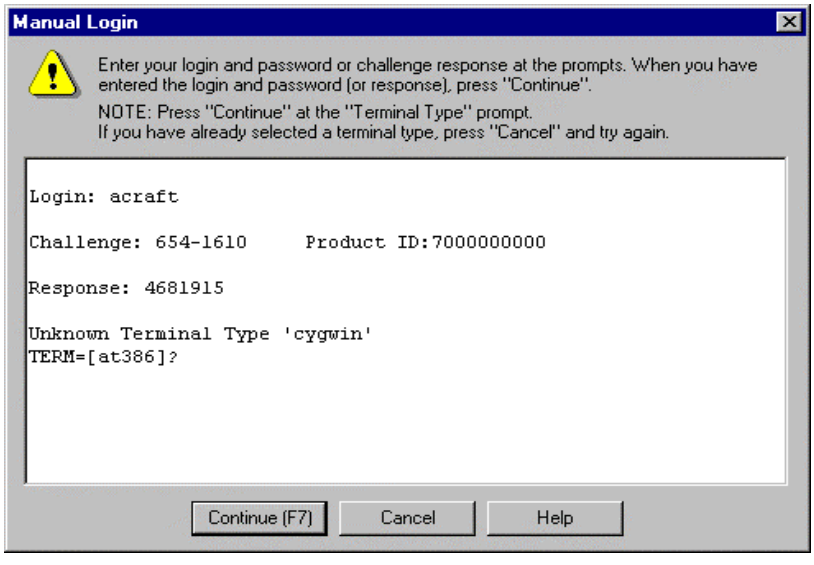
3. Enter a login name and Password.

   For Avaya personnel, enter one of the **axxxx** logins (**atsc or acraft**) depending on the level of access desired along with the appropriate password.

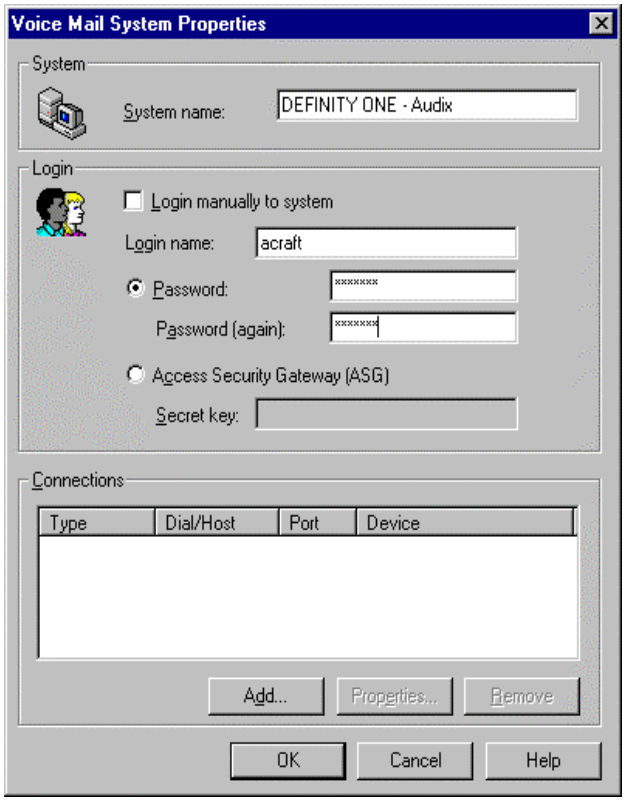
   For non-Avaya personnel, enter one of the valid AUDIX Customer logins (**sa**, **vm**, or **browse**) along with the appropriate password.

Log in to AUDIX with ASG enabled

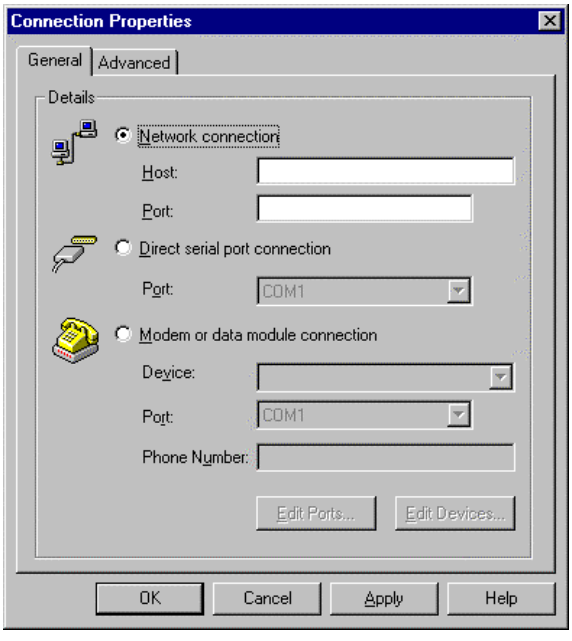
1. If the system is ASG-enabled, then you must click the **login manually to system** check box. When you try to initiate a connection, an emulator screen pops up, prompting for login.
2. Log in as **axxxx**. You will be issued a challenge to which you must respond correctly.
3. The system will ask for terminal type; do NOT enter a terminal type. Click the **Continue** button at the bottom of the screen.



Once you have populated the fields on the **Voice Mail System Properties** page, the screen should look similar to the one below:



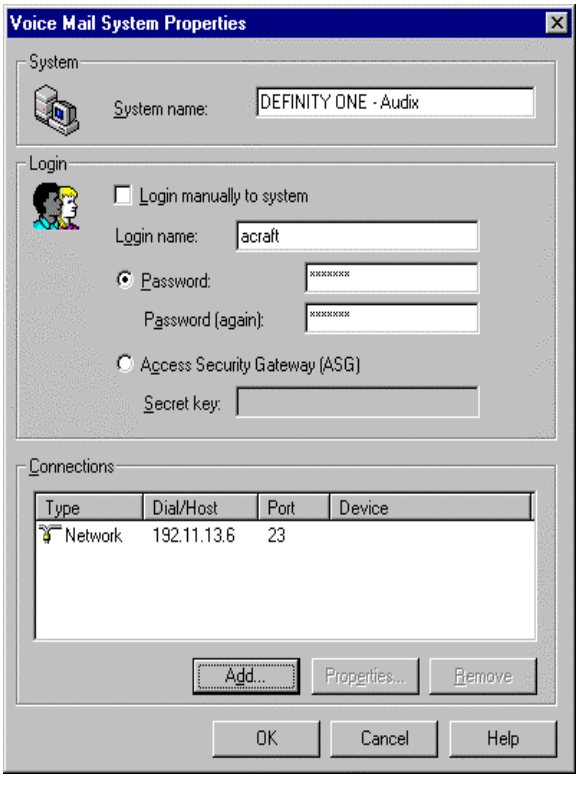
4. Click **Add**. The **Connection Properties** dialog box displays. The **Connection Properties** dialog box is used to add a physical connection mechanism from the client machine to the DEFINITY ONE.



NOTE:
Regardless of the physical connection used (Local monitor/keyboard/mouse, PCMCIA, RAS modem or customer LAN) the connection type is always a network connection.

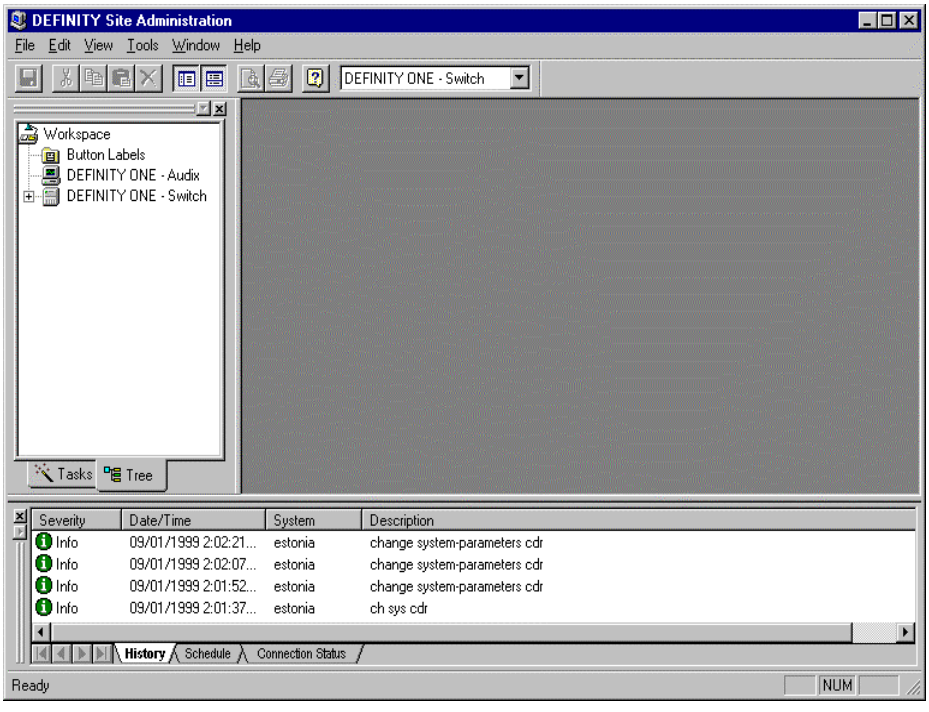
5. By default the **Modem or data module connection** radio button is highlighted; be sure to click on the **Network connection** radio button.
6. Host: For the host address, enter the IP address that is commensurate with the physical connection mechanism used to connect to the DEFINITY ONE. See Appendix H, ‘‘Installation Connectivity Quick Reference’’.
7. Port: For the port number, ALWAYS use port 23.

8. Click on **Apply** followed by **OK**. This dismisses the **Connection Properties** page and puts you back at the **Voice Mail Properties** page, similar to the one below:



9. Click on the **OK** button.

   By clicking on the **Tree** tab on the DSA window you can see the newly added DEFINITY ONE voice mail administration item. The screen will look similar to the one below:

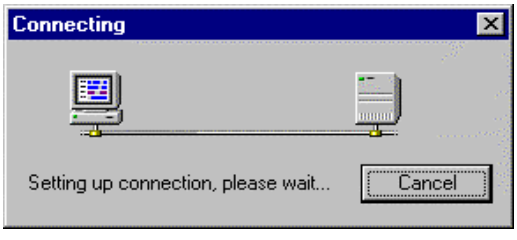


Starting a Switch Administration session

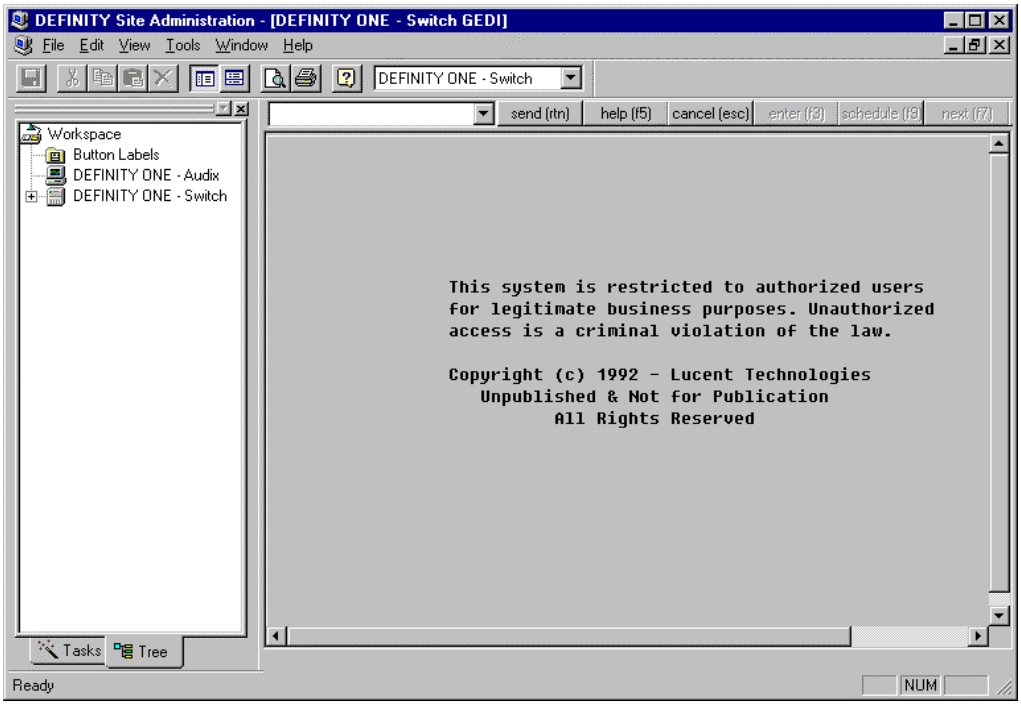
To launch a GEDI session:

1. Click on the tree tab of the DSA window.
2. Right-click on the newly created switch item (DEFINITY ONE Switch in our example).
3. Click on **General.**
4. Click on **Start GEDI.**

   While the connection is being established, a screen similar to the one below displays:



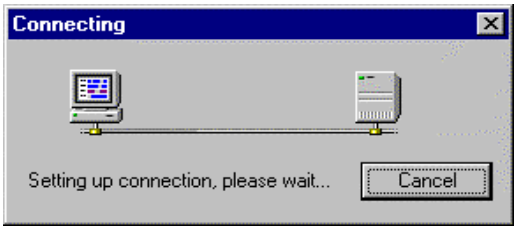
Once the connection has completed, a screen similar to the one below displays:



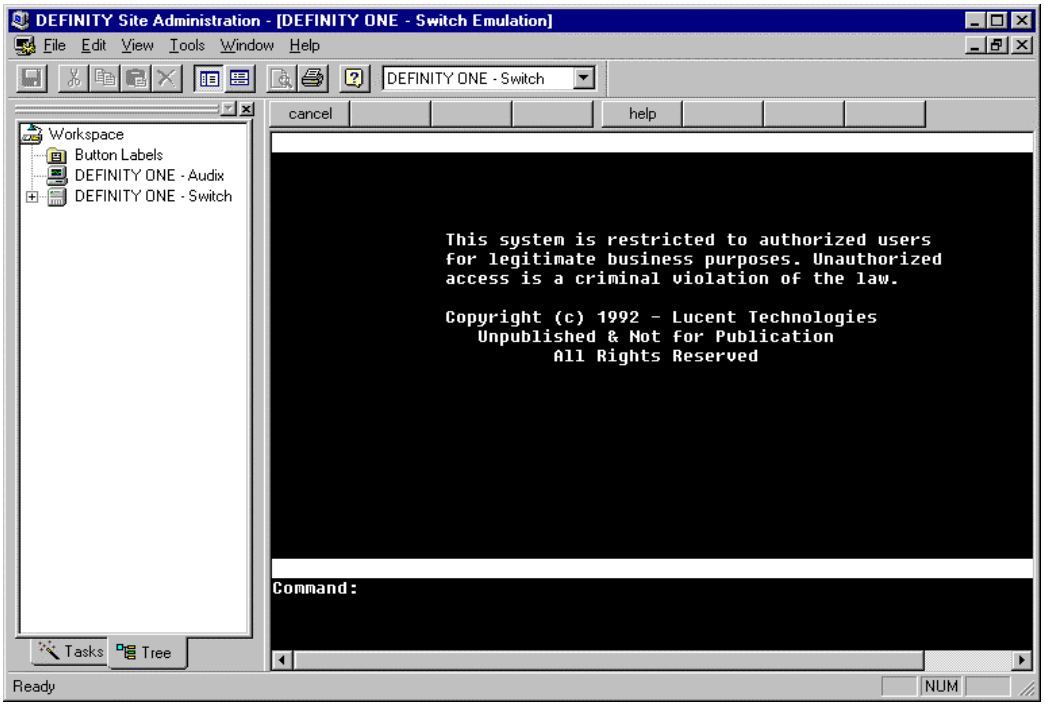
To launch an emulation session:

1. Click on the **Tree** tab of the DSA window.
2. Right-click on the newly created switch item (DEFINITY ONE “- Switch”).
3. Click on **Advanced**.
4. Click on either **4410 Emulation** or **513 Emulation**.

   While the connection is being established, a screen similar to the one below displays:



   Once the connection has completed, a screen similar to the one below displays:



Starting a Voice Mail Administration session

1. Click on the **Tree** tab of the DSA window.
2. Right-click on the newly created voice mail system item (DEFINITY ONE

Message Manager Installation

8

Message Manager is a tool for handling multimedia messages with use of a personal computer (PC). Message Manager provides a graphical user interface to access the AUDIX messaging system through a local area network (LAN) connection. When connected to a LAN, the AUDIX system is referred to as the "AUDIX server".

A Web-based tool for handling multimedia messages is available as a separate product from Avaya. The product, www.messenger, provides Web access to the AUDIX messaging system. Contact your Avaya representative for more information.

This chapter provides the tasks required to install Message Manager:

- Standard features
- ‘‘Pre-Installation considerations’’ on page 8-2
- ‘‘Installation to a client PC’’ on page 8-8

Standard features

Message Manager is a Windows-based application that provides the following features:

- Visual display of the AUDIX mailbox capable of playing voice messages, viewing faxes and text messages, and launching or exporting file attachments, through a simple graphic interface
- A Personal Address Book on the PC, independent of the AUDIX server
- Personal folders for sorting and storing messages on the PC, independent of the AUDIX server

- Sound card support for playing and recording messages and greetings on the PC, depending on availability of sound card, speakers, and microphone
- Remote, off-site access to messages through a high-speed modem and TCP/IP (PPP) access to a LAN, depending on hardware availability
- The ability to receive, create, and send text messages and attached files
- Fax messaging, including receiving, forwarding, deleting, printing, or creating fax messages, depending on the release and configuration of the AUDIX server

The following Related Documentation information is available:

- The Message Manager section of the AUDIX electronic documentation describes preparation of the AUDIX system for Message Manager.
- The Guide Builder program creates a customized quick reference user guide that describes the features and use of AUDIX and Message Manager.
- The custom.txt file appears when Message Manager users select **About Your System** from the **Help** menu. As the system administrator, you can revise the custom.txt file to include information useful to your subscribers. See "Updating your site-specific information" on page 8-17.

Pre-Installation considerations

This section describes installation requirements and options for setting up and running Message Manager 4.5.

PC requirements

Minimum hardware and software required:

- A compatible operating system:
  - Windows NT Version 3.51, with Service Pack 5
  - Windows NT Version 4.0
  - Windows 95
- A minimum 486, 66 MHz PC with 16 Mbytes of RAM and 19 Mbytes of available hard disk storage (assuming a Personal Address Book with 400 entries). Exception:
  - The tutorial requires an additional 10 Mbytes of disk storage.
  - The operating system may require additional RAM for improved performance (for example, 32 Mbytes of RAM for Windows NT).
- VGA or higher monitor (color recommended)
- LAN interface card

- Windows Sockets (WINSOCK.DLL) access to TCP/IP (either through a NetWare Loadable Module or TCP/IP protocol stack)
- Mouse supported by Microsoft Windows (recommended)
- Microsoft Windows-compatible sound card with speakers and a microphone (for remote access)
- Speakerphone, telephone headset, or a Microsoft Windows-compatible sound card with speakers, microphone, or a computer headset for hands-free operation (optional)

Installation requirements

Ensure that the PC and LAN will support Message Manager before installing. Perform the following:

1. On the PC, log into the network and enable Microsoft Windows.
2. Obtain a server name or TCP/IP address of a workstation in your network from the LAN administrator and run the ping program from a DOS prompt in Windows. A ping from the DOS shell without Windows running is not a valid test. For assistance ask your LAN administrator how to access or use this utility.
3. If the ping fails or the system hangs, install Message Manager and open the Help file in the program group for information. For additional options, search for "General Troubleshooting."

NOTE:
The executable Message Manager software and a copy of the software CD must be in different directories if a shared copy of Message Manager is installed for users to run on the LAN and the Message Manager software is copied to the LAN for easy distribution.

