EtherWORKS ISA PnP 10

Installation and Configuration

Part Number: EK-DE305-IN. A01

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Digital Equipment Corporation
Maynard, Massachusetts

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FCC Class B Certification
FCC ID: HEDEN1660

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Any changes or modifications made to this equipment may void the user's authority to operate this equipment. 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. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from the one which the receiver is connected to
- Consult the dealer or an experienced radio/TV technician for help

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取扱説明書に従って正しい取り扱いをして下さい。

This product is compliant with the requirements of CISPR 22 Class B, and is eligible to bear the CE Mark label.

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Before You Start

Overview

This guide explains how to install and configure the EtherWORKS ISA PnP 10 adapter (also referred to as the DE305 or adapter). The adapter uses the 1Step Installation utility (also referred to as 1Step) for hardware configuration, software installation, and diagnostics.

Conventions

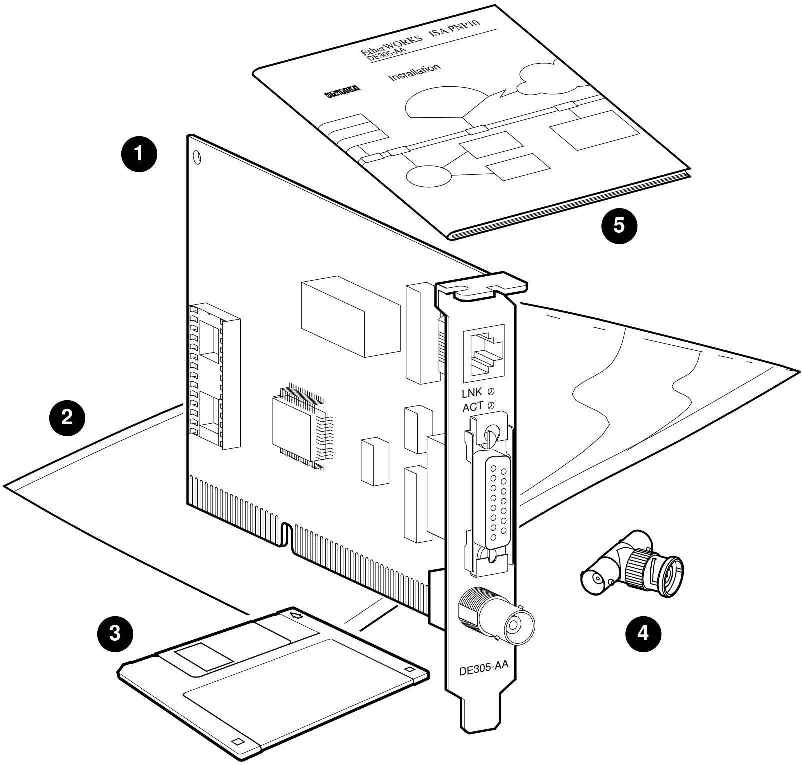
The following conventions are used in this guide:

Convention	Description
❶	A number in a black circle in text refers to the corresponding number in an accompanying illustration.
Italics	In examples, indicates a variable. In text, emphasizes a term or indicates a book title.
Note	Contains information of special importance.
Monospaced type	Indicates text that you enter or text that the system displays.

Package Contents

The EtherWORKS ISA PnP 10 package contains the items in the following list and shown in the following figure:

- The EtherWORKS ISA PnP 10 adapter ❶
- Antistatic packaging ❷
- A 3½-inch distribution diskette ❸
- A T-connector ❹
- This installation and configuration guide ❺



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Quick Installation

The DE305 distribution diskette contains the menu-driven 1Step Installation utility that provides quick adapter hardware configuration, software installation, and diagnostics for NetWare and non-NetWare operating systems. (See the Hardware Configuration section in Chapter 2 for more information.)

To install the DE305 adapter and the 1Step utility, use the following procedure:

1. Power down your PC, then install the DE305 into an empty 16-bit ISA slot.
2. Power up your system.
3. When the DOS prompt appears, insert the DE305 distribution diskette into drive A, then enter the following command:

   ```
   C:> A:\1STEP
   ```
4. Press Enter to display the 1Step main screen:
5. Select the Hardware Configuration option from the main screen. If you have multiple adapters installed, identify the one you wish to configure by selecting the corresponding MAC address from the LAN Adapter list.
6. Select the View Current Configuration option from the 1Step Main Menu to verify the hardware settings.
7. Select the Default Setup option if your computer supports Plug and Play.

   Select the Manual Setup option if your computer does not support Plug and Play or if you need to change the default settings.
8. Save the configuration selected in step 7.

   The 1Step utility will reboot your system if you select the Default Setup option or enable the boot ROM.
9. Run diagnostics on the adapter and EEPROM.
10. Run diagnostics on the network.
11. Select the Exit option to return to the 1Step main screen.
12. Select Exit to return to the DOS prompt.

