DigitalNetworks

Installation and User's Guide for the DECserver ConX^4 and ConX^{4P}

Part Number: IG-DSC04-00

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This document describes how to install and troubleshoot the DECserver ConX^4 and DECserver ConX^{4P} products.

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NOTICES

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

CE Notice — Class A Computing Device:

Warning!
This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Achtung!
Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

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Cet appareil est un appareil de Classe A. Dans un environnement résidentiel cet appareil peut provoquer des brouillages radioélectriques. Dans ce cas, il peut être demandé à l'utilisateur de prendre les mesures appropriées.

Preface

Chapter 1 Overview

Chapter 2 Installation

Chapter 3 Troubleshooting

Chapter 4 Specifications

Preface

Overview

This manual describes the procedures used to install and troubleshoot the DECserver ConX^4 product family.

Purpose of This Guide

This guide describes how to install the DECserver ConX^4 hardware. It also provides problem-solving information and product specifications. Read through this guide completely to understand the features and capabilities.

Intended Audience

This guide is intended for the hardware installer. The installer is responsible for ensuring that the hardware is installed and tested.

Structure of This Guide

Chapter/ Appendix	Title	Description
Preface	Preface	Describes the use and audience for this document.
Chapter 1	Overview	Provides an overview of the DECserver ConX^4 features.
Chapter 2	Installation	Describes selected methods of installing the DECserver ConX^4 product family.
Chapter 3	Troubleshooting	Describes troubleshooting techniques.
Appendix A	Specifications	Lists DECserver ConX^4 specifications.

For software installation information, refer to the DECserver Network Access Software Installation documentation.

Related Documentation

All related documents to help the user to install a DECserver ConX^4 may be found on the Web and can be located at **http://www.digitalnetworks.net/**.

Conventions

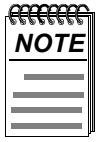
This document uses the following conventions.

Convention	Description
Bold Type	Indicates user input.

Convention	Description
Ctrl /X	Hold down the Control key and simultaneously press the key specified by X. The DECserver displays this key combination as ^X.
UPPERCASE	Uppercase letters in command lines indicate keywords that must be entered. You can enter keywords in either upper-case or lowercase. You can abbreviate command keywords to the smallest number of characters that distinguish the key-word to the DECserver.

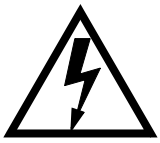
The following are used to call attention to important information throughout this document.

NOTE:



Calls the reader's attention to any item of information that may be of special importance.

WARNING:



Warns against an action that could result in the presence of an electrical hazard.

CAUTION:

Contains information essential to avoid damage to the equipment.

Support Services

To locate product-specific information, information about our other products, or product warranty information, refer to our website:

http://www.digitalnetworks.net/

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Others	+1-603-216-6000

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Chapter 1

Overview

Introduction

This chapter provides an overview of the DECserver ConX^4 product family.

DECserver solutions make it possible to remotely manage your serial-only devices over a network. Serial devices such as: modems, bar code readers, scanners, cash registers, laboratory instruments, numerically controlled factory equipment, and virtually any RS232, RS422 and RS423 based devices are supported by the DECserver ConX^4 family.

In This Chapter

Information is presented in this chapter as follows:

Package Contents

DECserver ConX^4, check the contents of the box to be sure you received the following components. There are three ConX^4 product variants:

ConX^4 (DSC04-A*) DECserver ConX^4 with AC Power

- DECserver ConX^4 serial device server
- AC Power adapter
- Country-specific power cable
- Product CD-ROM
- Console cable
- DB9 null-modem adapter

ConX^{4P} (DSC04-B*) DECserver ConX^{4P} with Power-over-Ethernet

- DECserver ConX^4 serial device server
- Power-over-Ethernet injector, with power adapter
- Country-specific power cable
- Product CD-ROM

- Console cable
- DB9 null-modem adapter

ConX^{4P} (DSC04-P*) DECserver ConX^{4P} with Power-Over-Ethernet

- DECserver ConX^{4P} serial device server
- Power-over-Ethernet injector, with power adapter
- AC Power Adapter
- Country-specific power cable
- Product CD-ROM
- Console cable
- DB9 null-modem adapter

Note: The asterisk indicates the following country variants:

A=US/Canada/Japan; D=Denmark; E=United Kingdon; I=Italyl j=India; K=Switcherland; T=Israel; X=Central Europe; Z=Australia

The DECserver ConX^4 is a serial device server designed to operate in multi-vendor environments.