NOTE:
Administrative privileges or login as Administrator are required to install the fax package on Windows NT.

Operating system considerations

The Message Manager Setup program automatically tailors Message Manager to work with the operating system installed on a PC. Operating system considerations are:

- Message Manager Release 4.5 runs as a 32-bit application on Windows 95 and Windows NT (NT version 3.51 requires Service Pack 5)
- Message Manager Release 4.5 cannot run on Windows 3.1, 3.11, or NT 3.51 without Service Pack 5. Obtain Message Manager Release 4.3. to run Message Manager on a 6-bit system.
- Reinstall Message Manager when changing operating systems. Message Manager must be installed separately for each operating system if the PC runs multiple operating systems (such as Windows NT and Windows 95).

Select installation type

Several methods of installation and operation are available for Message Manager. On completion of the install process, select the following type of installation (Refer to Table 8-1 on page 8-5 for advantages/disadvantages):

- Single User Install. Install a copy of Message Manager on each user's PC using either of the following distribution methods:
  - — Share or copy the CD included in the installation package.
  - — Download compressed Message Manager files from the DEFINITY Office browser interface or the intranet.
- Copy from LAN Server. Install a copy of Message Manager by accessing the software through a LAN file server. This allows administrators easy distribution of Message Manager through a LAN rather than sharing the CD or downloading compressed files. See ''Installing Message Manager from a LAN server'' on page 8-14.
- Run from LAN Server. All users on a LAN server share a single copy of Message Manager. The Message Manager software that is only on the LAN file server can easily be updated by the LAN administrator. See ''Installing and accessing a shared copy of Message Manager'' on page 8-10.
- Automated Installation. Start an automatic installation to load on users' computers with an entire set of application software, including Message Manager, as defined by the company. This allows administrators to easily distribute a uniform set of user software to all computers. See ''Using the automated installation process'' on page 8-15.

Table 8-1. Advantages and disadvantages of installation and operation choices

Install method	Advantages	Disadvantages
Single user install from a CD	■ Fast load for users with slow LAN connection (remote access)	■ Administrator cannot password-protect the CD ■ Requires CD distribution at each update
Single user install via browser download	■ Users can install the software ■ Stand alone executable that requires only temporary LAN access during install	■ Increases network traffic during installation
LAN distribution	■ Fast load for users with LAN connection ■ Secure — directory can be password-protected ■ No CD to manage ■ Easily updated if software changes	■ Requires disk space on LAN server ■ Increases network traffic during installation
Shared copy on LAN	■ Saves disk space on users' computers ■ Secure — software can be password-protected ■ No diskettes to manage ■ Easily updated if software changes	■ Requires disk space on LAN server ■ Can greatly increase network traffic ■ May have much slower execution speed, depending on LAN performance
Automated installation	■ Simplest install for users ■ Administrator resources required only initially ■ Fast load for users with slow LAN connection (remote access)	■ System administrator must custom-build, load, and distribute installation media ■ Requires software media distribution at each update

Upgrade considerations

If upgrading from an earlier release of Message Manager to Release 4.5, either replace the existing version of Message Manager or keep 2 versions of Message Manager installed on the same PC.

Before installation

Make a backup copy of the following directories and contents:

- Workbench (Workbnch)
- Personal Folders (default names are PF1, PF2, PF3, PF4, and PF5)
- Address Book (PBOOK.MDB)

During installation

Complete the following:

1. Close all Windows programs, including the current version of Message Manager.
2. To save a copy of the current Message Manager software, select a new directory name and program group when installing Release 4.5.

   NOTE:
   Installing Message Manager "basic" software removes the fax print drivers from the computer. In addition, there can be 2 releases of Message Manager installed, but only 1 set of fax print drivers.

3. Install (or reinstall) the fax software that corresponds with the Message Manager release for faxing after installing the basic software.

After installation

Take note of the following:

- Message Manager Release 4.5, opening the first time, prompts the option of converting the existing workbench and personal folders to the new release.
  - — If converted, the messages are longer accessible by earlier releases of Message Manager.
  - — If personal folders are not converted, new personal folders must be set up in Release 4.5 under the main screen File menu. To later convert a personal folder, select the folder as a Release 4.5 personal folders.

- Release 4.5 uses the Address Book, Personal Folders, and Workbench files located in the directory established with the previous version of Message Manager. To protect files from deletion, use File Manager or Explorer to copy the following directories and files to the Release 4.5 directory:
  - PF1, PF2, PF3, PF4, and PF5 (and contents). Select **Set Personal Folder Properties** from the **File** menu to set each new file location.
  - Workbench (and its contents). Select the **Workbench Directory** from the **File** menu to set the new file location.
  - PBOOK.MDB. Open the **Personal Address Book**, select **Open** from the **File** menu, go to the new location, and select **PBOOK.MDB**.
- The installation process provides several shortcut icons in **the Message Manager Windows** program group and **Start** menu. The following icons are valid for Message Manager Release 4.5:
  - Fax Cover Page Wizard
  - Help - US English
  - Message Manager
  - Personal Address Book
  - ReadMe

Uninstalling Message Manager

Previous versions of Message Manager remain on the system until replaced or removed. The method used to uninstall Message Manager varies with the Message Manager release:

- To remove Message Manager Release 4.3 or earlier, overwrite the files by loading Message Manager 4.5 into the same directory, or delete the Message Manager directory and files. See ‘‘Upgrade considerations’’ on page 8-6.
- To remove Message Manager Release 4.5 or later, run **unwise.exe** from the Message Manager directory.

Installation to a client PC

Select the following during installation:

- Installation type to perform
- Parts of the application to install (basic and/or fax packages). For Windows NT, log in as Administrator to install the fax package.
- Whether to run Message Manager from the PCs or share a copy from the LAN. See "Select installation type" on page 8-4.
- Optional backup of files (upgrades and reinstalls)

Single user installation process

The default method of installation, described in Table 8.2, is from a CD or intranet site to a single PC. Subsequent sections describe additional install and operation methods (install from a LAN, run shared copy from a LAN, and automated install).

1. Perform one of the following installation options:
   - — Obtain the Installation CD.
   - — Download the Message Manager software file to a temporary directory from the DEFINITY Office browser page or an intranet site designated by the system administrator. Select File Explorer and double-click to decompress the file.
   - — Navigate to a LAN directory designated by the system administrator.
2. Run **setup.exe**.
3. Complete the steps listed in Table 8-2 on page 8-9 to install Message Manager Release 4.5.

Table 8-2. Single user install screens

Screen name	Notes
Welcome	
License File	
Tell Me About…	The Message Manager CD includes the following tools: ■ Install description ■ User Overview/Tutorial ■ Documentation
Select Installation Type	The following installation choices are described in ''Select installation type'' on page 8-4: ■ Single User Install (Continue with the instructions in this table) ■ Shared Installation (Go to ''Installing and accessing a shared copy of Message Manager'' on page 8-10) ■ Copy for LAN Installation (Go to ''Installing Message Manager from a LAN server'' on page 8-14) ■ Automated Installation is available, although it is not a selection on the Installation Type screen. (Go to ''Using the automated installation process'' on page 8-15)
Important! message	Close open software applications. For Windows NT, you must have administrative privileges or be logged in as Administrator to successfully install the fax package.
Select Destination Directory	To load the program in a directory other than the default, select the directory of choice. If creating a new directory, type the directory path in the Select Destination Directory dialog box.
Backup Replaced Files	Save Backup files in the Backup directory. Personal Folders, Workbench, and Address Book files are not automatically backed up; see ''Upgrade considerations'' on page 8-6.
Select Components	Select Message Manager and FAX for a complete installation. Select fax to add it to a previous installation.
Enter FAX Information	If FAX is selected on the Select Components screen, enter the Server ID and Extension. The information determines which AUDIX mailbox opens when the user creates a fax. Select Options/Preferences in Message Manager to add or update later.

Continued on next page

Table 8-2. Single user install screens — *Continued*

Screen name	Notes
Ready to Install, Installation Status Indicator	Select Next on the Ready to Install screen. The Status light and a list of installed files appear.
hints.txt	The hints.txt screen contains a description of each program group icon.
Installation Complete, Restart dialog box	The Message Manager is active following restart of the computer.

4. Restart Windows to complete the installation process.

Installing and accessing a shared copy of Message Manager

To install a shared copy the system administrator installs a single, shared executable copy of the software on a LAN server, customizes certain files, and installs (or notifies users to install) Message Manager on users' PCs. When Message Manager is installed on the PCs, a minimal set of files load, including msg_mgr.ini, Personal Folders, and the Message Manager print driver (if fax package installed).

The application loads from the server to the client computer's RAM when user double-clicks the Message Manager icon. Message Manager can run throughout the day without affecting other users.

1. Run **setup.exe**.
2. Complete the steps in Table 8-3 on page 8-11 to install Message Manager Release 4.5 on the LAN server.

Table 8-3. Shared installation Setup.exe screens

Screen name	Notes
Welcome	
License File	
Tell Me About…	The Message Manager CD includes the following tools: ■ Install description ■ User Overview/Tutorial ■ Documentation
Select Installation Type	Select Shared Installation. Installation options are described in "Select installation type" on page 8-4.
Important! message	Close open software applications. For Windows NT, administrative privileges or login as Administrator are required to install the fax package.
Select Destination Directory	Designate or create the directory on the LAN server to contain the Message Manager software. To load the program in a directory other than default, browse to the directory of choice. To create a new directory, type the directory path in the Select Destination Directory dialog box.
Backup Replaced Files	Save Backup files in the Backup directory. Personal Folders, Workbench, and Address Book files are not automatically backed up; see "Upgrade considerations" on page 8-6.
Select Components	For a complete installation, select Message Manager and FAX. Select FAX to add fax to a previous installation.
Enter FAX Information	For shared Installations leave these fields blank. The information determines which AUDIX mailbox opens when the user creates a fax. Select Options/Preferences in Message Manager to add or update later.

Continued on next page

Table 8-3. Shared installation Setup.exe screens — *Continued*

Screen name	Notes
Ready to Install, Installation Status light	Select Next on the Ready to Install screen. The Status light and a listing of the installed files appear.
hints.txt	The hints.txt screen contains a description of each program group icon.
Installation Complete, Restart dialog box	The Message Manager is active following restart of the computer.

3. Customize either of the following text files to user needs:
   - custom.txt — This is the file that Message Manager users see when About Your System... is selected from the Message Manager Help menu. See "Updating your site-specific information" on page 8-17.
   - hints.txt — This file contains a description of each program group icon.
4. Install (or instruct users to install) the necessary user files and print driver to each individual PC by from the LAN to the shared directory (created during the LAN server install above) and run the **SH_Setup.exe** program. Table 8-4 includes a description of the SH_Setup.exe install process.

Table 8-4. Shared installation Sh_Setup.exe screens

Screen name	Notes
Welcome	
License File	
Important! message	Close open software applications. For Windows NT, administrative privileges or login as Administrator are required to install the fax package.
Select Destination Directory	Load only a minimal set of files of the client PC. To load the program in a directory other than default, browse to the directory of choice. To create a new directory, type the directory path in the Select Destination Directory dialog box.

Continued on next page

Table 8-4. Shared installation Sh_Setup.exe screens — *Continued*

Screen name	Notes
Backup Replaced Files, Select Backup Directory	Back up replaced system files in the default directory or directory of choice. To create a new directory, type the path in the Select Destination Directory Dialogue Box. Personal Folders, Workbench, and Address Book files are not automatically backed up; see "Upgrade considerations" on page 8-6.
Select Components	Select Message Manager and FAX for a complete installation. To add fax to a previous installation, select FAX.
Enter FAX Information	If FAX is selected on the Select Components screen, enter the Server ID and Extension. This determines which AUDIX mailbox opens when the user creates a fax. Select Options/Preferences in Message Manager to add or update later.
Ready to Install, Installation Status Indicator	Select Next on the Ready to Install screen. The Status light and list of installed files appears.
hints.txt	The hints.txt screen describes each program group icon.

5. Restart Windows to complete the installation process.

Installing Message Manager from a LAN server

The system administrator copies and decompresses the software from the CD to a LAN server. Specific files are customized and Message Manager Release 4.5 is installed (or users are notified to install) to individual PCs.

1. Run **setup.exe**.
2. Complete the steps Table 8-5 to copy and decompress the installation files.

Table 8-5. LAN installation screens

Screen name	Notes
Welcome	
License File	
Tell Me About…	The Message Manager CD includes the following information tools: ■ Install description ■ User Overview/Tutorial ■ Documentation
Select Installation Type	Select Copy for LAN Installation. Installation choices are described in "Select installation type" on page 8-4.
Select Destination Directory	Select or type the directory path in the Select Destination Directory dialog box.
Ready to Install, Installation Status Indicator	Select Next on the Ready to Install screen. The Status light displays and a list of installed files appears.
hints.txt	The hints.txt screen describes each program group icon.

3. Customize any of the following text files to meet user needs:
   - custom.txt — This file appears when users select About Your System... from the Message Manager Help menu. See "Updating your site-specific information" on page 8-17.
   - docs.txt — This file, viewable during the install process, describes the electronic user documents.
   - hints.txt — This file contains a description of each program group icon.

- install.txt — This file, viewable during the install process, describes the install choices.
- readme.txt — This file contains late-breaking information about Message Manager Release 4.5. It is viewable at the end of the Single User Install process.
- tutorial.txt — This file, viewable during the install process, describes the computer-based overview tutorial.

4. Install (or instruct users to install) the application to each PC from the LAN to the shared directory. Perform the "Single user installation process" on page 8-8.

Using the automated installation process

The system administrator updates the silent.txt (template) file and installs the software from the LAN to users' computers.

1. Copy the **silent.txt** text from the Message Manager Release 4.5 CD to the PC. The file contains the following text:

```
rem This is the Prototype Silent Install Settings File

rem This file is used to create a Silent Installation of
rem Message Manager version 4.5


rem To use this settings file, invoke the installation
rem as follows:
rem
rem <path>\Setup.EXE /M=<path2>\Silent.TXT
rem
rem Where <path> is the location of the Setup.EXE installation
rem executable
rem and <path2> is the location of the Silent.TXT file being
rem used


rem Following are the Variables and values required for
rem installation. Spelling and Capitalization are
rem CRITICAL!



rem Following line is required - do not change
SILENT=1

rem Following line is required - do not change
INSTALLTYPE=A

rem Following line is required - do not change
LANGUAGES=A
```

```
rem Following is for "What to Install"
rem
rem use A for Basic, B for FAX, AB for both
COMPONENTS=AB


rem Following is used only for FAX install
rem
rem Provide the values for the FAX Server and Extension
rem Spelling is critical
rem
rem if left blank, install will use the previous values
rem from the msg_mgr.INI file (if present)
FAXSERVER=
FAXEXTENSION=


rem Following is for Installation Location
rem
rem Directory location for Installation
rem
rem Example - MAINDIR=C:\MSG_MGR
rem Example - MAINDIR=C:\Program Files\Lucent\Message Manager
MAINDIR=C:\Program Files\Lucent\Message Manager


rem Following is for Backup of replaced files during
rem installation
rem
rem Use A for True, B for False
DOBACKUP=A
rem Following is for backup directory
rem If backup is not selected, file name is not used
BACKUP=C:\Program Files\Lucent\Message Manager\backup


rem Following is the Name of the Program Manager Group
rem for Message Manager installation.
rem Spelling is critical
GROUP=Message Manager


rem Following is the re-boot flag
rem Windows must be re-booted before using Message Manager
rem Setting this flag will cause the install to query the
rem user about the reboot
rem Clearing this flag will not reboot, and will not ask
rem the user
rem Use S for System Reboot (recommended), W for Windows
rem reboot, and nothing for no reboot.
RESTART=S


rem End of silent install parameters
```

2. Customize silent.txt to specify the following:
   - COMPONENTS
   - FAXSERVER
   - FAXEXTENSION
   - MAINDIR
   - DOBACKUP
3. Follow the instructions in **silent.txt** to enable the automatic installation process.

Updating your site-specific information

Message Manager Release 4 and later allows users or administrators to update a custom file with site-specific information such as the AUDIX server ID, prefixes, text-addressing format, feature-access codes, and help numbers. Users select **About Your System** in the customs file from the **Help** menu on the **Message Manager** main screen.

To update the default custom file or supply a quick-reference file:

1. Access the **Message Manager Release 4.5** directory.
2. Locate the default custom.txt file template provided with Message Manager. To update this file:
   - Open the **custom.txt** file using any ASCII text editor.
   - Follow the instructions in the template and save the file.
3. To install a custom file of a different type (such as doc or hlp):
   - Move or rename the default **custom.txt** file template.
   - Put custom file in the same directory as the executable Message Manager msg_mgr.exe file. Name the file **custom**.
   - If you use a file type other than txt, there must be a computer application associated with that extension, or the custom file will not run.

Updating the custom file varies according to the installation setup:

- Users sharing a copy of Message Manager on a LAN server access the same custom file, which is either the default template or the system administrator's version. If the administrator later updates the custom file, users access the new version the next time Message Manager is run.
- Users installing a personal copy of Message Manager on a PC from a LAN server initially obtain the custom file (either the default or the administrator's version) from the server. If this file is later updated, users must manually copy it from the server or reinstall Message Manager.
- Users installing a Message Manager CD must update custom files independently. The administrator may provide a modified custom file for users to copy to an application directory after installation (distributed on diskette, as an attached file, or through a LAN server). If so, include directions for users to rename or remove the old or default **custom.txt** file.

Troubleshooting

9

This chapter provides information specific to troubleshooting installation problems. Problem types can:

- Be new and never worked through before
- Occur after installation
- Occur after installation has worked

The following sections apply:

- ‘‘Install Wizard error messages’’ on page 9-2
- ‘‘Platform troubleshooting commands’’ on page 9-5
- ‘‘Modem configuration and administration’’ on page 9-5

Install Wizard error messages

Error messages can occur with the DEFINITY ONE Install Wizard. Error messages and possible explanations and remedies are presented below:

Error message	Possible explanation/remedy
Unable to set the registry default root to HKEY_ LOCAL_MACHINE	The registry key HKEY_LOCAL_MACHINE is not accessible from the **install** wizard. Ensure that the registry key is accessible.
DEFINITY ONE is still running. Shut it down and restart install.	Install wizard cannot execute while DEFINITY ONE applications are running. The command, **shutdown all**, shuts down the applications related to DEFINITY ONE. After this command executes, run the **install** wizard again.
Unable to shut down the CornerStone logger. Manually shut it down and restart the install program.	Execute **C:\\LucentSoftware\CornerStone\mtce\bin\csShutdownlog.exe**. Execute the command **C:\\LucentSoftware\CornerStone\bin\cslog_server.exe -UnregServer**. The CornerStone logger should shut down. Run the install wizard again.
Unable to register the following files xxxx,yyyy,.....	The **install** program is unable to self register the files. Register the DLLs manually using the command **regsvr32.**
Unable to Reboot workstation Reboot now	Install wizard tried to reboot the workstation, but was not successful. Reboot attempted because some of files were not installed properly (may be in use). Manually push the shutdown button on the front of the TN795 and power cycle.
Unable to set xxxx:yyyy from [ffff]	Install wizard could not read the key yyyy from section xxxx in the ini file ffff. Check: ■ The ini file ffff should be in the same directory as **Setup.exe** (**install** wizard). ■ The ini file ffff should have read permissions. ■ The ini file ffff has the section xxxx and a value for the key yyyy.
Unable to determine screen resolution	Escalate.