MPX Link for Novell NetWare

As an alternative to the previous procedure, you can use the MPX Link option from the 1Step main screen to automatically log on to the Novell NetWare network using the adapter's current I/O base address and IRQ setting. The 1Step utility will copy the appropriate drivers onto your hard disk, create the necessary configuration files, initialize the network drivers, and log on to the nearest NetWare server.

To initiate the MPX Link function, use the following procedure:

1. Insert the DE305 distribution diskette into diskette drive A.
2. Enter the following command at the DOS prompt, then press Enter to display the 1Step main screen:

   ```
   C:> A:\1STEP
   ```

3. Select the MPX Link option.
4. Insert the NetWare Universal Client diskette into the diskette drive, then press OK.

   The 1Step utility copies the necessary NetWare drivers and configuration files into the NWCLIENT directory. It creates the startnet.bat and net.cfg files if you do not already have a valid configuration defined for these files. In addition, the utility loads the network drivers and attaches to the nearest server. (At this time, you will be prompted for your login name and password.)

1

Introduction

Overview

This chapter describes the EtherWORKS ISA PnP 10 adapter and lists the adapter's features.

EtherWORKS ISA PnP 10 Adapter

The DE305 adapter is a 16-bit network interface card (NIC) developed for ISA bus computers. The adapter provides twisted-pair, thickwire AUI, and ThinWire BNC connectors that support industry standard Plug and Play technology (see Appendix C for more information about Plug and Play).

The DE305 incorporates a single chip Ethernet controller (MPX) that combines both hardware and software fine tuning algorithms to accelerate the following tasks:

- Adapter installation and configuration
- Software installation and configuration
- Adapter and software conflict management and resource tuning
- Problem prevention, tracking, and troubleshooting
- Data transmission and reception

Features

The main features of the DE305 are as follows:

- Plug and Play technology
- 1Step utility program to configure and diagnose your network
- Supports full-duplex Ethernet operation to increase bandwidth to 20 Mb/s
- Conforms to IEEE 802.2, IEEE 802.3, 10 Mb/s, and ISO 8802.3 standards
- Supports optional remote boot ROM
- FCC Class B, CE, DOSPR-22 Class B, VDE/BZT Class B, VCCI Class 2, UL, and CSA compliance
- Full suite of drivers to support the following:
  - Novell NetWare versions 2.*x*, 3.*x*, 4.*x*
  - NetWare LAN WorkPlace TCP/IP
  - NetWare ODI server
  - NetWare ODI client (DOS and OS/2)
  - Novell LAN Analyzer for NetWare
  - Microsoft LAN Manager
  - Microsoft Windows for Workgroups
  - Microsoft Windows NT
  - Microsoft Windows and Windows 95
  - IBM LAN server
  - IBM TCP/IP for DOS and OS/2
  - Digital PATHWORKS
  - Packet driver
  - SCO OpenServer

2

Hardware Installation and Configuration

Overview

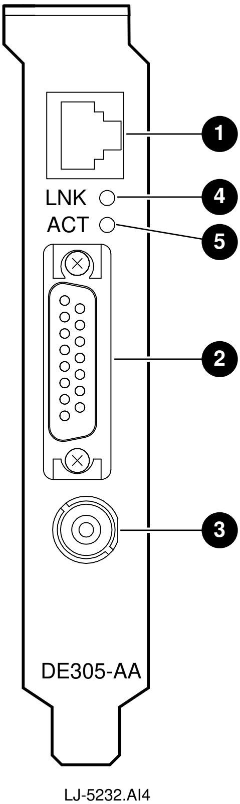
This chapter describes the hardware features of the EtherWORKS ISA PnP 10 adapter, how to install the adapter in your computer, how to connect the adapter to the network, and how to configure the adapter.

Hardware Features

The DE305 front panel (visible at the back of your system) contains two LEDs and three connectors (see the following figure). The adapter contains an optional remote boot ROM socket (see the figure in this chapter's Hardware Installation section).

Connectors

The DE305 contains a 10BaseT 8-pin MJ twisted-pair (TP) connector ❶, a 10Base5 AUI thickwire connector ❷, and a 10Base2 ThinWire BNC connector ❸.



LEDs

The link LED (LNK ❹) lights when a valid link pulse is established during normal operation. If no data or link pulses are detected, the LED does not light, indicating a failed status (refer to Appendix A for troubleshooting information).

Note

The link LED is insensitive to the status of AUI or BNC connections. Use the 1Step utility to check these connections. (See the Diagnostics section in Chapter 3 for more information.)