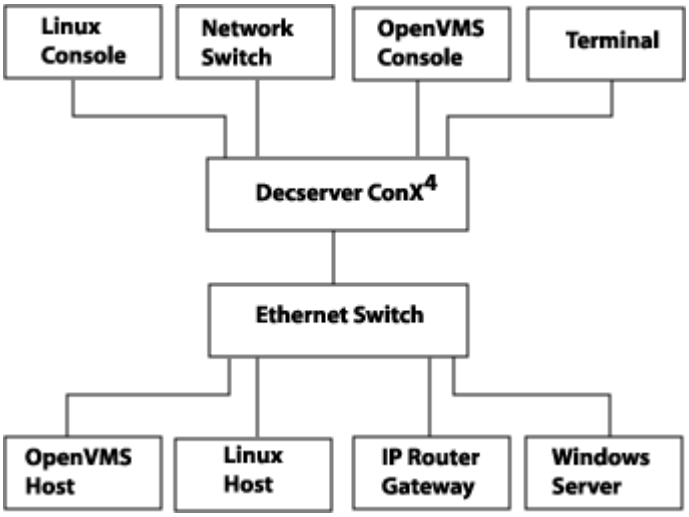
Figure 1–1 shows a ConX^4 configuration in a data center Ethernet LAN.

Description

The DECserver ConX^4 is a full function console and serial device server designed to operate in multi-vendor environments.

Figure 1-1 show a typical DECserver ConX^4 configuration in a Ethernet LAN.

Figure 1-1: DECserver ConX^4 ConnectionFeatures



Features

The DECserver ConX^4 supports the following standard features and protocols.

- Network enable any RS232/RS422/RS423 serial device for remote access and control
- Auto-detected 10/100Mbps Ethernet full-duplex and half-duplex communications supported
- 8 sessions per port
- Upgradeable on-board firmware.
- Tabletop, wall-mount or rack rail mount configiration options
- CTS/RTS or XON/XOFF flow control
- Manageable using Access Server Manager on Windows and Windows NT systems
- Manageable through remote console facility on OpenVMS, ULTRIX, or UNIX systems
- Kerberos-based user authentication support
- Command line recall and editing
- 3270 Terminal Emulator (TN3270) support
- Domain Name System (DNS) support
- Port characteristics
    - — RJ45
    - — Individual port status LEDs
    - — DTR/DSR and RTS/CTS control signaling

Protocols

- Bootstrap Protocol (BOOTP/TFTP)
- Compressed Serial Line Internet Protocol (CSLIP)
- LAT Protocol
- Maintenance Operation Protocol (MOP)
- Point-to-Point Protocol (PPP)
- Serial Line Internet Protocol (SLIP)
- Simple Network Management Protocol (SNMP)
- Telnet
- Terminal Device/Session Management Protocol (TD/SMP)
- Trivial File Transfer Protocol (TFTP)
- Directed Trivial File Transfer Protocol (DTFTP)
- Line Printer Daemon (LPD)

Hardware

Figure 1–2 calls out the DECserver ConX^4 controls, indicators, and connectors. Table 1–1 provides a description of these features.