Error message	Possible explanation/remedy
Screen resolution must be at least 640x480.	Install wizard requires that the screen resolution be at least 640x480.
Unable to determine the operating system	Escalate.
Unable to determine operating system version	Escalate.
Operating system must be Window NT 4.0.	The underlying OS is not Windows NT 4.0.
Must have administrator privileges to run this program	Installer does not have administrative privileges.
Unable to get free disk space on X drive	Escalate.
Not enough space on X drive for new install. Space required is Y.	Free up space and ensure that there is at least Y MB space on drive X.
Not enough space on X drive for an upgrade. Space required is Y.	Free up space and ensure there is at least Y MB space on drive X.
Unable to parse path	Escalate.
Unable to remove last slash from path	Escalate.
Unable to get current path	Escalate.
Unable to create [XXXX]	Escalate.
Unable to create a target directory	Ensure that the path is syntactically correct and you have access rights to the target drive.
Unable to allocate memory required to complete the copy file process	Free memory by terminating as many running applications as possible.
Not enough disk space on target drive to copy the files	Free disk space on target drive.
Unable to open the input file	Ensure that the source file is a valid file name, and that the source file and target directory exist.
Unable to copy the requested file	Escalate.
Target file is read-only	Remove read-only attribute from target file and try again.

Error message	Possible explanation/remedy
A self-registering file did not register successfully.	Escalate.
Unknown error	Escalate.
Unable to copy file [X]	Escalate.
Unable to get directory name	Escalate.
Unable to parse directory	Escalate.
Unable to create Substring section list	Escalate.
Unable to open file X	Escalate.
Unable to merge [X] into the Registry	Escalate.
Translation ID interval expiration	Login INADS. Reset Translation ID. Save Translation.

The following warnings (insignificant errors) may be generated by the **installconfig** wizard. Attempt to manually resolve these. Note them in the log book and continue. They are:

- Unable to get the AUDIX extension length
- Unable to add DSA shortcut to Start Menu
- Unable to reset AUDIX extension length to xxxx
- Unable to get file size
- Unable to get the product version from the last install
- Unable to create directory

Platform troubleshooting commands

For a complete list of commands, see "Avaya (Lucent) access controller bash commands" on page G-1. Detailed strategic analysis of each command is found in *DEFINITY ONE Communications System Release 9 Maintenance* (555-233-111).

Modem configuration and administration

The following procedures describe how to check settings and test the external modem:

- "Configure modem" on page 9-5
- "Verify INADS modem settings" on page 9-5
- "Verify external modem option settings" on page 9-6
- "Configure External Option Modem" on page 9-6
- "Test the external modem" on page 9-8

NOTE:
The modem (U.S. Robotics Model) is preconfigured to work correctly.

Configure modem

Verify INADS modem settings

No external modem installed

If no external modem is connected to INADS (no INADS Alarm Origination), proceed as follows:

1. Enter **display system-parameters maintenance** and press ENTER.
2. Verify that the Alarm Origination Activated to OSS Numbers field is set to **n** and press ENTER.
3. Verify that Cleared Alarm Notification and Restart Notification are set to **n**.
4. Test remote access port to **n**.

External modem installed

1. Enter **display system-parameters maintenance** and press ENTER.
2. Verify that the Alarm Origination Activated to OSS Numbers field is set to **y** and press ENTER.
3. Verify that the Cleared Alarm Notification and Restart Notification fields are set to **y**.
4. Test remote access port to **n**.

Verify external modem option settings

1. Follow the procedure "Start a pcAnywhere client session from the laptop computer" to connect to pcAnywhere.
2. Click **Start** > **Settings** > **Control Panel**.
3. Double-click **Modems**.

   A **Modem Properties** screen displays that shows the US Robotics 336K FAX Ext modem.
4. Click **Next**.

   Another **Modem Properties** screen displays.
5. Verify that the modem port is attached to COM1.
6. Click **Next**.

   Another **Modem Properties** screen displays.
7. Right-click **Properties**.
8. The **Properties** screen displays.

   Verify that speed and speaker volume defaults are set.
9. Click **Connection**.
10. Verify that **Data bits** is 8, **Parity** is none, and **Stop bits** is 1.
11. Click **Advanced**.

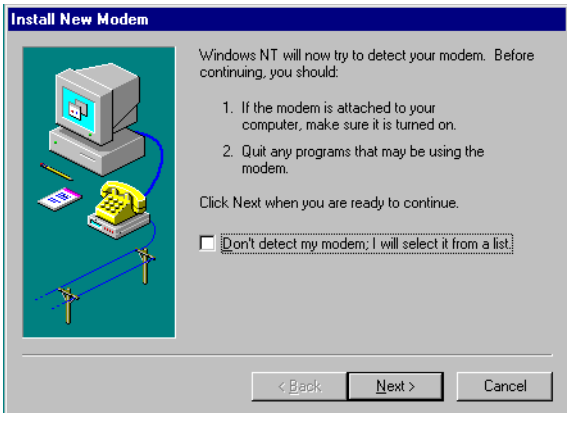
    The Advanced Connection Settings screen displays.
12. Verify that the defaults are set.
13. Click **OK** > **Close**.
14. Configure External Option Modem

NOTE:
This procedure is necessary if the factory shipped modem is not used.

1. "Start a pcAnywhere client session from the laptop computer" to connect to pcAnywhere.
2. Click **Start** > **Settings** > **Control Panel**.

3. Double-click **Modems**.

   The **Install New Modem** screen displays:



4. Click **Don't detect my modem. I will select it from a list**.
5. Click **Next.**
6. Click **Add.**
7. Select the manufacturer (3COM Corp) and the model (US Robotics 336K FAX Ext).
8. Click **Next.**
9. Select the port the modem is attached to (COM1).
10. Click **Next.**

    The **Modem Setup** screen states that you need to restart the modem before using it.

11. Click **Finish** > **OK**.

    Another **Install New Modem** screen states that the modem is set up successfully. The **Modem Properties** screen displays.

Configure the installed modem

1. Right-click **Properties**.

   The **Properties** screen displays.

2. Click **OK** to accept speed and speaker volume defaults.
3. Click **Connection** tab.
4. Click **OK** to accept the defaults For **Data bits** (8), **Parity** (none), **Stop bits** (1), and Call Preference.
5. Click the **Advanced** button.

   The **Advanced Connection Settings** screen displays.

6. Click **OK** to accept the defaults.
7. Click **OK** > **Close**.

   The **Modem Properties** screen displays.

8. Click **Close**.

   The following message displays: `Dial-up Networking requires configuring because the list of installed modems has changed. Would you like to do this now?`

9. Click **Yes**.
10. The **Remote Access Setup** screen confirms that the modem is configured.

Test the external modem

1. At the SAT session, type **change system parameters maintenance**, and Click (ENTER) or **Submit**.
2. Ensure that the Test Remote Access Port field is set to **y**.
3. Type **test pr-maintenance** and Click (ENTER) or **Submit**.
4. Verify that test 230 passes.

   For more information see *DEFINITY Enterprise Communications System Release 9 Administration for Network Connectivity* (555-233-504).

Security and Copy Protection

10

This chapter provides information about software copy protection.

Software copy protection mechanisms

This section provides information about software copy protection methods for the installation, repair, and upgrade of procedures related to the TSC/COE.

Copying software from one machine to another is more of an issue with DEFINITY ONE's Windows NT platform running the 3 primary applications (DEFINITY, AUDIX, and DSA) than with a proprietary system.

Security measures add a level of impedance (time, money, expertise, etc.) to the process to discourage copying without permission. The possibility exists for someone with physical access to break into a system. There are 2 types of software protection in the DEFINITY ONE environment: feature and copy protection.

Feature protection

Feature protection has specific feature protection capabilities or capacities within an application. It controls the capabilities provided by the application. For example, the DEFINITY feature Translation copy protection supports a "customer options" administration form to tailor operation of DEFINITY to a specific customer.

Copy protection

Copy protection prevents software copying. A special mechanism associated with the DEFINITY ONE license file prevents the software from running on other systems.

Cable Pinouts

A

This appendix provides the following information for TN760D tie trunk and TN464E/F option settings, connector and cable diagrams, and pinout charts.

- "TN760E tie trunk option settings" on page A-1
- "TN464F option settings" on page A-4
- "Connector and cable diagrams —pinout charts" on page A-5

TN760E tie trunk option settings

The TN760E tie trunk circuit pack interfaces between 4 tie trunks and the TDM bus. Two tip and ring pairs form a 4-wire analog transmission line. An E and M pair are DC signaling leads used for call setup. The E-lead receives signals from the tie trunk and the M-lead transmits signals to the tie trunk.

To choose the preferred signaling format (Table A-1 and Table A-2 on page A-2), set the switches on the TN760D and administer the port using Figure A-1 on page A-2 and Table A-3 on page A-3.

Table A-1. Signaling formats for TN760E

Mode	Type
E & M	Type I Standard (unprotected)
E & M	Type I Compatible (unprotected)
Protected	Type I Compatible, Type I Standard
Simplex	Type V
E & M	Type V
E & M	Type V Revised

Table A-2. Signaling type summary

Signaling type	Transmit (M-Lead)		Receive (E-Lead)	
	On-Hook	Off-Hook	On-Hook	Off-Hook
Type I Standard	ground	battery	open[1]/battery	ground
Type I Compatible	open[1]/battery	ground	ground	open[1]/battery
Type V	open[1]/battery	ground	open	ground
Type V Reversed	ground	open	ground	open

1. An open circuit is preferred instead of battery voltage.

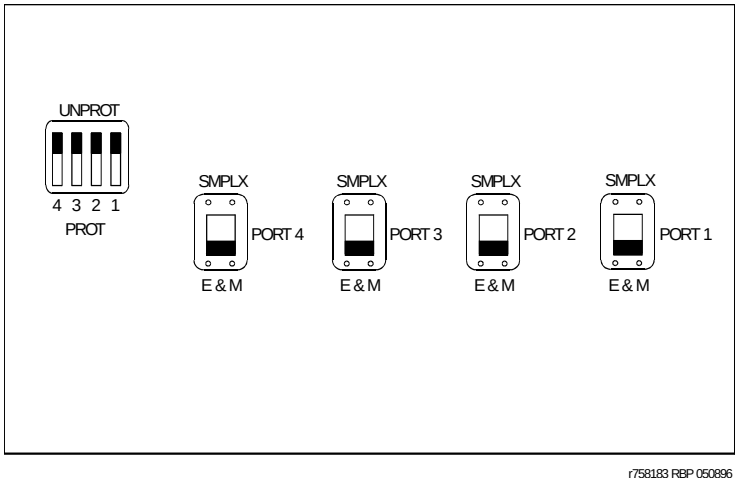


Figure A-1. TN760D tie trunk circuit pack (component side)

Table A-3. TN760E 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

TN464F option settings

The TN464E/F DS1/E1 interface - T1/E1 circuit pack interfaces between a 24- or 32-channel Central Office/ISDN or tie trunk and the TDM bus.

Set the switches on the circuit pack to select bit rate and impedance match. See Table A-4 and Figure A-2. If the top switch setting is set to 32 Channel, set the lower switch setting to either 120 Ohm or 75 Ohm.

Table A-4. Option switch settings on TN464F

120 Ohms	Twisted pair
75 Ohms	Coaxial requiring 888B adapter
32 Channel	2.048 Mbps
24 Channel	1.544 Mbps

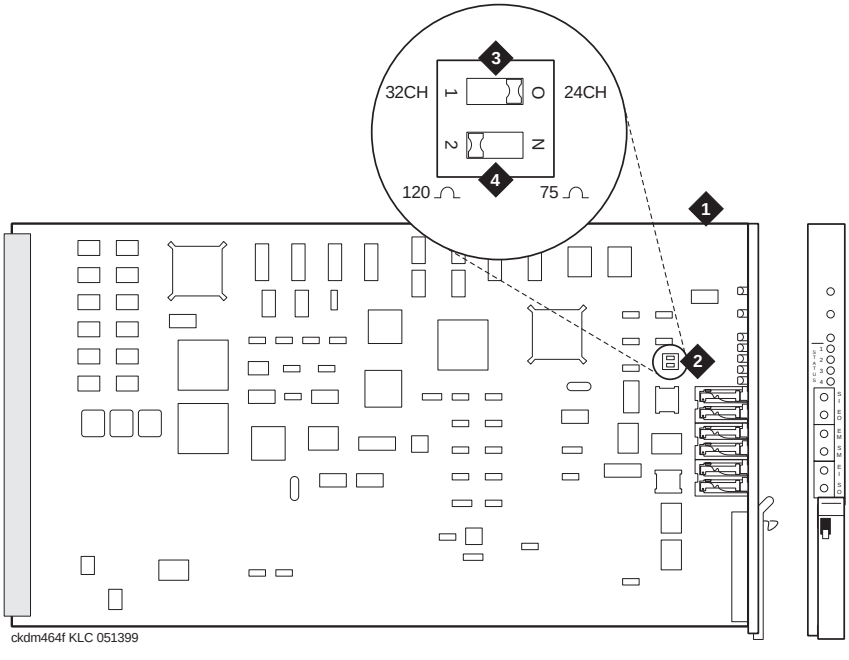


Figure Notes

1. TN464F
2. Option Switch
3. 24/32 Channel Selector (24CH shown)
4. 75/120 Ohm Selector (120 Ohm shown)

Figure A-2. TN464E/F option settings

Connector and cable diagrams — pinout charts

See Table A-5 for typical lead designations. The circuit packs and auxiliary equipment are classified as shown in the following tables.

Table A-5. Lead and color designations

Cross-connect pin	Color	Amphenol pin	Backplane pin
1	W-BL	26	102
2	BL-W	01	002
3	W-O	27	103
4	O-W	02	003
5	W-G	28	104
6	G-W	03	004
7	W-BR	29	105
8	BR-W	04	005
9	W-SL	30	106
10	SL-W	05	006
11	R-BL	31	107
12	BL-R	06	007
13	R-O	32	108
14	O-R	07	008
15	R-G	33	109
16	G-R	08	009
17	R-BR	34	110
18	BR-R	09	010
19	R-SL	35	111
20	SL-R	10	011
21	BK-BL	36	112
22	BL-BK	11	012
23	BK-O	37	113
24	O-BK	12	013

Continued on next page

Table A-5. Lead and color designations — *Continued*

Cross-connect pin	Color	Amphenol pin	Backplane pin
25	BK-G	38	302
26	G-BK	13	202
27	BK-BR	39	303
28	BR-BK	14	203
29	BK-SL	40	304
30	SL-BK	15	204
31	Y-BL	41	305
32	BL-Y	16	205
33	Y-O	42	306
34	O-Y	17	206
35	Y-G	43	307
36	G-Y	18	207
37	Y-BR	44	308
38	BR-Y	19	208
39	Y-SL	45	309
40	SL-Y	20	209
41	V-BL	46	310
42	BL-V	21	210
43	V-O	47	311
44	O-V	22	211
45	V-G	48	312
46	G-V	23	212
47	V-BR	49	313
48	BR-V	24	213
49	V-SL	50	300
50	SL-V	25	200

Processor external cable pinout

Table A-6 shows the pinout for the processor external cable.

Table A-6. Processor external cable pinout

Signal name	Processor (P1) (amphenol connector)	AUX (J1)	Modem (P2)	Mouse	Keyboard	USB	VGA	Ethernet
ACC48A	12	19						
AP1 (alarm in)	2	26						
AP2 (alarm in)	27	27						
EXTALMA	4	48						
EXTALMB	3	23						
XFER48	38	36						
GROUND	25	1						
MOD-CTS	21		5					
MOD-DCD	46		8					
MOD-DSR	8		6					
MOD-DTR	7		20					
MOD-GRD	20		1 & 7					
MOD-RTS	34		4					
MOD-RXD	33		3					
MOD-TXD	45		2					
MOUSE-DAT	18			1				
MOUSE-GRD	31			3				
MOUSE-VCC	6			4				
MOUSE-CLK	5			5				
KYBD-DAT	30				1			
KYBD-GRD	17				3			
KYBD-VCC	16				4			
KYBD-CLK	29				5			
USB-VCC	15					1		
USB-DAT-	40					2		
USB-DAT+	42					3		
GRD	41					4		
VGA-RED	49						1	

Continued on next page

Table A-6. Processor external cable pinout — *Continued*

Signal name	Processor (P1) (amphenol connector)	AUX (J1)	Modem (P2)	Mouse	Keyboard	USB	VGA	Ethernet
VGA-GREEN	47						2	
VGA-BLUE	23							
GRD	10						5	
GRD	48						6	
GRD	46						7	
GRD	24						8	
VGA-PWR	35						9	
GRD	36						10	
VGA-HSYNC	37						13	
VGA-VSYNC	11						14	
ETH-RD+	44							3
ETH-RD-	19							6
ETH-TD+	32							1
ETH-TD-	7							2
RX-	28							
TX+	13							
TX-	14							
RX+	39							
NC	—							
NC	-—							
GROUND	50							
NC	—							
—	43							
NC	—							
NC	—							
NC	—							
—	1							

NOTE:
AUX is a 50-pin receptacle, Modem is a 25-pin D-sub plug, Mouse is a 6-pin miniature DIN receptacle, Keyboard is a 6-pin miniature DIN receptacle, USB is a type A receptacle, VGA is a 15-pin D-sub receptacle, and Ethernet is an 8-pin jack.

Table A-7. Port circuit pack lead designations

Cross-Connect pin	TN742/B TN747B TN753 TN769 TN2147 TN465	TN754 TN726	TN760/B TN760C TN760D TN2209	TN762/B	TN763 TN763B TN763C	TN735	TN767B TN464E TN2207	TN746/B TN2183 TN2215	TN793 TN2793 TN2224/B TN2214
1	T.1		T.1	T.1	T.1	T.1	C_5	T.1	T.1
2	R.1		R.1	R.1	R.1	R.1		R.1	R.1
3		TXT.1	T1.1	TXT.1	SZ.1	BT.1	C_ENAB	T.2	T.2
4		TXR.1	R1.1	TXR.1	SZ1.1	BR.1		R.2	R.2
5		PXT.1	E.1	PXT.1	S.1	LT.1	C_SYNC*	T.3	T.3
6		PXR.1	M.1	PXR.1	S1.1	LR.1		R.3	R.3
7	T.2		T.2	T.2	T.2	T.2	C2D-DATA	T.4	T.4
8	R.2		R.2	R.2	R.2	R.2	RDATA*	R.4	R.4
9		TXT.2	T1.2	TXT.2	SZ.2	BT.2	TDATA*		T.5
10		TXR.2	R1.2	TXR.2	SZ1.2	BR.2	TRSYSNC		R.5
11		PXT.2	E.2	PXT.2	S.2	LT.2	GRD		T.6
12		PXR.2	M.2	PXR.2	S1.2	LR.2	SCLK*		R.6
13	T.3		T.3	T.3	T.3	T.3			T.7
14	R.3		R.3	R.3	R.3	R.3			R.7
15		TXT.3	T1.3	TXT.3	SZ.3	BT.3			T.8
16		TXR.3	R1.3	TXR.3	SZ1.3	BR.3	PAHER*		R.8
17		PXT.3	E.3	PXT.3	S.3	LT.3		T.5	T.9
18		PXR.3	M.3	PXR.3	S1.3	LR.3	C_48V	R.5	R.9
19	T.4		T.4	T.4	T.4	T.4		T.6	T.10
20	R.4		R.4	R.4	R.4	R.4		R.6	R.10
21		TXT.4	T1.4	TXT.4	SZ.4	BT.4	C_P2SCLK	T.7	T.11
22		TXR.4	R1.4	TXR.4	SZ1.4	BR.4	LI (RX)	R.7	R.11
23		PXT.4	E.4	PXT.4	S.4	LT.4	LO* (TX)	T.8	T.12
24		PXR.4	M.4	PX4.4	S1.4	LR.4	LBACK1	R.8	R.12
25	T.5		T.5	T.5	T.5	T.5	GND	T.9	T.13
26	R.5		R.5	R.5	R.5	R.5	C_5V	R.9	R.13
27		TXT.5	T1.5	TXT.5	SZ.5	BT.5		T.10	T.14
28		TXR.5	R1.5	TXR.5	SZ1.5	BR.5		R.10	R.14
29		PXT.5	E.5	PXT.5	S.5	LT.5		T.11	T.15
30		PXR.5	M.5	PXR.5	S1.5	LR.5	C_RST	R.11	R.15
31	T.6		T.6	T.6	T.6	T.6		T.12	T.16
32	R.6		R.6	R.6	R.6	R.6		R.12	R.16
33		TXT.6	T1.6	TXT.6	SZ.6	BT.6	RDATA		T.17
34		TXR.6	R1.6	TXR.6	SZ1.6	BR.6	TDATA		R.17
35		PXT.6	E.6	PXT.6	S.6	LT.6	TRSYNC		T.18
36		PXR.6	M.6	PXR.6	S1.6	LR.6	GRD		R.18
37	T.7		T.7	T.7	T.7	T.7	SCLK		T.19
38	R.7		R.7	R.7	R.7	R.7			R.19
39		TXT.7	T1.7	TXT.7	SZ.7	BT.7			T.20

Continued on next page

Table A-7. Port circuit pack lead designations — *Continued*

Cross-Connect pin	TN742/B TN747B TN753 TN769 TN2147 TN465	TN754 TN726	TN760/B TN760C TN760D TN2209	TN762/B	TN763 TN763B TN763C	TN735	TN767B TN464E TN2207	TN746/B TN2183 TN2215	TN793 TN2793 TN2224/B TN2214
40		TXR.7	R1.7	TXR.7	SZ1.7	BR.7			R.20
41		PXT.7	E.7	PXT.7	S.7	LT.7	GRD	T.13	T.21
42		PXR.7	M.7	PXR.7	S1.7	LR.7		R.13	R.21
43	T.8		T.8	T.8	T.8	T.8	C_PRES*	T.14	T.22
44	R.8		R.8	R.8	R.8	R.8		R.14	R.22
45		TXT.8	T1.8	TXT.8	SZ.8	BT.8		T.15	T.23
46		TXR.8	R1.8	TXR.8	SZ1.8	BR.8	DC2_DATA	R.15	R.23
47		PXT.8	E.8	PXT.8	S.8	LT.8	LI* (RX)	T.16	T.24
48		PXR.8	M.8	PXR.8	S1.8	LR.8	LO (TX)	R.16	R.24
49	GRD	GRD	GRD	GRD	GRD	GRD	LBACK2	GRD	GRD
50	GRD	GRD	GRD	GRD	GRD	GRD	GRD	GRD	GRD

* Denotes high side of line.

