D-Link®

PCI-Bus Ethernet Adapters Model DE-530CT+ Model DE-530T+ Installation Guide

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6DE-530-CT.-.04
Printed in Taiwan


RECYCLABLE

Trademarks

Copyright Statement

FCC Certifications

Class B: model DE-530/CT/T+
FCC ID: KA2APC530-1
Made in Taiwan [Philip: Is this line part of the FCC Cert?]
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning

Class B for model DE-530/CT/T+

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. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. 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:

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

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by user's authority to operate this equipment.

Table of Contents

Introduction

Features

Designed to be versatile and high-performance, the DE-530/CT/T+ adapter supports most popular networking software and have the following features:

- Support PCI local bus Master high speed data transfer
- Can plug into Pentium/486 machine's PCI Bus Master slot, independent of the CPU speed
- Comply with the Ethernet/IEEE 802.3 10BASE-T and 10BASE2 industry standard
- Plug and Play -- simply insert the adapters into a PC and they will automatically be configured by the PC BIOS
- RJ-45 connector for unshielded and shielded twisted-pair cables
- BNC connector for thin coax cable
- 10 Mbps Ethernet data transfer rate
- Support full-duplex operation
- Low Ethernet Command Processing Overhead
- 32-bit Memory addressing (4GB) over the PCI bus
- Support BOOT ROM function
- 3 LED indicators: Tx (Transmit), Rx (Receive), LNK (Link)

- Complete driver support for Novell, ODI, NDIS, SCO Unix, LAN Manager, Windows for Workgroups, Windows NT 31/35,Win95, and NetBIOS.
- FCC Class B certification
- CE Marking: Complies with EMI EN50081-1, EN55022 EMS EN50082-1, IEC 801-2 (ESD), IEC 801-3 (RS), IEC 801-4 (EFT)

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Installation

Hardware Installation

The adapter must be used in a 32-bit PCI slot that supports PCI local bus Mastering. The card settings, such as Interrupt and I/O address, are automatically configured by the PC BIOS without user's intervention.

Currently, the Pentium/486 motherboards provide as many as three PCI slots. Each slot has a pre-assigned Interrupt and I/O address via the PC BIOS. Therefore, while you insert the card into a PCI Bus Master slot, the PC BIOS will automatically assign unique address for the network card. In certain computers, however, you have to modify your BIOS by entering the CMOS SETUP utility.

If you need to know the current I/O and IRQ settings of the card, please reboot your machine and invoke the BIOS SETUP menu (usually by pressing the ESC key during boot up). This menu screen will provide you with informations regarding the network card.
To install the card, simply insert it into your computer's PCI Bus Master slot. Afterwards, connect a network cable to the card.

Precaution  *To prevent the damage to the product due to ESD, please use a wrist straps during the customer's installation and maintenance.*

Step 1 Insert card into computer

- Turn the computer power OFF and remove the cover.
- Insert the card into any available PCI Bus Master I/O expansion slot.
- Secure the card to the rear of the computer chassis by tightening the screw.
- Replace or close the cover of the computer.

NOTES: *JP1 is INT jumper setting and default setting is A.*

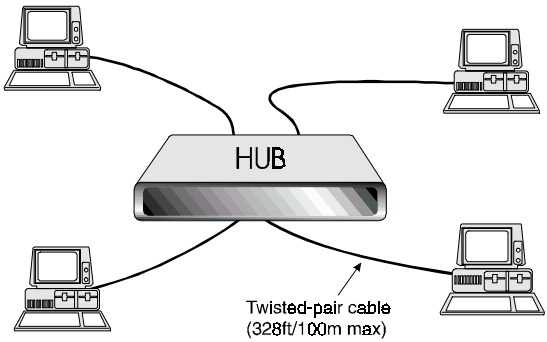
On early motherboard, there may be an INT conflict when you have multiple adapters installed. Try the following to resolve the problems:

1. *Check your PC BIOS INT and system jumper setting.*
2. *If the problem still exists, try to set the jumper to B or consult the authorized dealer for technical support.*
3. *You can run MSD from the MS-DOS prompt for displaying the IRQ status to check the current usage of hardware interrupt.*

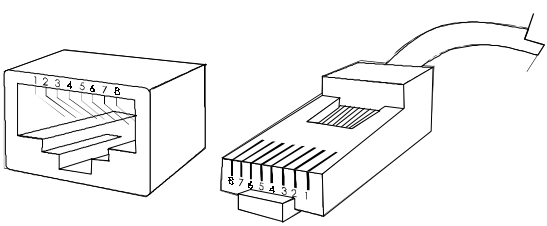
Step 2 Connect to network cable

Twisted-pair cable

When connecting, you need the UTP cable (Cat. 3, 4, 5), in addition to EIA/TIA-568 non-standard 100-ohm STP cable. Connect one end of the cable to the card and the other end to a hub. The cables are connected in a star topology. The maximum cable length from the computer to hub is 328ft (100 meters).