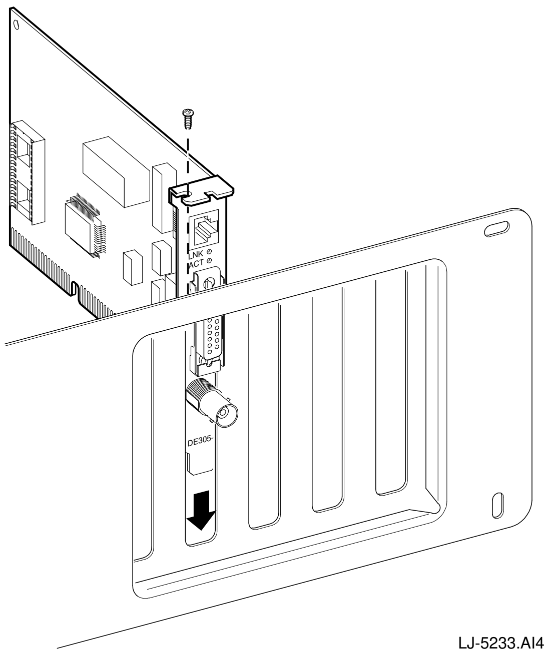
The activity LED (ACT ❺) lights when data is transmitted or received over the network.

Hardware Installation

To install the DE305 in your system, use the following procedure:

1. Unplug the computer.
2. Disconnect all cables that are connected to the main system unit.
3. Remove any diskettes from the diskette drive.
4. Remove the computer cover.
5. Unscrew and remove the option slot cover from the 16-bit ISA slot you plan to use.
6. Install an optional boot ROM on the adapter (see the Optional Remote Boot ROM section in this chapter).

7. Insert the adapter into the slot, then replace the screw to secure the adapter (see the following figure).



8. Replace the computer cover, then reconnect the cables.
9. Connect the adapter to the network (see the Connecting to the Ethernet Network section in this chapter).
10. Power up your system.
11. Configure the hardware using the 1Step utility (see the following section).

Hardware Configuration

After you have installed the adapter, use the following procedure to install the 1Step utility:

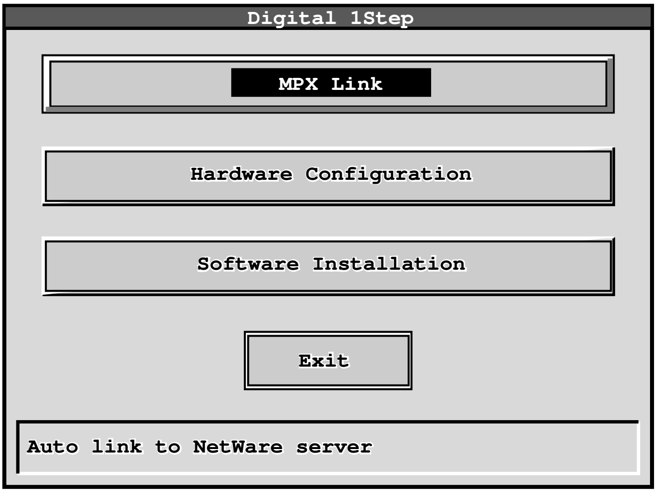
1. Insert the distribution diskette into the diskette drive on the host PC (for example, drive A), enter the following command, then press Enter:

   ```
   C:> A:
   ```

2. Enter the following command at the DOS prompt, then indicate the path or directory location where you wish to install 1Step:

   A:> INSTALL <*path*>

   When the installation process is complete, 1Step is automatically invoked and the main screen is displayed (see the following figure).



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3. Select the View Current Configuration option from the 1Step Main Menu.

```
Main Menu
View Current Configuration
Default Setup
Manual Setup
Diagnose The Adapter
Diagnose EEPROM
Run Diagnostics on NetWork
Exit SETUP
```

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4. Verify the hardware settings shown on the Current Configuration screen, then press Esc to return to the Main Menu.

5. Select the Default Setup option to automatically configure the adapter if your computer supports Plug and Play.

```
Default Setup Configuration
Operating Mode:---------Plug & Play
Medium Type:-----------Auto Detect
Full-duplex:-----------Disabled
I/O Base:-------------300 H
Interrupt:------------3
Boot ROM:-------------Disabled
This is the default configuration.
If you want this configuration to be the configuration
of your LAN Adapter press SPACE BAR, otherwise press ESC.
```

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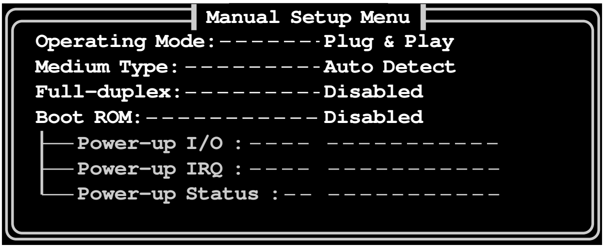
The Default Setup option automatically detects and corrects any parameter setting that is in conflict with other devices installed on the host PC. If your computer does not support Plug and Play or if you wish to specify your own settings (ensuring that they do not conflict with other devices), then go to the next step. Otherwise, go to step 8.