Figure 1-2: DECserver ConX^4 Hardware

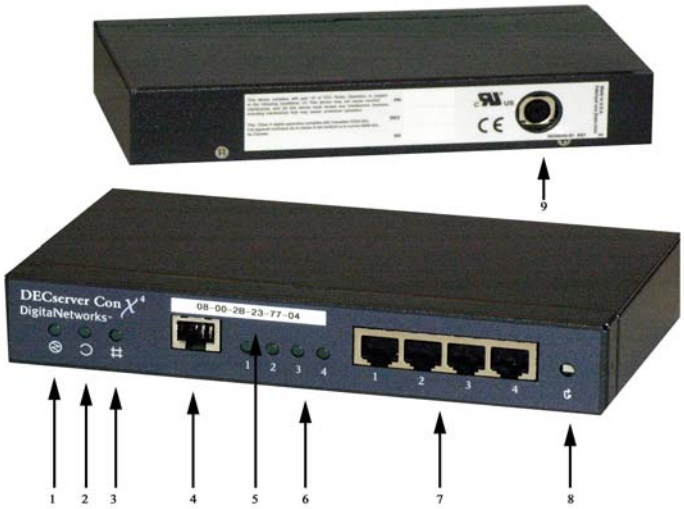


Table 1-1: Controls, Indicators, and Connectors

	Item	Description
1	Power Indicator	Turns on when power is supplied to the DECserver ConX^4 through a power adapter or through Power-over-Ethernet (PoE).
2	System OK Indicator	Turns on when the DECserver ConX^4 successfully completes the ROM-based self-tests.
3	Network OK Indicator	Turns on when you connect the DECserver ConX^4 to a properly terminated network. Blinks while the ConX^4 loads or dumps software.
4	10/100 Connector	Connects the DECserver ConX^4 to the network.
5	Ethernet MAC Address	The MAC address of the DECserver ConX^4.
6	Port Activity Indicators	Consists of four LEDs, each corresponding to a device port on the DECserver ConX^4. Each port activity LED turns on when the associated port is in use. These LEDs blink when port activity is detected and continue blinking until port data transfer stops. The LEDs are also used to indicate status during the power-on selftest.
7	Port Connectors (RJ45)	Connects the peripheral devices to the DECserver ConX^4.
8	Reset Switch	Resets the DECserver ConX^4 to the factory-default characteristics.
9	Power Connector	Connects the power source to the standalone DECserver ConX^4.

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Chapter 2

Installation

Overview

Introduction

This chapter describes how to install the DECserver ConX^4 as a standalone device (on a tabletop or mounted to a wall).

In This Chapter

Installing the DECserver ConX^4 Hardware

The following sections describe how to install the DECserver ConX^4 hardware.

Powering the DECserver ConX^4 Hardware

The DECserver ConX^4 can be powered by standard AC power or 802.3af Power-Over Ethernet, or by using both, which provides a source of backup power when outages occur.

Standard AC Power

If you purchased the DSC04-A*, the product packaging contains the following power components: [1] AC Power Adapter and [1] Country-specific power cord. See chapter 1, Package Contents. Refer to Figure 2-1.

Figure 2-1: Figure 2-1 shows how to connect the AC power adapter.

802.3af Power-over-Ethernet, PoE

The AC Adapter is not required to apply power to the DECserver ConX^{4P} when choosing the DSC04-B* PoE option. Power is applied through a CAT-5 cable. The DECserver ConX^{4P} is a 'Powered Device' (PD). The CAT-5 cable must be connected between the DECserver ConX^{4P} LAN port and PSE 'Power Sourcing Equipment', such as an 802.3af compliant Ethernet switch, or an 802.3af compliant power injector. The DSC04-B* ships with an 802.3af power injector.

Backup Power, Standard AC and 802.3af Power-over-Ethernet

If you purchased the DSC04-P*, the product packaging contains the following:[1] AC Power Adapter, [1] Power-over-Ethernet injector and [1] country-specific power cord.

By connecting the AC power adapter between the ConX^{4P} and a standard AC power outlet, and by connecting the power injector between the ConX^{4P} LAN port via Cat-5 cable and to a UPS (uniterruptible power supply), this option provides a source of backup power when outages occur. The AC adapter and the PoE injector ship with the DSC04-P*.

Figure 2-2: Figure 2-2 show how to assemble the PoE components.

Contact your Digital Networks sales representative for information on approved PSE devices.

Configuration Installation

Depending on your configuration, you can install the DECserver ConX^4 as a tabletop device, on a wall, or it can be mounted in a standard 19-inch rack (see note at the bottom of this page).

Tabletop Installation

- Attach the included rubber feet to the bottom of the unit.
- Connect the 10/100Base-T connector to a properly configured 10/100BASE-T network as shown in Figure 2–2.
- Chose your power option: Standard AC or PoE. Figure 2-2 shows Standard AC configuration.
- Verify that the power LED is on and that the DECserver ConX^4 is running the self-tests.
- Verify that the DECserver ConX^4 successfully ran all of the self-tests.