Table A-8. DS1 interface cable H600-307 (and C6C)

50-Pin			15-Pin		
Pin	Color	Designation	Pin	Color	Designation
02	W-BL				
03	BL-W				
47	W-G	LI (High)	11	W-G	LI (High)
22	G-W	LI	03	G-W	LI
48	W-BR	LO	09	W-BR	LO
23	BR-W	LO (High)	01	BR-W	LO (High)
49	W-SL	LOOP2	06	W-SL	LOOP2
24	SL-W	LOOP1	05	SL-W	LOOP1

All other pins are empty.

Table A-9 shows the pinouts for the TN2185 ISDN-BRI 4-wire S interface.

Table A-9. TN2185 ISDN-BRI — 4-Wire S interface pinout

Port	Signal	Cross-connect pin	Color	Amphenol pin	Backplane pin
1	TXT.1	1	W-BL	26	102
	TXR.1	2	BL-W	01	002
	PXT.1	3	W-O	27	103
	PXR.1	4	O-W	02	003
2	TXT.2	5	W-G	28	104
	TXR.2	6	G-W	03	004
	PXT.2	7	W-BR	29	105
	PXR.2	8	BR-W	04	005
3	TXT.3	9	W-SL	30	106
	TXR.3	10	SL-W	05	006
	PXT.3	11	R-BL	31	107
	PXR.3	12	BL-R	06	007
4	TXT.4	13	R-O	32	108
	TXR.4	14	O-R	07	008
	PXT.4	15	R-G	33	109
	PXR.4	16	G-R	08	009
5	TXT.5	17	R-BR	34	110
	TXR.5	18	BR-R	09	010
	PXT.5	19	R-SL	35	111
	PXR.5	20	SL-R	10	011
6	TXT.6	21	BK-BL	36	112
	TXR.6	22	BL-BK	11	012
	PXT.6	23	BK-O	37	113
	PXR.6	24	O-BK	12	013
7	TXT.7	25	BK-G	38	302
	TXR.7	26	G-BK	13	202
	PXT.7	27	BK-BR	39	303
	PXR.7	28	BR-BK	14	203

Continued on next page

Table A-9. TN2185 ISDN-BRI — 4-Wire S interface pinout — *Continued*

Port	Signal	Cross-connect pin	Color	Amphenol pin	Backplane pin
8	TXT.8	29	BK-SL	40	304
	TXR.8	30	SL-BK	15	204
	PXT.8	31	Y-BL	41	305
	PXR.8	32	BL-Y	16	205

Table A-10 shows the pinout for the TN793 and TN2793 24-port analog line circuit pack.

Table A-10. TN793 Analog line circuit pack pinout

Port	Signal	Cross-connect pin	Color	Amphenol pin	Backplane pin
1	T.1	1	W-BL	26	102
	R.1	2	BL-W	01	002
2	T.2	3	W-O	27	103
	R.2	4	O-W	02	003
3	T.3	5	W-G	28	104
	R.3	6	G-W	03	004
4	T.4	7	W-BR	29	105
	R.4	8	BR-W	04	005
5	T.5	9	W-SL	30	106
	R.5	10	SL-W	05	006
6	T.6	11	R-BL	31	107
	R.6	12	BL-R	06	007
7	T.7	13	R-O	32	108
	R.7	14	O-R	07	008
8	T.8	15	R-G	33	109
	R.8	16	G-R	08	009
9	T.9	17	R-BR	34	110
	R.9	18	BR-R	09	010
10	T.10	19	R-SL	35	111

Continued on next page

Table A-10. TN793 Analog line circuit pack pinout — *Continued*

Port	Signal	Cross-connect pin	Color	Amphenol pin	Backplane pin
	R.10	20	SL-R	10	011
11	T.11	21	BK-BL	36	112
	R.11	22	BL-BK	11	012
12	T.12	23	BK-O	37	113
	R.12	24	O-BK	12	013
13	T.13	25	BK-G	38	302
	R.13	26	G-BK	13	202
14	T.14	27	BK-BR	39	303
	R.14	28	BR-BK	14	203
15	T.15	29	BK-SL	40	304
	R.15	30	SL-BK	15	204
16	T.16	31	Y-BL	41	305
	R.16	32	BL-Y	16	205
17	T.17	33	Y-O	42	306
	R.17	34	O-Y	17	206
18	T.18	35	Y-G	43	307
	R.18	36	G-Y	18	207
19	T.19	37	Y-BR	44	308
	R.19	38	BR-Y	19	208
20	T.20	39	Y-SL	45	309
	R.20	40	SL-Y	20	209
21	T.21	41	V-BL	46	310
	R.21	42	BL-V	21	210
22	T.22	43	V-O	47	311
	R.22	44	O-V	22	211
23	T.23	45	V-G	48	312
	R.23	46	G-V	23	212
24	T.24	47	V-BR	49	313

Continued on next page

Table A-10. TN793 Analog line circuit pack pinout — *Continued*

Port	Signal	Cross-connect pin	Color	Amphenol pin	Backplane pin
	R.24	48	BR-V	24	213
25		49	V/SL	50	314
50		50	SL/V	25	214

Table A-11. Circuit pack and auxiliary equipment classifications

Analog Line (8)	2-Wire Digital & Analog Line (16) and (24)	Data Line & Digital Line 4-Wire	Digital Line 2-Wire 24 Ports	Hybrid Line	MET[1] Line	AUX Trunk	Central Office Trunk	Central Office Trunk 3-Wire	DID/ DIOD[2] Trunk	Tie Trunk	DS1 Tie Trunk	Four Port DIOD[3]
TN467	TN2149	TN726B	TN2224	TN762	TN735	TN417	TN429	TN2199	TN429	TN478	TN483	TN2184
TN432	TN2135	TN754B		TN762B		TN763	TN493		TN2139	TN458	TN722	
TN431	TN468B	TN564B				TN763 D	TN422		TN459B	TN449	TN767	
TN411B	TN448	TN413					TN421		TN436B	TN760 D	TN722B	
TN742	TN746						TN438B		TN753	TN760 C	TN464F	
TN769	TN746B						TN447		TN2146	TN434	TN2207	
	TN2181						TN465C		TN414	TN415	TN2464	
	TN2183						TN747B			TN2209		
	TN793						TN2138					
	TN2793						TN2147 C					
	TN2215						TN2148					
	TN791											
	TN2214											

1. MET = Multibutton Electronic Telephone
2. DID/DIOD = Direct Inward Dialing/Direct Inward Outward Dialing
3. DIOD = Direct Inward Outward Dialing

Table A-12. Circuit pack and auxiliary equipment leads (pinout charts)

Color	Connector pin numbers	Analog line 8 ports	2-Wire digital line and analog line 16 ports	Data line and digital line 4-wire	Digital line 2-wire 24 ports	Hybrid line	MET line	AUX trunk	CO Trk	CO trunk 3-wire	DID/ DIOD trunk	Tie Trk	DS1 tie trunk	Four port DIOD
W-BL	26	T1	T1		T1	V1T1	T1	T1	T1	A1	T1	T1		T1
BL-W	01	R1	R1		R1	V1R1	R1	R1	R1	B1	R1	R1		R1
W-O	27		T2	TXT1	T2	CT1	TXT1	SZ1				T11		
O-W	02		R2	TXR1	R2	CR1	TXR1	SZ11				R11		
W-G	28		T3	PXT1	T3	P-1	PXT1	S1				E1		
G-W	03		R3	PXR1	R3	P+1	PXR1	S11		C1		M1		
W-BR	29	T2	T4		T4	V1T2	T2	T2	T2	A2	T2	T2		T2
BR-W	04	R2	R4		R4	V1R2	R2	R2	R2	B2	R2	R2		R2
W-S	30			TXT2	T5	CT2	TXT2	SZ2				T12		
S-W	05			TXR2	R5	CR2	TXR2	SZ12				R12		
R-BL	31			PXT2	T6	P-2	PXT2	S2				E2		
BL-R	06			PXR2	R6	P+2	PXR2	S12		C2		M2		
R-O	32	T3			T7	V1T3	T3	T3	T3	A3	T3	T3		T3
O-R	07	R3			R7	V1R3	R3	R3	R3	B3	R3	R3		R3
R-G	33			TXT3	T8	CT3	TXT3	SZ3				T13		
G-R	08			TXR3	R8	CR3	TXR3	SZ13				R13		
R-BR	34		T5	PXT3	T9	P-3	PXT3	S3				E3		
BR-R	09		R5	PXR3	R9	P+3	PXR3	S13		C3		M3		
R-S	35	T4	T6		T10	V1T4	T4	T4	T4	A4	T4	T4		T4
S-R	10	R4	R6		R10	V1R4	R4	R4	R4	B4	R4	R4		R4
BK-BL	36		T7	TXT4	T11	CT4	TXT4	SZ4				T14		

Continued on next page

Table A-12. Circuit pack and auxiliary equipment leads (pinout charts) — *Continued*

Color	Connector pin numbers	Analog line 8 ports	2-Wire digital line and analog line 16 ports	Data line and digital line 4-wire	Digital line 2-wire 24 ports	Hybrid line	MET line	AUX trunk	CO Trk	CO trunk 3-wire	DID/ DIOD trunk	Tie Trk	DS1 tie trunk	Four port DIOD
BL-BK	11		R7	TXR4	R11	CR4	TXR4	SZ14				R14		
BK-O	37		T8	PXT4	T12	P-4	PXT4	S4				E4		
O-BK	12		R8	PXR4	R12	P+4	PXR4	S14				M4		
BK-G	38	T5	T9		T13	V1T5			T5		T5			
G-BK	13	R5	R9		R13	V1R5			R5		R5			
BK-BR	39		T10	TXT5	T14	CT4								
BR-BK	14		R10	TXR5	R14	CR4								
BK-S	40		T11	PXT5	T15	P-5								
S-BK	15		R11	PXR5	R15	P+5								
Y-BL	41	T6	T12		T16	V1T6			T6		T6			
BL-Y	16	R6	R12		R16	V1R6			R6		R6			
Y-O	42			TXT6	T17	CT6								
O-Y	17			TXR6	R17	CR6								
Y-G	43			PXT6	T18	P-6								
G-Y	18			PXR6	R18	P+6								
Y-BR	44	T7			T19	V1T7			T7		T7			
BR-Y	19	R7			R19	V1R7			R7		R7			
Y-S	45			TXT7	T20	CT7								
S-Y	20			TXR7	R20	CR7								
V-BL	46		T13	PXT7	T21	P-7								
BL-V	21		R13	PXR7	R21	P+7								
V-O	47	T8	T14		T22	V1T8			T8		T8		LI*	

Continued on next page

Table A-12. Circuit pack and auxiliary equipment leads (pinout charts) — *Continued*

Color	Connector pin numbers	Analog line 8 ports	2-Wire digital line and analog line 16 ports	Data line and digital line 4-wire	Digital line 2-wire 24 ports	Hybrid line	MET line	AUX trunk	CO Trk	CO trunk 3-wire	DID/ DIOD trunk	Tie Trk	DS1 tie trunk	Four port DIOD
O-V	22	R8	R14		R22	V1R8			R8		R8		LI	
V-G	48		T15	TXT8	T23	CT8							LO	
G-V	23		R15	TXR8	R23	CR8							LO*	
V-BR	49		T16	PXT8	T24	P-8							LBACK2	
BR-V	24		R16	PXR8	R24	P+8							LBACK1	
V-S	50													
S-V	25													

Continued on next page

The wire colors in this chart apply only to B25A and A25B cables. H600-307 cable colors are not shown.

T1,R	PBX transmit voice	T	Tip(A)	Green
T1,R1	PBX receive voice	R	Ring(B)	Red
M	PBX transmit signal	S	Sleeve	
E	PBX receive signal	PX	PBX transmit	
TX	Terminal transmit			
LI, LI*	Digital Trunk IN	LO, LO*	Digital Trunk OUT	

The following wire colors apply in the above chart:

W	White	S	Slate (Grey)
BL	Blue	R	Red
O	Orange	BK	Black
G	Green	Y	Yellow
BR	Brown	V	Violet

Set Up and Use of Customer Logins

B

This chapter provides information about the setup and use of customer logins:

- "Customer access" on page B-1l
- "Windows NT logins for the customer" on page B-2
- "Enabling Windows NT customer logins" on page B-7
- "DEFINITY logins for the customer" on page B-9
- "Installing and configuring DSA on a workstation" on page B-13
- "Installing DSA" on page B-13
- "Configuring DSA" on page B-13
- "Downloading Message Manager" on page B-14

Customer access

The Lucent Access Control (LAC) module allows access to a shell (=bash) using any valid Windows NT login. This enhancement allows a customer to use a login, such as NTADMIN, to access Windows NT via a bash shell. This feature is not intended to be used by Avaya Services personnel who continue to use the Lucent Services logins (lucent1, lucent2, lucent3).

Prior to DEFINITY ONE release 2.0, the LAC module listened only on TCP port 23. A connection to this port produced different results depending on the login used. For example, a services login (lucent1, lucent2, lucent3) resulted in the **lac** prompt to select DEFINITY, AUDIX, or a bash shell. An alias login, such as donut, resulted in a DEFINITY SAT screen without a LAC prompt. This continues to be supported in DEFINITY ONE Release 9, but is being deprecated in favor of the use of separate telnet ports for direct access to DEFINITY and AUDIX.

If the telnet session is established to TCP port 22, and the login has privileges to access DEFINITY, a connection is made directly to a DEFINITY SAT without a LAC prompt. If the caller logs off, the telnet session is terminated.

If the telnet session is established to TCP port 24, and the login has privileges to access AUDIX, a connection is made directly to an AUDIX Forms Controller administration screen without a LAC prompt. If the caller logs off, the telnet session is terminated.

The same logins are used with ports 22, and 24, as well as 23. The difference is that a direct connection is made to the appropriate application without a LAC prompt or having to use an alias login.

See "System administration/DEFINITY site administration (DSA)" on page 2-35.

Windows NT logins for the customer

Several Windows NT login groups and associated logins are pre-installed for customer use from the factory. See Table B-1.

The login IDs in the last 2 columns of Table B-1 are for customer use. The following describes use and administration of these logins.

Table B-1. Windows NT logins

Windows NT login group	Logins for customer use	
	User name	Default password
Administrators	NTadmin	NTadmin1
Guest - disabled	--	--
lucent	--	--
officeadmin	[1]	
officeuser	[2]	
Power Users	--	--
Users	browse vm sa	

1. To be administered
2. To be administered

WARNING:
The logins in the Lucent group of Table B-1 on page B-2 are for the exclusive use of Avaya Services personnel. These logins are established and updated automatically by Lucent software. DO NOT ALTER THESE LOGINS IN ANY MANNER. To do so may render the system unserviceable and may require a partial or complete reinstallation of the software by Avaya personnel.

Windows NT login types for the customer

Administrator login

- NTadmin

  This is a standard Windows NT administrator account used to administer network parameters and similar functions.

AUDIX logins

- browse

  This login is used in the Voice Messaging application. See the INTUITY AUDIX documentation or Table B-2 on page B-4 for a list of commands accessible to the browse login. This login is disabled from the factory. It must be enabled and a password chosen before it can be used. See "Setup login accounts" on page B-8.

- vm

  This login is used in the Voice Messaging application. See the INTUITY AUDIX documentation or Table B-2 on page B-4 for a list of commands accessible to the vm login. This login is disabled from the factory. It must be enabled and a password chosen before it can be used. See "Setup login accounts" on page B-8.

- sa

  This login is used in the Voice Messaging application. It has full customer administration privileges. See the INTUITY AUDIX documentation or Table B-2 on page B-4 for a list of commands accessible to this login. This login is disabled from the factory. It must be enabled and a password chosen before it can be used. See "Setup login accounts" on page B-8.

  NOTE:
  The stand-alone INTUITY AUDIX system login **sa** normally produces a menu. This feature is not supported on DEFINITY ONE. All logins result in a Forms Screen interface.

Table B-2. AUDIX commands versus logins for sa, vm, and browse

Command	Login		
	sa	vm	browse
add	✓	✓	
audit	✓	✓	
change	✓	✓	
copy	✓		
display	✓	✓	✓
exit	✓	✓	✓
get	✓	✓	
help	✓	✓	✓
list	✓	✓	✓
logoff	✓	✓	✓
print	✓	✓	✓
remove	✓	✓	
reset	✓		
test	✓	✓	✓
toggle	✓	✓	✓
trace	✓	✓	✓

Customer Web access logins

The following login groups are used for web access:

- Officeadmin

  Login IDs in this group are installed from the factory.This login group facilitates access via the DEFINITY ONE web interface. Group members select administrative privileges via the web interface. The NTadmin account is used to establish an account in this group. Generally, an account in the Offieceadmin group is used to download DSA from the DEFINITY ONE Web page. See Table B-3.

- Officeuser

  Login IDs in this group are installed from the factory. This login facilitates download of client software, such as Message Manager. Group members have access for client download only. The NTadmin account is used to establish an account in this group. An Officeuser group account is generally used to download Message Manager from the DEFINITY ONE Web page. See Table B-3.

- anonymous

  The anonymous login is for very limited access via the web interface to load a software patch. See Table B-2 on page B-4 “AUDIX commands versus logins”.