Select the Manual Setup option to configure the adapter with your own settings.



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To select a suitable configuration, specify the following:

- Medium Type (auto-detect 10BaseT, 10Base5, or 10Base2).
- Full-duplex (enabled or disabled). The default is disabled.
- I/O Base (200H to 3E0H). The default is 300H.
- Interrupt (2 to 15). The default is 3.
- Boot ROM (disabled or set at a 16 KB address). The default is disabled.

7. Save the selected configuration (by pressing the space bar).

   The 1Step utility will reboot your system if you have selected the Default Setup option or enabled the boot ROM.

8. Select the Diagnose the Adapter or Diagnose EEPROM option from the Main Menu to test the adapter components and installation, if necessary.
9. Select the Run Diagnostics on Network option to verify the adapter’s ability to communicate with another device on the network. (See the Network Diagnostics section in Chapter 3 for more information.)
10. Select the Exit Setup option to return to the 1Step main screen.
11. Click on Exit to return to the DOS prompt.

Optional Remote Boot ROM

The DE305 contains a socket for installing an optional 16 KB remote boot ROM. Installing a ROM allows the adapter to be used for diskless operation by permitting the host PC to load the operating system over the network.

To install the remote boot ROM, use the following procedure:

1. Plug the remote boot ROM into the socket on the adapter, making sure the notch on the ROM is aligned with the notch on the socket.
2. Enable the adapter's remote boot ROM function using 1Step by selecting the appropriate ROM address setting.

Connecting to an Ethernet Network

This section describes how to connect Ethernet cables to the DE305 connectors (see also the following figure).

Connecting to a Twisted-Pair Ethernet Network

To connect the DE305 to a twisted-pair network ❶:

1. Plug the twisted-pair cable connector into the 8-pin MJ connector on the adapter until it clicks and locks in place.
2. Refer to Appendix B for connector pin assignments.

Connecting to an Ethernet Network Using AUI

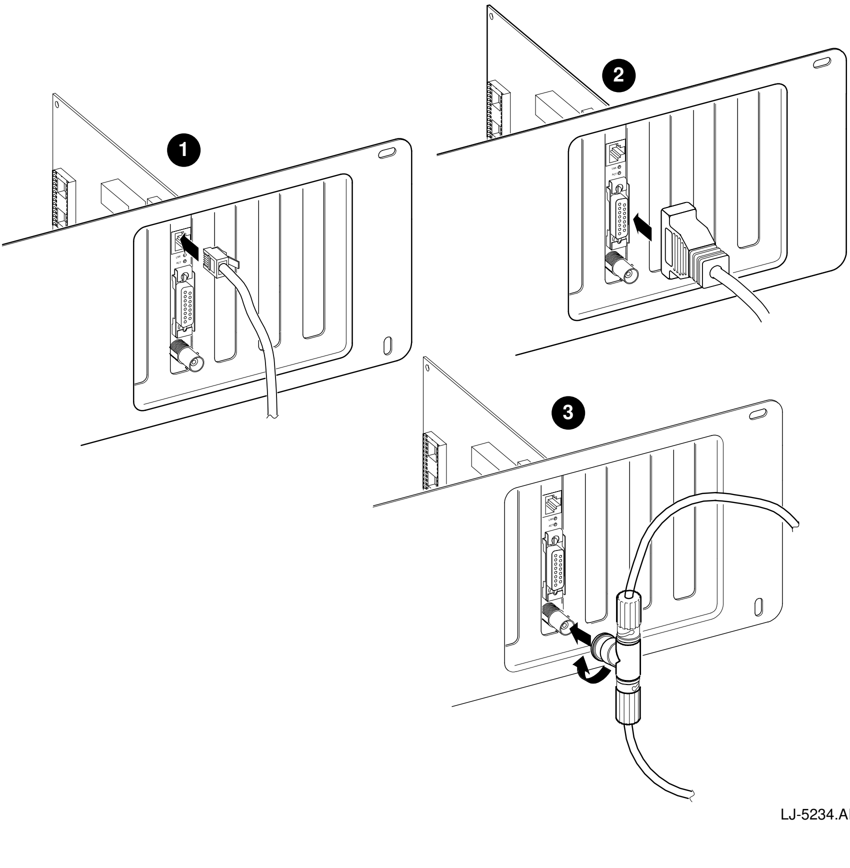
To connect the DE305 to the network using AUI ❷:

1. Slide the latch assembly upward on the adapter's AUI connector.
2. Plug the AUI cable connector into the 15-pin AUI connector.
3. Slide the latch assembly downward to lock the connector in place.

Connecting to a ThinWire Ethernet Network

To connect the DE305 to a ThinWire network ❸:

1. Attach the ThinWire cables to a T-connector.
2. If the system is at the end of an Ethernet segment, attach a terminator to the unused side of the T-connector. If the system is between consecutive networked systems, attach a ThinWire cable to each end of the T-connector. Termination is usually required at each end of a ThinWire cable segment.
3. Push the T-connector onto the BNC connector, then twist to lock it in place.