Wallmount Installation

- The wall mounting cover plate (refer to Figure 2–4) is available as an option.
- Use the mounting plate as a template and position each of the #8 1-inch mounting screws (not supplied).
- Secure the mounting screws.
- Replace the mounting cover plate on the unit.
- Connect the 10/100Base-T connector to a properly configured 10/100BASE-T network as shown in Figure 2–2.
- Chose your power option: Standard AC or PoE. Figure 2-3 shows Standard AC configuration.
- Verify that the power LED is on and that the DECserver ConX^4 is running the self-tests.
- Verify that the DECserver ConX^4 successfully ran all of the self-tests.

Figure 2-3 shows the standalone configuration of the 10/100BASE-T connection as described in Table 2-1.

To facilitate mounting the DECserver ConX^4 on a standard 19-inch cabinet, the spacing of the screw holes on the Wallmount bracket are identical the spacing on the cabinet rails.

Figure 2-3: Standalone Configuration – 10/100BASE-T Connection

Table 2-1: Description of Standalone Configuration (10/100BASE-T)

Callout Number	Description
1	RJ45 Cable to Ethernet
2	Serial Port Cable
3	Power Cable and International Power Supply

Running the DECserver ConX^4 Self-Tests

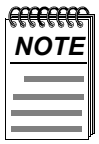
The DECserver ConX^4 runs a series of self-tests when you turn on the power. It reports test status through the DECserver ConX^4 Port Activity LEDs (refer to Figure 1–2).

If the DECserver ConX^4 is not properly connected to an Ethernet LAN (refer to the section, Installing the DECserver ConX^4 Hardware, in this chapter), the network loopback self-tests fail.

The following list describes the status of the LEDs during self-test.

- Initially, all LEDs go on briefly, then go off, leaving only the power LED on.
- The Port Activity LEDs go on one-by-one and remain on, as the DECserver ConX^4 completes each segment of self-test. All four LEDs are on once the tests have run successfully.
- After successful completion of the self-tests, the System OK LED is on and the four port LEDs go off.

Refer to the section "On-Board Flash Memory", for the procedure to reset your module to factory default settings.



If a self-test pattern halts, an error condition has been detected (refer to Chapter 3).

Loading the DECserver Network Access Software

Before you load the software, optionally attach a terminal to the console port. The DECserver displays status messages on the console terminal while the boot sequence is running. Status messages indicate the Ethernet address of the DECserver, the name of the load image it is looking for, and the current stage of the boot process.

Booting From Flash RAM

Once the self-tests are complete, the DECserver begins the boot sequence to load the software from Flash RAM. Port Activity LED 4 goes on to indicate a Flash RAM boot sequence is in progress. A typical Flash RAM load takes about 10 seconds.

If you want to abort a boot from Flash RAM, it is only during these 10 seconds when the software is loading that you can abort the Flash RAM load by pressing the Reset-to-Factory button until Port Activity LED 4 blinks.

Booting From the Network

If the correct image is not found in Flash RAM, the DECserver proceeds to perform a network load. When you start the boot process, the Network OK LED blinks continuously and the system OK LED remains on indicating that the DECserver is attempting to load the software from the network.

During the network boot sequence, the DECserver searches for a load host. The DECserver tries both MOP and BOOTP/TFTP protocols in a factory-defined order. The boot sequence includes a wait period after passing through all the boot protocols. Once the DECserver finds a load host, it records the protocol and load host in its permanent database. The software is then downline loaded from the load host.

Port Activity LEDs 6, 7, or 8 go on to indicate which protocol the DECserver is using to downline load the software. Port Activity LED 5 goes on to indicate that all attempts to find a load host have failed and that the DECserver will remain in a wait state for a designated period of time before trying again. Port Activity LED 4 goes on to indicate the software is being booted from Flash RAM (refer to Table 2–3).

Table 2-2: LOAD and DUMP Protocols

Port LED	Meaning
4	Booting from Flash RAM
1	Waiting to retry
2	Ethernet BOOTP/TFTP or dump
3	ISO 8802 MOP load or dump
4	MOP load or dump

For more information about installing the software, refer to the appropriate DECserver Network Access Software Installation documentation.

Using Console Commands to Boot

If you program Flash RAM with a nonstandard boot image name and a load host is not available, pressing the reset-to-factory button may leave the DECserver unbootable. A nonstandard boot image name is any name other than MNENG4.

To allow booting of a nonstandard boot image name, perform the following steps:

1) 1. During the boot sequence of the DECserver initialization process, press Ctrl/B two times consecutively.