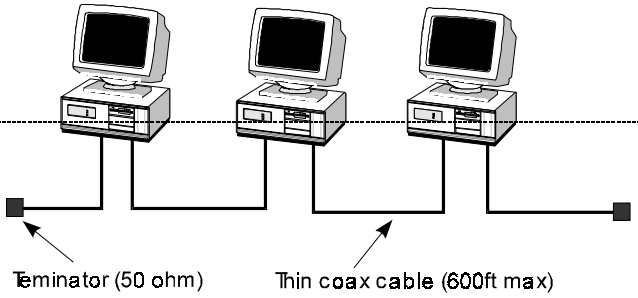


NOTE: *For the twisted pair cable, pins 1 & 2 must be a pair and pins 3 & 6 must also be a pair. Each pin must connect straight to the other end of cable (pin 1 to 1, 2 to 2, 3 to 3, and 6 to 6). Other pins are not used.*



Thin coaxial cable

The cable specification is 0.2 inch diameter RG-58A/U 50-ohm coaxial cable with BNC connectors at each end. Connect the coaxial cable to the card's BNC port. The cables are connected in a bus topology. The maximum cable length is 600ft (185 meters) per segment. Also, a maximum of 30 computers may be connected within each segment.
To increase the cable distance, Ethernet repeaters may be used to boost signal relay from one cable segment to another. A maximum of 4 repeaters may be used between any two communicating nodes.



BOOT ROM Installation

The optional Boot ROM device allows you to connect a diskless workstation to the network. The Network Operating Systems that can be loaded are Netware RPL BOOT, IBM LAN SERVER, Windows NT3.5, DEC Pathwork.
Plug the BOOT ROM into the provided socket on the adapter.

The system will be automatically configured after inserting the BOOT ROM into the socket on the adapter.

Software Installation

The DE-530/CT/T+ adapter can be used on various networks such as Novell 3.x or 4.x, Windows for Workgroups, Windows NT 31/35, Win95, LAN Manager, Banyan Vines, DEC PathWork, IBM LAN Server, SCO Unix & NetBIOS. Installation details are supplied in the Driver Diskette. For example, to install the card in a Novell Workstation, you can use the ODI driver as follows:

1) Insert the driver disk in drive 'A' and copy all files to your hard disk:

```
> COPY A:\NETWARE\CLIENT\ODI.DOS
  \*.*  C:\NOVELL
```

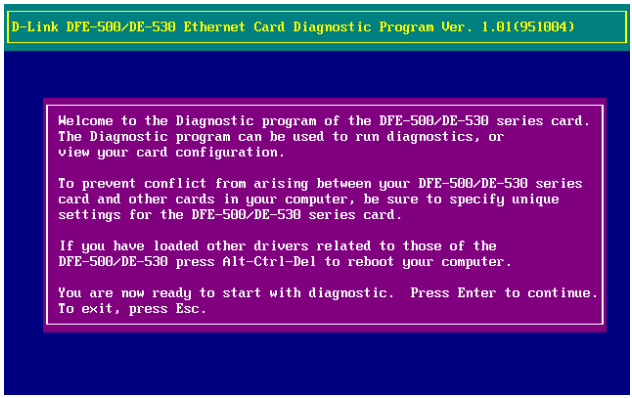
2) Execute the appropriate ODI drivers:

```
> CD \NOVELL^
> LSL^
> DLKPCI
> IPXODI^
> NETX^
> F:
> LOGIN  USERNAME
```

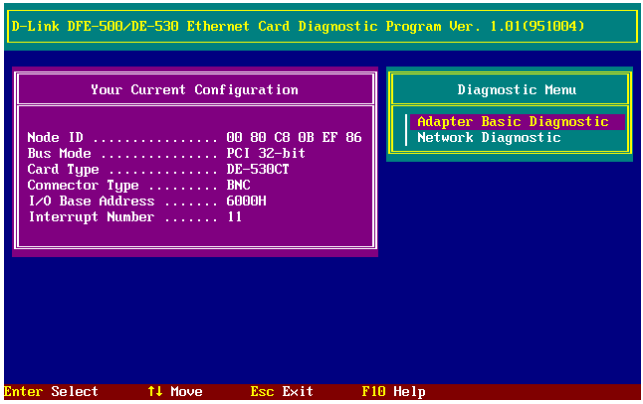
Diagnostics Test Program

The Diagnostics Program permits you to verify the configuration and to inspect the isolation of faults. To prevent the conflict between cards in your system, be sure to set the unique settings for your card. Before starting with the Diagnostics Program, make sure you have connected the loopback cable.
To run the Diagnostics Program, execute the following steps:

1. Insert the driver disk to execute the DIAG500.EXE. When the Diagnostic screen appears, press [Enter].



2. Continue with the instructions given in the program and Press [F10] on your keyboard to get on-line help, if necessary. It offers a quick way to find information about this task.