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3

Diagnostics and Software Installation

Overview

This chapter describes how to use the 1Step utility for diagnostics and software installation.

Diagnostics

When hardware installation is complete, run the 1Step diagnostics to test the DE305 components and installation.

Adapter Diagnostics

Select the Diagnose the Adapter option from the 1Step Main Menu to test the adapter and the corresponding cabling. These diagnostics do not test the network's condition.

When you run these diagnostics, the screen displays the Pass or Fail count for each test. If a test fails, press the space bar to display the reason for failure and possible solutions.

The following adapter diagnostics are run:

- Configuration Test to check the initial status of the adapter
- I/O Registers Test to check I/O accessibility
- Internal Loopback Test to check the adapter's controller
- External Loopback Test to check the network link
- RAM Test to check the condition of onboard RAM

Note

If any of the previous tests fail, reboot your system and run diagnostics again to see if the problem persists.

EEPROM Diagnostics

Select the Diagnose EEPROM option from the 1Step Main Menu to run read/write tests on each register in the EEPROM.

Network Diagnostics

Select the Run Diagnostics on the Network option from the 1Step Main Menu to verify the adapter's ability to communicate with another device on the network. Set up at least one computer as a Responder and one as an Initiator. The Responder displays the status of communications with each Initiator on the network; the Initiator displays the current Responder and the status of corresponding communications.

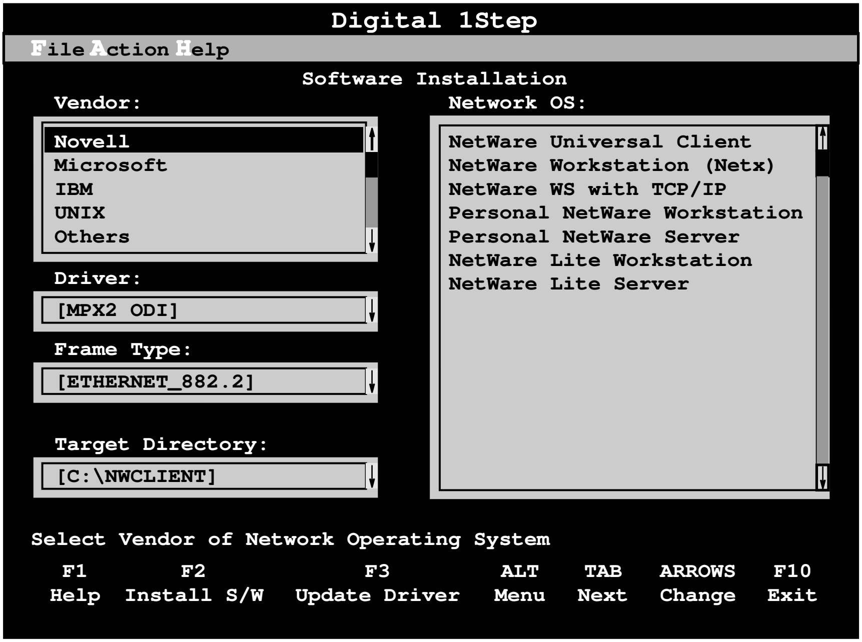
Software Information

The EtherWORKS ISA PnP 10 distribution diskette contains device driver software and installation information. If your network operating system runs under DOS, use 1Step to install the corresponding driver. The RELEASE.TXT file located in the diskette's root directory provides information about the diskette's contents. Enter the `DOS TYPE` command to check the contents of this file.

For other network operating systems, the utility provides instructions on how to install the required drivers by referring you to the appropriate subdirectories. Read the *.TXT files in each subdirectory for the latest changes and detailed driver installation instructions. Press the F1 key for online help when installing drivers for other network operating systems.

Software Installation

Select the Software Installation option from the 1Step main screen to display the Software Installation menu (shown in the following figure). This menu is used to select the appropriate software vendor, network operating system, driver, and frame type (for Novell software), and the directory in which the drivers are to be stored. For NetWare users, a batch file (startnet.bat) is created automatically during startup to load the NetWare driver from DOS. Execute this file to run the driver and load NetWare.



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Menu Bar Options

When you select the File, Action, and Help menu bar options, pull-down menus provide additional selections. Use the mouse or keyboard to make the desired selections, then follow the screen instructions.

Select the menu bar submenu items to perform the following functions:

- **File** — Open a DOS shell or exit to the 1Step main screen.
- **Action** — Install the selected software or update the specified drivers. These functions can be performed also by pressing the F2 and F3 keys respectively.
- **Help** — Provide online assistance for 1Step functions. The About submenu provides software version and copyright information.