The boot process stops and the DECserver returns the following console prompt:

>>>

2) At the >>> prompt, you can enter H to invoke help.

Entering H provides minimal help text to describe the interactive boot mode commands available. Table 2–4 lists the boot mode commands and summarizes the help text that displays when you invoke H.

Table 2-3: Interactive Boot Mode Commands

This command...	Means...
B	Boot the DECserver software.
B *name*	Boot the DECserver software name.
B *media:name* .	The DECserver looks for the software name from the media (Flash RAM or the network)
B/M	Boot the maintenance software for the DECserver.
B/S	Boot the standard software for the DECserver.
B/U	Boot specified software and update flash with the new image.
H	Provide help.
I	Initialize the DECserver.
R	Reset to the factory settings and initialize the DECserver.

You have several options when you use the B command.

- B — This command, without an argument, starts a new boot sequence to load the DECserver with an executable image using the default boot parameters.
- B *name* — This command and the argument *name* specifies a nonstandard boot image. The DECserver looks for the software *name*; first from Flash RAM, then from the network.

— B MNENG4 — This command instructs the DECserver to look for the MNENG4 software image first in Flash RAM, then from the network.

— b /tftp/serversw — This command instructs the DECserver to look for image / TFTP/SERVERSW; first in Flash RAM, then from the network. If you want lowercase letters, you have to use quotation marks. For example:

b “/tftp/serversw”

— B “” — This command and the quotation marks (explicit null name) instruct the DECserver to search for any image in Flash RAM. If the DECserver is unable to find an image in Flash RAM, then it loads from the network. The network load host defines this software and is typically based on the Ethernet MAC address of the DECserver.

- B *media:name* — The media name specifies which boot media to use.
  - — FLA: — Use Flash RAM. For example:

    Use this command to load image MNENG4

    B FLA:MNENG4

    Use this command to reload the same image already in flash.

    B FLA:
  - — ETH: — Use the network to find a load host. For example:

    B ETH:MNENG4
  - — FLA:ETH: — Use Flash RAM first, and if that does not work, then use the network to find a load host. For example:

    B FLA:ETH:MNENG4
- B/M — This command boots the maintenance mode software for the DECserver. The network load host defines this software and is typically based on the Ethernet MAC address of the DECserver.
- B/S — This command boots the standard system software for the DECserver. The network load host defines this software and is typically based on the Ethernet MAC address of the DECserver.
- B/U — This command boots the specified update image and initiates a flash rom update. This command may be used to update either firmware or software that resides in the onboard flash. When using the B/U command the image name must be specified. You can boot update images from the network using either MOP or TFTP.
- H — This command displays the help text that describes the interactive boot mode commands.
- I— This command initializes the DECserver using the default boot parameters. All normal self-tests are performed.
- R — This command resets the factory-settings and initializes the DECserver. This command requires verification. Enter YES if you want to reset the DECserver to factory settings.

The S command is available if you desire to direct a load from a specific TFTP load host. Use this command to set up the desired characteristics before initiating and boot command.

S address Set various IP addresses for directed TFTP image loading-- the address specification is of the form aa=nnn.nnn.nnn.nnn where "aa=" is one of:

IP= the IP address of the DECserver,

GW= the IP address of the default gateway,

TFTP= the IP address of the TFTP load server.

example

>>> S IP = address

Verifying the Operation of the DECserver Ports

To verify the operation of each port, perform the following steps:

1) Connect a terminal to the port you want to test.

2) Press the Return key two or three times to set the operating speed (autobaud) of the port.

3) Type a character on the terminal and observe each Port Activity LED for a reaction. The Port Activity LED should turn on, indicating that the corresponding port is in use. Additional characters should then cause the LED to blink.

On-Board Flash Memory

The DECserver uses non-volatile flash memory to store the following:

- Configuration data

Non-volatile configuration settings for DECserver hardware and software.

- Firmware (bootrom)

The firmware abstracts the hardware from the software layer and provides boot capability as well as many other low-level functions

- Software (Flash bootable copy)

The DECserver Network Access Software stored in flash to enable local booting. This is the operational sofware running in the DECserver once it has completed booting.

Reset to Factory Defaults

To reset the DECserver to its factory-default settings, press the Reset switch and cycle the power. Keeping the Reset switch depressed until the Network OK and System OK LEDs flash rapidly. This indicates that the DECserver has been reset to the factory settings

Factory settings may also be achieved using the Interactive Boot Mode "R" command. See section, "Using Console Commands to Boot", for more information.