Table B-3. Web access rights/officeadmin and officeuser access

Directory	Use	Login group	Permissions
c:\LucentWeb\Public	DEFINITY ONE Home Page	anonymous	read
		officeuser	read
		officeadmin	read
		administrators	full control
		lucent	full control
c:\LucentWeb\admin\audix\html	AUDIX networking HTML pages	anonymous	none
		officeuser	none
		officeadmin	read
		administrators	full control
		lucent	full control

Continued on next page

Table B-3. Web access rights/officeadmin and officeuser access — *Continued*

Directory	Use	Login group	Permissions
c:\LucentWeb\admin\audix\cgi	AUDIX networking cgi scripts	anonymous	none
		officeuser	none
		officeadmin	execute
		administrators	full control
		lucent	full control
c:\LucentWeb\admin\user\html	Pages for non administrator users e.g. download	anonymous	none
		officeuser	read
		officeadmin	full control
		administrators	read
		lucent	full control
c:\LucentWeb\admin\user\cgi	cgi scripts for non administrator users. e.g. download	anonymous	none
		officeuser	execute
		officeadmin	execute
		administrators	full control
		lucent	full control
c:\LucentWeb\admin\html	Platform HTML pages	anonymous	none
		officeuser	none
		officeadmin	read
		administrators	read
		lucent	full control
c:\LucentWeb\admin\cgi	platform cgi scripts	anonymous	none
		officeuser	none
		officeadmin	execute
		administrators	execute
		lucent	full control
c:\LucentWeb\AdminAll\html	Restricted html pages. e.g. activate pcAnywhere	anonymous	none
		officeuser	none
		officeadmin	none
		administrators	full control
		lucent	full control

Continued on next page

Table B-3. Web access rights/officeadmin and officeuser access — *Continued*

Directory	Use	Login group	Permissions
c:\LucentWeb\AdminAll\cgi	Restricted html pages. e.g. activate pcAnywhere	anonymous	none
		officeuser	none
		officeadmin	none
		administrators	full control
		lucent	full control

Enabling Windows NT customer logins

Only the Administrator can enable customer logins.

Activate pcAnywhere

1. On a DEFINITY ONE LAN workstation enable a web browser and the DEFINITY ONE web page. Click **Administer System** on this web page and log in as NTadmin using the default password. On the administration page click **Activate pcAnywhere**.

   A pcAnywhere client must be installed on the workstation. This client may be purchased from a local supplier or Symantec Corporation. Alternately, a JAVA client may be downloaded from the DEFINITY ONE administration page, the same page the pcAnywhere host is activated in step 1.

2. Activate the pcAnywhere client on the workstation.
3. Login to the DEFINITY ONE system, using the NTadmin account.

Setup login accounts

1. Start the NT user manager on the DEFINITY ONE desktop. Click **Start > Programs > Administrative Tools > User Manager**
2. Change the password for the NTadmin account.
3. Activate and set passwords for the browse, vm, and sa accounts. This also can be done via the command line tool **net user**. See "Avaya (Lucent) access controller bash commands" on page G-1
4. Create 3 Windows NT accounts in the Officeadmin group for 3 application administrators. These accounts are used to download DSA software. The account names can be chosen as desired. For this example they are called D1user1, D1user2, and D1user3.
5. Create 1 Windows NT account in the Officeuser group for download of the INTUITY Message Manager Software.The NTadmin account should be used for NT administration only. The account name can be chosen as desired. For this example it is called D1WEB.
6. Disconnect from pcAnywhere.

NOTE:
The NTadmin account can be used for download, but should be used for NT administration only.

DEFINITY logins for the customer

In addition to the logins maintained in the Windows operating system, there are customer level logins within the DEFINITY application that do NOT appear as Windows logins. The default password should be changed by the customer during installation.

Table B-4. DEFINITY customer logins

DEFINITY customer logins	Comments	Default password
defty1	This is the customer level “super user” login within the DEFINITY application. Its use should be restricted to the system administrator. This login can be used to create additional DEFINITY logins. See the DEFINITY command **add login**.	

DEFINITY ONE Release 9 provides enhanced login/password security by adding a security feature that allows users to define their own DEFINITY logins/passwords and to specify a set of commands for each login.

- The system allows up to 14 simultaneous connections (logins) to DEFINITY ONE. (DEFINITY can have 5 connections, AUDIX can have 4 connections, and the rest of the connections are reserved for shell commands.)
- Each DEFINITY ONE login name can be customized
  - Logins must be 3 to 6 alphabetic/numeric characters, or a combination of both.
  - A password must be from 4 to 11 characters in length and contain at least 1 alphabetic and 1 numeric symbol.

Password aging is an optional feature that the super-user administering the logins can activate (see below).

NOTE:
If several users are logging in and out at the same time, a user may see the message: **Transient command conflict detected; please try later.** After the users have completed logging in or out, the terminal is available for use.

Forced password aging (DEFINITY-specific)

Forced password aging operates as follows:

- The password for each login can be aged starting with the date the password was created, or changed, and continuing for a specified number of days (1 to 99).
- 7 days before the password expiration date, the user is notified that the password is about to expire at the login prompt.
- When the password expires the user is required to enter a new password into the system before logging in.
- If a login is added or removed, the Security Measurement reports are not updated until the next hourly poll, or when a **clear measurements security-violations** command is entered.
- Once a non-super-user has changed the password, the user must wait 24 hours to change the password again.

Logoff notification (DEFINITY-specific)

Security is enhanced by providing a logoff notification screen to a system administrator at log off while either the facility test call or remote access features are still administered. The administrator can be required to acknowledge the notification before completing the logoff process. Logoff notification is administered on the Login Administration screen.

Super_User (DEFINITY)

Avaya delivers Release 9 of DEFINITY ONE to the customer with 1 customer “super-user” login/password defined. The customer administers additional login/passwords as needed. The super-user login has full customer permissions and can customize any login created.

Login permissions for a specified login can be set by the super-user to block any object that may compromise switch security. Up to 40 administration or maintenance objects commands can be blocked for a specified login id.

Administer login command permissions

Users with super-user permissions can set the permissions of logins they create by performing a **change permissions <login-name>** command. This causes the Login Permissions form to display. The Login Permissions form allows the user to control access to various categories of commands for a given login. It also permits restricting access to objects (forms) on an individual basis for up to 40 objects. Restricting an object means that no commands may be performed on that object by that login (add, change, remove, etc.) The three main categories of commands are:

- Common Commands
- Administration Commands
- Optional Maintenance Commands

Each category of commands has sub-categories that, when set to **y,** allow access to objects associated with that sub-category. If the category is set to **n**, the user is not be able to add, remove, or change commands on objects under that sub-category. If the display category is **y**, the login will list or display the object in most cases. If the super-user wants to restrict access to all commands associated with an individual object in a subcategory, the Additional Restrictions field is set to **y**. This causes 2 additional pages to be added to the permissions form. Scroll these pages and press **Help**. Individual objects will be displayed in alphabetical order. Enter the object that you want to restrict access to into the fields and submit the form. Up to 40 objects may be restricted. A restricted login cannot access any of the commands associated with that login. Note that permissions cannot be changed for the login and you cannot create Additional Restrictions without full super-user permissions.

DEFINITY commands for user login

DEFINITY commands refer to the set of commands that execute under the DEFINITY application running on the ProductName system platform and which can be accessed through the SAT session or the DEFINITY Site Administration application.

These commands are grouped into three command categories. Each of the three command categories has a group of command subcategories listed under them, and each command subcategory has a list of command objects that the commands acts on. A super-user can set a user's permissions to restrict or block access to any command in these categories. These categories are displayed on the Command Permissions Categories form. The three main categories are:

- Common Commands
  - Display Administrative and Maintenance Data
  - System Measurements

- Administration Commands
  - Administer Stations
  - Administer Trunks
  - Additional Restrictions
  - Administer Features
  - Administer Permissions
- Maintenance Commands
  - Maintain Stations
  - Maintain Trunks
  - Maintain Systems
  - Maintain Switch Circuit Packs
  - Maintain Process Circuit Packs

Password expiration

If your password has expired, the following message displays:

```
        Login: telmgr

     Password:
     Your Password has expired, enter a new one.

  Reenter Current Password:

              New Password:

     Reenter New Password:
```

If your password is within 7 days of the expiration date, the following message displays:

```
WARNING: Your password will expire in X days
```

Installing and configuring DSA on a workstation

Installing DSA

An administrator only can download DSA.

Steps required to obtain DEFINITY Site Administration (DSA) software from the system are:

1. On a workstation enable a web browser and the DEFINITY ONE web page. Click **Administer System** and then login as NTadmin using the appropriate password. On the administration page, click **Download Software.**
2. On the web page, click the selection to download DSA. Select a directory to save the self extracting file to be downloaded. Place the file in any temporary directory.
3. When download completes, close all applications and double-click the downloaded file to execute.
4. Follow the screen prompts to complete installation. DSA will install an icon on the desktop.

Configuring DSA

See "Configure DSA" on page 7-11 for instructions to configure DSA. When prompted for logins, use your customer logins where appropriate - vm, sa, or browse for AUDIX and defty1 or other DEFINITY customer accounts for DEFINITY.

Downloading Message Manager

The steps required to obtain the INTUITY Message Manager software from the DEFINITY ONE system are as follows:

1. On the desktop where Message Manager is to be installed, activate your favorite browser and bring up the home page for the DEFINITY ONE system.

   The name or IP address of the DEFINITY ONE system must be obtained from the administrator of the customer's network where DEFINITY ONE is installed.

2. On the DEFINITY ONE home page, click **User Services**.

3. When prompted for a user ID, type **D1WEB** and use the password supplied by your system administrator.

   Holders of more privileged accounts may also use their IDs, for example, NTADMIN, D1user1, etc.

4. Click **Download Message Manager**.

   This downloads a self-extracting file to the desktop.

5. When download is complete, exit all applications on the desktop and double click the downloaded file.

6. Follow the prompts to complete the installation. See "Installing Message Manager from a LAN server" on page 8-14.

Miscellaneous Procedures

C

The following sections provide miscellaneous procedures used in the DEFINITY ONE installation process.

- "Setting the name of the switch" on page C-2
- "Connect to SAT session via Telnet" on page C-3
- Backup and Restore
  - "Perform backup" on page C-4
  - "Backup via the Web interface" on page C-7
  - "Performing and restoring backups" on page C-9
  - "Perform immediate backup" on page C-10
  - "Viewing backup progress" on page C-11
  - "Backing up to a LAN address" on page C-11
  - "Viewing scheduled backups" on page C-13
  - "Accessing backup information" on page C-13
  - "Accessing backup information" on page C-13
  - "Perform restore" on page C-15

Setting the name of the switch

Setting the NT name

To set the machine name, in a bash shell, type **setip name=machineName**. Limit the machine name to 10 characters. Setip will allow you to enter more characters, however AUDIX only displays the first 10 characters of the machine name in its administration window.

Ex: setip name=mysite

After setting the machine name, the **setip** command displays both the old and new settings.

Reboot the DEFINITY ONE. Enter **reboot nice** from a console bash shell.

Updating AUDIX machine name

1. Once NT reboots, Update AUDIX. Enable the DEFINITY ONE web page using a browser. Click the **Administer System** hot link. The web page prompts for login and password. Use the **lucent3** login with the new password supplied by INADS.
2. Click the AUDIX Networking link. Click the Administrative Menu link after the page loads. Click the Local Machine Administration link to load the Local Machine Administration web page. Click the change button in the middle of the page for AUDIX to re-populate its databases with the current settings.
3. Exit the web pages and restart AUDIX.

Restarting AUDIX

Enable a telnet session to a LAC bash shell on DEFINITY ONE. Execute a **shut-down Audix** command at the shell prompt. Select **start Audix** when shutdown completes. When AUDIX restarts it recognizes the new machine.

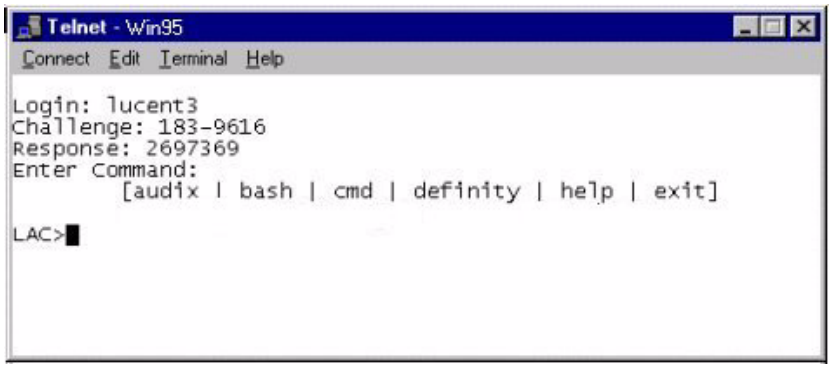
Change system name

1. When the system is up, enable a DEFINITY SAT session, using either telnet or DSA. Login as **dinit** (lucent1 will grant the same permissions) with the appropriate password.
2. Enter change system-parameters features. On page 4, change the switch name to match the NT and AUDIX switch names.

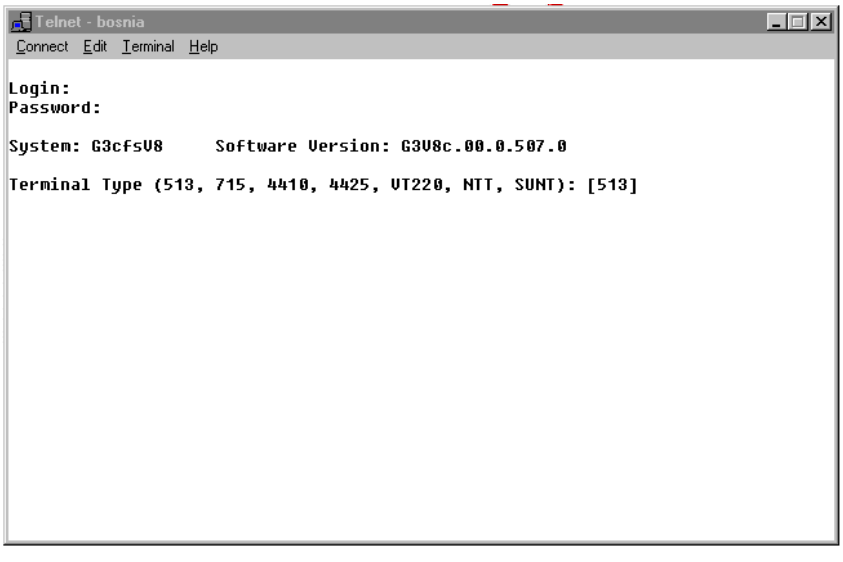
Connect to SAT session via Telnet

This method of access is used primarily by technicians who use one of the services logins. This connection type will access a SAT emulator to administer and maintain the DEFINITY ONE.

1. Enter a command to continue after admittance in to the DEFINITY ONE system. See "Via a Telnet session" on page 2-26. In this example, the command entered was **definity**. The next screen shows the initial DEFINITY SAT screen.



2. Enter the terminal type.

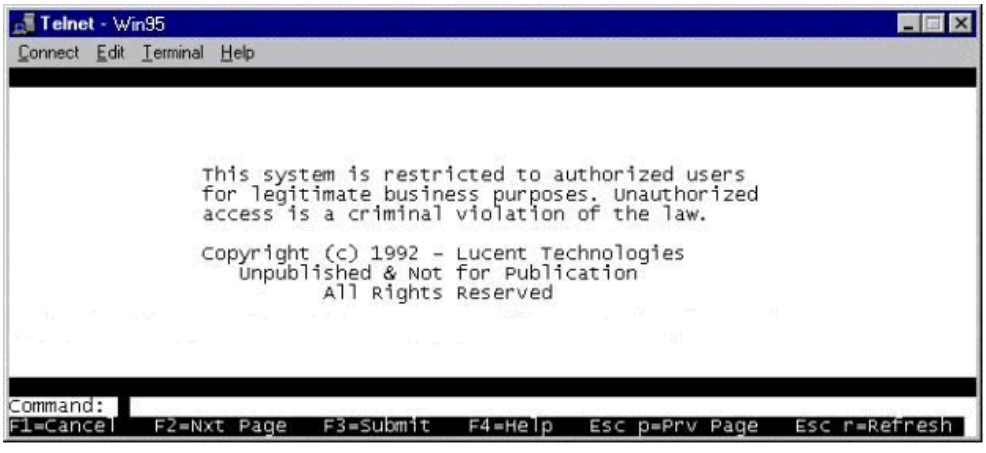


The screen shows login and password fields. You are automatically logged in to the DEFINITY SAT session by the LAC.

NOTE:
Two new terminal types have been added: NTT and SUNT.

- Use NTT from a Windows platform.
- Use SUNT from a Sun Microsystems platform.

The following screen displays when the terminal type is entered:



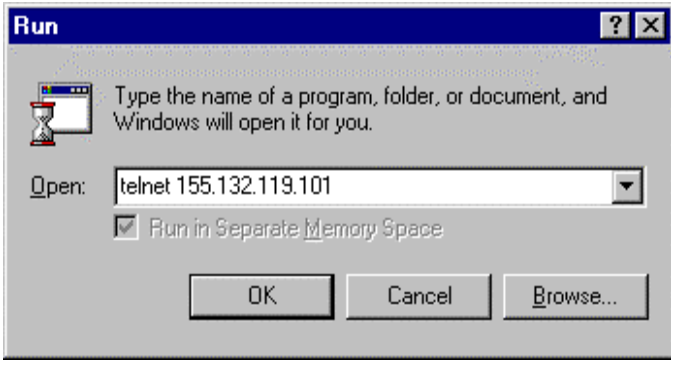
Once you are logged in as user **lucent1**, **lucent2**, or **lucent3**, you can exit the DEFINITY SAT session and start an AUDIX session without having to re-authenticate.

Perform backup

Backup procedures prevent loss of data due to system errors. Backups can be either immediate or scheduled. You can execute backup procedures to either the LAN or the PCMCIA flash card from the command line and web browser.

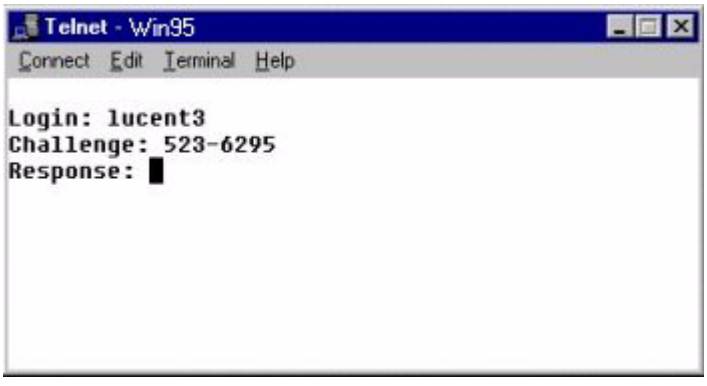
Insert a PCMCIA card into the free slot on the TN795 circuit pack. For alternative backup, obtain a network location from the customer. The following are bash shell procedures when using a LAN resident PC that is not DEFINITY ONE but is connected to the same LAN as DEFINITY ONE.