Menu Selections

The Software Installation menu selections are described as follows:

- **Network OS —** Lists the supported network operating systems. The 1Step utility supports installation for various drivers, including NetWare, NDIS, and ODI. If your. Network operating system runs under DOS, use 1Step to install the corresponding driver. For other systems, refer to the appropriate 1Step subdirectories for installation instructions.
- **Vendo**r — Lists the supported software vendors.
- **Driver (Novell only)** — Used to install the drivers you need depending on your network operating system. The DE305 provides support for NetWare drivers.
- **Frame Type (Novell only) —** Used to select the frame type required for the DE305. The selections include Ethernet_802.3, Ethernet_II, Ethernet_802.2, and Ethernet_SNAP. The factory default frame type is Ethernet_802.3 for NetWare 3.*x* and Ethernet_802.2 for NetWare 4.0.
- **Target Directory —** Used to identify the driver directory location. When you select the Install Software item from the Action menu bar option, 1Step searches this path to find the necessary files.

A
Troubleshooting

Overview

The 1Step utility used by the EtherWORKS ISA PnP 10 adapter includes a diagnostics program for checking the adapter components and the network cabling. The adapter may fail some tests for reasons that may be easily remedied by the user. This appendix describes common problems you may encounter and possible solutions.

Clean Boot

Some installation problems are caused by incompatible device drivers and resource conflicts. The best way to troubleshoot your installation is to boot your computer without the AUTOEXEC.BAT and CONFIG.SYS files.

Reboot your computer using the BIOS option (by pressing the F5 key) to bypass all startup file. Otherwise, create a bootable system diskette or rename AUTOEXEC.BAT and CONFIG.SYS to other names, then reboot your computer.

Diagnostic Test Errors

The following table describes the common diagnostic errors and the recommended corrective actions:

Symptom	Possible Cause	Recommended Actions
The LNK LED does not light after making a TP connection.	Invalid TP link.	Check the 8-pin MJ connection for loose cabling. Check for incorrect pin assignments.
Running the Test Adapter routine results in External Loopback Test failure.		Reboot the system, then run the test again.
The ACT LED flashes on and off after making a coaxial cable connection resulting in adapter failure.	Faulty coaxial cable link.	Check the BNC connection for loose cabling. Verify that both ends of the network segment are properly terminated. Terminate the open end of the network segment with a 100-ohm terminator.
Adapter failure; unable to log in to the network.	Faulty cable connection. The host PC slot is defective. Adapter is not properly installed in the slot.	When making a TP connection, check for loose cabling or an incorrect pin assignment. Install the adapter in another PC. If the problem is eliminated, then the original PC slot is defective. Contact your reseller or Digital Service Representative for assistance Ensure that the adapter is properly seated in the slot.
Adapter fails after configuration.	Configuration conflict.	Check the I/O address and the IRQ for possible setting conflicts. If the I/O address range for your PC overlaps that used by the adapter, then reset the adapter's address to another setting using a 1Step command from the DOS prompt (for example, C:\> 1Step/1:280). Run Autoconfigure Adapter from 1Step to automatically set up the adapter configuration.
Frequent adapter failure.	Bus timing conflict for the channel ready (CHRDY) signal between the adapter and the host PC.	Run 1Step and set Bus Timing to Early. The incompatibility between the PC AT-bus and the adapter CHRDY signal often results in adapter failure when using the adapter in early PC versions..

Refer to the diagnostic section in Chapter 3 to verify that all other system components are functioning properly. If any component fails the diagnostic test, contact your Digital Services Representative.

Cabling

Verify the DE305 cabling as follows:

1. Check that you are using the correct cable type. Be sure that the cable connector is securely seated in the port. Use 100-ohm Category 3, 4, or 5 UTP cables for standard 10 Mb/s Ethernet connections.
2. Make sure the device is connected to the network. Equipment may have been unintentionally disconnected from the network.

B

General Information

Overview

This appendix provides the following general information for the EtherWORKS ISA PnP 10 adapter:

- Physical characteristics
- Regulatory standards compliance
- Operating environment and power requirements
- Connector pin assignments

Conformance

The DE305 conforms to the following IEEE standards and media-supported specifications:

- IEEE 802.3 10BaseT
- IEEE 802.3 10Base2
- IEEE 802.3 10Base5

System Configuration Specifications

The following table lists the system configuration specifications for the DE305:

Transmission technique	Baseband
Topology	Star/Bus
Access method	CSMA/CD
Transmission rate	10 Mb/s
End user devices supported	IBM PC-XT, AT, 286, 386, 486, Pentium, PS/2 Model 30, compatible ISA bus computers
I/O base address	0200H to 03E0H
Interrupt channel	2, 3, 4, 5, 10, 11, 12, 15
Boot ROM size	16 KB
Boot ROM address	8 choices: C0000H to DFFFFH on 16 KB boundaries
Dimensions	160 mm (6.39 inches) x 100 mm (4 inches)