Upgrading Firmware

The firmware in the DECserver is upgradeable and from time to time Digital Networks may make new versions available. Check the Digital Networks website and your DECserver Network Access Software release notes to determine if you need an update.

Procedures for determining your current DECserver firmware version and upgrading to new firmware are outlined in the following tables.

Procedure to determine the DECserver Firmware Version:

Step	Action
1	Attach a terminal to the console port. (Factory Defaults: Port 1, Baud=9600, Parity=None, Databits=8, and StopBits=1) If your configuration settings have changed you console settings may be different.

Step	Action

2	If your DECserver is already booted and running DECserver Network Access Software skip to section B:
	A) Apply power. When self-test completes the following will be displayed on the console:
	`Local>`
	`Local -901- Initializing DECserver ConX4  00-10-64-8E-A2-3B FW V2.6 HW 1.0`
	`. . .`
	Proceed to Step 3.
	B.) From the DECserver Network Access Server "Local>" prompt type the following:
	`Local> show server`
	`Network Access SW V3.1 BL01 for ConX4 ROM 2.6 Uptime: 0 00:02:42`
	`...`

3	In both of the previous examples the firmware version was shown to be V2.6.

Procedure for Upgrading your DECserver ConX^4 Firmware:

Step	Action
1	Make a Bootp/TFTP, TFTP, or MOP load host available on the same LAN segment as the DECserver.
2	Obtain firmware update image and place in the load area. Make sure to use the appropriate filename (ie MNBOOT.SYS for MOP Server or MNBOOT for TFTP). If you are using a BOOTP/TFTP server, such as Access Server Loader, be sure to configure it properly with the DECServer MAC address, IP-Address, IP-Mask, Device Name and the firmware update file name.

Step	Action
3	Connect to console terminal of DECserver. (Factory Default: Port 1, Baud=9600, Parity=None, Databits=8, and StopBits=1) If your configuration settings have changed you console settings may be different.)
4	Apply power to the DECserver.
5	During the boot sequence of the DECserver initialization process, press Ctrl/B two times consecutively.

6	If you are using a BOOTP/TFTP or MOP to load your file at the ">>>" prompt type:
	>>> **b/u filename**
	
	If you are using a TFTP server as your load host, you must provide TFTP load information using the S command. This procedure is outlined below:
	
	Specify the IP address for the DECserver to use:
	>>> **s ip=###.###.###.###**
	Specify the IP address of the TFTP Server:
	>>> **s tftp=###.###.###.###**
	Specify your IP Gateway:
	>>> **s gw=###.###.###.###**
	Now boot the firmware update image:
	>>> **b/u filename**

7	Wait for the module to reset or reset manually after bootrom update success message is displayed.

Upgrading Software

For information on upgrading your DECserver Network Access software please refer to Network Access Server Install Guide.

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Chapter 3

Troubleshooting

Overview

Introduction

This chapter provides troubleshooting information for the DECserver. This chapter also provides problem and solution information tables to help you isolate hardware, software, or network problems.

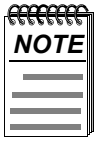
Before servicing the DECserver, you should:

1. Verify that you have properly installed the DECserver.
2. Note the fault condition.
3. Isolate the problem.

In This Chapter

Operating Problems

When troubleshooting self-test or boot problems, connect a terminal to the console port on the DECserver to view error messages. Port 1 is the default console port.



For descriptions of error messages and tips on trouble-shooting DECserver problems, refer to the Network Access Server Problem Solving Guide.

Table 3–1 lists some possible hardware, software, or network problems and suggested solutions.