3. In the main menu, select the Adapter Basic Diagnostic.

   The Adapter Basic Diagnostic operates the following tests: serial ROM verification, internal loopback test and

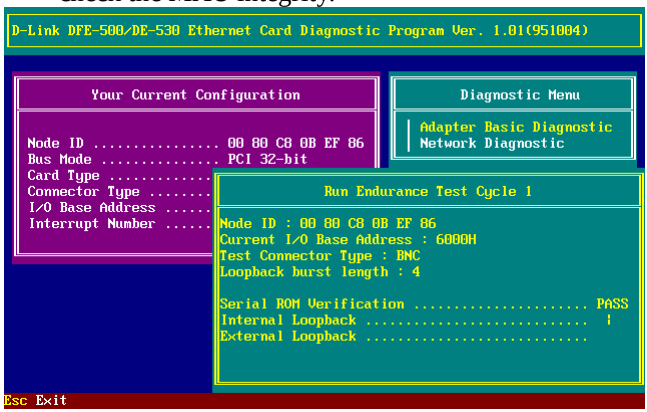
external loopback test. The loopback data rate is 10 megabits per second.

➢ Internal loopback mode

10BASE-T internal loopback mode selects and loops back transmits packets from the encoder output to the decoder input.

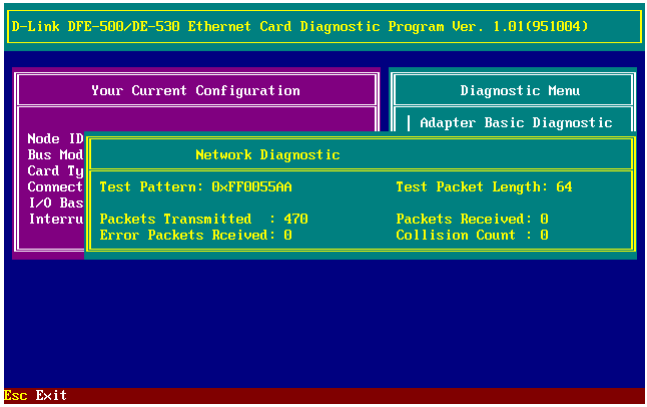
➢ External loopback mode

AUI external loopback mode transmits packets using the AUI cable up-to-media attachment unit (MAU) to check the MAU integrity.



NOTE: *Look to see that you have connected the BNC terminator to the connector and also the custom-wired twisted-pair cable to the UTP port, or it may cause the external loopback test to fail. With such cable, connect the wire 1 and 2 to connector 3 to 6 respectively.*

4. Select the Network Diagnostic and press [Enter], it check the adapter's ability to receive and transmit network packets.



NOTE: *The Network Diagnostic test checks transmission and reception between your computer and another station. It requires simultaneous control of your computer and another station on your network.*

Network Diagnostic test failure does not ordinarily indicate faulty adapter performance. Usual causes of failure are incorrect option settings, option settings that conflict with the settings of other boards, or faulty installation of the adapter card. In the event of Network Diagnostic test failure:

1. Ascertain that the adapter card is seated correctly in the slot connector.

2. Check the length and rating of the cable used for your network connection.

3. Make sure the PCI slot occupied by the adapter is *activated*. PCI computers allow PCI slots to be activated or deactivated. This is controlled by the computer's CMOS utility, or in some cases, with a special PCI utility. Please refer to your computer documentation for details about activating and deactivating PCI slots.

4. If you have another [DE-530 Series adapter which is known to operate correctly], substitute that adapter and run the Network Diagnostic test again.

5. Install the adapter in question into another PCI computer known to be operating correctly, and run the tests again.

6. Replace all other PCI adapters **from** the computer and run the tests again. If the tests pass, the other PCI adapters may be causing contention.

If you have installed the adapter correctly and you still experience problems, check the software.
If you run the diagnostic tests successfully, you may rule out a hardware failure on the computer. If the adapter passes all the tests and there still appears to be a problem, look at cabling, software and other issues that affect functionality on the network.