Operating Environment Specifications

The following table lists the operating environment and power requirements for the DE305:

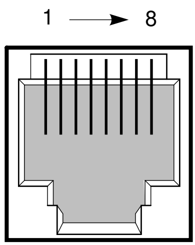
Specification	Rating
Operating temperature (sea level)	0°C to 55°C (32°F to 131°F) standard operating
Relative humidity	10% to 90% (noncondensing)
Radiated emissions	FCC Class B, CISPR 22 Class B VCCI Class 2 VDE Class B
Safety	UL, CSA, TUV/GS
	CE Mark
Environmental	IEC 801–2, 3, 4 IEC 801.6
Power requirements	+ 5.0 V.100 mA, standby 120 mA, transmit (UTP)
	+5.0 V/250 mA, standby 400 mA, transmit (BNC)
	+12.0 V/500 mA, max (AUI)

Connector Pin Assignments

This section describes the DE305 connector pin assignments.

8-Pin MJ Port

The DE305 twisted-pair network connector pin signals are shown in the following figure and explained in the following table:



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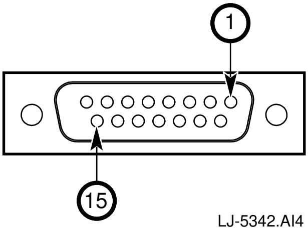
Pin	Assignment
1	Output Transmit Data+
2	Output Transmit Data–
3	Input Receive Data+
6	Input Receive Data–
4, 5, 7, 8	Reserved for other use

AUI Port

The DE305 AUI network connector pin signals are shown in the following figure and explained in the following table:



Pin	Assignment
1	Collision In shield
2	Collision In+
3	Data Out+
4	Data In shield
5	Data In+
6	DC power common
9	Collision In-
10	Data Out-
11	Data Out shield
12	Data In-
13	DC power+
14	Power shield
7, 8, 15	No connection

Other Digital Network Products

The EtherWORKS ISA PnP 10 adapter is part of a complete family of low-cost network switches, adapters, and boot ROMs developed by Digital Equipment Corporation. Other products are listed in the following table.

Product	Order Number	Description
Fast EtherWORKS PCI 10/100 Adapter	DE500-AA	Provides a single 10 Mb/s or 100 Mb/s 8-pin MJ port to connect to IEEE 802.3 Ethernet networks.
EtherWORKS Switch 8T/TX	DEL8X-AA (U.S., Japan, Canada power cord)	Provides eight 10 Mb/s or 100 Mb/s 8-pin MJ ports to connect to IEEE 802.3 standard or Fast Ethernet networks. The transmission speed is autosensed; the transmission mode is set by autonegotiation if the attached device also supports this feature.
EtherWORKS Switch 6T/2TX	DEL6X-AA (U.S., Japan, Canada power cord)	Provides five 10 Mb/s 8-pin MJ ports and one 10 Mb/ s combination port to connect to a PC, server, or workstation, and two 100 Mb/s Fast Ethernet ports to connect to a backbone or server.
EtherWORKS Switch 2TTX	DEL2X-AA (U.S., Japan, Canada power cord)	Provides two 10/100 Mb/s 8-pin MJ ports to connect to a subnetwork or directly to a PC, server, or workstation.
EtherWORKS Hub 8TX Repeater	DELXR-AA (U.S., Japan, Canada power cord)	Provides eight 100 Mb/s 8-pin MJ ports to connect to a PC or workstation, and one daisy-chain port to connect to another repeater.
EtherWORKS Turbo PCI 10 Adapter	DE450-CA, DE450-TA	Provides capability to integrate PCI-compatible systems using twisted-pair, AUI, or ThinWire cables to 10 Mb/s Ethernet networks.
EtherWORKS 3Turbo Adapter	DE204, DE205	Provides capability to integrate ISA/EISA-compatible systems using twisted-pair, AUI, or ThinWire cables to 10 Mb/s Ethernet networks.
EtherWORKS Turbo EISA Adapter	DE425-AA	Provides capability to integrate EISA-compatible systems using twisted-pair, AUI, or ThinWire cables to 20 Mb/s Ethernet networks.
EtherWORKS PCMCIA Turbo Adapter	DEPCM-*A	Provides a credit card sized adapter link for laptop/notebook PCs to a 10 Mb/s Ethernet network.
DE45X Remote Boot ROM	DE45M-AR, DE45F-AR	The DE45M enables you to perform a remote boot using MOP or RPL protocols when installed on an EtherWORKS Turbo PCI 10 (DE450) adapter. The FLASH version (DE45F) uses MOP, RPL, NetWare, and BootP protocols.
DE20M Remote Boot ROM	DE20M-AR	Enables you to perform a remote boot using MOP or RPL protocols when installed on an EtherWORKS 3 Turbo adapter.
FDDIcontroller/PCI Adapter	DEFPA-*B	Provides direct connection of industry-standard computers with a PCI I/O bus to 100 Mb/s FDDI networks.
FDDIcontroller/EISA Adapter	DEFEA-AB, DB, MA, UA	Provides direct connection of industry-standard computers with EISA I/O bus to 100 Mb/s FDDI networks.