1. Click **Start > Run** from the Windows task bar. The **Run** dialog box displays:

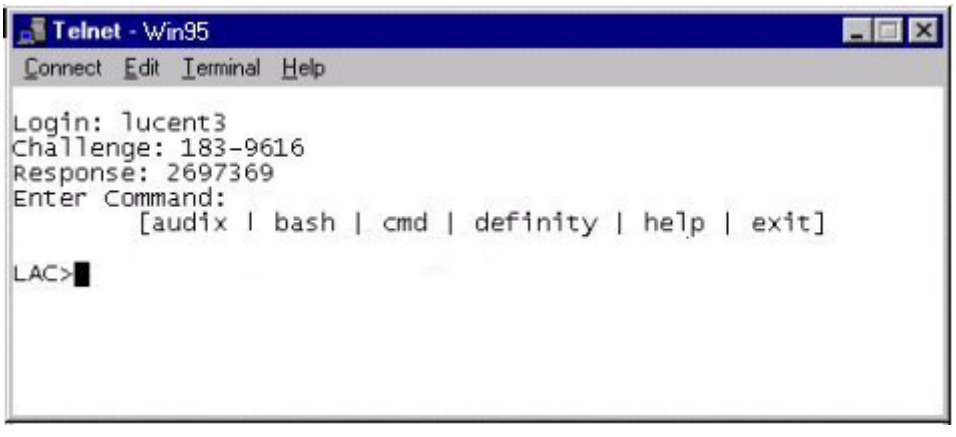


2. Enter **telnet {DEFINITY ONE Name or IP Address}**. Click **OK.**

3. A telnet session opens on the desktop. Enter the login and challenge response at the prompts.



Once the Lucent Access Control (LAC) process accepts your inputs, it grants admittance to the DEFINITY ONE system.

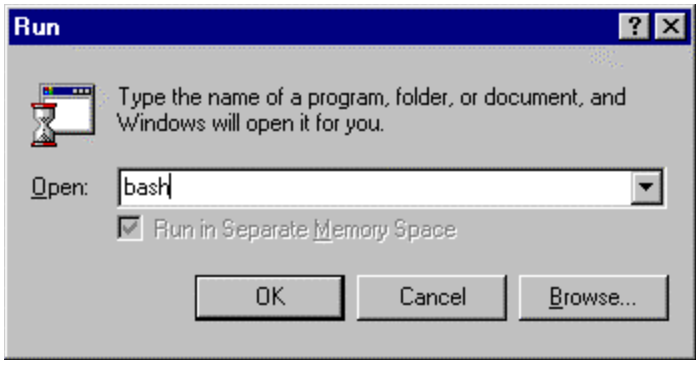


4. Type **bash** and press (ENTER).

   The machine name and login ID displays as your prompt.

   OR:

5. At a DEFINITY ONE desktop, log in to Windows NT. Click **Start > Run** from the Windows task bar. The **Run** dialog box displays:



6. Enter **bash** and click **OK.**
7. A telnet session opens on the desktop. Enter User Name and Password.

   The DEFINITY ONE system grants admittance once inputs are accepted.
8. Type **d1backup** <**data-set**> <**destination**> and press ENTER.
9. Enter 1 or more of the following parameters (separate multiple choices with a space) for backup:

Parameter	Meaning
deftran	DEFINITY Translations
vmnamtran	Voice Names and Translations
vmmsgtran	Message Bodies and Translations
vmannounce	Announcement Sets
vmnammsgtran	Voice Names, Messages, and Translations
registry	NT registry
sam	NT Passwords Login and Policy
defann	DEFINITY Announcements
lac	Password and License Server File

The destination is **pcmcia** or a directory name.

If a directory name is entered, a network drive must be mapped as the F: drive. Use the web interface to map a network drive.

The following is an example of how to enter information for backup procedures:

LAC:> **d1backup deftran vmnamtran pcmcia**

NOTE:
When executing this command, there may be a delay of 1 to 2 minutes because AUDIX Networking is shutting down and auditing the AUDIX databases. AUDIX restarts when the backup completes.

Backup via the Web interface

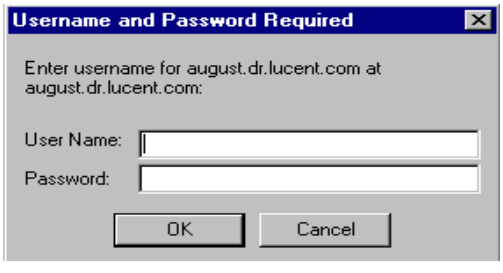
The following are web interface procedures:

1. Open Internet Explorer.
2. Enter **http://<IP address>** in the address area of the web browser.

   The DEFINITY ONE Home page displays:

3. Click **Administer System**.

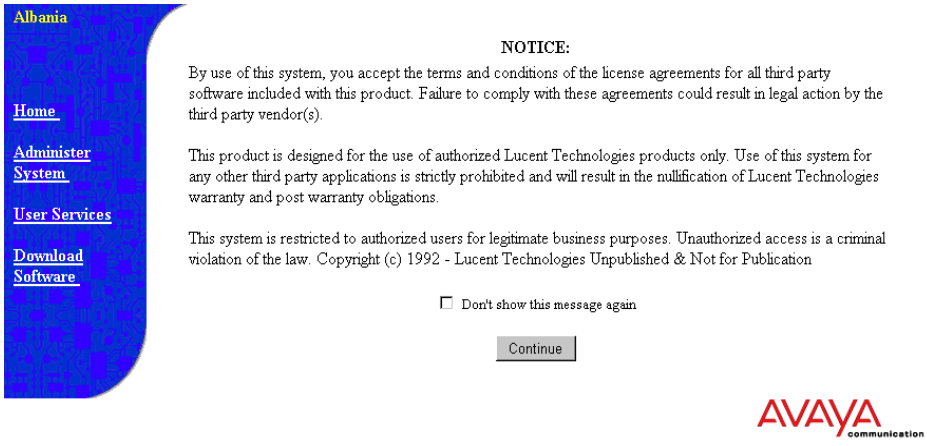
   The following screen displays:



4. Enter your login ID and password.

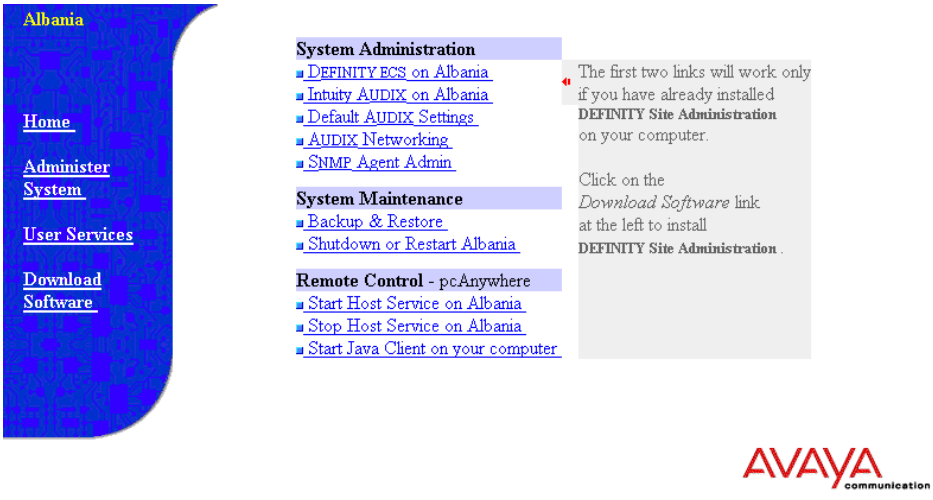
   The login ID must have the correct backup permissions and be a member of the DEFINITY ONE Administrator's login group.

The following Notice screen displays:



5. Click **Continue**.

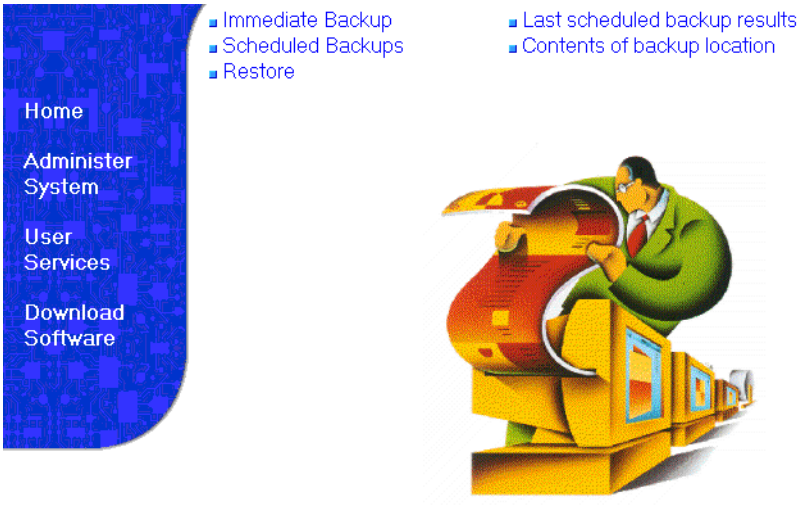
   The following screen displays:



Click Backup and Restore to open main backup menu.

Performing and restoring backups

The following screen shows an example of the backup and restore main menu.



From the backup and restore main menu, you can:

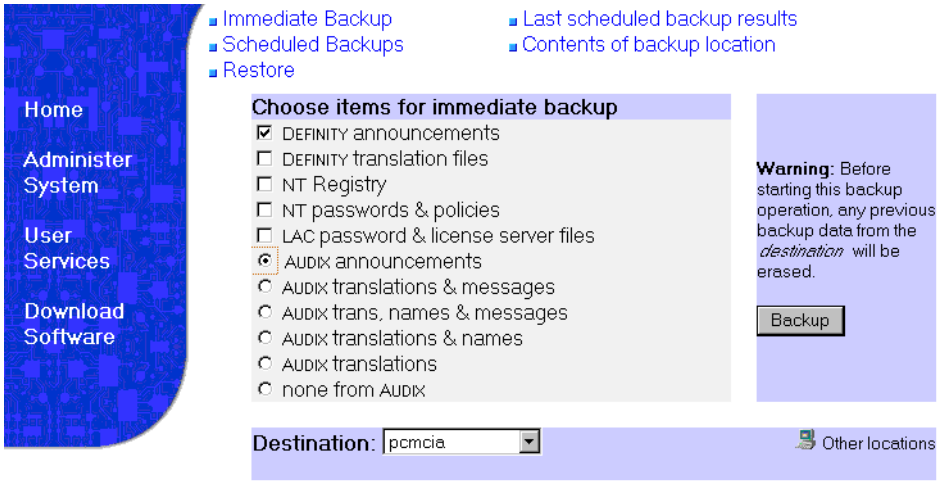
- Perform immediate backups
- Schedule backups (see "Schedule backups" on page 3-39)
- Restore backups
- Access last scheduled backup information
- View contents of backup location

NOTE:
As you navigate the backup and restore screens, the main menu items remain available. Use the **Back** button to return to previous screens.

Perform immediate backup

To perform an immediate backup, click **Immediate Backup**.

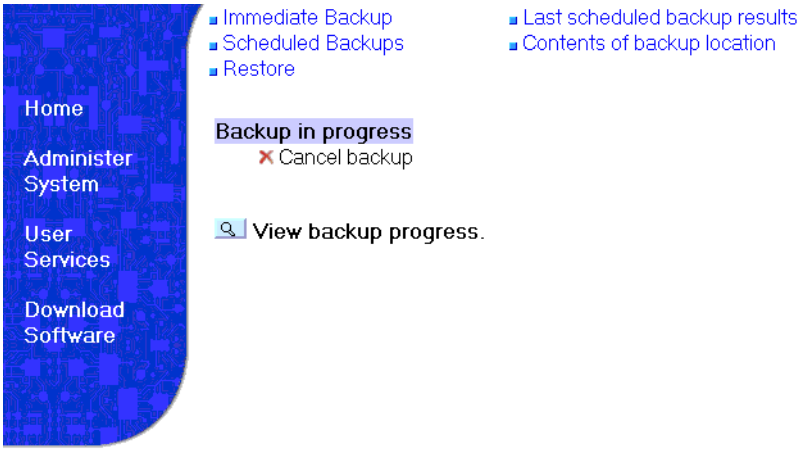
The following screen displays:



1. From the **Destination** menu, select a backup destination.This can be a LAN address or a PCMCIA Flash Disk.
2. Select items for immediate backup.
3. Click **Backup**.

NOTE:
When backing up to a LAN address, a shared drive must be installed on a non- DEFINITY ONE machine.

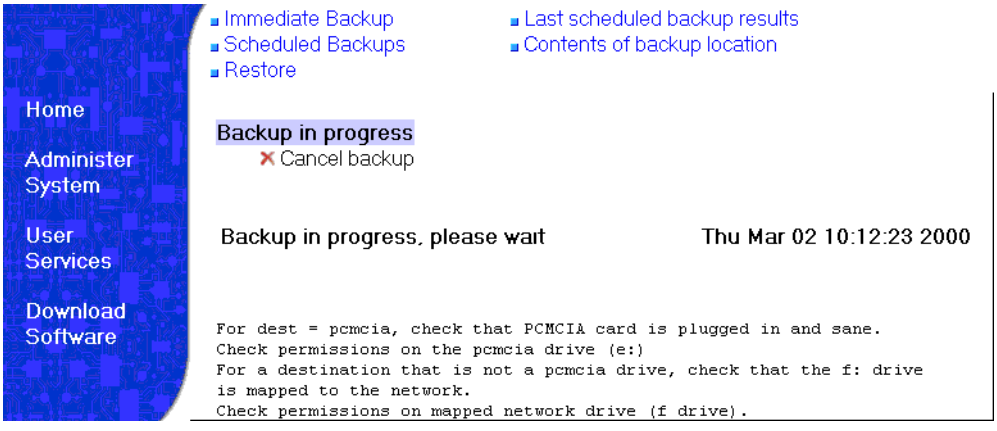
After you click **Backup**, the following screen displays:



Viewing backup progress

To view backup progress, click **View Backup Progress**.

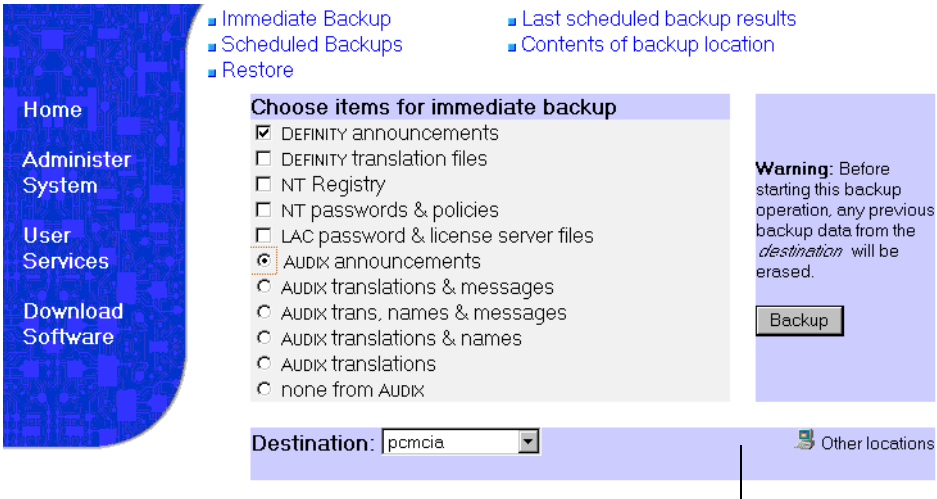
The following screen displays:



Backing up to a LAN address

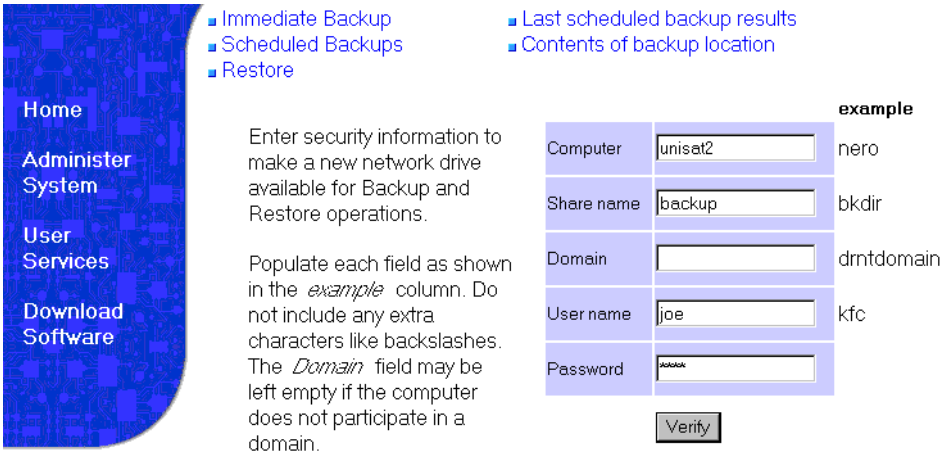
You can back up your data to a LAN address using the Other locations feature. To back up data to a LAN address:

1. Click **Other locations**.



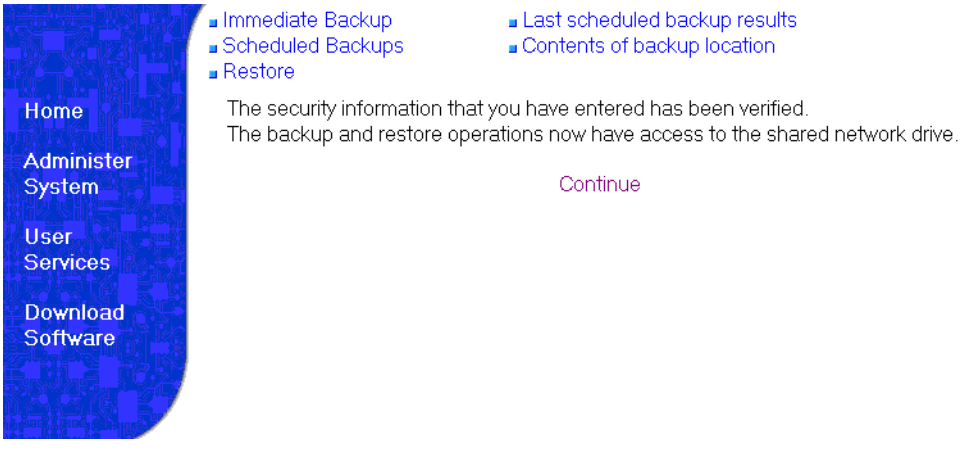
Click Other locations.

The following screen displays:



2. Enter LAN location information.
3. Click **Verify**.

   The following screen displays:



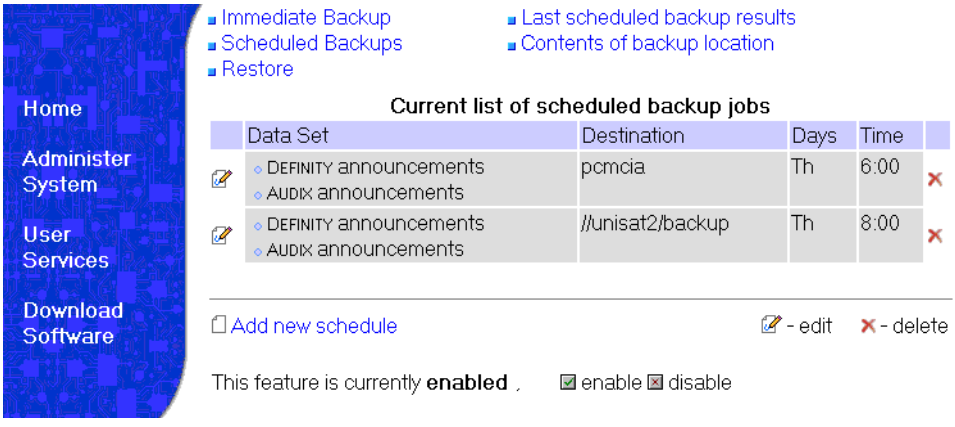
4. Click **Continue** to return to the Immediate backup screen.
5. Select items to back up and select **Backup**.