Table 3-1: DECserver Troubleshooting

Problems	Possible Causes	Action
The self-test fails, and the network LED does not go on.	The network LED port or 10/100BASE-T connector is not connected to a network.	Terminate the network correctly. Replace the DECserver.
	A fatal hardware error occurred	
The port activity LEDs do not respond when characters are typed on the console keyboard.	Interface cable may be disconnected or faulty	Secure or replace the cable.
The port does not respond to the console terminal.	The port may be faulty.	Refer to the *Network Access Server Problem Solving* Guide.
	Port and terminal parameters may be set incorrectly.	Refer to the *Network Access Server Problem Solving* Guide.
The DECserver power LED does not go on.	The power cord is disconnected from the outlet.	Connect the power cord.
	The DECserver is not receiving +3.3VDC.	Check power supply connection.
	Reseat the power supply, backplane installation only.	Replace the power supply.
	The LED is bad.	Replace the DECserver.
The network LED is not on.	The network is down.	Determine the network status.
	Check network connectivity.	Run MOP loopback or MOP console carrier session tests.
	The Ethernet connection may be disconnected	Reconnect the Ethernet cable.
	The communication port may not be terminated.	Terminate the T-connector on the communications port.
	Ethernet speed/duplex not detected	Force the port on the Ethernet switch to 10Mb/s half-duplex.
There is no response at the Local prompt.	Terminal connection to the console port may be broken.	Secure the console terminal cable to the console port.

Operating Problems

Problems	Possible Causes	Action
The DECserver cannot connect to a service on the LAT network.	The service is not available.	Refer to the *Network Access Server Problem Solving* Guide.
	LAT software is not installed on the host system.	Refer to the *Network Access Server Problem Solving* Guide.
	The host name is not in the local database.	Refer to the *Network Access Server Problem Solving* Guide.
	Group Codes are not enabled.	Refer to the *Network Access Server Problem Solving* Guide.
	The host is not on a local area network.	Refer to the *Network Access Server Problem Solving* Guide.
The DECserver cannot connect to a host on the network through Telnet.	Internet and Telnet parameters are not set or are set incorrectly.	Refer to the *Network Access Server Problem Solving* Guide.
Printer does not print or prints incorrectly.	Printer port and baud rate do not match.	Reset printer and port baud rates to match.
The printer port LED does not go on.	The printer is disconnected.	Connect the printer.
The printer is not acknowledged by the printer port.	The port may be set incorrectly.	Refer to the *Network Access Server Problem Solving* Guide.
	Check printer port access.	Refer to the *Network Access Server Problem Solving* Guide.
	Flow control is not set.	Refer to the *Network Access Server Problem Solving* Guide.
The power LED is on , the self-test OK LED is on, and the network LED is blinking.	The DECserver cannot find the load image.	Ensure LOADING is enabled on the host. Reinstall the software to replace the load image.
The port activity LED does not blink when port traffic is present.	Port characteristics may be set incorrectly.	Verify settings using the SHOW PORT *n* command.

Appendix A

Specifications

Overview

Introduction

This appendix lists the specifications for the DECserver ConX^4.

In This Chapter

Physical Specifications

Table A–1 lists the physical specifications for the DECserver ConX^4.

Table A-1: Physical Specifications

Dimension	Value
Height	3.18 cm (1.25 in)
Width	19.1 cm (7.5 in)
Depth	10.4 cm (4.1 in)
Weight	0.68 kg (1.5lb)

Environmental Specifications

The DECserver ConX^4 is designed to operate in an office environment or in equipment room environments, such as telephone closets or satellite equipment rooms. The operating and shipping environments are described in Tables A–2 and A–3.

Table A-2: Operating Environment

Dimension	Value
Temperature	5 C to 50 C (41 F to 122 F)
Maximum rate of change	20 C/hr (36 F/hr) change
Relative humidity	10 % to 95 % (noncondensing)
Wet-bulb temperature	32 C (90 F) maximum
Dew point	2 C (36 F) minimum
Altitude	Sea level to 2.4 km (8000 ft)
Air flow	Convectively cooled. A minimum of 10 cm (4 in) of space must be provided on both ends of the unit for adequate air flow.

Table A-3: Storage Environment

Item	Value
Temperature	–40 C to 85 C (–40 F to 185F)
Relative humidity	10 % to 95 % (noncondensing)
Altitude	Sea level to 4.9 km (16000 ft)

Power Specifications

Table A–4 lists the DECserver ConX^4 power supply specifications and Table A–5 lists the DECserver ConX^4 power specifications.