Ordering Information

To order these products, contact an Authorized Digital Distributor or Digital sales representative. For more information, call 800–457–8211 in the U.S. and Canada, 508–692–2562 in other locations, or your local sales office.

C
Plug and Play Systems

Overview

This appendix describes briefly the Plug and Play design philosophy that is based on a set of open specifications for PC architecture. The ultimate goal of Plug and Play is to design enough intelligence into the PC to handle installation and configuration tasks without user intervention.

Plug and Play Characteristics

A Plug and Play system contains the following unique characteristics:

- Installing hardware devices is simple, fail-safe, and automatic—plug in the device, turn on the system, and it works.
- Devices can be inserted, removed, and connected or disconnected from a docking station or network without restarting the system or changing configuration parameters.
- The system determines the optimal configuration, and applications automatically adjust to take full advantage of the new configuration. There is no need to modify adapter jumper settings or modify operating system configuration files.
- Ease of use for PCs is enhanced and support costs are substantially lower.

Glossary

1Step

The specialized installation utility used with the DE305 for quick adapter hardware and software installation and diagnostics.

8-pin MJ connector

Most common terminator for twisted-pair wiring.

10Base2

IEEE specifications for running 10 Mb/s Ethernet using ThinWire coaxial cable. A cable segment can be up to 185 meters long and have a maximum of 30 nodes.

10Base5

IEEE specifications for running 10 Mb/s Ethernet using thickwire coaxial cable. A cable segment can be up to 500 meters long and have a maximum of 100 nodes.

10BaseT

IEEE specifications for 10 Mb/s Ethernet using unshielded (UTP) twisted-pair cable. The maximum length of cable for a point-to-point connection is 100 meters.

Attachment Unit Interface (AUI)

A 15-pin logical, electrical, and mechanical interface specified by the IEEE 802.3 standard for connecting a PC, server, workstation, or other device to a thickwire Ethernet backbone. This port can be connected to a variety of Ethernet media (including BNC or fiber-optic) using an Ethernet transceiver or Media Access Unit (MAU).

BNC

A connector with a half-twist locking shell specified by the IEEE 802.3 standard to connect a PC, server, or workstation using ThinWire coaxial cable.

boot ROM

Read-only memory chip that allows a PC or workstation to communicate with a file server to read a DOS boot program from the server.

bus topology

A network topological arrangement where only one path exists between any two nodes and data transmitted by any node is concurrently available to all other nodes on the same transmission medium.

broadcast

The process of sending a message to all stations on a network.

configuration

The way to set up a computer, server, or local area network.

collision

A condition in which two packets transmitted over a medium interfere with each other, making both signals unintelligible. The transmitting devices have to halt transmission for a random period of time before trying to send data again. Note that collisions do not occur on full-duplex connections.

connection

A logical binding between two or more users of an interconnection service.

CSMA/CD

Carrier send multiple access with collision detection. This is a medium access control technique for bus-tree topologies.

driver

Program that enables the network operating system to communicate with LAN network interface cards.

Ethernet

A network communication system developed and standardized by Digital, Intel, and Xerox, using baseband transmission, CSMA/CD access, logical bus topology, and coaxial cable. The successor IEEE 802.3 standard provides for integration into the OSI model and extends the physical layer and media with repeaters and implementations that operate on fiber optics, broadband, and twisted-pair cable.

frame

A group of bits that include data plus control information. This generally refers to a link layer (layer 2) protocol.

IEEE 802.3 standard

Standard for the physical and electrical connections in local area networks (LANs) developed by the IEEE.

interrupt

The signal that causes a momentary switch of control from program to operating system when input or output is required.

I/O address

The starting address for data input and output.

LED

Light-emitting diode. A semiconductor device used as an indicator or control light in electronic hardware. The DE305 contains two LEDs on the adapter’s front panel to indicate link or activity conditions.

loopback

Diagnostic test in which a signal is transmitted across a medium while the sending device waits for its return.

local area network (LAN)

A group of interconnected computers and support devices.

NetWare

The Novell network operating system that provides the ability to transparently share services across dissimilar platforms. This operating system uses the NetWare Core Protocol (NCP), Internetwork Packet Exchange (IPX), and Sequential Packet Exchange (SPX) protocols.

TCP/IP

Transmission Control Protocol/Internet Protocol. This protocol suite developed by the Advanced Research Projects Agency (ARPA) includes TCP as the primary transport protocol and IP as the network layer protocol.

unshielded twisted-pair (UTP)

Cable composed of two insulated wires twisted together to reduce electrical interference. UTP is used in common telephone cord.