Viewing scheduled backups

To view scheduled backups:

1. Click **Scheduled Backups**.

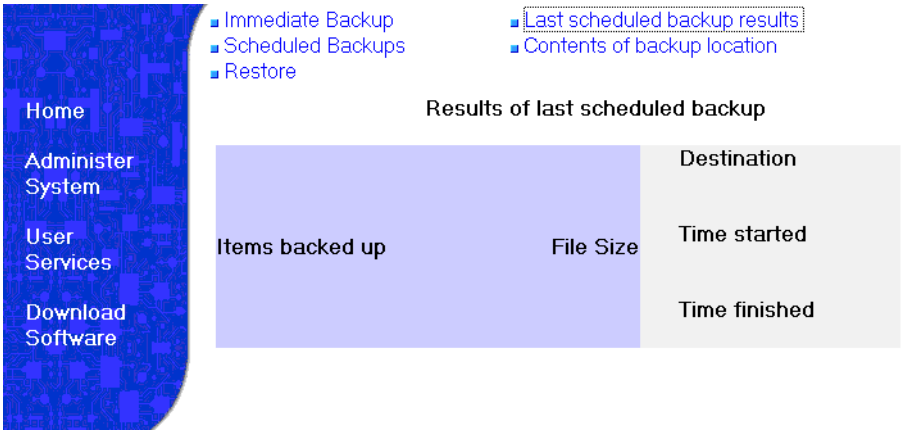
   The following screen displays:



From this screen, you can add, edit, or delete scheduled backups. For information about adding a scheduled backup, see "Adding a scheduled backup" on page 3-39.

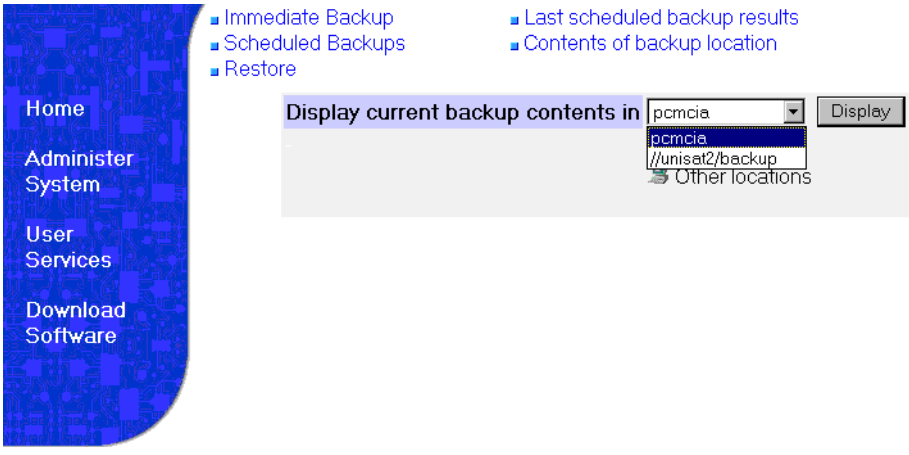
Accessing backup information

To review previous backups, click **Last scheduled backup results**. The following screen displays:



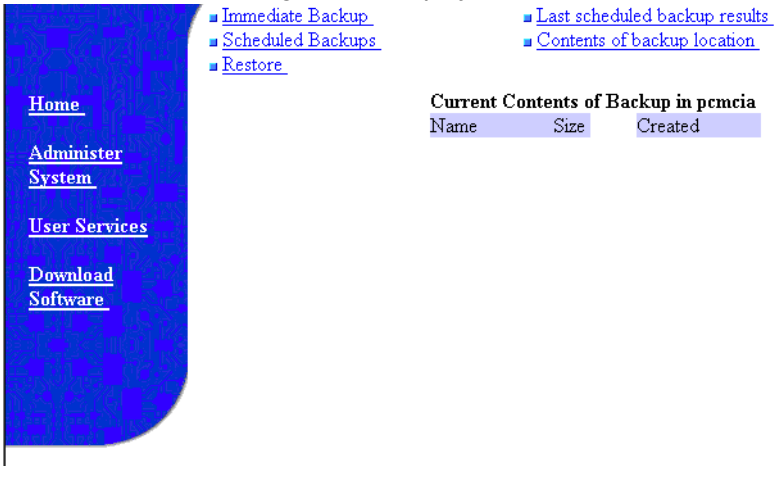
To view contents click **Contents of backup location**.

The following screen displays:



Scroll to the location of backup contents and click **Display** or click **Other locations**.

The following screen displays:

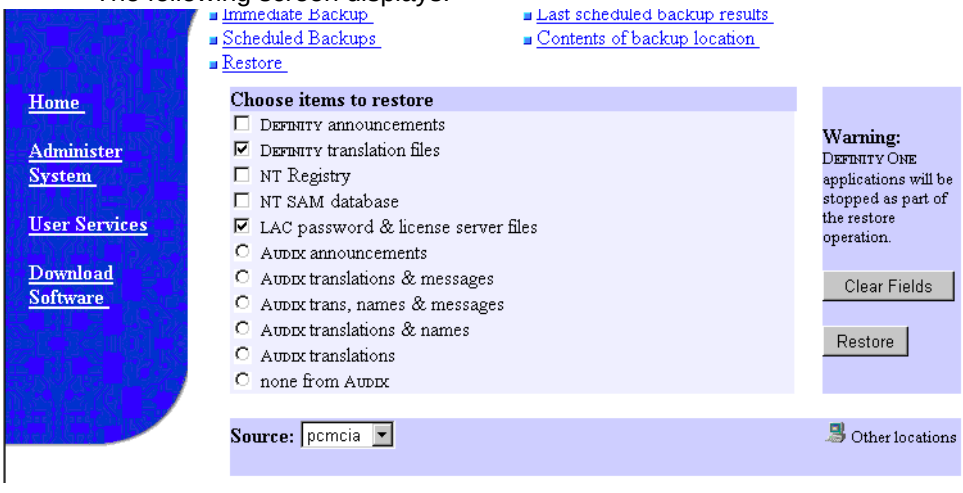


NOTE:
The backup feature can be disabled and later enabled to allow you to perform another function. If disabled, the current schedules remain intact.

Perform restore

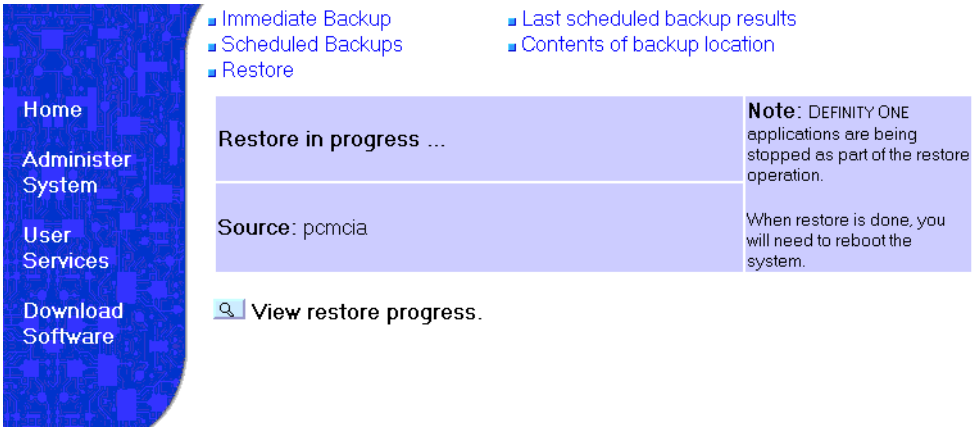
1. Click **Restore**.

   The following screen displays:



2. Select the restore source.
3. Select items to restore.
4. Click **Restore**.

   The following screen displays:



5. After the restore is completed, reboot the system.

NOTE:
A reboot is required. The restored translations will not be used if the DEFINITY ONE is not rebooted.

Recovery

D

This chapter provides information about system recovery. This chapter is organized as follows:

- "DEFINITY ONE system level shutdown and restart" on page D-1
- "DEFINITY software reset (recovery)" on page D-4
- "Reset System 1 (DEFINITY warm start)" on page D-4
- "Reset System 2 (DEFINITY cold start)" on page D-4
- "Reset System 3 (DEFINITY reboot)" on page D-5
- "Reset System 4 (DEFINITY reboot)" on page D-5
- "Reset System 5 (System reboot)" on page D-5

When the system is initially powered up, or when an existing system experiences a catastrophic fault that interrupts its basic functions, the system reboots.

DEFINITY ONE system level shutdown and restart

Table D-1 on page D-2 presents system level shutdown and restart actions that can be initiated by the system technician, the customer, and by hardware. The state of the shutdown and restart actions is indicated by the state of the LEDs on the TN795 processor circuit pack (See Appendix E). More details about the use of the user commands can be found in *DEFINITY ONE Communications System Release 9 Maintenance* (555-233-111).

Table D-1. Shutdown and restart actions

Action	Entry	Originated by	Action	Notes
“reboot nice” [campon]	command line entry from a bash session	technician	Shuts down all applications with campon to wait for AUDIX users to logoff. The system restarts automatically.	Used for a system reboot after changing an NT level parameter that requires a system reboot. This may take an unacceptably long time due to campon of AUDIX logons.
“reboot immediate”	command line entry from a bash session	technician	Shuts down all applications without waiting for AUDIX users to log off. The system restarts automatically.	Used for a system reboot with a guaranteed reboot time of a few minutes. This action does not wait for AUDIX users to be logged off from AUDIX.
“shutdown all” [campon]	command line entry from a bash session	technician	Shuts down application software while leaving NT up. An optional “campon” option may be used to wait for AUDIX users to log off.	Used for system upgrade. The campon option may cause an unacceptable wait time. The “start all” command can be used to restart the application software.
“shutdown audix” [campon]	command line entry from a bash session	technician	Shuts down AUDIX while leaving DEFINITY and NT up. An optional “campon” option may be used to wait for AUDIX users to log off.	Used to shut down AUDIX if the machine name is changed. The “start audix” command can be used to restart AUDIX. The campon option may cause an unacceptable wait time.
“shutdown system” [campon]	command line entry from a bash session	technician	Shuts down the system without restarting it An optional “campon” options may by used to wait for AUDIX users to log off. The system does not restart automatically.	Used to shut down the system in preparation for removing AC power or removing the TN795 Processor circuit pack. The campon option may cause an unacceptable wait time.The system can be restarted only by removing and restoring power or reseating the TN795.

Continued on next page

Table D-1. Shutdown and restart actions — *Continued*

Action	Entry	Originated by	Action	Notes
“delayed shutdown” button	web page from a web browser	technician/ customer	Wait for AUDIX users to log of f before starting a system shutdown. The system may or may not restart automatically, depending on a “restart” option.	Used to shut down the system in preparation for removing AC power or removing the TN795 Processor circuit pack
“immediate shutdown” button	web page from a web browser	technician/ customer	Do not wait for AUDIX users to log off before starting a system shutdown. The system may or may not restart automatically, depending on a “restart” option.	Used to shut down the system in preparation for removing AC power or removing the TN795 Processor circuit pack
shutdown button on the faceplate of the TN795 processor board	Faceplate of the TN795 processor board	technician/ customer	Shut down the system after closing all applications. The system will not restart automatically.	Used to shut down the system in preparation for removing AC power or removing the TN795 Processor circuit pack. The system can be restarted only by removing and restoring power or reseating the TN795.
Detection of the loss of AC power by the UPS	Wiring from the UPS Z3A2 alarm adapter to the Major Alarm lead on the TN795	Loss of AC power for more than 1 minute	Shut down the system after closing all applications. The system will restart automatically upon restoration of AC power.	Provides a graceful shutdown when AC power is lost for more than 1 minute.

DEFINITY software reset (recovery)

There are severe reset levels available to restart DEFINITY software. These resets can be user initiated with the **reset system *n*** command (where *n* is the reset level). They may also be automatically initiated by system software in response to certain error conditions.

A system is reset due to a loss of power, or through:

- Reset commands entered during a SAT terminal session.
- Maintenance software, from which the system can reset itself. (This process starts when certain software and hardware errors are detected by the software.)

CAUTION:
When the system is rebooted or reset at level 2, 3, 4, or 5, all voice terminal and attendant console features are adversely affected. Users should be advised of services that are lost and that, as a result, must be reactivated.

The SAT display and circuit pack LEDs indicate the progress of the recovery process.

Reset System 1 (DEFINITY warm start)

- This recovery takes about 60 seconds.
- All software is reset.
- All stable phone calls remain up.
- In-progress calls are dropped.
- No new calls can be made during this time.

Reset System 2 (DEFINITY cold start)

The following are reset:

- All software
- TDM Bus
- All port circuit packs

All telephone sessions are dropped. Telephones begin to reconnect to the switch within 60 seconds.

Reset System 3 (DEFINITY reboot)

This is the same as Reset System 4 (see below). This command is retained for consistency with other DEFINITY products.

Reset System 4 (DEFINITY reboot)

- Emergency Transfer is invoked in this reset.
- System processes are reloaded from hard disk into memory.
- All port circuit packs are reset.
- All telephone sessions are dropped.

Telephones begin to reconnect to the switch within 60 seconds.

Reset System 5 (System reboot)

This is the same as Reset System 4 (see above).

LED Boot Sequence/TN795 Processor

E

This chapter provides information about the LED boot sequence of the TN795 circuit pack.

This chapter is organized as follows:

- "LED boot sequence" on page E-1
- "TN795 processor circuit pack" on page E-1
- "TN795 processor circuit pack LEDs (after booting)" on page E-2
- "LED states" on page E-4

LED boot sequence

The following describes the LED boot sequence:

TN795 processor circuit pack

When power is first applied to DEFINITY ONE, or when the system reboots, the LEDs on the TN795 circuit pack will light according to this sequence:

1. All lights on the TN795 will rapidly blink in sequence, from bottom to top (also known as "racing lights").
2. Within 1 minute, the second light from the top will blink green:
   - When the LED is more on than off it indicates BIOS loading
   - More off than on indicates NT loading
3. The third LED from the top will blink amber to indicate application firmware loading.

4. When firmware is loaded, the LEDs will blink in sequence again (racing lights), then all LEDs will light and then go off.

   The DEFINITY ONE system is now under normal operating conditions. When the system is operating normally the following occurs:

   - The amber LED (third from the top) blinks quickly once every 10 seconds, indicating the firmware/NT watchdog processes are communicating.
   - Another blinking LED (clock) flashes when the firmware for the clock is communicating.

Any other LEDs that are illuminated indicate an alarm or problem with DEFINITY ONE. For more information about alarms, see Chapter 6, DEFINITY ONE NT Log Events and Alarms in *DEFINITY ONE Communications System Release 9 Maintenance* (555-233-111).

The emergency transfer LED is on if a reset 4 occurs or if power is cycled.

TN795 processor circuit pack LEDs (after booting)

The front panel has 2 groups of LEDs. One group indicates the status of the pack, and the other group (which includes the Major, Minor, and Warning alarms) reflects maintenance conditions in the entire system.

- Red (alarm) — the system has detected a fault in this circuit pack.

  NOTE:
  Alarms on the PROCR, PR-MAINT, SW-CTL, and PKT-INT maintenance objects are indicated by the red LED on the processor circuit pack.

- Green (test) — the system is running tests on this circuit pack.
- Amber — in an operating system, this LED indicates that the handshaking between the firmware and the NT operating system is occurring by flashing briefly once every 10 seconds.
- PCMCIA (amber) — the flash disk is in use
- MAJOR ALARMS (red)
- MINOR ALARMS (red)
- CLOCK (amber) — blinks once every 4 seconds.
- EM XFER (red) — indicates emergency transfer has been invoked

  NOTE:
  If the AC power cord is unplugged, the emergency transfer feature invokes, however the EMERGENCY TRANSFER LED (red) is not lit due to loss of AC power. The system gracefully shuts down in about 3 minutes.

- OK REMOVE (green) — steady indicates that it is OK to remove the TN795 processor circuit pack.

WARNING:
DO NOT REMOVE *the TN795 circuit pack unless the* ***Complete Shutdown*** *LED is illuminated. Failure to heed this warning may result in loss of data and/or damage to equipment.*

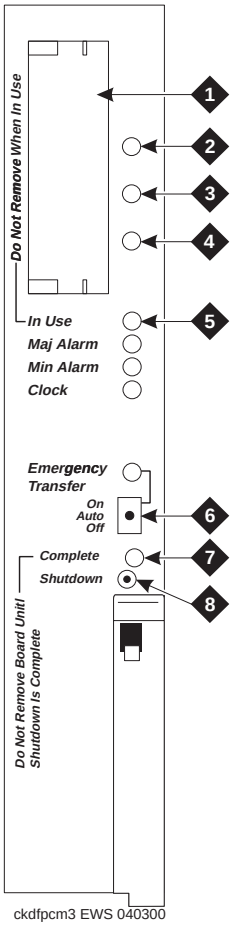


Figure Notes

1. PCMCIA slots
2. Red LED
3. Green LED
4. Amber LED
5. PCMCIA In Use LED
6. Emergency Transfer On/Auto/Off switch
7. Complete Shutdown — safe to pull board when green LED is on steady
8. Shutdown switch — gracefully shuts down system

Figure E-1. TN795 circuit pack faceplate

LED states

Table E-1 summarizes the TN795 circuit pack LED states.

Table E-1. TN795 circuit pack LED states

		Boot Sequence = 3 min., 45 sec.								Shutdown Sequence 1-3min		Other	
LED name	LED color	Power-on reset	860 core test in progress	860 core test finished, RM initialized	PC BIOS boot	PC OS boot	Firmware download	Jump to application firmware	SPE up	Shutdown in progress	Shutdown complete	860 core test failed	Pentium BIOS update
TN795 CP A Alarm	red	on	on	Racing LEDs	on	on	on	Racing LEDs	sw	on	on	on	on
TN795 Test	green	off	on		flash 1	flash 3	off		sw	sw	off	on	flash 2
TN795 In Use	yel-low	off	off		off	off	flash 2		flash 4	sw	off	on	flash 2
PCMCIA	yel-low	on	on		sw	sw	sw		sw	sw	on	off	on
Major Alarm	red	off	off		off	off	off		sw	sw	off	off	off
Minor Alarm	red	off	off		off	off	off		sw	sw	off	off	off
Clock Status	yel-low	off	off		off	off	off		clk	clk	off	off	off
ETR	red	on	on		on	on	on		sw	sw	on	on	on
OK to Remove	green	off	on		on	off	off		off	flash3	on	on	off
_____	_____	____	(a)__ 40 sec.		(b) 40 sec.	(c) 80 sec.	(d) 30 sec.	(e)					

flash1— 800ms ON, 200ms OFF
flash2— 500ms ON, 500ms OFF
flash3— 200ms ON, 800ms OFF
flash4— 200ms OFF on every sanity heartbeat
flash5— 1 sec ON, 1 sec OFF
sw— Software Controlled
clk— Similar to the TN2182 Tone/Clock LED

Status LEDs

F

This chapter provides information about the Status LEDs.

This chapter is organized as follows:

- "Attendant console LEDs" on page F-1
- "Other circuit packs" on page F-2
- "Circuit pack status LEDs" on page F-2
- "Power supply LEDs" on page F-3

Attendant console LEDs

The console has 2 red LEDs, labeled ALM and ACK. The left LED lights steadily when there is a Major or Minor alarm at the switch cabinet. The right LED lights steadily if the alarm has been successfully reported to INADS. If the system is unable to report the alarm to INADS, the LED flashes, thus signaling the attendant to call INADS and report the alarm. The system calls INADS automatically if it uses a modem.

Other circuit packs

Some LEDs may be lit upon power up on the other circuit packs. Under normal operation, LEDs should not light on the circuit packs, with the following exception: A solid green LED on any circuit pack indicates that diagnostic tests are being executed on that circuit pack.

Circuit pack status LEDs

Each circuit pack has 3 LEDs on the front panel visible at the front of the carrier. On all circuit packs, except the 650A power unit, the LEDs indicate:

- Red (alarm) — If the circuit pack is communicating with the system, the system has detected a fault in this circuit pack. An on-board alarm for this circuit pack is displayed in the Alarm Log.

  The circuit pack also lights this LED when either the circuit pack has not yet initialized communication with the system or when the circuit pack loses contact with the system and stops functioning (circuit pack is said to be “in reset”). In these cases, there may not be an alarm in the Alarm Log. To determine if the red LED is lit because the circuit pack is not in contact with the system, issue the **list configuration board PCSS** command, where PCSS refers to the slot containing this circuit pack. If the system does not detect the circuit pack, this command returns **Identifier not assigned or no board**.