Table A-4: Power Supply

Item	Value
Input Voltage	90 - 264 Vac
Input current	0.4 amps
Inrush current at 115Vac	15 amps
Frequency	50 Hz to 60 Hz
Power consumption	3 W
Output voltage	3.3 Vdc
Output current	0 - 2.50 A

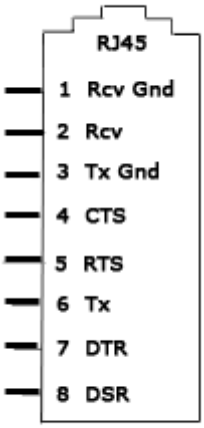
Table A-5: Decserver ConX^4 Power Specifications

Item	Value
Input voltage	3.3 Vdc
Input current	0.4 A

DECserver ConX^4 Connector Pin Out

Pin out for the DECserver ConX^4 was designed for compatibility with Open DECconnect. Figure A–1 shows the circuit connections for each port.

Figure A-1: Port Circuit



Cable Connector Pin Out

This section provides wiring diagrams for the serial communication cable connectors listed in Table A–6.

Table A-6: Cable Connectors

Item	Value
BN25G	MP8-to-MP8 (Modular Plug) equipment cable
BN24H	MP8-to-MMP6 (Modified Modular Plug) office cable

The BN25G is a twisted-pair (four twisted pairs) cable with standard 8-pin modular plugs. The cable is wired straight-through for all eight connectors. Figure A–2 shows the wiring configuration for the BN25G cable. This is the standard cable used to connect an asynchronous port on the DECserver ConX^4 to an Open DECconnect wall plate. The cable comes in different lengths and two versions: CAT5 and CAT5e.

Figure A-2: BN25G & BN25E Equipment Cabling Wiring Diagram

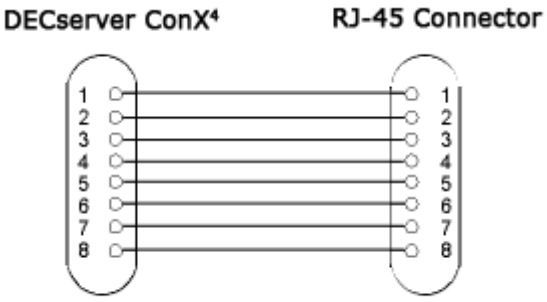


Table A-7 defines the wiring configuration for the BN25G cable.

Table A-7: BN25G Cable Wiring Configurations.

DECserver ConX^4 8-pin Modular Plug		RJ45 8-pin Modular Plug	
Pin	**Signal**	**Pin**	**Signal**
1	RXD GND	1	RXD GND
2	RXD	2	RXD
3	TXD GND	3	TXD GND
4	Not used	4	Not used
5	Not used	5	Not used
6	TXD	6	TXD
7	DTR	7	DTR
8	DSR	8	DSR

The BN24H is a twisted-pair (three twisted pairs) cable with a standard 8-pin RJ45 connector on one end and a 6-pin modified modular plug on the other end. Use this cable to connect the DECserver ConX^4 to an MMJ connector on an asynchronous device. You can also use the BN24H when connecting an asynchronous device to a DECconnect wall plate.

Use an H8584-AA adapter when connecting the DECserver ConX^4 to existing MMJ wiring. The adapter uses a standard 8-pin RJ45 connector on one side and a 6-pin modified plug on the other end.

Figure A-3 shows the wiring configuration for the BN24H cable and H8584-AA adapter.

Figure A-3: BN24H Office Cable Wiring Diagram

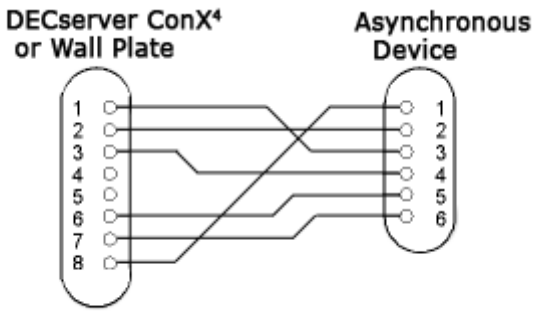


Table A-8 defines the wiring configuration for the BN24H cable.

Table A-8: Wiring Configuration for the BN24H cable

DECserver ConX^4 or Wall Plate 8-pin RJ45 Connector		Asynchronous Device 6-pin Modular Plug	
Pin	**Signal**	**Pin**	**Signal**
1	RXD GND	3	TXD GND
2	RXD	2	TXD
3	TXD GND	4	RXD GND
4	Not used		
5	Not used		
6	TXD	5	RXD
7	DTR	6	DSR
8	DSR	1	DTR

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