  If the circuit pack has just been inserted, the system may still be initializing the circuit pack. If, after 5 minutes, the circuit pack still has not initialized communications with the system, check the MO for any special instructions. If the MO does not provide the needed information, perform the following steps:

  1. Check the Error Log for TONE-BD and TDM-BUS errors. Follow appropriate sections for any TONE-BD and TDM-BUS errors.
  2. Reseat the suspect circuit pack.

  WARNING:
  Reseating the TN795 may be very destructive. This should be done only if the Complete Shutdown LED is illuminated. Otherwise, you must shut down before reseating.

  3. Wait 5 minutes. Then issue the **list configuration board PCSS** command. If the result indicates that the system still has not registered the circuit pack, go to next step.
  4. If the system seems to be functioning correctly, but the circuit pack does not start communicating with the system, replace the circuit pack.

- Green (test) — the system is running tests on this circuit pack.

- Yellow (busy) — indicates that the circuit pack is in use.

NOTE:
A port circuit pack also lights its red LED when it performs initialization tests (for example, when the circuit pack is initially inserted into the system). If all initialization tests pass, the red LED is turned off. If any initialization tests fail, the red LED remains lighted and the circuit pack is not placed into service.

During the various states of operation (start-up testing, normal operation, circuit failure, and so forth) circuit pack status LED indications appear as shown in Table F-1.

Table F-1. Control and port circuit pack status LEDs

Equipment type	LED	Description
Port circuit packs	Red	On briefly during power up, circuit pack reseating, resetting, and system reset. Steadily on if circuit pack fails start-up test or fails while in use. Off during normal operation.
	Green	Briefly on during circuit pack testing following power up, circuit pack reseating, and system reset. On during periodic, scheduled, and system technician demanded testing. Off during normal operation.
	Yellow	On when any port in the circuit pack is in use, otherwise, off.

Power supply LEDs

Table F-2 shows the LED and alarm conditions for the 650A power supply. Ring voltage and neon bus output do not activate alarm status.

Table F-2. LED and alarm conditions

Condition	LED status	Alarm state
Normal	Red off; Yellow on	Open
No input power	Red off; Yellow off	Closed
DC output not present (except Neon)	Red on; Yellow off	Closed
Fan alarm	Red on; Yellow on	Closed

GAS Commands in the bash shell

G

This chapter provides information about bash commands that are used in the installation process. It also includes information on the **setip** command. These commands are not available to the customer.

Avaya (Lucent) access controller bash commands

The following commands are useful during installation and maintenance tasks and are allowed for the avaya logins. After opening the LAC bash shell, enter the name of the command. Refer to *DEFINITY ONE Release 9 Communications System Maintenance* (555-233-111) for more detailed information.

Table G-1. bash commands for avaya logins

Command	Description
alarmorig	Turns on alarm origination from the GAM (INADS)
alarmstat	Gives global alarm status (major, minor, or none) for the GAM, DEFINITY, and AUDIX
autobackup	Enables and disables backup commands
backupparams	Enables day and time destination
backupsource	Selects the data to be backedup
cleargamalarm	Clears all GAM alarms after failure conditions are repaired

Continued on next page

Table G-1. bash commands for avaya logins — *Continued*

Command	Description
d1backup	No help
d1disable SNMP	Disables SNMP
d1enable	Enables SNMP
d1restore	No help
d1stat	Displays the status of all the application groups running on the system. Displays the current status of each application. Applications states are: Up, Down, or Partially Up. Displays all the processes associated with an application regardless of its state.
downloadboot	Enables download of boot image to firmware
identbackup	No help
installbackup	No help
installconfig	Installs license file
environment	Displays the TN795 temperature and voltage ranges
ftpserv	Enables the ftp service
fileversion	Queries Windows NT for executable file
fwversion	Displays command version number
gamalarmstat	Displays GAM alarm information formatted as follows: mm/dd/yyyy = month/day/year NT Event Log Name= System | Security | Application Alarm Source= NT | GAM | LAC | GSK | VFM | GAS NT Event Type = Error | Warn | Info Alarm Type = Major | Minor Event ID= Event field in NT Event Log ACKed= ACKed, NACKED, FAILURE, NO_OSS_ RESPONSE
avaya help	Lists all bash commands
net user	Used to add/activate logins, change passwords

Continued on next page

Table G-1. bash commands for avaya logins — *Continued*

Command	Description
oss	Sets telephone numbers for outgoing INADS calls
pcAnywhere	If no argument is given, pcAnywhere will start. If**?** is typed, help is displayed, if -**v** is typed, the version of the command is displayed, and if -**c** is typed, pcAnywhere is stopped.
post	If no argument is given, postcodes are sent to the 860 firmware with the results sent to standard output.
product id	If no argument is given, the command displays product-id information for GAM and AUDIX.
rasdrop	If no argument is given, rasdrop schedules the RAS service to stop and restart in 2 minutes from when it was run.
reboot	Reboots system as follows: **nice**: Shuts down applications and Windows NT in a graceful manner **immediate**: reboots the system without waiting for the applications to shut down, causing possible loss of voice messages that are being recorded and all calls drop
restartcause	Displays the restart causes for system (for technician/TSC)
serialnumber	Reads and displays the serial number of the circuit pack
setip	Sets the IP address, subnet mask, and default gateway of the LAN interface to the customer's LAN (out the splitter cable). Turns on RAS. Reboot is required for this to take effect.

Continued on next page

Table G-1. bash commands for avaya logins — *Continued*

Command	Description
shutdown	Shuts down: **all**: Avaya DEFINITY ONE applications **system**: all Avaya DEFINITY ONE applications and Windows NT **appname**: AUDIX. For example: Shutdown AUDIX. **camp-on**: (optional AUDIX feature) notifies users that a system shutdown will happen and waits for users to end their sessions before shutting down.
siteconfig	Prompts the user with a warning message and request confirmation
start	Called from a bash shell on DEFINITY ONE to start an application through Watchdog
swversion	Lists the version of software running on DEFINITY ONE
terminate	Called from a bash shell on DEFINITY ONE to terminate applications
versiondiff	Compares NT executables against version entered at the command line
vilog	Merges and displays the various log files in the system

LAC commands

Table G-2. LAC commands

Command	Description
AUDIX	Connect to INTUITY AUDIX SAT
bash	Invokes the bash shell. The bash shell has commands that are useful for administration and installation.
DEFINITY	Connect to SAT
cmd	Brings up a DOS prompt
exit	exits the bash shell
installconfig	Install configuration
siteconfig	Sets passwords for NT Administrator and Guest logins (Ntadmin, user)

setip command

Use the **setip** command from a LAC bash shell to set certain NT specific settings. To get to a bash shell:

1. Telnet to the DEFINITY ONE over any interface.
2. Login.
3. Enter bash at the LAC prompt.

Once you are in a LAC bash shell you can run **setip**.

NOTE:
Setip settings require a reboot before taking effect. Set all necessary parameters before issuing the reboot command.

Displaying current settings

To display current settings, run **setip** with no parameters.

Setip allows setting the customer's LAN address along with subnet mask, gateway, DNS and WINS settings. It also allows setting the machine name and the RAS IP addresses.

Setting the machine name in NT

To set the machine name:

1. In a bash shell, type **setip name=machineName**. Limit the machine name to 10 characters. Setip allows you to enter more characters; however AUDIX only displays the first 10 characters of the machine name in its administration window.

Example:**setip name=mysite**

NOTE:
After having set the machine name, the **setip** command displays the new settings and the old settings.

NOTE:
You will also need to set the host name. See "Setting DNS addresses and host name" on page G-7.

Setting RAS IP address

NOTE:
INADS will provide this IP address.

To set the RAS IP address:

1. In a LAC bash shell, type **setip ras=<ip-address>**

Example:setip ras=10.21.0. 53

NOTE:
This command not only sets the RAS IP address, it also starts the service. Turn off RAS service if system is set up without a modem.

After having set the RAS IP address, the **setip** command displays the new settings and as the old settings.

Setting the customer's LAN, DNS and WINS information

Setting LAN address

To set the customer LAN address:

1. Get the IP address, subnet mask, and default gateway addresses from the customer.
2. From a LAC bash shell, run the **setip cust=ip-addr,netmask[,gateway]**. The gateway address is optional but the ip-address and subnet mask are required.

Example: setip cust=155.9.162.121,255.255.255.0,155.9.162.2

After setting the customer's IP address, the **setip** command displays the new and the old settings.

Setting DNS addresses and host name

If the customer is using DNS you can set DNS information with the **setip dns=name,domain-name,primary-ns-ip-addr[,secondary-ns-ip-address]**, This sets the DNS host name, domain name, and the list of name server IP addresses.

The customer may have 1, 2, or more different domain name servers (DNS).

Ex: setip dns=CustomerHost,CustomerDomain.com,155.9.1.10,155.9.15.14

After having set the customer's DNS IP addresses, the **setip** command displays the old settings as well as the new settings.

Setting WINS addresses

If the customer is using WINS you can set WINS information with the **setip wins=[ip-addr-primary[,ip-addr-backup]]**. This will set the IP address of the primary and secondary IP addresses for the windows NetBios on the TCP name server.

Ex: setip wins=155.9.145.1,155.9.145.4

After setting the customer's WINS IP address, the **setip** command displays the new and the old settings.

Once you have set all the appropriate settings for your location, enter reboot nice to restart the system with the new settings.

Other commands

ftpserv command

The **ftpserv** command is executed from a console bash shell and turns on the FTP server. If you attempt to ftp into the DEFINITY ONE and receive a **connection refused** message, then ftp is not running.

To turn on ftp enter: **ftpserv**

To turn off ftp enter: **ftpserv -c**

pcAnywhere command

The pcAnywhere command turns the pcAnywhere host service on and off.

To turn on pcAnywhere enter **pcanywhere**.

To turn off pcAnywhere enter **pcanywhere -c**.

d1stat command

The **d1stat** command is used from a LAC bash shell to determine the current status of each application.

Example: estonia-avaya1>d1stat

```
NT                11/11   UP
NTras             2/2     UP
NTweb             1/1     UP
pcAnywhere        0/1     DOWN
NTconsole         2/2     UP
NTplatform        6/6     UP
CoResServ         5/5     UP
DEFINITY          51/51   UP
SNMP              3/3     UP
CornerStone       4/4     UP
AUDIX             15/33   PARTIALLY UP
AUDIXNet          0/5     DOWN
MISC              24/0    UP
estonia-avaya1>
```

net user commands

The net user commands manipulate NT level logins on the DEFINITY ONE system and can be used to add new logins, change passwords on existing logins, or simply to enable/disable existing NT accounts.

To add a new user, execute the following command from a bash shell:

net user username password

To change the password of an existing login, execute the following command from a bash shell:

net user username newpassword

To enable an existing login that is disabled, execute the following command from a bash shell:

net user username /active

Installation Connectivity Quick Reference

H

This appendix provides a tear-out quick reference sheet about connectivity, including physical connection, access, and login information.

Physical Connection	IP Address
Local Monitor/Mouse/Keyboard	**127.1**
PCMCIA Network Connection	**192.11.13.6**
RAS Modem (Dial-up)	**10.21.0.X** (**X** is Customer Dependent — Avaya Assigned
Customer's LAN	Customer Dependent (default login value of 192.11.13.9)

Once you are physically connected, there are several ways to access DEFINITY ONE, as shown in the next table.

Access Method	
Telnet	<**ip addr**> [**Start** > **Run...**]
DSA	**using appropriate ip-addrs**
Web Browser	**http://**<**ip-addr**>
pcAnywhere	**use appropriate ip-addrs**

The following table shows Avaya personnel login information.

Logins to enter system	Logins to enter DEFINITY	Logins to enter AUDIX
lucent1	**dinit**	**atsc**
lucent2	**dinads**	**acraft**
lucent3	**dcraft**	**acraft**

- Each row of logins has the same password. For example, the **lucent1**, **dinit**, and **atsc** logins all have the same password.
- The lucent logins are used for web browser and pcAnywhere access.
- All logins can be used for telnet access.
- The **d** and **a** logins (columns 2 and 3) are used for DSA access.

Glossary

A

AAR
See Automatic Alternate Routing (AAR).

AC
1. Alternating current.
2. See analog.

Access Security Gateway (ASG)
A feature built into the Lucent Access Control (LAC) module that authenticates and protects logins to the LAC.

administer
To access and change parameters associated with the services or features of a system.

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.

ARS
SeeAutomatic Route Selection (ARS).

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).

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).

Automatic Alternate Routing (AAR)
A feature that routes calls to other than the first-choice route when facilities are unavailable.

Automatic Route Selection (ARS)
A feature that allows the system to automatically choose the least-cost way to send a toll call.

B

Basic Rate Interface (BRI)
A standard ISDN frame format that specifies the protocol used between two or more communications systems. BRI runs at 192 Mbps and provides two 64-kbps B-channels (voice and data) and one 16-kbps D-channel (signaling). The D-channel connects, monitors, and disconnects all calls. It also can carry low-speed packet data at 9.6 kbps.

Bash (Bourne Again Shell)
Unix-like command line interpreter.

C

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.

call accounting system (CAS)
This software feature provides recording, costing, and reporting of call detail records. Recording includes the capability to set record discard criteria that allow the customer to specify the data recorded. Costing uses tariff databases and user-defined parameters. Reporting produces both periodic reports for individual users, organizations, accounts, user-defined criteria, and demand statistics.

Call Detail Recording (CDR)
Textual representation of call traffic.

carrier
An enclosed shelf containing vertical slots that hold circuit packs.

CAS
See call accounting system (CAS)

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.

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.

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.

compact modular cabinet (CMC)
The chassis and shelf hardware used to support the DEFINITY ONE hardware platform, derived from (actually the same as) the DEFINITY ProLogix cabinet.

D

digital
The representation of information by discrete steps. See also analog.

digital trunk
A circuit that carries digital voice and/or digital data in a telecommunications channel.

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.

F

FAC
Feature Access Code

FAS
Facility-associated signaling

G

GAS
See Global Administration Subsystem (GAS)

GEDI
Graphically Enhanced DEFINITY interface. It is an enhanced system access terminal (SAT) with a Windows look.

Global Administration Subsystem (GAS)
A module that provides command line access to certain administration and maintenance functions needed by services tools and provides administration support for parameters in the DEFINITY ONE system that are not otherwise provided by the DEFINITY ONE applications.

Global Alarm Module (GAM)
A Windows NT process that coordinates alarm reporting for the DEFINITY ONE platform. Its primary functions are to accept and forward alarms from the applications, generate alarms for Windows NT, and

manage the communication links to the Operations Support Systems (OSSs) via the Windows NT TAPI interface.

Global Sanity Keeper (GSK)
A module that ensures that all authorized Avaya applications are executing on a DEFINITY ONE server. It contains two major components, a watchdog process and a license server.

Glue Application/Module
A DEFINITY ONE application whose purpose is to integrate functionality for most or all other DEFINITY ONE applications. Examples include Watchdog, Lucent Access Control (LAC), Global Alarm Module (GAM), Global Administration Subsystem (GAS), and Backup/Restore.

Graphical User Interface (GUI)
The use of pictures rather than just words to represent the input and output of a program. A program with a GUI runs under some windowing system (for example, X Window System, Microsoft Windows, Acorn RISC OS, and NEXTSTEP). The program displays certain icons, buttons, dialog boxes etc., in its windows on the screen and the user controls it mainly by moving a pointer on the screen (typically controlled by a mouse) and selecting certain objects by pressing buttons on the mouse while the pointer is pointing at them.

I

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) andIntegrated 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 alsoIntegrated Services Digital Network (ISDN) andIntegrated Services Digital Network Basic Rate Interface (ISDN-BRI).

INTUITY AUDIX
The INTUITY AUDIX application resides on DEFINITY ONE with the Cornerstone platform to provide subscriber messaging capabilities, including call answering and voice mailbox services.

INTUITY Message Manager
A Windows-based software product that allows INTUITY AUDIX users to receive, store, and send their voice/fax messages from a PC. The software also enables users to create and send multimedia messages that include voice, fax, text, and file attachment components.

ISDN
See Integrated Services Digital Network (ISDN).

L

LAC
See Lucent Access Control (LAC)

LED
See light-emitting diode (LED).

License Server
A component of the Global Sanity Keeper (GSK) that looks for a special encrypted control file whose contents indicate which serial number of the TN795 Processor card is permitted to execute on and which application are allowed to run. If the file is not present, no licenses are granted. If the file is present, the license information is read from the file.

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.

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.

Lucent Access Control (LAC)
A module that governs maintenance access to the Avaya application software.

M

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.

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.

MAPD
Multiapplication platform for DEFINITY.

memory
A device into which information can be copied and held, and from which information can later be obtained.

minor alarm
An indication of a failure that could affect customer service. Minor alarms are automatically displayed on LEDs on the attendant console and maintenance or alarming circuit pack, sent to the alarm log, and reported to a remote maintenance facility, if applicable.

modem
A device that converts digital data signals to analog signals for transmission over telephone circuits. The analog signals are converted back to the original digital data signals by another modem at the other end of the circuit. (MOdulator-DEModulator)

multileg cable, also called an octopus cable or a splitter cable
Processor interface cable.

N

NFAS
See Nonfacility-associated signaling (NFAS).

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.

NT Operating System
The Windows 32-bit operating system engineered by Microsoft. NT Servers provided centralized security, fault tolerance and additional connectivity while managing NT Workstations over a network.

O

Oryx API (OAPI)
Terminates the Oryx calls from the DEFINITY application and converts them to Windows NT primitives. Provides information through optical calls (for example, time of day and RYON board serial number) and supports the DEFINITY SAT interface.

OSS
Operations Support System.

OSSI
Operational Support System Interface.

P

PCMCIA
Personal Computer Memory Card International Association.

port
A data- or voice-transmission access point on a device that is used for communicating with other devices.

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).

port-network connectivity
The interconnection of port networks (PNs), regardless of whether the configuration uses direct or switched connectivity.

Primary Rate Interface (PRI)
A standard 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.

processor interface cable
Octopus cable, splitter cable, or multileg cable. See Chapter 1.

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.

R

remote maintenance board (RMB)
A board provided in adjunct processors that intelligently monitors the system hardware for health status. These include environmental conditions, PC heartbeat, and sanity checks. The RMB functionality also allows modem access to the TN parent board.

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.

S

Sanity Keeper
See Global Sanity Keeper (GSK).

single-carrier cabinet
A combined cabinet and carrier unit that contains one carrier. See also multileg cable, also called an octopus cable or a splitter cable.

Station Message Detail Recording (SMDR)
This software feature transmits detailed information on all incoming and outgoing calls on specified trunk groups through an switch processing element (SPE) port to an external output device, that logs the data. SMDR is one facet of the more general Call Detail Recording (CDR) feature.

switch
Any kind of telephone switching system. See also communications system.

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.

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.

T

TCP/IP
Transmission Control Protocol/Internet Protocol

U

Update

A modification to a release of software, such as applying patches to a DEFINITY ONE Release 9 system.

Upgrade

Replacement of an existing system software release with a later release, such as upgrading from DEFINITY ONE Release 2.0 to Release 9.

V

Virtual Fabric Manager (VFM)

A module that allows the use of DEFINITY ECS code in a hardware environment that differs from the one for which it was designed. One side of the VFM talks to DEFINITY ECS in protocols it understands and changes these into methods and messages to perform needed operations in the DEFINITY ONE environment.

W

Watchdog

A component of the Global Sanity Keeper (GSK) that is responsible for starting up the DEFINITY ONE application software, including the downloading of the MPC860 application firmware. Watchdog is the first DEFINITY ONE process to run.

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